CHAPTER 4

MOST STRINGENT MEASURES (MSM) ANALYSIS

INTRODUCTION

This chapter discusses the following:

- ✓ Background and regulatory requirements for the Most Stringent Measures (MSM) analysis;
- ✓ The MSM analysis for the 2002 CVSIP; and
- ✓ Discussion of specific MSM choices for the Coachella Valley.

BACKGROUND AND REGULATORY REQUIREMENTS

The Coachella Valley is currently classified as a serious PM10 non-attainment area and was required to attain the 24-hour and annual average PM10 NAAQS by December 31, 2001. As mentioned elsewhere, the Coachella Valley has not exceeded the 24-hour PM10 standard since 1993[1] but did exceed the annual average PM10 standard during the 1999 to 2001 time period. CAA Section 188(e) allows the U.S. EPA to extend the serious area attainment date for up to five years provided that certain requirements are met. Among these requirements are the incorporation of the most stringent measures (MSMs) included in any state implementation plan, or achieved in practice in any state, and that can be feasibly implemented in the non-attainment area. The plan must also include a demonstration of attainment by the most expeditious alternative date practicable but no later than December 31, 2006.

The purpose of this chapter is to provide documentation that the 2002 CVSIP does include the MSMs that are included in the implementation plan of any state, or are achieved in practice in any state, and can feasibly be implemented in the Coachella Valley non-attainment area. Chapter 8 includes the formal request for attainment date extension from December 31, 2001 to December 31, 2006.

MOST STRINGENT MEASURES ANALYSIS

The MSM analysis begins with a matrix of PM10 dust controls and compares Coachella Valley local dust control ordinances and applicable AQMD rules to regulations from Maricopa County [Arizona], Clark County [Nevada], the San Joaquin Valley [California] and the South Coast Air Basin [California] (see Table 4-1 through 4-5). These non-attainment areas were selected due to similar geographic conditions (i.e., arid climates) as the Coachella Valley and because of recent planning/rule development efforts in these regions. MSM analyses are provided for each fugitive dust source category (Construction Activities, Disturbed Vacant Lands, Unpaved Roads/Parking Lots, Paved Road Dust, and Agricultural Activities). Based on this analysis, AQMD staff has recommended specific enhancements to local ordinances and/or AQMD rules that would result in the amended regulations being equivalent to the most stringent dust regulations elsewhere. In a few cases, AQMD staff notes if the enhancement may be less stringent and provides a rationale for reduced stringency, based on local conditions or feasibility. In some cases, the proposed enhancements may exceed the stringency of other rules, which will be noted in the text. Chapter 5 then lists the proposed 2002 CVSIP control measures.

[1] Excludes natural events as allowed by the U.S. EPA Natural Events Policy.

Table 4-1
Construction Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Model Ordinance A dust control plan (Plan) must be approved by the local jurisdiction prior to issuance of any grading permit *(Section 1-4, 1 A)*. Any Plan approved by a local agency must include reasonably available control measures (RACM) in sufficient detail to demonstrate compliance with AQMD, Rule 403 *(Section 1-5, 1 A.)*. **Rule 403** Visible emissions prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if wind gusts exceed 25 mph and Rule 403, Table 1 measures are implemented and records are maintained *(Paragraph h 2 A)*. One or more RACM required for each source *(Paragraph d 3)*. RACM identified in Rule 403 Implementation Handbook.	**SECTION 94** Construction activities > 0.25 acre, trenching projects > 100 feet and demolitions > 1,000 square feet are required to obtain a Dust Control Permit and specify and implement the applicable Section 94 Best Management Practices *(Section 94.4.1/94.4.8)*. Signage required indicating contractor contacts and complaint procedures *(Section 94.4.5.1)*. A Dust Control Permit (including a site-specific Dust Mitigation Plan) is required for construction activities >10 acres, trenching activities > one mile, or demolition activities that use implosive or explosive techniques *(Section 94.4.9)*. Signage required indicating contractor contacts and complaint procedures *(Section 94.4.5.2)*.	**RULE 310** All earthmoving operations over 0.1 acre are required to obtain a dust control permit (DCP) *(Sections 303)*. The DCP must contain 1) project contact information, 2) project mapping [site boundaries, areas to be disturbed with dimensions, and entry/exit locations], 3) at least one primary and one contingency control measure required for all fugitive dust sources [Rule 310 Table 1 lists control measures], 4) description of dust suppressant application [method, frequency, intensity of application], and 5) description of track-out control procedures *(Section 304)*. Signage required for sites ≥ 5 acres indicating contractor contacts and complaint procedures *(Section 307)*.	**Rule 8021** All construction/demolition activities are required to implement the appropriate Table 8021-1 and 8021-2 measures to ensure that visible dust emissions (VDE) do not exceed 20% opacity *(Section 5.0)*. Approved Dust Control Plan (DCP) required for sites with more than 40 acres of active disturbance or 2,500 cubic yards of earth-movement per day. APCO notification required ten days prior to earth-movement *(Section 6.3.1)*. DCP shall contain: 1) contact information, 2) plot plan, 3) acreage of disturbance and estimate of throughputs, 4) start and completion dates, 5) fugitive dust sources, and 6) description of controls including chemical stabilization and track-out prevention *(Section 6.3.6)*.	**Rule 403** Visible emission prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if wind gusts exceed 25 mph and Rule 403, Table 1 Measures are implemented and records are maintained *(Paragraph h 2 A)*. One or more Best Available control measures (BACM) required for each source *(Paragraph d 2)*. BACM identified in Rule 403 Implementation Handbook. Upwind/downwind PM10 differential not to exceed 50ug/m^3 over a five hour period *(Paragraph d 4)*.

Table 4-1
Construction Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Rule 403 Upwind/downwind PM10 differential not to exceed 50ug/m^3 over a five hour period *(Paragraph d 4)*. Any large operation ($\geq$100 acres of disturbed surfaces and/or more than 10,000 cubic yards of daily earth movement) required to forward the locally-approved Plan to the AQMD *(Paragraph h 6 C)*. **Rule 403.1** Any person seeking an exemption from the Rule 403 provision prohibiting visible emissions from crossing any property line during wind conditions in excess of 25 mph is required to determine when wind conditions exceed 25 mph *(Paragraph d 1)*.	**SECTION 94** Dust Control Permit based on specific control measures is required for public agency road shoulder, flood control facility, or other maintenance activities that have the potential to generate fugitive dust *(Section 94.4.10)*. Responsible person (dust control monitor) required for construction projects with $\geq$ 50 acres of actively disturbed soils. Dust control monitor must have successfully completed the Basic Dust Control Class, the Dust Monitor Class and have two years experience in the construction industry *(Section 94.4.11)*. All construction activities must implement BACM as included in the Section 94 Handbook *(Section 94.5.1)*.	**RULE 310** Specific "Work Practice" requirements/standards for bulk material handling and hauling, open storage piles, dirt spillage and track-out, and unpaved haul/access roads *(Section 308)*. Work Practice examples include: Covering all haul trucks *(Section 308.1)*. Install track-out control device for projects $\geq$ five acres or those that import or export $\geq$ 100 cubic yards per day *(Section 308.3)*. Water truck required for earthmoving operations that disturb $\geq$ one acre, if water is the chosen control measure *(Section 308.7)*.		**Rule 403** Any large operation ($\geq$100 acres of disturbed surfaces and/or more than 10,000 cubic yards of daily earth movement) required to obtain an approved fugitive dust control plan (Plan) or agree to implement Rule 403 Table 1 and 2 control measures and maintain daily recordkeeping *(Paragraph f)*. Criteria for Plan approval includes: 1) project contact persons, 2) location mapping, 3) identification of all fugitive dust sources and, 4) at least one primary and one contingency measure for each source category *(Paragraph f 3)*.

Table 4-1
Construction/Earth-Movement Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Rule 403.1 New man-made bulk material deposits in the Coachella Valley Blowsand Zone must be stabilized within 24 hours *(Paragraph d 2)*. Rule 403 Table 2 measures for inactive disturbed surface areas are required if active operations cease for more than 30 days *(Paragraph d 3)*. Rule 403 Table 2 measures include: 1) daily watering of 70 percent of site, or 2) dust suppressants applied in sufficient quantity to maintain a stabilized surface, or 3) vegetation establishment on at least 70 percent of the site, or any combination of the above that applies to the entire site.	**Section 94** Construction activities must implement measures to prevent visible emissions > 20% opacity or prevent any dust plume from extending > 100 yards from any source *(Section 94.5.2)*. Construction sites must implement long-term stabilization techniques within 10 days when construction activities have ceased for 30 days *(Section 94.5.7)*. Construction activities must notify the Health District within 10 days of project completion *(Section 94.5.8)*.	.		
Test Methods				
Rule 403.1 Wind driven fugitive dust used as an indicator of wind speeds in excess of 25 miles per hour. Wind driven fugitive dust defined as visible emissions from any disturbed surface area that are generated from wind action alone *(Paragraph c 21)*.	**Section 94** One or a combination of the following methods used to determine compliance: 20% opacity, dust plume $\underline{\geq}$ 100 yards, drop ball test, silt content and/or vegetative cover *(Section 94.5.2)*.	**Rule 310** Construction activities: 20% opacity for all sources. Unpaved haul/access roads: silt loading not to exceed 0.33 oz/ft^2 or silt content not to exceed 6%. Disturbed surface areas: drop ball, threshold friction velocity, and/or vegetative cover.	**Rule 8021** VDE based on 20% opacity *(Section 5.0)*. Stabilized surface determined through drop ball, Threshold Friction Velocity, vegetative cover, or rock test *(Section 3.56)*.	

Table 4-1
Construction/Earth-Movement Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Recordkeeping				
Model Ordinance Recordkeeping required for project's with a locally-approved Plan and must include name and contact person of all firms contracted with for dust suppression, listing of all dust control implements used on-site, proof of dust suppressant application at the concentrations specified by the Plan. Said records must be made available for one year after project completion *(Section 1-5, 1 G)*. **Rule 403.1** Written daily records required for subject activities. Records must be submitted to the AQMD within 60 days of project completion *(Paragraph f 1)*. Operators that install on-site wind monitoring equipment must compile recordkeeping and provide anemometer vendor/serial number/location *(Paragraph f 2)*.	**Section 94** Self-inspection records (daily inspection of damp or crusted soils, track-out conditions, water usage) must be maintained for one year or six months after project completion, whichever is greater *(Section 94.8.1).* Activities that use chemical stabilization required to maintain records indicating type of product applied, vendor name, and the method, frequency, concentration, and quantity of application *(Section 94.8.2)*.	**Rule 310** Daily written log describing control measures implemented required for facilities with a DCP. All logs must be made available within 48 hours and retained for at least one year after project completion *(Section 502).*	**Rule 8011** Recordkeeping required on days when dust control measures are implemented and must be retained for one year after project completion. Such records must include type of control measures used, location and extent of coverage, date, amount and frequency of chemical stabilizers used, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions *(Section 6.2)*.	**Rule 403** Activities that implement Table 1 and 2 control measures in lieu of submitting a Plan are required to maintain daily records to document the specific actions taken, retain such records for at least six months and make all records available upon AQMD request *(Paragraph f 1 A).*

Table 4-2
Disturbed Vacant Lands
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Model Ordinance Owner of unimproved property required to discourage off-road motor vehicle use through signage and/or fencing as deemed necessary by the local jurisdiction *(Section 1-4, 4)*. **Rule 403** Visible emissions prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if wind gusts exceed 25 mph provided that Rule 403, Table 1 Measures are implemented and records are maintained. *(Paragraph h 2 A)* One or more reasonable available control measures (RACM) required for disturbed surface areas *(Paragraph d 3)*. RACM identified in Rule 403 Implementation Handbook.	**Section 90** Owners of disturbed areas $\geq$ 5,000 sq. ft. that are subject to motor vehicle disturbances are required to prevent motor vehicle access and stabilize with water, dust suppressants, or gravel *(Section 90.2.1)*. Owners of disturbed areas $\geq$ 5,000 sq. ft. (including disturbed surfaces caused by motor vehicles) are required to stabilize with dust suppressants, gravel, or an alternative control strategy that is approved by the Control Officer and the U.S. EPA *(Section 90.2.1.1.b/c)*.	**Rule 310.01** Owners of vacant lands greater than 0.1 acre that are subject to motor vehicle travel that results in $\geq$ 500 square feet of cumulative disturbance on-site are required to prevent motor vehicle access or establish vegetation or apply chemical stabilizers or gravel to maintain a stabilized surface or implement an alternative control measure approved by the Control Officer and the U.S. EPA *(Section 301)*. Owners of lots that have $\geq$ 0.5 acre of disturbed surface areas that remain vacant for more than 15 days are required to establish vegetative ground cover, stabilize with dust suppressants or gravel; or apply and maintain an U. S. EPA approved alternative control measure *(Section 302)*.	**Rule 8051** Owners of open areas with more than three acres of disturbed surfaces that remain vacant or unused for more than seven days are required to implement one or a combination of Table 8051-1 control measures [watering, vegetation, paving, gravel, vehicle restrictions] to maintain a stabilized surface and limit visible dust emissions (VDE) to no more than 20% opacity *(Section 5)*.	**Rule 403** Visible emissions from disturbed surface areas are prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if wind gusts exceed 25 mph provided that Rule 403, Table 1 Measures are implemented. *(Paragraph h 2 A)* One or more best available control measures (BACM) required for disturbed surface areas *(Paragraph d 3)*. BACM identified in Rule 403 Implementation Handbook.

Table 4-2
Disturbed Vacant Lands
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Rule 403.1 Any person seeking an exemption from the Rule 403 provision prohibiting visible emissions crossing a property line during wind conditions in excess of 25 mph is required to determine when wind conditions exceed 25 mph *(Paragraph d 1).* New man-made bulk material deposits in the Coachella Valley Blowsand Zone must be stabilized within 24 hours *(Paragraph d 2)*. Rule 403 Table 2 measures required for inactive disturbed surface areas if active operations cease for more than 30 days *(Paragraph d 3).* Rule 403 Table 2 measures include: 1) daily watering of 70 percent of site, or 2) dust suppressants applied in sufficient quantity to maintain a stabilized surface, or 3) vegetation establishment on at least 70 percent of the site, or any combination of the above that applies to the entire site.	**Section 90** Weed abatement of areas greater than 5,000 square feet by disking or blading required to water before and after operations and stabilize the site after operations *(Section 90.2.2.1).*	**Rule 310.01** Weed abatement of areas greater than 4,356 square feet by disking or blading required to water before and after operations and stabilize the site after operations *(Section 308)*.		**Rule 403** Emissions from weed abatement activities exempt from Rule 403 provisions provided that mowing, cutting or alternative processes are used that maintain vegetative stubble. Exemption does not apply to disturbed surface areas following weed abatement activities *(Paragraph h 1 H)*.

Table 4-2
Disturbed Vacant Lands
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Test Methods				
Rule 403.1 Wind driven fugitive dust used as an indicator of wind speeds in excess of 25 miles per hour. Wind driven fugitive dust defined as visible emissions from any disturbed surface area that are generated from wind action alone *(Paragraph c 21).*	**Rule 90** All stabilization subject to drop ball, or Threshold Friction Velocity (TFV), or rock test, or an alternative test method approved by the U.S. EPA *(Section 90.2.1.2)*	**Rule 310.01** All stabilization subject to drop ball, TFV, vegetation cover, rock test, or an alternative test method approved by the U.S. EPA *(Sections 301.2/302.2).*	**Rule 8011** Stabilized surface demonstrated through compliance with at least one of the following test methods: drop ball, THV, VDE, vegetative cover, rock test *(Section 3.56).*	
Compliance/Recordkeeping				
Rule 403.1 Wind conditions shall be determined through AQMD forecasts or through use of an on-site anemometer and records of wind conditions shall be maintained *(Subdivision e).*	**Rule 90** Access restriction/stabilization required within 30 days of initial discovery of disturbed surface areas $\geq$ 5,000 sq. ft. *(Section 90.2.1).* Recordkeeping required documenting the control measures implemented. Records must indicate type of treatment, extent of coverage, and date applied. All records must be retained for at least one year and made available to the Control Officer within 24 hours *(Section 90.3).*	**Rule 310.01** Treatments required within 60 days of the initial discovery of disturbed surfaces $\geq$ 0.1 acre *(Section 301/302).* Recordkeeping required documenting the control measures implemented. All records must be made available to the Control Officer within 48 hours, excluding weekends *(Section 502).*	**Rule 8051** Recordkeeping required documenting compliance with the requirements of Rule 8051. Such records must be retained for one year and must include type of control measures used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressants *(Section 6.2).*	**Rule 403** Records of control measure implementation required if seeking an exemption from visible emissions crossing a property line during wind conditions in excess of 25 mph *(Paragraph h 2 A).*

Table 4-3-A
Unpaved Roads
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Model Ordinance Owners of public or private unpaved roads with between 20 and 150 average daily traffic (ADT) levels must take measures (signage or speed control devices) to reduce vehicular speeds to 15 mph *(Section 1-4, 2 A).* Unpaved roads with less than 20 ADT levels are exempt *(Section 1-3, E).* Owners of public or private unpaved roads with more than 150 ADT are required to submit a Fugitive Dust Mitigation Plan (Plan) within six months of ordinance adoption *(Section 1-4, 2 B).* The Plan must specify the Reasonably Available Control Measures (RACM) that are necessary to demonstrate compliance with AQMD Rule 403 *(Section 1-5, 1).*	**Section 91** Pave or apply and maintain dust palliatives to stabilize all new unpaved roads (includes alleys) constructed after June 22, 2000 *(Section 91.2.1).* Pave or apply and maintain dust palliatives to stabilize all existing unpaved roads (includes alleys) with ≥ 150 vehicles per day in accordance with the following schedule: • 1/3 of subject unpaved roads treated by June 1, 2001. • 2/3 of subject unpaved roads treated by June 1, 2002. • All remaining subject unpaved roads treated by June 1, 2003 *(Section 91.2.1.1).* Prohibition of new unpaved roads or alleys in public thoroughfares after June 22, 2000 *(Section 91.2.1.2).*	**Rule 310.01** Any new unpaved road (includes alleys) with ≥150 vehicle trips per day must implement at least one unpaved road BACM [pave, chemically stabilize, apply and maintain gravel] *(Section 304).* Any existing unpaved road (includes alleys) with ≥150 vehicle trips per day must implement at least one unpaved road BACM [pave, chemically stabilize, apply and maintain gravel] by June 10, 2004 *(Section 304).* Any existing unpaved road (includes alleys) with ≥250 vehicle trips per day must implement at least one unpaved road BACM [pave, chemically stabilize, apply and maintain gravel] by June 10, 2000 *(Section 304).*	**Rule 8061** On each day that ≥ 75 vehicles will occur on an unpaved segment at least one of the following shall be implemented to limit visible emissions to 20% opacity [watering, uniform layer of washed gravel, chemical dust suppressants, vegetative materials, paving, or implementation of an APCO-approved Fugitive PM10 Management Plan] *(Section 5.2.1).*	**Rule 403** Visible emission prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if unpaved roads: 1) are used solely for the maintenance of wind generating equipment or, 2) are unpaved alleys, or 3) meet all of the following criteria [a) less than 50 feet in width, b) are within 25 feet of a property line, and have less than 20 ADT] *(Paragraph h 2 B).* One or more Best Available Control Measures (BACM) required for unpaved roads *(Paragraph d 2)*. BACM identified in Rule 403 Implementation Handbook (Included in Attachment B).

Table 4-3-A
Unpaved Roads
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Rule 403 Visible emission prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if unpaved roads: 1) are used solely for the maintenance of wind generating equipment or, 2) are unpaved alleys, or 3) meet all of the following criteria [a) less than 50 feet in width, b) are within 25 feet of a property line, and have less than 20 ADT] *(Paragraph h 2 B)*. One or more RACM required for unpaved roads *(Paragraph d 3)*. RACM identified in Rule 403 Implementation Handbook.			**Rule 8061** On each day that ≥100 vehicles will occur on an unpaved segment at least one of the following shall be implemented to limit visible emissions to 20% opacity [watering, chemical dust suppressants, Roadmix, paving, implementation of an APCO-approved Fugitive PM10 Management Plan, or any other method that results in a stabilized unpaved road surface] *(Section 5.2.2)*.	**Rule 1186** Public agencies required to treat higher than average ADT unpaved roads beginning January 1, 1998 and each of the eight calendar year thereafter by, paving at least one mile, chemical stabilization of two miles or speed control on at least three miles *(Paragraph d 4)*. Exemption provided for unpaved roads with less than 20 ADT and high altitude (>3,000 feet) unpaved roads with less than 500 ADT *(Paragraph i 4)*.
Test Methods				
	Section 91 Stabilization observations not to exceed 20% opacity. Silt loadings not to exceed 0.33/oz/ft^2 or silt content not to exceed 6% *(Section 91.2.1.4)*.	**Rule 310.01** Stabilization observations are based on 20% opacity and 0.33 oz/ft^2 silt loading or 6% silt content *(Section 304.3)*.	**Rule 8011** Any disturbed surface area will be considered a stabilized surface provided that emissions do not exceed 20% opacity and the site is in compliance with at least one of the following test methods: drop ball, threshold Friction Velocity, vegetative cover, or rock test *(Section 3.56)*.	

Table 4-3-A
Unpaved Roads
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Recordkeeping/Compliance				
	Section 91 Recordkeeping that provides evidence of control measure application is required and must be provided within 24 hours of written or verbal request and must be retained for at least one year *(Section 91.3).* Owners of unpaved roads with ≥ 150 vehicles per day must prepare annual reports for the years 2001, 2002, and 2003 that describe the total unpaved road miles under their jurisdiction and the miles paved or treated in compliance with Section 91 requirements *(Section 91.3.3.1)*. Existing unpaved roads shall be treated within 365 days of documentation that the unpaved road/alley has vehicular traffic of ≥150 vehicles per day *(Section 91.2.1.1.d).*	**Rule 310.01** Recordkeeping required to document the control measures implemented (i.e., receipts or purchase records). Such records shall be presented within 48 hours of request and retained for at least one year *(Section 502 and 503).*	**Rule 8011** Recordkeeping required on days when dust control measures are implemented and must be retained for one year after project completion. Such records must include type of control measures used, location and extent of coverage, date, amount and frequency of chemical stabilizers used, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions *(Section 6.2).*	**Rule 1186** Any jurisdiction subject to unpaved road treatment requirements must compile records demonstrating compliance with the applicable treatment schedule. Such records must be updated annually and made available to the Executive Officer upon request *(Paragraph g 2)*.

Table 4-3-A
Unpaved Roads
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
SIP Commitments				
$2,004,242 in CMAQ Phase IV Funding under TEA-21 allocated to pave unpaved roads, unpaved shoulders, and unpaved bus turn-outs.	Allocation of CMAQ funding to pave publicly owned and maintained unpaved roads over a three-year period ending June 1, 2003.	Public agencies develop and implement programs to stabilize unpaved roads Public agencies to accept dedication of certain privately owned unpaved roads.		

Table 4-3-B
Unpaved Parking Lots
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Model Ordinance Unpaved parking lots must be paved within six months of ordinance adoption *(Section 1-4, 3 A)*. Unpaved parking lots with fewer than eight spaces and less than 6,000 annual vehicle trips are exempt *(Section 1-3, F)*. Any owner of an applicable unpaved parking lot may petition to use chemical stabilizers or recycled road base in lieu of paving provided that a Fugitive Dust Mitigation Plan (Plan) specifying the control strategy is approved by the local agency *(Section 1-4, 3 B)*. Any temporary unpaved parking lots shall be treated with chemical stabilizers at least 48 hours prior to any event that requires parking for more than 100 vehicles *(Section 1-4, 3 D)*.	**Section 92** Stabilize all unpaved parking lots utilized more than 35 days per year with one of the following methods: paving; or stabilize with dust palliatives; or stabilize with dust palliatives in travel lanes and 2" of uniformly applied gravel in parking areas, or another control measure is approved in writing by the Control Officer and the U.S. EPA *(Section 92.2.1)*. For unpaved parking lots used intermittently for ≤ 35 days/year, stabilize as above during parking use and stabilize pursuant to AQR Section 90 [Vacant Lands] during non-parking use *(Section 92.2.1)*. No new unpaved parking lots shall be allowed unless treated with dust palliatives; or stabilized with dust palliatives in travel lanes and 2" of uniformly applied gravel in parking areas, or another approved control measure *(Section 92.2.1.1)*.	**Rule 310.01** Stabilize unpaved parking lots ≥ 5,000 sq. ft. through paving, chemical stabilization, or a uniform application of gravel to meet the standards of a stabilized surface *(Section 303)*. For parking lots used intermittently (≤ 35 days per year, excluding days when fewer than 10 vehicles enter) stabilize with dust suppressants or gravel on each day when ≥100 vehicles enter the site *(Section 303)*.	**Rule 8071** On each day that ≥75 vehicles will occur on an unpaved vehicle/equipment traffic area ≥ one acre, at least one of the following is required to limit visible emissions to 20% opacity [watering, uniform layer of washed gravel, chemical dust suppressants, vegetative materials, paving, or any other measure that limits VDE to 20% opacity] *(Section 5.1.1)*. On each day that ≥100 vehicles will occur on an unpaved vehicle/equipment traffic area ≥ one acre, at least one of the following shall be implemented to limit visible emissions to 20% opacity [watering, chemical dust suppressants, Roadmix, paving, or any other measure that results in a stabilized surface] *(Section 5.1.2)*. Access shall be restricted and the site periodically stabilized when disturbed surface areas ≥ one acre remain inactive for seven consecutive days *(Section 5.2)*.	**Rule 403** One or more BACM required for disturbed surface areas *(Paragraph d 3)*. BACM identified in Rule 403 Implementation Handbook (Included in Attachment B). Visible emission prohibited from crossing any property line *(Paragraph d 1)*. Exemption provided if wind gusts exceed 25 mph and Rule 403, Table 1 Measures are implemented and records are maintained *(Paragraph h 2 A)*.

Table 4-3-B
Unpaved Parking Lots
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Test Methods				
	Section 92 All stabilization subject to 20% opacity test method and maintenance of silt loading of < 0.33 oz/ft^2 or surface silt content of ≤ 8 % [excludes areas treated with gravel] *(Section 92.2.1.3)*.	**Rule 310.01** Stabilization observations are based on 20% opacity and 0.33 oz/ft^2 silt loading or 8% silt content *(Section 303.2)*.	**Rule 8011** Any disturbed surface area will be considered a stabilized surface provided that the area is in compliance with at least one of the following test methods: drop ball, TFV, vegetative cover, or rock test *(Section 3.56)*.	
Recordkeeping				
	Section 92 Recordkeeping required that documents the type of control measures implemented, extent of coverage, and date applied. All records must be retained for at least one year and made available to the Control Officer within 24 hours from written or verbal request *(Section 92.3)*.	**Rule 310.01** Recordkeeping required documenting the control measures implemented (i.e., receipts and/or purchase records). All records must be retained for at least one year and made available to the Control Officer within 48 hours, excluding weekends *(Section 502)*.	**Rule 8011** Recordkeeping required on days when dust control measures are implemented and must be retained for one year after project completion. Such records must include type of control measures used, location and extent of coverage, date, amount and frequency of chemical stabilizers used, and manufacturer's dust suppressant product information sheet *(Section 6.2)*.	**Rule 403** Activities that seek an exemption from the prohibition of visible emissions from crossing any property line by implementing Rule 403, Table 1 control measures are required to maintain daily records to document the specific actions taken, retain such records for at least six months and make all records available upon AQMD request *(Paragraph f 1 A)*.

Table 4-4
Paved Road Dust
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Clean Streets Management Coachella Valley jurisdictions have implemented a Clean Streets Management Program with funding from the TEA-21 Congestion Management and Air Quality (CMAQ) program. Under this program, jurisdictions have stabilized unpaved road shoulders, installed windbreaks, and conducted post-event clean-up activities. Sunline Transit Agency has also utilized a portion of this funding to conduct routine street sweeping on selected streets using Rule 1186-certified equipment.	**Section 93** Shoulders/medians of new paved roads must be constructed with paved/chemically treated/or graveled shoulders/medians at a minimum width of four feet *(Section 93.2.1)*. Curbing adjacent to the travel lane is an acceptable alternative to shoulder paving/treatments *(Section 93.2.1.2).* Owner/operators of existing paved roads that are not in compliance with the standards for stabilized shoulders/medians are required to upgrade all nonconforming paved road segments within 365 days of discovery *(Section 93.2.1.6)*. After January 1, 2001, operators of street sweeping equipment are required to acquire or contract to acquire AQMD Rule 1186-certified street sweeping equipment for all paved road and parking lot sweeping *(Section 93.2.2)*.		**Rule 8061** New or modified paved roads with 500-3,000 annual average daily vehicle trips must be constructed with four foot paved shoulders *(Section 5.1.1.1)*. New or modified paved roads with >3,000 annual average daily vehicle trips must be constructed with eight foot paved shoulders *(Section 5.1.1.1)*. Curbing may be constructed in lieu of road shoulder/median paving *(Section 5.1.1.2).* New or modified paved roads with medians and ≥500 annual average daily trips must be constructed with paved medians, or sufficient vegetation to maintain a stabilized surface *(Section 5.1.1.5)*. Oils/chemical dust suppressants can be used in lieu of paving road shoulders/medians *(Section 5.1.2)*.	

Table 4-4
Paved Road Dust
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Model Ordinance Any dust control plan (Plan) approved by a local jurisdiction must include reasonably available control measures (RACM) to prevent track-out in sufficient detail to demonstrate compliance with AQMD, Rule 403 *(Section 1-5, 1 A).* **Rule 403** One or more RACM required to prevent track-out *(Paragraph d 3).* RACM identified in Rule 403 Implementation Handbook.	**Section 94 Handbook, CST 19-1 through 19-8** Install and maintain track out control devices in effective condition at all access points where paved and unpaved access or travel routes intersect. All exiting traffic must be routed over selected track out control device(s). Track out must be cleaned daily, at minimum. Immediately clean track out from paved surfaces when it extends 50 feet or more. Pave construction activities roadways as early as possible. Install gravel pad(s) consisting of 1" to 3" rough diameter, clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by three inches deep, and, at minimum, 50 feet or the length of the longest haul truck, whichever is greater.	**Rule 310.01** Sources that haul material off-site onto paved public roads must: 1) maintain at least 3 inches of freeboard, 2) prevent spillage, 3) cover truck with tarp or other suitable enclosure, and 4) clean or cover cargo area before an empty truck leaves the site *(Sections 308.1 and 308.2)* Track-out device (grizzly, wheel washer, gravel pad, or paving) required for work sites $\geq$ 5 acres or those that import or export $\geq$ 100 cubic yards of material per day. Track-out control device required for *any* site where bulk material is hauled on-site/off-site across a public road that is open to through traffic during construction. Clean-up required immediately if material is tracked more than 50 feet from a site entrance. Clean-up is required at the end of the day if track-out is less than 50 feet from site entrances *(Section 308.2.c and 308.3).*	**Rule 8041** Track-out must be removed at the end of each workday or at anytime it extends more than 50 feet from a site exit *(Sections 5.1/5.5).* Sites with $\geq$ 150 vehicle trips per day or those with paved interior roads must prevent track-out through installation and maintenance of a track-out control device (one inch gravel, maintained to six inches, wheel wash system, etc.) or other measures to prevent material from being tracked out on to a paved public road *(Section 5.3).*	**Rule 403** One or more Best Available Control Measures (BACM) required to prevent track-out *(Paragraph d 3).* BACM identified in Rule 403 Implementation Handbook. **Option A** Prevent or remove track-out within one hour *(Paragraph d 5 A);* OR **Option B** Pave or apply chemical stabilizers for a distance of 100 feet [20 feet wide] at the site exit, or install a track-out control device and 25 feet of paving at the site exit, or implement any other U.S.EPA-approved control measure, and remove any visible roadway dust at the end of the work day *(Paragraph d 5 B).*

Table 4-4
Paved Road Dust
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
	Section 94 Handbook, CST 19-1 through 19-8 Install wheel shakers in the event that track out cannot be controlled with gravel pads. Clean wheel shakers on a regular basis to maintain effectiveness. Install wheel washer in the event that track out cannot be controlled with gravel pad and wheel shakers. Maintain wheel washers on a regular basis to maintain effectiveness. Install wheel shakers as primary control measures in addition to or in place of gravel pads. Install wheel washer as primary control measures in addition to or in place of wheel shakers and gravel pads. Limit site accessibility to routes with track out control devices in place by installing effective barriers on unprotected routes.	**Rule 310.01** Property owners required to remediate erosion caused deposits of bulk material on paved roads by removing such material within 24 hours after identification or prior to resumption of traffic, where the pavement area has been closed to traffic *(Section 306)*.		**Rule 1186** Public agencies must begin removal of visible roadway accumulations on public paved roads within 72 hours of notification *(Paragraph d 1)*. Governmental agencies must procure Rule 1186-certified street sweepers for equipment replacements and new contracts after January 1, 2000 *(Paragraph d 2)*. Any Rule 1186-certified sweeper purchased to comply with Rule 1186 must be operated and maintained per the manufacturer's recommendations *(Paragraph d 3)*.

Table 4-4
Paved Road Dust
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Test Methods				
	Section 93 Road shoulders/medians are considered stabilized if visible emissions do not exceed 20% opacity or where silt loadings do not exceed $\geq$ 0.33 oz/ft^2. Where gravel is used as an alternative to shoulder/median paving, such gravel shall be applied uniformly and maintained to a depth of two inches *(Section 93.2.1.5)*.		**Rule 8011** Stabilized surface demonstrated through drop ball, threshold friction velocity, vegetative cover, rock test *(Section 3.56).*	
Recordkeeping				
	Section 93 Owners/operators of paved roads shall annually prepare a report describing compliance with the requirements for new or modified paved roads *(Section 93.3.2)*. Such records must include the total miles of paved roads under the owner/operator's jurisdiction and the miles of paved roads constructed or modified during the reporting period *(Section 93.3.2.1)*. For newly constructed or modified roads, documentation that describes how the requirements of subsections 93.2.1.1 through 93.2.1.6 have been met is required *(Section 93.3.2.2)*.		**Rule 8061** Jurisdictions responsible for paved road operation and maintenance are required to compile records documenting Rule compliance and submit such records in year 2001, 2002, and every two years thereafter. Records must include total miles of paved roads constructed or modified, estimates of traffic levels, and list of control actions implemented to demonstrate compliance with Rule 8061 provisions *(Section 6.2).*	**Rule 1186** Recordkeeping required to document compliance with manufacturer's recommendations for operation and maintenance of a Rule 1186-certified sweeper *(Paragraph g 2)*.

Table 4-4
Paved Road Dust
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
SIP Commitments				
$2,004,242 in Congestion Management and Air Quality (CMAQ) Phase IV Funding under TEA-21 allocated to pave unpaved roads, unpaved shoulders, and unpaved bus turn-outs.		A.R.S. 9-500.04(3) and 49-474.01(4) require Maricopa County jurisdictions to develop and implement plans to stabilize targeted unpaved roads and alleys and to stabilize unpaved shoulders on targeted arterials beginning January 1, 2000. Maricopa County has committed to treat 100 miles of shoulders along existing paved arterial and collector roadways with high volume truck traffic between 1999 and 2003, in addition to its annual capital improvement projects for paving or treating unpaved shoulders. $3.8 million in CMAQ funding allocated by Maricopa County Association of Governments (MAG) to purchase PM10-certified sweepers in FY 2000-2004 Transportation Improvement Program (TIP).		

Table 4-5
Agricultural Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
Rule 403.1 Agricultural tilling operations must cease when wind speeds exceed 25 mph. *(Paragraph d 4)*. Wind conditions shall be determined through AQMD forecasts or through use of an on-site anemometer *(Subdivision e)*.	No requirements for agricultural sources identified.	**State of Arizona, General Permit** Commercial farmers are required to implement at least one Best Management Practice (BMP) for the tillage/harvest, cropland, and non-cropland categories by December 31, 2001 *(ARS 49-457)*.	**Rule 8081** Agricultural operators are required to implement the appropriate Table 8081-1 requirements to limit visible dust emissions (VDE) to no more than 20% opacity or comply with requirements for a stabilized surface for off-field sources *(Section 5.1)*. On each day ≥75 vehicles travel on an unpaved road or equipment traffic area at least one of the following shall be implemented to limit VDE to 20% opacity. [watering, uniform layer of washed gravel, chemical dust suppressants, vegetative materials, paving, or any other method that limits VDE to 20% opacity] *(Section 5.2.2.1/5.3.1)*. Disturbed surface areas that remain inactive for seven consecutive days are required to be periodically stabilized to maintain a stabilized surface with access restricted *(Section 5.3.3)*.	**Rule 403** Agricultural operation greater than ten acres are subject to all AQMD Rule 403 provisions unless the operator implements the required conservation practices as included in the most recently adopted Rule 403 Agricultural Handbook and maintains the necessary recordkeeping forms *(Section h 1 B)*.

Table 4-5
Agricultural Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Control Requirements				
	No requirements for agricultural sources identified.		**Rule 8081** On each day that ≥100 vehicles will travel on an unpaved road or equipment traffic area at least one of the following shall be implemented to limit visible emissions to 20% opacity. [watering, chemical dust suppressants, Roadmix, paving, or any other method that results in a stabilized unpaved road surface] *(Section 5.2.2.2/5.3.2)* As an alternative to the specified unpaved road/equipment parking area treatments, producers can implement a Fugitive PM10 Mitigation Plan (FPMP) that achieves a 50% reduction in PM10 emissions as determined by the appropriate Resource Conservation District and the Air Pollution Control District *(Section 7.0)*. Track-out provisions exempt from Agricultural Sources Rule *(Sections 4.9).*	

Table 4-5
Agricultural Activities
Comparison of Other PM Non-Attainment Fugitive Dust Regulations

Coachella Valley	Clark County	Maricopa County	San Joaquin VUAPCD	South Coast AQMD
Test Methods				
Rule 403.1 Wind driven fugitive dust used as an indicator of wind speeds in excess of 25 miles per hour. Wind driven fugitive dust defined as visible emissions from any disturbed surface area that are generated from wind action alone *(Paragraph c 21).*	No requirements for agricultural sources identified.		**Rule 8011** VDE is based on 12 consecutive readings at 15-second intervals. A stabilized surface is determined by visible crust, threshold friction velocity, flat vegetative cover, standing vegetative cover, or rock test method.	
Recordkeeping				
Rule 403.1 Wind conditions shall be determined through AQMD forecasts or through use of an on-site anemometer and records of wind conditions shall be maintained *(Subdivision e).*		**State of Arizona, General Permit** Applicable sources required to maintain records demonstrating compliance with the General Permit and are subject to a series of compliance actions in the event complaints *(ARS 49-457.I-K)*	**Rule 8081** Recordkeeping that demonstrates compliance with Rule 8081 is required on days when control measures are implemented *(Section 6.2).*	**Rule 403** Agricultural activities that implement the Rule 403 agricultural practices in lieu of opting for the Rule 403 general requirements are required to maintain the necessary recordkeeping forms *(Section h 1 B).* The most recently adopted Rule 403 Agricultural Handbook, including a sample recordkeeping form, is included in Attachment C.

CONSTRUCTION/EARTH-MOVEMENT ACTIVITY DUST CONTROL REQUIREMENTS

Fugitive Dust Control Plan Submittal Requirements

As described in Table 4-1, each of the jurisdictions require dust control plans for construction activities based on varying project size/activity thresholds. AQMD believes that the Valley's existing dust control ordinance requirement to obtain a dust control plan prior to issuance of a grading permit is equally as stringent as the smallest threshold (Maricopa County - 4,356 square feet) as local jurisdictions require grading permits for all earth-moving activities. Under the existing program, however, a builder purchasing a graded subdivision may not be required to obtain a grading permit and would not be subject to dust control plan submittal requirements. Accordingly, the revised dust control ordinance is proposed to include a requirement for local jurisdiction approval of a dust control plan for any site that requires a building permit if the project has disturbed surfaces greater than 5,000 square feet.

Sources that are not required to obtain a local jurisdiction grading permit or building permit (flood control/water district projects, school districts, CalTrans, etc.) are subject to AQMD Rule 403 and 403.1 requirements. In order to be consistent with the local dust control ordinance requirements, these activities are proposed to be required to obtain a dust control plan approved by the AQMD. The proposed thresholds are sites with more than one acre of disturbed surfaces, activities that import or export more than 100 cubic yards of material, or trenching activities greater than 100 feet in length. These thresholds are higher than the Maricopa County threshold mentioned above, however, staff believes that the proposed thresholds are sufficient as projects that do not require issuance of a locally-approved grading permit (e.g., school sites) would exceed the proposed thresholds. Additionally, staff believes that construction projects less than one acre that do not require issuance of a locally-approved grading permit can be effectively controlled through proposed AQMD regulations to require the implementation of Coachella Valley Best Available Control Measures (CV BACM) for all sources. Chapter 5 details the proposed requirements for Coachella Valley construction activities.

Rule Compliance/Test Methods/Recordkeeping

Construction activity compliance determinations are currently addressed through compliance with local dust control plan permit conditions and through AQMD performance standards (i.e., visible emission not to cross any property line). The upgraded dust control program proposes to use the following test methods for construction activity compliance determinations: visible plume length of 100 feet (included as BACM for South Coast Air Basin) and 20 percent opacity for active construction operations, silt loading/content for construction haul roads/parking areas, and drop ball/threshold friction velocity for disturbed surfaces. These test methods are based on requirements contained in Clark/Maricopa County and San Joaquin Valley regulations. As detailed in Chapter 5, the 2002 CVSIP contains a commitment to evaluate other alternative compliance determination tools that are approved by the U.S. EPA and address potential implementation issues.

Table 4-1 shows that recordkeeping is required by all jurisdictions to document control actions on construction sites. As presented in Chapter 5, the proposed

Coachella Valley dust control ordinance is proposed to require construction activity recordkeeping (self-inspection records - daily inspection of damp or crusted soils, track-out conditions, water usage, and chemical dust suppressant usage/concentration). These recordkeeping requirements are believed to be as stringent as required by other air districts. As proposed, these records must be retained for three years, which is more stringent than most air district requirements to retain records for six months to one year after project completion.

Coachella Valley Dust Control Handbook

Currently, construction activities obtain guidance for dust control plan preparation through the Coachella Valley dust control plan review guidance document (approved by CVAG in March of 2001 and included in Appendix B) and the Rule 403/403.1 Implementation Handbooks. To ensure that all construction projects are accountable to a uniform, enforceable list of dust control requirements, AQMD staff proposes to work with CVAG and individual jurisdictions to develop a Coachella Valley Dust Control Handbook. It is proposed that all Coachella Valley jurisdictions adopt the Coachella Valley Dust Control Handbook in conjunction with the revised dust control ordinance and specify enforcement guidelines, such as through a Memorandum of Understanding (MOU) with the AQMD to follow the Handbook guidance and uniformly enforce the Handbook provisions. The Handbook will follow the guidance documents prepared in other non-attainment areas. The exception is that the Coachella Valley Dust Control Handbook may not contain specific dust control practices based on soil type (included in Clark County Section 94 document) as this data is presently not available for the Coachella Valley. Proposed elements of the Coachella Valley Dust Control Handbook are included in Chapter 5.

DISTURBED VACANT LAND DUST CONTROL REQUIREMENTS

As described in Table 4-2, all jurisdictions currently require the control of fugitive dust emissions from disturbed vacant lands. The existing Coachella Valley dust control ordinance requires owners to discourage off-road motor vehicle use through fencing and/or signage as deemed necessary by the local jurisdiction. Additionally, AQMD Rule 403 contains a requirement to implement RACM (chemical stabilization, watering, wind fencing, vegetation) in sufficient quantity and frequency to prevent visible emissions from crossing any property line. AQMD Rule 403.1 further requires stabilization within 24-hours of making new bulk material deposits within the Coachella Valley blowsand zone and treatment of inactive disturbed surface areas when active operations have ceased for at least 30 days. Although all of these regulations include requirements for disturbed vacant lands, one other agency regulation contains requirements that are potentially more stringent. Specifically, Clark County Section 90 requires owners of vacant lands with more than 5,000 square feet of disturbance (by any means, including vehicular traffic) are required to prevent motor vehicle access and stabilize the area with water, chemical stabilizers, or surface gravel at a level that meets the applicable performance standards. Section 90 further states that if the selected access restriction procedures are not effective, then the site must be treated with gravel, chemical stabilizers, or a U.S. EPA-approved alternative control measure that meets the applicable performance standard.

As described in Chapter 5, the revised dust control ordinance is proposed to require owner/operators of vacant lands with more than 5,000 square feet of disturbance to

either: 1) install and maintain physical access restriction devices (fencing, etc.) that results in a surface crust or, 2) treat disturbed surfaces (watering, chemical stabilization, etc.) in sufficient concentrations and frequencies to develop a surface crust. The control actions must be implemented within 30 days of initial discovery. These proposed requirements will strengthen the existing ordinance provisions by removing the discretion currently provided to local jurisdictions and will enhance compliance determinations.

Although this proposed strategy is different than Clark County regulations, it is deemed as stringent as feasible due to unique Coachella Valley conditions. Specifically, portions of the Valley, especially the western portion, contain foothills and sand dunes that have historically been used by off-highway vehicles (OHV). Application of water, chemical stabilizers, or gravel is not considered feasible in these areas due to steep slopes. Accordingly, the revised dust control ordinance requires physical access restriction to develop a surface crust and treatments where a surface crust can not be established within 60 days of access restriction. Treatments are not required in areas with steep slopes or in areas where stabilization would conflict with the federal Endangered Species Act or other federal and State regulations[2]. For these areas, effective access restriction is considered to represent the most stringent feasible measure as soils that are not subject to frequent disturbances will revert to a natural desert condition (crusted soils with sparse vegetation) that is resistant to wind driven fugitive dust. Additionally, disturbed vacant lands on agricultural parcels and/or construction sites will be subject to Agricultural Handbook and dust control plan requirements, respectively. Based on technical feasibility and the unique conditions in the Coachella Valley, staff believes that the proposed dust control ordinance disturbed vacant land controls represent the most stringent measures feasible for the Coachella Valley. A discussion of the disturbed vacant land control measure and proposed efforts to work with the Bureau of Land Management and other large property owners to prevent illegal OHV use is included in Chapter 5.

Weed Abatement Activities

As described in Table 4-2, weed abatement activities are not subject to the existing Coachella Valley dust control ordinance. AQMD Rule 403 does include an exemption from emissions from weed abatement activities provided that mowing or cutting is used as an alternative to disking or blading (note: this exemption is not applicable to emissions following the weed abatement operations). Based on a review of other agency regulations, Maricopa County Rule 310.01 and Clark County Section 90 contain potentially more stringent weed abatement dust control requirements (i.e., watering before and stabilization after activities). Accordingly, an amendment to the Coachella Valley dust control ordinance is proposed to require owner/operators of vacant lands where weed abatement is conducted by disking or blading to water before and during activities. The proposed threshold is for weed abatement activities in areas greater than 5,000 square feet and stabilization of the site is required following the weed abatement activities (see Chapter 5). These requirements are nearly identical to the most stringent requirements identified in Clark and Maricopa County.

[2] The definition of a steep slope and areas that conflict with federal Endangered Species Act regulations will be developed through program implementation.

Rule Compliance/Test Methods/Recordkeeping

A discussion of test methods and SIP commitments is included in the Construction/Earth-Movement Section. As presented in Table 4-2, all identified regulations contain recordkeeping requirements. The revised Coachella Valley dust control ordinance is proposed to require owner/operators of disturbed vacant lands to document compliance with the ordinance and provide such documentation to the local jurisdiction/AQMD within 24-hours notice. At a minimum, said records must be retained for three years and must include type of control measure used, the location and extent of coverage, and the date, amount, and frequency of dust suppressant application. These proposed ordinance revisions will ensure that disturbed vacant land recordkeeping requirements are equally as stringent as identified in other air districts except that the records must be retained for three years while other air districts require records to be retained for six months to one year.

UNPAVED ROAD DUST CONTROL REQUIREMENTS

As presented in Table 4-3-A, the existing dust control ordinance requires owner/operators of public or private unpaved roads with 20 to 150 average daily trips (ADT) to limit speeds to 15 miles per hour. The existing ordinance further requires owner/operators of public or private unpaved roads with greater than 150 ADT to pave the roadway segment or submit an alternative compliance plan within six months of ordinance adoption. AQMD regulations require implementation of RACM (paving, chemical stabilization, watering, reduced speed limits, access restriction, or gravel application) for unpaved roads.

Two regulations have been identified that contain provisions that are potentially more stringent. First, Clark County Section 91 prohibits the construction of new unpaved roads and alleys. As described in Chapter 5, the revised dust control ordinance is proposed to prohibit the construction of new unpaved roads after July 1, 2002 unless the surface is treated with sufficient dust suppressants to maintain a stabilized surface. This proposed requirement is equally as stringent as contained in Clark County Section 91 requirements. The second potentially more stringent regulation is the San Joaquin Valley Rule 8061 requirement to treat unpaved roads on days when more than 75 vehicles will occur on an unpaved road segment. Treatment options include watering, chemical stabilization, or application of gravel. AQMD staff believes that the current and proposed dust control ordinance requirements to pave existing public and private unpaved roads with greater than 150 ADT (utilized by Clark/Maricopa County) is appropriate for the Coachella Valley as emissions are proportionate with vehicular activity and establishing a lower paving threshold may not be cost-effective. Additionally, San Joaquin Valley Rule 8061 allows application of water as a control action for unpaved roads with high traffic levels and staff believes that paving of unpaved roads with greater than 150 ADT, as proposed for the Coachella Valley, will result in permanent emission reductions and ease compliance determinations.

Additionally, as described in Chapter 5, the revised dust control ordinance requires local jurisdictions to report unpaved road locations and ADT estimates within six months of ordinance adoption. AQMD staff will be reviewing this information and will determine if a lower ADT threshold is warranted for unpaved road treatments.

Similar to Clark/Maricopa County programs, the proposed revised dust control ordinance establishes a treatment schedule for unpaved roads with more than 150 ADT. Based on the proposed ordinance upgrades, the Coachella Valley unpaved road treatment requirements are considered as stringent as requirements contained in other air district regulations. A discussion of the unpaved road control measure is included in Chapter 5.

UNPAVED PARKING LOT CONTROL REQUIREMENTS

As listed in Table 4-3-B, the existing Coachella Valley dust control ordinance requires owner/operators to pave unpaved parking lots that have more than eight spaces or serve more than 6,000 annual vehicle trips within six months of ordinance adoption. The existing ordinance allows alternatives to paving provided that a Fugitive Dust Mitigation Plan that specifies the stabilization procedures is approved by the local jurisdiction. The ordinance also requires temporary unpaved parking lots to be treated with chemical stabilizers at least 48 hours prior to any event that requires parking for more than 100 vehicles. AQMD Rule 403 requires implementation of RACM (chemical stabilization, watering, wind fencing, or vegetation) for disturbed surface areas, including unpaved parking lots.

Three aspects of Clark County Section 92 regulations contain provisions that are potentially more stringent than the existing Coachella Valley ordinance requirements. Specifically, Clark County Section 92.2.1.1 prohibits the construction of new unpaved parking lots unless treated with chemical dust suppressants in travel lanes and two inches of uniformly applied gravel in parking areas. Clark County Section 92 further requires treatment (paving, chemical stabilization, chemical stabilization in travel lanes and gravel in parking areas) for all parking lots used more than 35 days per year regardless of parking lot size. Lastly, Clark County requires unpaved parking lot treatments for temporary parking lots (used for less than 35 days per year) when vehicles enter and park and compliance with disturbed vacant land requirements during non-parking use periods.

As detailed in Chapter 5, the revised Coachella Valley dust control ordinance is proposed to contain requirements to: prohibit new unpaved parking lots, pave all existing unpaved parking lots used more than 35 days per year, and require treatment of temporary unpaved parking lots (used no more than 35 days per year) when more than 10 vehicles enter and park. Alternatives to paving (chemical dust suppressants or washed gravel maintained to a depth of two inches) are allowed provided that the treatments maintain a stabilized surface. These revised ordinance requirements will ensure that the most stringent measures identified in other air district regulations are applied to Coachella Valley unpaved parking lots. Additionally, temporary unpaved parking lots greater than 5,000 square feet will be subject to disturbed vacant land requirements during non-use periods. Chapter 5 lists the revised ordinance requirements for unpaved parking lots and disturbed vacant lands.

Rule Compliance/Test Methods/Recordkeeping

A discussion of test methods and SIP commitments is included in the Construction/Earth-Movement Section. The revised Coachella Valley dust control ordinance is proposed to require owner/operators of qualifying unpaved roads and

parking lots to document compliance with the ordinance and provide such documentation to the local jurisdiction/AQMD within 24-hours notice. At a minimum, said records must be retained for three years and must include type of control measure used, the location and extent of coverage, and the date, amount, and frequency of dust suppressant application. The revised ordinance is also proposed to require local jurisdictions to compile annual reports that include an inventory of unpaved roads and unpaved parking lots and the treatments implemented to demonstrate compliance with the revised ordinance. These proposed ordinance revisions will ensure that unpaved road/unpaved parking lot recordkeeping requirements are equally as stringent as identified in other air districts.

PAVED ROAD DUST CONTROL REQUIREMENTS

As presented in Table 4-4, Coachella Valley jurisdictions have implemented a clean streets management program (shoulder stabilization, wind fencing, routine street sweeping with specialized equipment, and post-event street cleaning) to reduce paved road dust emissions. Table 4-4 also specifies the existing track-out control requirements associated with the existing dust control ordinance/AQMD regulations. During review of other agency requirements, several potentially more stringent paved road dust control programs have been identified. First, Clark County Section 93 requires that shoulder/medians of new or modified paved roads must be paved, chemically treated, or graveled at a minimum width of four feet (curbing can be used as an alternative to these treatments). Second, San Joaquin Valley Rule 8061 requires new or modified roads with more than 3,000 ADT to establish eight foot paved shoulders (curbing can be used as an alternative to paving). Third, Clark County Section 93 requires owner/operators of paved roads that are not in compliance with the road shoulder standards mentioned above to upgrade all non-conforming roads within 365 days of discovery. Fourth, South Coast AQMD requires street sweeper equipment procurements in the South Coast Air Basin (excludes the Coachella Valley) after July 1, 2000 to be Rule 1186-certified equipment. Fifth, Maricopa County Rule 310.01 requires a track-out control device for construction projects greater than five acres or those that import or export more than 100 cubic yards of material per day. Lastly, Maricopa County Rule 310.01 requires property owners to remediate erosion caused deposits of bulk material by removing such material within 24-hours or prior to the resumption of traffic, where the pavement area has been closed to traffic.

As detailed in Chapter 1 and in the 1996 CV Plan, many Coachella Valley paved road dust reduction measures have been proactively implemented through the clean streets management program. However, in order to ensure that these measures are SIP-enforceable, the local dust control ordinances and AQMD regulations are proposed to be upgraded to include the following requirements: paved shoulders/medians required for new road construction (curbing, chemical stabilizers, washed gravel are allowed as an alternatives), removal of erosion-caused deposits of material within 24-hours, track-out control device required for unpaved to paved road connections (discussion included in CV BCM 1 – Construction Activities) and use of Rule 1186-certified street sweepers for routine street sweeping.

With two exceptions, implementation of the proposed paved road dust control measures will ensure that the Coachella Valley control strategy is as stringent as regulations identified by other agencies. The first exception is Clark County Section 93 that requires existing non-conforming paved roads to be upgraded (paved shoulders, curbing, etc.) within 365 days of discovery. This requirement is not proposed in the Coachella Valley due to economic unfeasibility, as some smaller Coachella Valley jurisdictions do not have sufficient funding to maintain pavement on existing travel lanes. As listed in Chapter 5, the proposed Coachella Valley paved road dust control program includes a SIP commitment to actively seek CMAQ funding to stabilize road shoulders that are not in compliance with the standards for new roads.

The second exception is Clark County Section 93 that requires the use of AQMD Rule 1186-certified street sweepers for all sweeping activities, including parking areas. Staff believes that it is not feasible to require AQMD Rule 1186-certified equipment for parking lot sweeping as parking lot sweepers are typically smaller units (i.e., less than 14,000 pounds gross vehicle weight). By definition, street sweepers less than 14,000 pounds gross vehicle weight are exempted from AQMD Rule 1186 requirements. Accordingly, manufacturers have not conducted AQMD Rule 1186 certification testing for these units and a list of such certified equipment is not available. Additionally, the lower travel speeds in parking areas are not conductive to fugitive dust entrainment. Chapter 5 details the proposed paved road dust upgrades.

Rule Compliance/Test Methods/Recordkeeping

A discussion of test methods and SIP commitments is included in the Construction/Earth-Movement Section. As detailed in Chapter 5, the revised Coachella Valley dust control ordinance is proposed to require local jurisdictions to prepare annual reports describing compliance with the new or modified paved roads requirements. The annual report must be submitted to AQMD within one-year of ordinance adoption and annually thereafter. These proposed ordinance revision ensure that paved road dust recordkeeping requirements are equally as stringent as identified in other air districts except that the records must be retained for three years.

AGRICULTURAL ACTIVITY CONTROL REQUIREMENTS

As presented in Table 4-5, Coachella Valley agricultural producers are currently subject to AQMD Rule 403.1 requirements that prohibit tilling activities when wind speeds exceed 25 miles per hour. Wind speed determinations can be based on either AQMD forecasts or through use of an on-site anemometer that has been registered with the AQMD. Recognizing the importance of tilling activities for crop production, Rule 403.1 includes a one-day exemption for tilling activities during a high-wind forecast day if tilling has been prohibited during the previous two consecutive days.

Based on a review of other existing regulations, staff finds three other regulations that are potentially more stringent – State of Arizona General Permit, San Joaquin Valley Rule 8081 and South Coast AQMD Agricultural Handbook conservation practices. As presented in Table 4-5, agricultural activities in Maricopa County are subject to a General Permit that requires implementation of at least one Best Management Practice (BMP) for the following categories: tillage/harvest, cropland, and non-

cropland. San Joaquin Valley Rule 8081 includes requirements for handling/storage of bulk materials, on and off-site transporting of bulk materials, and outdoor transport of bulk materials with a chute or conveyor. Rule 8081 also includes requirements for new and modified roads and existing unpaved roads and parking areas when more than 75 vehicles use an unpaved surface.

Based on information provided, the South Coast AQMD Agricultural Handbook is determined to be the most stringent regulation as it contains requirements to reduce dust for all sources (both on field and off field) on agricultural parcels greater than 10 acres. The Agricultural Handbook also requires conservation practices for all agricultural unpaved roads and equipment parking areas regardless of traffic levels. Additionally, under the Coachella Valley program, unpaved farms roads must be treated (watering, chemical stabilization, etc.) during harvesting activities. This is an upgrade to the existing Agricultural Handbook that allows speed control or access restriction on these unpaved roads. Implementation of the AQMD Agricultural Handbook conservation practices will ensure that Coachella Valley agricultural producers will be subject to the most stringent measures identified by other air districts. Additionally, AQMD intends on preserving the AQMD Rule 403.1 25-mph tilling prohibition, a standard not utilized by any other air district. Chapter 5 describes the proposed control measures for Coachella Valley agricultural sources.

Rule Compliance/Test Methods/Recordkeeping

As presented in Chapter 5, subject agricultural operations will be required to maintain records of conservation practices implemented. A sample recordkeeping form is included in the Agricultural Handbook. Additionally, if chemical dust suppressants are used to control unpaved road/equipment area dust during harvesting activities, the recordkeeping form must include the date, amount and proposed frequency of chemical dust suppressant application, and the manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. These records must be retained for three years and made available to the AQMD upon request and are considered equally as stringent as requirements identified by other air districts.

CHAPTER 5

CONTROL STRATEGY

INTRODUCTION

This chapter discusses the following:

- ✓ Control strategy, based on the previous MSM analysis;
- ✓ Control measure adoption and implementation commitments; and
- ✓ Discussion of the issues arising from the control strategy and its implementation.

CONTROL STRATEGY SUMMARY

Based on the current MSM and feasibility analysis contained in Chapter 4, the 2002 CVSIP control strategy includes amendments to local dust control ordinances and AQMD regulations. These proposed amendments are detailed in the control measure discussion and are summarized below in Table 5-1. Future analysis associated with rule or ordinance development may indicate that portions of the measures may be infeasible or not suited to the Coachella Valley (per MSM analysis requirements). If that is the case, AQMD staff would document the infeasibility or insuitability of the control measure provision, propose a replacement provision or contingency measure (if possible). Significant changes to a control measure may need to be documented in a SIP revision, which would be subject to U.S. EPA review and approval. See page 5-26 for additional discussion of infeasibility criteria.

Table 5-1
Summary of 2002 CVSIP Control Measures

Control Measure	Source Category	Implementing Agency*	Adoption Schedule
CV BCM 1	Construction	Local Jurisdictions	Prior to October 1, 2003
		AQMD	Prior to January 1, 2004
CV BCM 2	Disturbed Lands	Local Jurisdictions	Prior to October 1, 2003
CV BCM 3	Unpaved Roads	Local Jurisdictions	Prior to October 1, 2003
	Unpaved Parking Lots	Local Jurisdictions	Prior to October 1, 2003
CV BCM 4	Paved Roads	Local Jurisdictions	Prior to October 1, 2003
		AQMD	Prior to January 1, 2004
CV BCM 5	Agriculture	AQMD	Prior to January 1, 2004
CV CTY 1	Turf Overseeding	AQMD	Potential triggers include: RFP failure or non-attainment by the year 2006

* While local jurisdictions will continue to take the lead in controlling emissions from construction activities, disturbed vacant lands, paved and unpaved roads, AQMD compliance personnel have the authority under Health and Safety Code, Section 40449 to enforce dust control ordinance provisions and locally-approved dust control plan conditions.

Based on comments received from U.S. EPA staff, Table 5-2 summarizes the implementation and emission reduction commitments. It should be noted that the emission reductions are based on the 1996 CV Plan inventory estimates and that subsequent SIP revisions may be based on different emission estimates. Unless otherwise noted in these subsequent SIP revisions, the controls and their effectiveness would remain the same, although the absolute value of the reduction may change. Additionally, the SIP commits to the total emission reduction resulting from the control strategy shown in Tables 5-1 and 5-2 (which demonstrates attainment) unless the reductions appear to be infeasible to the Coachella Valley (per MSM analysis requirements). If that is the case, AQMD staff would document the infeasibility of the control measure provision, propose a replacement provision or contingency measure (if necessary). Significant changes to a control measure need to be documented in a SIP revision, which shall be submitted to U.S. EPA. See page 5-27 for additional discussion of infeasibility criteria.

Table 5-2
Summary of 2002 CVSIP Control Measure Implementation

Control Measure	Implementation Schedule	2006 Estimated Emission Reductions	Cost-effectiveness
CV BCM 1 (Construction)	Begin no later than 10/03 (local) or 1/04 (AQMD)	2.0 tons/day	$197/ton
CV BCM 2 (Disturbed Lands)	Begin no later than 10/03	TBD after survey	$281-810 / ton
CV BCM 3 (Unpaved roads and lots)	Begin no later than 10/1/03, phased implementation	0.71 tons/day	$978 / ton
CV BCM 4 (Paved Roads)	Begin no later than 10/03 (local) or 1/04 (AQMD)	0.57 tons/day	$1,119 / ton ($5,522 / ton for retrofitted curb / gutter
CV BCM 5 (Agriculture)	Begin no later than 1/04 (AQMD)	0.02 tons/day (farming operations)	$134 / ton
CV CTY 1 (Overseeding)	In event of RFP failure or non-attainment by the year 2006	TBD (partially implemented voluntarily)	TBD
TOTAL		**3.3 tons/day**	

CV BCM 1 – FURTHER CONTROL OF EMISSIONS FROM CONSTRUCTION/EARTH-MOVEMENT ACTIVITIES

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	CONSTRUCTION ACTIVITIES
CONTROL METHODS:	WATERING, CHEMICAL STABILIZATION, WIND FENCING, REVEGETATION, TRACK-OUT CONTROL
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

DESCRIPTION OF SOURCE CATEGORY

Background

Construction activities are a fugitive dust source that may have a substantial temporary impact on local air quality. Emission sources during construction activities include land clearing, drilling and blasting, ground excavation, cut and fill activities, and windblown emissions from disturbed surfaces. Vehicular travel on disturbed surfaces and material tracked from unpaved surfaces onto paved public roads can also contribute to construction activity emissions. Construction activity fugitive dust emissions can vary significantly from day to day depending on the level/type of activity and wind conditions.[1]

Regulatory History

In the Coachella Valley, construction projects are subject to dust control ordinances that require applicants to obtain local jurisdiction approval of a dust control plan (plan) prior to issuance of a grading permit. The ordinance requires that the plan must include sufficient detail to demonstrate compliance with AQMD Rule 403. In addition, AQMD Rules 403/403.1 serve as backstop regulations for Coachella Valley construction activity emissions. A summary of local jurisdiction dust control ordinance and AQMD Rule 403/403.1 requirements for construction activities is included in Chapter 4.

PROPOSED METHOD OF CONTROL

Local Government Dust Control Ordinances

In order to facilitate enforcement activities at construction sites under local jurisdiction control, a revised model ordinance is proposed to be adopted by all Coachella Valley local jurisdictions as expeditiously as possible and no later than October 2003.. In addition to the dust control plan submittal requirements, the revised dust control ordinance is proposed to include the following upgrades to enhance construction site compliance determinations.

[1] U.S. Environmental Protection Agency, Compilation of Emission Factors (AP-42), Chapter 13 - Miscellaneous Sources, January 1995.

- All fugitive dust sources required to implement Coachella Valley Best Available Control Measures (CV BACM). The CV BACM will expand the SIP-approved BACM listed in Chapter 6 of the Rule 403 Implementation Handbook to include the control measures required by CV BCM-1 (including work practice requirements). The CV BACM would be modeled on the Best Management Practices for Dust Control contained in the Clark County Dust Control Handbook (e.g. required control actions based on specific activities, site conditions, etc.), but modified based on local Coachella Valley conditions.
- Dust control plans required prior to issuance of building permits for projects with more than 5,000 square feet of disturbed soils unless a dust control plan has already been issued to the builder/developer through a grading permit. The plan must have the required elements described in the Coachella Valley Dust Control Handbook (which will be developed concurrently with the revised dust control ordinance).
- Site-specific dust mitigation plan required for construction activities greater than or equal to 10 acres (must be forwarded to AQMD after local approval). AQMD staff will compile this information for compliance purposes and not issue a separate approval.
- Construction activities greater than or equal to 10 acres required to notify local jurisdiction/AQMD at least 24-hours prior to initiating earth-movement activities.
- Construction activities greater than or equal to 10 acres required to notify local jurisdiction/AQMD within 10 days of project completion.
- Construction site signage required for projects requiring issuance of grading permit or building permit for a site with greater than or equal to 5,000 square feet (approximately 0.1 acre) of disturbed soils, activities that import or export more than 100 cubic yards of material, or trenching activities greater than 100 feet in length. AQMD staff proposes to scale the signage requirements based on project site acreage (i.e., smaller/fewer signs required for trenching activities and sites with between 5,000 square feet to ten acres with larger signage required for sites with more than ten acres). Based on guidance contained in Clark County and Maricopa County regulations, sites with more than ten acres would be required to install four-foot by eight-foot signs with the following information provided in three-inch lettering: project name, permittee name, phone number of person(s) responsible for dust control, local jurisdiction phone number, AQMD phone number, dust control permit (plan) number, and project acreage.
- Dust control monitor (responsible person) required for sites with greater than or equal to 50 acres of actively disturbed soils. Monitor(s) must be hired by property owner or developer, have dust control as primary responsibility, and have the authority to initiate dust control measures.

Work Practice Requirements

Under existing dust control ordinance requirements, activities that submit a dust control plan are required to provide sufficient detail to demonstrate compliance with

AQMD Rule 403. In order to provide more direct guidance, the AQMD proposes that specific work practices be incorporated into the revised dust control ordinance. These work practice requirements are based on the most stringent requirements contained in Clark and Maricopa County regulations and are intended to ensure a baseline level of control regardless if a plan has been submitted. Specific dust control work practices include the following:

- Earth-moving operations on sites with greater than one acre of disturbed surfaces required to operate a water application system (i.e., water truck) while conducting earth-moving operations, if watering is the selected control measure.
- Short-term stabilization (maintaining soils in a damp condition, surface crust, or chemical stabilizer diluted to not less than 1/20 of the concentration required to maintain a stabilized surface for a period of six months) required for after-hours/weekends.
- Long-term stabilization techniques (e.g., vegetation, chemical stabilization with access restriction) required within 10 days for areas where construction activities are not scheduled for 30 days.
- Track-out control device (washed gravel pad at least 30 feet wide, 50 feet long, and six inches deep, paving starting from the point of intersection with a paved public roadway and extending for a centerline distance of at least 100 feet and a width of at least 20 feet, wheel shaker device or wheel wash system) required for construction projects greater than or equal to five acres or those that import/export greater than or equal to 100 cubic yards per day. Additional track-out control devices may be considered during program implementation. Regardless of project size or track-out control device selected, material tracked-out onto a paved public or private road must be removed at anytime it extends more than 25 feet from a site entrance (approximate width of two travel lanes) and at the conclusion of the work day.

Local Government/AQMD Agreements

To ensure a uniform approach to development and approval of dust control plans, all jurisdictions are proposed to be required to adopt the Coachella Valley Dust Control Handbook in conjunction with the revised dust control ordinance. The Coachella Valley Dust Control Handbook will be an enforceable upgrade to the Coachella Valley Dust Control Plan Review Guidance document approved by the Coachella Valley Association of Governments (CVAG) in March 2001 (see Appendix B). The intent of the Coachella Valley Dust Control Handbook is to specify the procedures for preparation and approval of a dust control plan, similar to the Handbooks prepared by Maricopa and Clark Counties. Proposed elements of the Coachella Valley Dust Control Handbook include:

- Project applicant forms
- Project description forms (acreage, phasing, water sources)
- Requirements for site mapping (site location/boundaries and all access points)
- Forms for notifying local jurisdictions/AQMD of project initiation/completion

- Standards (dimensions, lettering, location, etc.) for construction site signage
- List of Coachella Valley Best Available Control Measures (CV BACM) for fugitive dust sources
- Forms to describe the CV BACM to be implemented on-site (routine dust control measures in sufficient detail to facilitate compliance determinations and a description of the contingency control measures to be implemented if the routine measures are ineffective)
- Estimates of daily throughput
- Detailed description of track-out control system (gravel pad, wheel washer, etc.) and procedures for removal of material that extends more than 25 feet (approximate width of two travel lanes) from any site access point
- Identification of dust control monitor (responsible person) for sites with greater than or equal to 50 acres of actively disturbed soils.
- Checklist for local government plan reviewers
- Sample recordkeeping form

Finally, the AQMD is proposing to specify enforcement guidelines, such as through a Memorandum of Understanding (MOU) with either CVAG or each local jurisdiction to specify responsibilities and commitments (permitting fees, enforcement staffing, penalty procedures, etc.) associated with the revised dust control ordinance provisions.

AQMD Regulations

Construction/earth-movement activities that are not required to obtain grading/building permits from local jurisdictions (School Districts, Flood Control Maintenance, CalTrans, railroads, etc.) are currently subject to AQMD Rules 403/403.1 (summarized in Chapter 4). Under the planned dust control program upgrades, the AQMD proposes to revise these regulations to require:

- Implementation of CV BACM instead of Rule 403 RACM that are currently required. These CV BACM would be required for all Coachella Valley fugitive dust sources.

- An AQMD-approved dust control plan (plan) for any source not under local jurisdiction control with greater than or equal to one acre of disturbed surfaces, or those that import/export greater than or equal to 100 cubic yards per day, or trenching activities greater than 100 feet in length.

- An AQMD-approved plan must follow the Coachella Valley Dust Control Handbook procedures summarized above. For routine maintenance activities of road shoulders, flood control channels, railroad tracks / right-of-ways, etc., one AQMD-approved plan can be developed and approved for multiple sites provided that sufficient information is provided to describe dust control efforts. This portion of CV BCM-1 implements MSM on most unpaved road shoulders in

the Coachella Valley. The remainder of the unpaved road shoulders are addressed in CV BCM-4, which identifies and sets control requirements for unpaved road shoulders not covered by maintenance activities.

EMISSION REDUCTIONS

All of the control options listed above represent existing technologies that are presently available to construction site managers. For more traditional air pollution sources, such as point sources, emissions reductions are calculated by multiplying the baseline emissions by the effectiveness of a given control technology (e.g., selective catalytic reduction). For non-traditional air pollution sources, such as fugitive dust, emissions reductions calculations are more difficult because the level of control necessary to comply will vary greatly due to site-specific conditions. For example, a construction site in a wind-protected cove area of the desert may need to apply less water to a grading project when compared to a site located in the Coachella Valley blowsand zone. Moreover, many of the proposed rule requirements allow various control options. Accordingly, it is not possible to quantify precise emissions reductions from implementation of the proposed revised dust control ordinance/AQMD rule requirements. A study conducted by the Midwest Research Institute that monitored PM10 emissions both with and without an extensive watering program, however, determined that an effective watering program can reduce PM10 emissions by 60 to 90 percent.[3] Some of these reductions are already attributed to the RACM and BACM measures currently in the local ordinances and the 1992 version of Rule 403. Staff also estimated emission reductions associated with upgrading the 1992 version of Rule 403 (RACM/BACM) to full BACM when the AQMD Rule 403 BACM amendments were adopted in February 1997. These "BACM" control factors (ten percent reduction per year) have been applied to Coachella Valley construction activities as a conservatively low estimate of the effectiveness of CV BCM-1. Reductions of entrained paved road dust resulting from the additional track-out controls are described in CV BCM-4.

RULE COMPLIANCE/TEST METHODS/RECORDKEEPING

The following test methods/performance standards are proposed for the locally-adopted dust control ordinances and AQMD regulations: visible plume length limit (e.g., 100 - 300 feet), 20 percent opacity for active operations, silt loading not to exceed 0.33 ounces/square foot or silt content not to exceed 6 percent for haul roads, and drop ball/threshold friction velocity for disturbed surface areas.

Self-inspection records (daily inspection of damp or crusted soils, track-out conditions, water usage) must be prepared and retained for three years after project completion and must be made available to the local jurisdiction/AQMD upon request. The Coachella Valley Dust Control Handbook will contain sample recordkeeping forms. Activities that use chemical dust suppressants are required to maintain records indicating type of product applied, vendor name, and the method, frequency, concentration, and quantity of application.

[3] Midwest Research Institute, Improvement of Specific Emission Factors, March 29, 1996

Implementation Mechanisms to Achieve SIP Commitments

The local ordinances and the Coachella Valley Dust Control Handbook (including list of CV BACM) will be prepared with the assistance of CVAG, local jurisdictions, and industry through the CV Task Force, which also includes representatives from the AQMD, CARB, and U.S. EPA. Per direction by CVAG's Energy and Environmental Resources Committee, the CV Task Force will prepare a model ordinance and the Coachella Valley Dust Control Handbook. After review and approval by CVAG's Energy and Environmental Resources Committee and its Executive Committee, each jurisdiction will adopt the model ordinance and Handbook as expeditiously as possible, no later than October 2003. During that time, AQMD staff will be preparing proposed amendments to Rules 403, 403.1, and 1186, as necessary, to implement this control measure. As expeditiously as possible and no later than January 1, 2004, the AQMD will adopt the amended rule(s), the Coachella Valley Dust Control Handbook, and any related amendments to the Rule 403 Implementation Handbook.

In the Coachella Valley, the responsibility of construction activity compliance determinations falls on local code enforcement officers/building inspectors and AQMD inspectors. While AQMD inspectors are trained and certified to conduct visible emission evaluations (VEE), local jurisdiction staff is presently not familiar with test methods based on opacity. Accordingly, the enhanced Coachella Valley dust control program needs to develop a series of test methods that can be effectively utilized by local jurisdictions, AQMD staff, and industry. Efforts to develop and evaluate test methods are ongoing in other PM10 non-attainment areas and AQMD staff commits to evaluate these programs for possible inclusion into the revised dust control ordinance, the Coachella Valley dust control handbook, and AQMD regulations. Specifically, the AQMD will research and evaluate test methods for construction activity sources, designed to be enforceable and meet BACM requirements for stringency. Furthermore, the test methods developed by AQMD would need to be approved by the U.S. EPA.

Subsequent to adoption of the revised dust control ordinance and AQMD regulations, the AQMD commits to conduct compliance training classes for local government staff and industry. The compliance training classes will be similar to those currently conducted by AQMD staff and participants will receive a certificate of attendance. Based on input from local jurisdictions and industry, the MOU or other enforcement protocols that may be adopted in conjunction with the revised dust control ordinance is proposed to contain a requirement that persons submitting a dust control plan must demonstrate attendance at an AQMD-sponsored compliance training class.

COST EFFECTIVENESS

In 1997, AQMD adopted amendments to Rule 403. Among other requirements, these amendments upgraded the existing RACM implementation requirement to require

BACM for all fugitive dust sources in the South Coast Air Basin. The cost-effectiveness of these upgrades was estimated at $197 per ton of PM10 reduced. [4]

IMPLEMENTING AGENCY

Local jurisdictions have the authority to require and enforce conditions of approval (i.e., plan conditions) prior to issuance of building/grading permits. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. Under this Health and Safety Code Section, AQMD also has the authority to enforce locally-adopted ordinance provisions and conditions of approval placed on construction projects. The AQMD has the authority to adopt and enforce rules and regulations to achieve and maintain the National Ambient Air Quality Standards under Health and Safety Code Section 40460 and 40440(a).

[4] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

CV BCM 2 – DISTURBED VACANT LANDS

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	DISTURBED VACANT LANDS
CONTROL METHODS:	CHEMICAL STABILIZATION, WIND FENCING, ACCESS RESTRICTION, REVEGETATION
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

DESCRIPTION OF SOURCE CATEGORY

Background

Fugitive dust emissions can be generated by wind erosion of vacant lands and areas that have been disturbed by man-made activities. In the Coachella Valley, a unique situation exists where approximately 20,000 acres of vacant land have been preserved to protect the federally threatened Coachella Valley fringe-toed lizard. These animals rely on sand migration for foraging and habitat and thus, the control of fugitive dust from wind erosion is prohibited in these areas. Accordingly, the proposed disturbed vacant land controls target areas subject to man-made disturbances (i.e., off-road vehicle use, inactive construction sites, etc.). As mentioned in Chapter 2, exclusion of certain air quality data is allowed under the U.S. EPA Natural Events Policy if it can be documented that emissions are attributable to a natural source such as the Coachella Valley preserve.

Regulatory History

The dust control ordinance currently requires owners of unimproved property to discourage off-road motor vehicle use through signage and/or fencing as deemed necessary by local jurisdiction. In addition, AQMD Rules 403/403.1 serve as backstop regulations for the dust control ordinance. A summary of local jurisdiction dust control ordinance and AQMD Rule 403/403.1 requirements is included in Chapter 4.

PROPOSED METHOD OF CONTROL

In order to facilitate enforcement activities on disturbed vacant lands, a revised dust control ordinance is proposed for adoption by all Coachella Valley local jurisdictions. The revised dust control ordinance is proposed to include the following upgrades to further reduce emissions from disturbed surface areas.

- Owners/operators of vacant lands with disturbed surfaces greater than or equal to 5,000 square feet are required to either 1) prevent trespass by installing physical barriers such that a surface crust is developed, or 2) treat the disturbed surfaces such that a surface crust is formed. Treatment options include uniform application and maintenance of two inches of washed gravel or chemical/organic dust suppressants to all disturbed areas at a level sufficient to develop and maintain a surface crust. Determination of a surface crust is based on drop ball, threshold friction velocity, and/or another U.S. EPA-approved alternative test method. When an owner/operator has applied physical access restrictions and an acceptable surface crust has not been established, treatment of disturbed vacant lands with greater than or equal to 5,000

square feet will be required unless such treatments are considered technically unfeasibility (steep slopes or conflicts with the federal Endangered Species Act or other federal and State regulations[5]). These treatments shall be required within 30 days of initial discovery by either the local jurisdiction or the AQMD and must be maintained in a condition that to meet the applicable performance standards.

- Owner/operators of vacant lands where weed abatement is conducted by disking or blading that disturbs more than 5,000 square feet are required to apply water before and during weed abatement activities and stabilize the site after activities have ceased. Acceptable stabilization techniques include vegetative ground cover, chemical dust suppressants, washed gravel, or implementation and maintenance of an alternative U.S. EPA-approved control measure that results in a surface crust. Demonstration of an acceptable surface crust is based on drop ball, threshold friction velocity, and/or another U.S. EPA-approved alternative test method.

SIP Commitment (AQMD Regulations and/or Interagency Agreements)

In the Coachella Valley, there are governmental agencies such as the Bureau of Land Management (BLM) and water districts that control large parcels of undeveloped land. Based on information provided, local jurisdictions have no land use authority for BLM lands or actions that involve the delivery, storage, and transmission of public utilities. Accordingly, AQMD will explore interagency agreements and/or AQMD regulations that would include similar requirements for disturbed vacant land control as required by the revised Coachella Valley dust control ordinance. The Bureau of Land Management has indicated that efforts are currently underway to implement programs to control off-highway vehicle (OHV) use through the Coachella Valley Amendment to the California Desert Area Conservation Plan.[6] AQMD staff will continue to work with stakeholders, including the Bureau of Land Management, U.S. Fish and Wildlife, developers, and local governments, to identify and implement these types of controls for areas impacted by sand movement from the natural lands (e.g. Fringe-toed lizard preserve, the proposed Multi-Species Habitat Conservation Plan [MSHCP] lands, and the Whitewater channel, as called for in the SIP commitment in the 2002 CVSIP). It should be noted that the Endangered Species Act and other federal and state regulations may limit control options on certain government lands.

EMISSION REDUCTIONS

All of the control options listed above represent existing technologies that are presently available to owner/operators of disturbed vacant lands. As with the proposed controls for construction activities, there is a range of compliance options for reducing PM10 emissions from disturbed vacant lands. Accordingly, it is difficult to estimate the percent reduction from this source category. For reference, the AQMD 1990 CVSIP estimated that vacant land control measures (vegetative cover, chemical stabilization, and wind

[5] The Definition of steep slopes and areas that conflict with the federal Endangered Species Act will be developed during program implementation.

[6] Jim Kenna, U.S. Bureau of Land Management Staff, personal communication with Mike Laybourn, South Coast Air Quality Management District Staff, April 26, 2002.

fencing) would reduce emissions by 28 percent.[7] Until rule development clarifies the effectiveness of the measures beyond the local ordinance and AQMD rule provisions, the 2002 CVSIP does not take emission reduction credit for CV BCM-2.

RULE COMPLIANCE/TEST METHODS/RECORDKEEPING

The following test methods/performance standards are proposed for the locally-adopted dust control ordinance requirements for disturbed vacant lands and weed abatement activities: surface crust, drop ball, vegetative cover, rock test and/or threshold friction velocity.

To proactively address potential wind erosion emissions from disturbed vacant lands, owners of disturbed vacant lands that are subject to the revised dust control ordinance provisions are required to notify the City (County) of the location of subject vacant lands and owner contact information within 90 days of ordinance adoption.

Owner/operators of disturbed vacant lands are required to compile records of evidence that documents compliance with the ordinance requirements. Said records of evidence may include, but shall not be limited to, name and contact person of all firms contracted with for access restriction or dust suppression, listing of all dust control implements used on-site, and proof (invoices from dust suppressant and dust control implement vendors) of dust suppressant application. The records must be retained for three years and made available to the City (County) and AQMD upon request.

COST EFFECTIVENESS

Cost-effectiveness calculations for controlling emissions from disturbed vacant lands were calculated in the 1990 CVSIP as follows: stabilizing blowsand areas with chemical stabilizers - $810/ton PM10 reduced, snow fence windbreaks - $281/ton PM10 reduced, tree wind breaks - $409/ton PM10 reduced, and vegetative planting $532/ton PM10 reduced.

IMPLEMENTING AGENCY

Under general police powers, local jurisdictions have the authority to impose requirements and enforce ordinance requirements on owners of disturbed vacant lands. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. This Health and Safety Code Section also provides the AQMD with the authority to enforce locally-adopted ordinance provisions.

[7] South Coast Air Quality Management District, State Implementation Plan for PM10 in the Coachella Valley, November 1990.

CV BCM 3 – UNPAVED ROADS AND UNPAVED PARKING LOTS

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	UNPAVED ROADS AND UNPAVED PARKING LOTS
CONTROL METHODS:	PAVING, CHEMICAL STABILIZATION, ACCESS RESTRICTION, REVEGETATION
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

DESCRIPTION OF SOURCE CATEGORY

Background

Continued growth and development in the Coachella Valley has resulted in conversion of many unpaved surfaces to paved areas. Additionally, unpaved roads and unpaved parking lots are typically not permitted in new land use developments. In spite of this, existing vehicular travel on and windblown emissions from unpaved roads and unpaved parking lots continue to generate significant amounts of fugitive dust and the accompanying PM10 emissions.

Regulatory History

The existing model ordinance requires that owners of public or private unpaved roads with between 20 and 150 average daily traffic (ADT) levels must take measures (signage or speed control devices) to reduce vehicular speeds to 15 miles per hour. Owners of public or private unpaved roads with more than 150 ADT are required to pave the roadway or submit a Fugitive Dust Mitigation Plan that specifies the method(s) to reduce fugitive dust emissions within six months of ordinance adoption. In addition, AQMD Rule 403 serves as a backstop regulation for the dust control ordinance. A summary of local jurisdiction dust control ordinance and AQMD Rule 403 requirements to reduce emissions from unpaved roads and parking lots is included in Chapter 4.

PROPOSED METHOD OF CONTROL

In order to improve enforcement determinations for unpaved roads and parking lots, a revised model ordinance is proposed to be adopted by all Coachella Valley local jurisdictions. The revised dust control ordinance is proposed to include the following upgrades to further reduce emissions from unpaved roads and unpaved parking lots.

Unpaved Roads

- Upon dust control ordinance adoption, new unpaved roads or alleys are prohibited as public thoroughfares after July 1, 2002 unless chemical dust suppressants are applied and maintained according to the applicable standards/test methods.
- Owner/operators of public or private unpaved roads with between 20 and 150 average daily traffic (ADT) levels must take measures (signage or speed control devices) to reduce vehicular speeds to 15 miles per hour *(existing model ordinance requirement).*

- Owner/operators of public or private unpaved public roads, including alleys, constructed prior to July 1, 2002, that have ADT levels of 150 or more, are required to pave or apply and maintain chemical dust suppressants according to the applicable rule standards/test methods in accordance with the following schedule:

  - ✓ 1/3 of qualifying unpaved roads within one year of ordinance adoption with the remainder treated within three years of ordinance adoption. For jurisdictions with more than six miles of qualifying roads, the treatment schedule is a minimum of two miles paved or four miles treated with chemical stabilizers within one year of ordinance adoption and annually thereafter until all qualifying roads have been treated. [Note: Treatments in excess of the annual requirement can be credited toward future year requirements].

Unpaved Parking Lots

- Upon dust control ordinance adoption, new unpaved parking lots are prohibited unless treated with chemical dust suppressants or stabilized with chemical dust suppressants in travel lanes and two inches of uniformly applied washed gravel in parking areas and maintained in accordance with the applicable standards/test methods.
- Owners/operators of existing unpaved parking lots are required to pave, apply chemical dust suppressants, or apply washed gravel, according to the applicable rule standards/test methods within six months of ordinance adoption.
- Owners/operators of temporary unpaved parking lots (used no more than 35 days a year) are required to implement control measures [apply dust suppressants or apply washed gravel] according to the applicable rule standards/test methods on days when more than 10 vehicles enter and park. Temporary unpaved parking lots greater than 5,000 square feet are subject to disturbed vacant land controls during non-parking periods.

SIP Commitments

Currently, the AQMD and some local jurisdictions have very limited data regarding Average Daily Traffic (ADT) levels on Coachella Valley public or private unpaved roads. The revised dust control ordinance requires local jurisdictions to provide unpaved road ownership, location, and estimates of ADT levels. AQMD staff will review this information in conjunction with the 2003 CVSIP revision and will evaluate the proposed unpaved road treatment schedule/thresholds in accordance with the emission reductions necessary to demonstrate PM10 attainment.

EMISSION REDUCTIONS

All of the control options listed above represent existing technologies that are presently available to owner/operators of unpaved roads and unpaved parking lots. Because the proposed control measure allows the implementation of a variety of control options it is difficult to estimate the accompanying emission reductions. The 1997 AQMD staff report for Rule 1186 (applicable to unpaved roads within the South Coast Air Basin) included the following emission reduction percentages for the various control options paving unpaved roads - 94 percent reduction, chemical stabilization - 75 percent

reduction, and 15 mile per hour speed limits - 50 percent reduction.[8] Based on the Rule 1186 staff report, unpaved road dust emissions are estimated to decrease by a four percent per year for the years 2004 through 2006. Additional reductions will occur after 2006, based on the implementation schedule for jurisdictions with more than 6 miles of applicable unpaved roads.

RULE COMPLIANCE/TEST METHODS/RECORDKEEPING

The following test methods/performance standards are proposed for the locally-adopted dust control ordinances: visible plume length limit of 100 - 300 feet, 20 percent opacity standard, a 6 percent silt content standard and a 0.33 ounces per square foot silt loading standard (for unpaved roads), an eight percent silt content standard and a 0.33 ounces per square foot silt loading standard (for unpaved parking lots), and/or gravel applied uniformly and maintained to a depth of two inches.

To proactively address potential emissions from unpaved roads and unpaved parking lots owner/operators must report unpaved road locations and ADT estimates and parking lot size to the applicable jurisdiction within six months of ordinance adoption. Local jurisdictions are then required to prepare annual reports that describe the total unpaved road miles within their jurisdictional boundaries and the miles paved or treated in compliance with the revised dust control ordinance requirements until all applicable roads are in compliance. The annual reports must also include an inventory of unpaved parking lots within the jurisdiction and describe the control actions implemented to demonstrate compliance with the ordinance requirements. If chemical dust suppressants are used as an alternative to paving, then the annual report shall include the date, amount and proposed frequency of chemical dust suppressant application, and the manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. These records must be retained for three years and made available to the local jurisdiction/AQMD upon request.

COST EFFECTIVENESS

Costs for unpaved road treatments were estimated in the 1997 AQMD Rule 1186 staff report as follows: paving - $350,000 per mile, chemical stabilization - $16,107 per mile, and speed limit reduction: $200 per sign with four signs required per mile for a total of $800 per mile. The overall cost-effectiveness of AQMD Rule 1186 unpaved road treatment requirements was estimated at $958 per ton of PM10 reduced.[9]

IMPLEMENTING AGENCY

Under general police powers, local jurisdictions have the authority to impose dust control ordinance requirements on owner/operators of unpaved roads and parking lots and enforce the accompanying dust control ordinance provisions. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to

[8] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

[9] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. This Health and Safety Code Section also provides AQMD with the authority to enforce locally-adopted ordinance requirements.

CV BCM 4 – PAVED ROAD DUST

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	PAVED ROAD DUST
CONTROL METHODS:	MINIMAL TRACK-OUT, STABILIZATION OF UNPAVED ROAD SHOULDERS, CLEAN STREETS MANAGEMENT
IMPLEMENTING AGENCY:	LOCAL GOVERNMENTS/AQMD

DESCRIPTION OF SOURCE CATEGORY

Background

Based on existing methodologies to estimate emissions, entrained road dust PM10 emissions are one of the largest source categories in the Coachella Valley. Many sources contribute to paved road silt loadings that in turn contribute to PM10 emissions. The U.S. EPA identifies the following as potential sources for deposition of material onto paved roadways: 1) pavement wear and decomposition, 2) vehicle-related deposition, 3) dustfall, 4) litter, 5) vehicles traveling from unpaved to paved surfaces [track-out], 6) erosion from adjacent areas, 7) spills, 8) biological debris, and 9) ice control compounds.[10]

Regulatory History

Vehicular track-out of material from unpaved to paved surfaces is currently addressed through local dust control plan conditions on construction sites/unpaved roads and through AQMD Rule 403 backstop requirements. Chapter 4 describes these existing regulatory requirements.

As mentioned, entrained road dust PM10 emissions are one of the largest source categories in the Coachella Valley. Accordingly, several control measures were originally included in the 1990 CVSIP. These control measures (e.g., post-event/enhanced street cleaning, road shoulder stabilization, etc.) were collectively referred to as the Coachella Valley clean streets management program. Since that time, CVAG staff worked diligently to secure funding for the clean streets management program. The result being the allocation of Congestion Management and Air Quality (CMAQ) funds, as established under the federal Intermodal Surface Transportation Efficiency Act (ISTEA), now referred to as the Transportation Efficiency Act for the 21st Century (TEA-21). Appendix C of the 1996 Coachella Valley Maintenance Plan contains a table that summarizes these projects.

In 1996, Sunline Transit Agency was allocated $2,500,000 in CMAQ funds to procure PM10-efficient street sweeping equipment (also referred to as Rule 1186-certified equipment) that is powered by alternative fuels. Sunline Transit Agency has utilized this equipment to conduct routine street sweeping on high ADT roadways and to remove

[10] U.S. EPA, Compilation of Emission Factors (AP-42), December, 1985.

material from paved public roads following wind storms (post-event street cleaning). CVAG continues to track CMAQ funding sources in order to secure future allocations.

PROPOSED METHOD OF CONTROL

Presently there are two methods to reduce the amount of material deposited onto paved roadways; preventive measures and mitigative measures. Preventive measures attempt to prevent deposition of material onto roadway surfaces while mitigative measures seek to remove material that has previously been deposited into driving lanes. EPA guidance strongly recommends implementation of preventive rather than mitigative measures for a variety of reasons. First, preventive measures are more reliable and require less effort for surveillance, enforcement, and administration. Secondly, in the long term, prevention is considered to be more economically and environmentally beneficial when compared to mitigation.[11]

Local Jurisdiction Dust Control Ordinances

The following are proposed upgrades to the Coachella Valley local jurisdiction dust control ordinances:

- Upon ordinance adoption, new or modified paved roads with 500-3,000 annual average daily vehicle trips must be constructed with four foot paved shoulders. Curbing adjacent to the travel lane or application and maintenance of chemical dust suppressants or washed gravel can be utilized in lieu of paving provided that such treatments maintain a stabilized surface.

- Upon ordinance adoption, new or modified paved roads with more than 3,000 annual average daily vehicle trips must be constructed with eight foot paved shoulders. Curbing adjacent to the travel lane or application and maintenance of chemical dust suppressants or washed gravel can be utilized in lieu of paving provided that such treatments maintain a stabilized surface.

- Upon ordinance adoption, new or modified paved roads with medians and projected average daily trips of greater than or equal to 500 vehicles must pave the median area unless the speed limits are set at or below 45 miles per hour; or the medians are landscaped and maintained with grass or other vegetative ground cover and are surrounded by curbing; or the medians are treated and maintained with chemical dust suppressants in sufficient quantity and frequency to establish a stabilized surface and are surrounded by curbing.

- Upon ordinance adoption, remediate erosion-caused deposits of bulk material on paved roads by removing such material within 24 hours after identification or prior to resumption of traffic, where the pavement area has been closed to traffic.

- Track-out control device (washed gravel pad at least 30 feet wide, 50 feet long, and six inches deep, paving starting from the point of intersection with a paved

[11] U.S. EPA, Fugitive Dust Background Document and Technical Information Document for Best Available Control Measures, 1992.

public roadway and extending for a centerline distance of at least 100 feet and a width of at least 20 feet, wheel vibrator or wheel wash system) required for construction projects greater than five acres or those that import/export greater than or equal to 100 cubic yards per day. Additional track-out control devices may be considered during program implementation. Regardless of project size or track-out control device selected, material tracked-out onto a paved public or private road must be removed at anytime it extends more than 25 feet (approximate width of two travel lanes) from a site entrance and at the conclusion of the work day.

AQMD Regulations

AQMD currently requires the implementation of RACM in the Coachella Valley to prevent track-out of material onto paved public roads. The AQMD proposes to upgrade this provision to require the implementation of CV BACM. Additionally, AQMD proposes to require the use of Rule 1186-certified equipment for Coachella Valley routine street sweeping.

The construction activity control measure (CV BCM 1) includes a proposed requirement that activities that do not require issuance of a locally-approved grading permit and are greater than or equal to one acre of disturbed surfaces, or those that import/export greater than or equal to 100 cubic yards per day, or trenching activities greater than 100 feet in length must obtain an AQMD-approved dust control plan. This proposed requirement further states that one AQMD-approved plan can be developed and approved for routine maintenance activities (i.e., road shoulder/flood control channel maintenance) on multiple sites provided that sufficient information is provided to describe dust control efforts during the activity and stabilization procedures after activities have ceased. These provisions will ensure the control of fugitive dust from road shoulder maintenance activities which, collectively would exceed the proposed one acre threshold.

SIP Commitments

Implement the clean streets management program as administrated by CVAG. Explore contracts with Sunline Transit Agency to utilize TEA-21 CMAQ funding to stabilize existing unpaved shoulders on roadways with high ADT levels or high truck volumes. Seek additional sources of permanent funding. To date, there is currently very limited information regarding the extent of existing paved roads that are not in compliance with the proposed standards for new or modified paved roads. Accordingly, local jurisdictions are required to compile information regarding existing paved roads (i.e., shoulder width) and submit this information to the AQMD within one year of ordinance adoption. This information will be compiled with the goal of stabilizing existing unpaved road shoulders that are influenced by high traffic volumes or heavy-duty truck traffic. CV BCM-1 implements MSM on most of the major unpaved road shoulders in the Coachella Valley, which are graded or otherwise disturbed. The remainder of the unpaved road shoulders are addressed in CV BCM-4, which identifies and sets control requirements for unpaved road shoulders not covered by maintenance activities.

EMISSION REDUCTIONS

All of the control options listed above represent existing technologies that are presently available to owner/operators of paved roads. The 2002 CV SIP control factors are based on AQMD Rule 403 track-out provisions (15 percent annual reduction beginning in 2003) and AQMD Rule 1186-certified street sweeper requirements (seven percent annual reduction beginning in 2004).[12]

Limited research has been conducted regarding the effectiveness of curb and gutter or road shoulder improvements (e.g., chemical stabilization/asphaltic road base) in reducing paved road silt loading. Dust loadings for streets with uncurbed shoulders were, however, estimated to be four times greater than that observed for curbed streets.[13]

RULE COMPLIANCE/TEST METHODS/RECORDKEEPING

The following test methods/performance standards are proposed for the locally-adopted dust control ordinances: a 20 percent opacity standard or a six percent silt content standard and a 0.33 ounces per square foot silt loading standard. Where washed gravel is used as an alternative to paving, such gravel must be applied uniformly and maintained to a depth of two inches.

Local jurisdictions are required to prepare annual reports describing compliance with the paved roads requirements. Such records must include the total miles of paved roads under the owner/operator's jurisdiction, an inventory of existing paved roads that are not in compliance with the standards for new or modified paved roads, and the miles of paved roads constructed or modified during the reporting period. For newly constructed or modified roads, documentation that demonstrates compliance with the revised dust control ordinance provisions. The annual report must be submitted to AQMD within one-year of ordinance adoption and annually thereafter. These reports must be retained for three years.

COST EFFECTIVENESS

Costs for unpaved road shoulder improvements were estimated in the AQMD Rule 1186 staff report as follows: curb and gutter - $ 79,200 per mile, chemical stabilization - $2,384 per mile, asphaltic road base - $6,800 per mile. The resulting cost-effectiveness for BCM 1d/e (curb and gutter/road shoulder stabilization) was estimated at $5,527 per ton PM10 reduced. The average price of a traditional street sweeper is $120,000. The average price of a Rule 1186-certified (previously referred to as a PM10 efficient street sweeper) is $157,148. The resulting price differential is $37,148 and cost-effectiveness was estimated at $1,199 per ton PM10 reduced. [14]

[12] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

[13] U.S. EPA, Control of Open Fugitive Dust Sources, Document Number EPA-450/3-88-008, Office of Air Quality Planning and Standards, 1988.

[14] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

IMPLEMENTING AGENCY

Under general police powers, local jurisdictions have the authority to implement dust control ordinance requirements. Additionally, Health and Safety Code Section 40449 states that there are no limitations on cities or counties to adopt any ordinance that is more stringent than and not in conflict with AQMD regulations. This Health and Safety Code Section also provides the AQMD with the authority to enforce locally-adopted ordinance provisions. The AQMD has the authority to adopt and enforce rules and regulations to achieve and maintain the National Ambient Air Quality Standards under Health and Safety Code Sections 40460 and 40440(a).

CV BCM 5 - CONTROL OF EMISSIONS FROM AGRICULTURAL ACTIVITIES

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	AGRICULTURE
CONTROL METHODS:	REQUIREMENTS TO IMPLEMENT AGRICULTURAL HANDBOOK CONSERVATION PRACTICES
IMPLEMENTING AGENCY:	AQMD/U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCE CONSERVATION SERVICE (NRCS)

DESCRIPTION OF SOURCE CATEGORY

Background

Continued growth in the Coachella Valley has resulted in conversion of many agricultural parcels to urban development. In some areas, however, agriculture remains a significant land use activity. There are a variety of soil preparation, soil maintenance, and harvesting operations that contribute to agricultural fugitive dust and the resulting PM10 emissions. EPA has listed these agricultural activities as plowing, disking, fertilizing, applying herbicides and insecticides, bedding, flattening and firming beds, planting, cultivating, and harvesting.[15] Factors influencing the amount of fugitive dust include: type of activity being conducted, farming equipment used, equipment speeds, wind speeds, soil type and soil moisture content. In addition to these agricultural activities, wind erosion of bare or partially vegetated soils can generate significant amounts of fugitive dust.

Regulatory History

As described in Chapter 4, Coachella Valley agricultural activities are currently subject to AQMD Rule 403.1 provisions that prohibit tilling activities when wind gusts exceed 25 miles per hour. Wind conditions are determined through AQMD forecasts or through use of an on-site anemometer. Facilities that use an on-site anemometer must register the equipment with the AQMD and must maintain records of daily wind conditions.

PROPOSED METHOD OF CONTROL

In the South Coast Air Basin, agricultural activities greater than ten acres are subject to AQMD Rule 403 general requirements unless the producer voluntarily implements the conservation practices specified in the Rule 403 Agricultural Handbook and maintains records of the specific practices implemented on-site. AQMD intends to develop a similar program for the Coachella Valley and tailor the control measures to be specific to Coachella Valley producers.

[15] U.S. Environmental Protection Agency (EPA), September 1988, Control of Open Fugitive Dust Sources, Office of Air Quality Planning and Standards, Research Triangle Park, NC, EPA-450/3-88-008

The following is a summary of the proposed revisions to AQMD regulations that would be applicable to Coachella Valley agricultural activities.

- Agricultural Handbook conservation practices required for agricultural operations greater than or equal to ten acres. The Agricultural Handbook specifies menu of conservation practices for:

  ✓ Active sources (tilling, soil preparation, etc.)
  ✓ Inactive sources (producing/fallow fields)
  ✓ Unpaved equipment storage/maintenance areas
  ✓ Track-out prevention
  ✓ Unpaved roads
  ✓ Storage piles

- Specific conservation practices for unpaved roads and equipment areas (watering, uniform layer of washed gravel, or application of chemical dust suppressants) required during harvesting season.

- Maintain existing Rule 403.1 prohibition of agricultural tilling on days when wind gusts exceed 25 miles per hour. A one-day exemption from the tilling prohibition is provided when a high-wind forecast has been issued for the previous two consecutive days.

SIP Commitment

The AQMD Agricultural Handbook was developed in conjunction with representatives from Western Riverside County agricultural producers, and staff from the U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS), the County Agricultural Commissioners office and the Resource Conservation District (RCD). Based on information provided from Coachella Valley agricultural producers, some of the Agricultural Handbook conservation practices used in Western Riverside County may not be feasible in the Coachella Valley. Accordingly, staff proposes to establish a working group comprised of local producers, AQMD staff and appropriate local NRCS/RCD staff to tailor the Agricultural Handbook conservation practices for the Coachella Valley. As described in Table 5-1, AQMD regulations for Coachella Valley agricultural sources are committed for adoption prior to January 1, 2004.

EMISSION REDUCTIONS

All of the guidance contained in the Agricultural Handbook is based on existing technologies that are presently available to agricultural producers. Because this control measure proposes a menu of conservation practices there would be many control variations implemented throughout the Valley. A conservative annual reduction of two percent per year in farming activity emissions was used based on AQMD Rule provisions for agricultural operators in the South Coast Air Basin. A control factor was not applied to windblown dust from agricultural sources at this time. The existing AQMD Rule 403.1 tilling prohibition on high wind days is similar to the key provision in the Agricultural Handbook. The existing Coachella Valley emission inventory currently accounts for the AQMD Rule 403.1 tilling prohibitions. AQMD Staff will evaluate the

additional emission reductions associated with the enhanced Coachella Valley agricultural program and will report any changes, if documented, in the 2003 CV SIP or rule staff reports.

RULE COMPLIANCE

Recordkeeping of conservation practices implemented is required to demonstrate compliance and a recordkeeping form is included in the Agricultural Handbook. If chemical dust suppressants are used to control unpaved road dust during harvesting activities, then the recordkeeping form must include the date, amount and proposed frequency of chemical dust suppressant application, and the manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. These records must be retained for three years and made available to the AQMD upon request.

COST EFFECTIVENESS

Uncertainties associated with the specific Agricultural Handbook conservation practices that would ultimately be implemented by local producers as well as the number of facilities that would implement conservation practices make cost estimates difficult. Cost estimates for stabilizing a fallow field were previously estimated at $100 per acre annually.[16] For reference, the cost-effectiveness of AQMD Rule 403 agricultural requirements was estimated at $134 per ton of PM10 reduced.[17]

IMPLEMENTING AGENCY

State law prohibits air districts from issuing permits to agricultural activities. Agricultural operations can, however, be subject to prohibitory rules, such as AQMD Rules 403 and 403.1. In settlement of a lawsuit challenging U.S. EPA's approval of California's Title V permitting program, U.S.EPA agreed to issue a notice of proposed rulemaking no later than July 19, 2002, to implement a partial federal operating air permits program under 40 C.F.R. Part 71 for state-exempt agricultural sources. Petitioners had challenged U.S. EPA's approval of California's Title V program because state law exempts agricultural operations from obtaining permits from local air districts. The settlement provides that if California removes its agricultural sources permitting exemption, U.S.EPA may grant full approval to the covered Part 70 programs and discontinue the federal permit program.

[16] Grantz, David, University of California Agricultural and Natural Resources Cooperative Extension, Personal communication with Mike Laybourn, April 26, 1996.

[17] South Coast Air Quality Management District, Revised Final Staff Report for Proposed Amended Rule 403 (Fugitive Dust) and Proposed Rule 1186 (PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations), February 14, 1997.

CV CTY 1 (CONTINGENCY) - CONTROL OF EMISSIONS FROM TURF OVERSEEDING ACTIVITIES

CONTROL MEASURE SUMMARY	
SOURCE CATEGORY:	GOLF COURSES/TURF AREAS
CONTROL METHODS:	REQUIREMENTS TO REDUCE EMISSIONS FROM TURF OVERSEEDING ACTIVITIES
IMPLEMENTING AGENCY:	LOCAL JURISDICTIONS/AQMD

DESCRIPTION OF SOURCE CATEGORY

Background

With over 90 golf courses, the Coachella Valley is recognized as a destination resort community. In order to maintain the quality of golf course fairways and other turf areas (common areas, parks and homeowner lawns), many facilities conduct overseeding operations to replace the summer Bermuda grasses that become dormant in the winter with winter rye grasses. The overseeding process begins in early September with the Bermuda grass forced into early dormancy by either reducing the application of water or through application of herbicides. Next, the Bermuda grass is either mowed shorter or scalped to the ground. Turf rakers (power equipment that uses brushes to collect material and a vacuum to convey material to the hopper) are then used to remove debris (thatch) and prepare the soil for rye grass seed application. This activity can generate significant amounts of fugitive dust because the thatch material is very dry and because the turf raker equipment is not designed to capture fine particles.

Regulatory History

The reduction of PM10 from turf overseeding activities was included as a contingency measure in the 1996 CVSIP. Since that time, CVAG, in conjunction with local governments, homeowner associations, and golf course superintendents, has implemented a variety of studies and programs to reduce emissions from this activity. Specifically, these efforts began with a study conducted by researchers from the University of California, Riverside College of Engineering - Center for Environmental Research and Technology (CE-CERT).[18] In this study, several test plots were identified and varying turf overseeding procedures were conducted (i.e., dry baseline test plot, use of herbicides to retard grass growth, application of water prior to initiating turf raking activities). The study documented that the most effective control program for large turf areas (golf courses, parks, and common areas) was a light application of water immediately prior to operating the turf raker equipment. The study also documented that use of a herbicide to retard plant growth resulted in a 50 percent reduction in PM10 emissions when compared to a test plot where summer Bermuda grasses were simply allowed to dry out. This information was shared with the Hi-Lo Golf Course Superintendent association that has

[18] Evaluation of Fugitive Dust Technology for a Lawn Raker, Center for Environmental Research and Technology, College of Engineering, University of California at Riverside, August 28, 1998.

agreed to voluntarily implement the recommended overseeding procedures identified by the CE-CERT studies.

CVAG also developed a bilingual brochure that specifies procedures for homeowners and their gardeners to reduce dust from turf overseeeding activities. The brochure specifies watering procedures as well as a timeline for conducting all phases of turf overseeding. This brochure was first made public at a press conference and CVAG has subsequently distributed the material to homeowner associations, landscaping companies and the general public.

PROPOSED METHOD OF CONTROL

Due to the proactive involvement of CVAG and interested parties to implement a program to reduce emissions from turf overseeding activities, staff believes that this proposed control measure is already being fully implemented by local golf courses voluntarily. AQMD staff will continue to monitor program implementation and effectiveness and report findings in future Coachella Valley SIPs. Additionally, if voluntary compliance drops, AQMD would propose to implement this measure as an AQMD rule or rule amendment.

CONTROL MEASURE ADOPTION AND IMPLEMENTATION

As listed in Table 5-1, the 2002 CVSIP commits to adopt the proposed control measures no later than January 1, 2004. As mentioned at the beginning of the chapter, future analysis associated with rule or ordinance development may indicate that portions of the measures may be infeasible or not suited to the Coachella Valley (per MSM analysis requirements). AQMD staff will evaluate all measures and may elect to adopt certain portions of a measure that do not meet a specified cost and technological feasibility criteria as contingency measures. If that is the case, AQMD staff would document the infeasibility or insuitability of the control measure provision. The specified cost and technological criteria used in the 1997 PM10 SIP for the South Coast Air Basin were:

Cost feasibility

A control measure is considered cost feasible if the cost-effectiveness is less than $5,300 per ton of PM10 reduced on an annual basis.

Technological feasibility

A control measures is considered technically feasible if all of the following conditions are satisfied:

The control technology is currently available; and

The control efficiency has been demonstrated to achieve a minimum of at least ten percent.

This is consistent with the CAA attainment date extension provisions that requires implementation of MSMs that are included in any State implementation Plan or are achieved in practice in any State, and can be feasibly implemented in the area. Significant changes to a control measure would need to be documented in a SIP revision and would be subject to U.S. EPA review and approval.

ADDITIONAL FUNDING EFFORTS FOR SIP COMMITMENTS

Some of the control measures are partially implemented through SIP commitments by local governments and others (e.g. CV BCM-3 and CV BCM-4). Recent efforts have resulted in new funds to expeditiously implement controls called for in those control measures. Additionally, CVAG has initiated a CMAQ Technical Assistance Program to facilitate the use of CMAQ funds for PM10 control projects. The following paragraphs describe these initiatives.

AB2766 Discretionary Funds for the Coachella Valley PM10 Reduction Program

The Mobile Source Air Pollution Reduction Review Committee (MSRC) for the South Coast AQMD recently allocated $1,000,000 from the AB2766 Discretionary Fund to implement a PM10 reduction program in the Coachella Valley. The Coachella Valley PM10 Reduction Program will use MSRC Discretionary Funds as a match to implement motor vehicle-related PM10 reduction strategies, focusing on implementation of Most Stringent Measures prior to the implementation schedule committed in the SIP. The MSRC Program will be implemented within the following general guidelines:

- *MSRC funds to be matched with a specified level of regional funds*. For the purpose of this program, regional funds are defined as federal, state, or local funds, including AB 2766 Subvention Funds;
- *Amount of MSRC match varies as a function of MSM or control strategy.* Each MSM or control strategy will be assessed relative to its cost-effectiveness at reducing motor vehicle-related PM10. The amount of MSRC match will differ based upon the effectiveness of the control measure;
- *Eligible Control Measures.* It is anticipated that the MSMs and/or other candidate control strategies will include:
  - Purchase of alternative-fuel AQMD Rule 1186-certified street sweepers;
  - Purchase of alternative-fuel dust control vehicles (water trucks, blow sand removal vehicles);
  - Wind fences adjacent to roadways;
  - Chemical stabilization of roadways, shoulders, turnouts, parking lots, etc.;
  - Paving of parking lots, road surfaces, and shoulders;
  - Installation of curb and gutter to facilitate street sweeping and blow sand removal.

Federal CMAQ Technical Assistance Program

In an effort to ensure the effective and timely utilization of CMAQ funds for PM10 mitigation projects, CVAG has initiated a CMAQ Technical Assistance Program. The objectives of the Technical Assistance Program are as follows:

- Quantify and document the PM10 emission reduction benefits of CMAQ projects previously approved and implemented within the Coachella Valley;
- Assist CVAG member jurisdictions in identifying transportation-related PM10 reduction projects for funding under the current or future CMAQ funding allocations;
- Assist CVAG member jurisdictions in submitting approved CMAQ projects to Caltrans District 8 Local Assistance;
- Interface with Caltrans District 8 staff during CMAQ project submittal to address questions regarding a proposed project's eligibility under the FHWA guidelines, including the development of substantiating documentation relative to the proposed project's PM10 reduction benefits.

To assist CVAG staff in implementing these objectives, CVAG has retained the services of recognized technical experts in areas of health effects, emission reduction quantification, and project implementation. These technical consultants work one-on-one with each jurisdiction to identify and implement cost-effective PM10 reduction projects appropriate to that jurisdiction. Accomplishments of the CVAG technical assistance team to date are as follows:

- The team has met with each CVAG member jurisdiction one or more times;
- Cost-effective PM10 reduction projects have been identified for each jurisdiction;
- Field reviews have been conducted with Caltrans in cases where project eligibility was a potential issue;
- Emissions reduction benefits for all projects submitted to Caltrans have been quantified and documented.

CHAPTER 6

ATTAINMENT DEMONSTRATION

INTRODUCTION

This chapter discusses the following:

- ✓ Background and regulatory requirements for an attainment demonstration;
- ✓ A summary of previous Coachella Valley PM10 modeling; and
- ✓ The modeling attainment demonstration.

BACKGROUND AND REGULATORY REQUIREMENTS

PM10 is a multicomponent pollutant including directly emitted primary particles and secondary particles resulting from the chemical transformations of the precursor emissions, such as hydrocarbons, nitrogen oxides, and sulfur oxides. Two different modeling approaches are, therefore, generally required to assess contributions to the primary and secondary PM10. The primary PM10 source apportionment was accomplished by a combination of receptor models. As demonstrated in the 1990 CVSIP, local primary sources of PM10 are the overwhelming contributors to ambient PM10 levels. Secondary particles in the Coachella Valley represent a small component of the PM10 problem and are transported from the South Coast Air Basin as shown by the documented transport of ozone, low precursor emissions, and non-stagnant meteorological conditions. Furthermore, the limited number of major sources in the Coachella Valley are already regulated for NOx, SOx, and VOC emissions under existing AQMD rules. Therefore, secondary PM10 modeling in the Coachella Valley has not been conducted for the demonstration of attainment.

As described and justified in previously submitted Coachella Valley SIPs and Plans, the modeling attainment demonstration for future years is based on the CMB (Chemical Mass Balance) model with rollback based on emission changes. (As noted in Chapter 5 and Appendices C and D of the 1990 CVSIP, the CMB analysis has been corroborated and augmented by a Principal Component Analysis.) The impact of transport is estimated using modeled PM10 levels in the Basin (South Coast Air Basin). The UAM/LC (Urban Airshed Model/ Linear Chemistry) was used in the 1997 AQMP for projecting PM10 levels (including secondary particulates) in the Basin. The input of transported secondary particulates into the Coachella Valley from the Basin has been projected using the UAM/LC (c.f. Appendix V, Section 2 of the 1997 AQMP).

PREVIOUS COACHELLA VALLEY PM10 MODELING

Source apportionment information is based on speciated data from the Coachella Valley, which was used in the 1990 CVSIP, the 1994 CVSIP, and the 1996 CV Plan. Receptor modeling is a technique for determining the emission sources and the accompanying contributions to ambient PM10 air quality at specific receptor sites. Unlike complex mathematical models that require detailed simulations of physics, chemistry, meteorology, and other processes, receptor models are relatively simple statistical models that require only the availability of measurement data. Using receptor models, emission sources can be identified and quantified. With this information, future-year PM10 air quality can be estimated from the emission rollback methodology. ***(NOTE: A more complete description of the modeling for Coachella Valley can be found in the 1990 CVSIP (Chapter 5, Appendices C, D, E, and F) and the 1996 CV Plan (Chapter 4), which have been previously submitted to U.S. EPA and are included by reference.)***

The receptor model used for source apportionment in the Coachella Valley is known as the Chemical Mass Balance (CMB) Model. This U.S. EPA-approved method matches the measured chemical components of the PM10 samples with known chemical profiles, or signatures, of individual sources of PM10 particles. AQMD staff has collected a library of chemical profiles for more than 170 sources of PM10 emissions. AQMD staff also conducted special 1989 field studies to obtain the chemical speciation of ambient PM10 data at two receptor sites in the Coachella Valley: Palm Springs and Indio. After collection, the samples were sent to the laboratory for a complete chemical analysis, including trace metals, inorganic compounds, and organic and elemental carbon. The CMB receptor model has been applied to Coachella Valley PM10 concentrations measured at Palm Springs and Indio. The two sampling sites are located within 15 miles; however, PM10 concentrations and source contributions to PM10 mass are quite different. The following sections summarize the results of the CMB modeling (as taken from the 1996 CV Plan).

Source Apportionment

Annual average source contributions to PM10 at the two sites in the Coachella Valley are presented in Table 6-1 and in Figures 4-1 and 4-2 of the 1996 CV Plan and are summarized in the following paragraphs. Seven different source categories contribute to PM10 concentrations at Palm Springs and Indio: geological (road dust, soil dust), motor vehicle, secondary (ammonium nitrate and ammonium sulfate), vegetative burning, limestone, marine, and residual oil sources. The geological source is the major source contributing to the PM10 mass at both sites.

Annual average PM10 concentrations in 1989 were higher at Indio (58 $\mu g/m^3$) than at Palm Springs (35 $\mu g/m^3$) as is also seen in 1995. The CMB analyses reveal that soil dust (as indicated by the "geological" component) represents about 59 percent of the PM10 at Indio and 49 percent at Palm Springs. The differences between the two sites are likely due to the greater effect of urbanization at Palm Springs.

Sulfate and nitrate comprise about 23 percent of the PM10 at Palm Springs, and 14 percent at Indio. Due to documented persistent daily summertime transport of ozone from the South Coast Air Basin to the Coachella Valley, it is assumed that virtually all of the measured sulfate and nitrate represents the amount of secondary PM10 (i.e., due to atmospheric chemical reactions) transported via the same processes as ozone. Other components of the Coachella Valley PM10 include about 12 to 15 percent from agricultural or wood burning sources, 7 percent from motor vehicles, and about one percent from a marine source, probably the Salton Sea.

Table 4-2 and Figure 4-3 of the 1996 CV Plan show the estimated source contributions at Indio on the peak 24-hour PM10 day, with 198 $\mu g/m^3$ measured on August 14, 1989. Seventy-six percent of the PM10 concentration is from the geological source, 11 percent from the secondary source, 8 percent from the vegetative burning source, and 3 percent from the motor vehicle source.

1995 Design Value

The year 1995 was the third year the Coachella Valley did not experience an exceedance of the PM10 standards (with one natural events day excluded), the design values for the 1996 CV Plan were selected from the 1995 ambient PM10 concentrations. The design values determined for this analysis were 49.5 $\mu g/m^3$ for an annual average and 133 $\mu g/m^3$ for the maximum 24-hour average PM10 concentration. Note that the concentrations reflect the implementation of the Natural Events Policy, as described in Chapter 2.

The 1995 modeling base year contribution estimates are summarized in Table 6-1. The year 1995 remains the modeling base year; however, 1989 PM10 data is the only chemically speciated PM10 data base available at this time. Therefore, the 1995 source contributions were estimated using a proportionality approach that involves multiplying the fractions of the 1989 source contributions, as estimated by the CMB model, to the 1995 annual and 24-hour design values. The analysis presumes a similar source contribution in 1995 as in 1989. Analysis of emission changes from 1989 to 1995 and the implementation of the Natural Events Policy indicate use of the 1989 speciation provides a conservative estimate of the impact of future growth on the maintenance demonstration. In addition, source contributions from the fugitive dust category were divided into five sub-categories based on the 1995 emissions contribution for each of the fugitive dust sources. Base-year emissions presented in Table 6-1 include the emissions reductions associated with all control measures adopted through December 31, 1994.

TABLE 6-1

Modeling Base-Year (1995) and Modeled 2000 PM10 Concentrations ($\mu g/m^3$) in the Coachella Valley

	1995 Base Year Design Values		2000 PM10 Levels Baseline	
	Annual	24-Hour	Annual	24-Hour
Background	3.0	3.0	3.0	3.0
Transport	8.8	14.2	6.0	14.1
Mobile	1.3	3.6	1.2	3.4
Fugitive Dust:				
Construction	0.8	2.9	4.3	15.8
Paved Roads	4.4	15.8	4.3	15.5
Unpaved Roads	3.2	11.6	3.2	11.6
Agriculture	0.6	2.2	0.6	2.3
Windblown	18.3	66.7	18.3	66.7
Veg. Burning	5.9	10.4	5.7	10.0
Others	3.4	2.8	3.6	2.9
Totals	**49.5**	**133.0**	**50.2**	**145.2**

The modeled annual average PM10 level in 2000 is 50.2 $\mu g/m^3$, compared to the ambient levels of 51.9 $\mu g/m^3$ and 50.2 $\mu g/m^3$ in 2000 and 2001, respectively (values exclude high-wind natural events). If it is assumed that the 2001 levels reflect improved compliance, based on the programs described in Chapter 1, the modeled

annual average probably reflects the projected ambient PM10 levels expected with full compliance with the current control regulations.

MODELING ATTAINMENT DEMONSTRATION

Future-year PM10 concentrations were estimated using a linear rollback approach for each primary source (such as mobile, fugitive dust, vegetative burning, and other sources). This involves multiplying the ratio of future (2003, 2006) to base-year (1995) emissions to the 1995 base-year source contributions. In the linear rollback approach, it is presumed that future-year PM10 contributions from each source category are a linear function of emission rates for each source category.

Source contribution from the transport source category is the amount of PM10 transported from the Basin. For the purposes of this analysis, it was presumed that all secondary particles (such as ammonium, nitrate, and sulfate) were a result of transport from the Basin. In addition, a portion of the motor vehicle contribution was assumed to be a result of transport from the Basin. Since the emissions inventory indicates that motor vehicle sources in the Coachella Valley account for 3.1 percent of the PM10 emissions, the motor vehicle contribution above the 3.1 percent level is attributed to transport.

Future-year annual average transported secondary PM10 levels were estimated by an annual PM10 model (UAM/LC). The transported motor vehicle source contribution was estimated by a linear rollback using Basin motor vehicle PM10 emissions. Details of the UAM/LC model and results can be found in Appendix 5, Section 2 of the 1997 AQMP.

Table 6-2 details the modeling results for 2003. The early implementation of additional controls on construction and earthmoving activities would not result in emission reductions for the whole year, so as a conservative estimate AQMD staff assumes no reductions in 2003 for the annual average or peak 24-hour PM10 modeling. Although expeditious implementation will result in some emission reductions in 2004 and 2005, full emission reduction potential described in Chapter 5 is not expected until 2006. The impact of the phased implementation of certain control measures and time necessary to achieve full control penetration and rule compliance leads to the conclusion that 2006 will be the earliest attainment date practicable. The specific levels of reductions in 2004 and 2005 cannot be sufficiently quantified to provide a meaningful attainment demonstration. Projected emissions in those years do not demonstrate attainment of the annual average PM10 NAAQS.

TABLE 6-2

Base-Year and 2003 Modeled PM10 Concentrations ($\mu g/m^3$) in the Coachella Valley

	1995 Base Design Annual	**Year Values 24-Hour**	**2003 PM10 Baseline Annual**	**Levels 24-Hour**	**~~2003 PM10 With More Annual~~**	**~~Levels Control 24 Hour~~**
Background	3.0	3.0	3.0	3.0	~~3.0~~	~~3.0~~
Transport	8.8	14.2	5.9	14.1	~~5.9~~	~~14.1~~
Mobile	1.3	3.6	1.1	3.3	~~1.1~~	~~3.3~~
Fugitive Dust:						
Construction	0.8	2.9	4.5	16.6	~~4.1~~	~~14.9~~
Paved Roads	4.4	15.8	4.5	16.2	~~3.8~~	~~13.8~~
Unpaved Roads	3.2	11.6	3.2	11.6	~~3.2~~	~~11.6~~
Agriculture	0.6	2.2	0.6	2.1	~~0.6~~	~~2.1~~
Windblown	18.3	66.7	18.3	66.7	~~18.3~~	~~66.7~~
Veg. Burning	5.9	10.4	5.5	9.7	~~5.5~~	~~9.7~~
Others	3.4	2.8	3.8	3.1	~~3.8~~	~~3.1~~
Totals	**49.5**	**133.0**	**50.4**	**146.2**	**~~49.3~~**	**~~142.1~~**

Table 6-3 details the modeling results for 2006. With the implementation of the 2002 CVSIP control strategy (additional controls on construction/earthmoving, vacant lands, agriculture, paved road dust, and on-going control of the remaining unpaved surfaces), PM10 levels in 2006 are below the annual average PM10 standard. This modeling demonstrates attainment of the annual average PM10 standard by the year 2006, since values in the previous three years will be below the standard level of 50 $\mu g/m^3$.

TABLE 6-3

Base-Year and 2006 Modeled PM10 Concentrations ($\mu g/m^3$)in the Coachella Valley

	1995 Base Design Annual	**Year Values 24-Hour**	**2006 PM10 Baseline Annual**	**Levels 24-Hour**	**2006 PM10 With More Annual**	**Levels Control 24-Hour**
Background	3.0	3.0	3.0	3.0	3.0	3.0
Transport	8.8	14.2	5.9	14.1	5.8	14.1
Mobile	1.3	3.6	1.1	3.2	1.1	3.2
Fugitive Dust:						
Construction	0.8	2.9	4.7	17.1	4.2	15.4
Paved Roads	4.4	15.8	4.6	16.9	3.7	13.3
Unpaved Roads	3.2	11.6	3.2	11.6	2.8	10.0
Agriculture	0.6	2.2	0.5	2.0	0.5	1.9
Windblown	18.3	66.7	18.3	66.7	18.3	66.7
Veg. Burning	5.9	10.4	5.2	9.2	5.2	9.2
Others	3.4	2.8	4.0	3.3	4.0	3.3
Totals	**49.5**	**133.0**	**50.6**	**147.0**	**48.6**	**140.1**

Since the UAM/LC is an annual PM10 model, it cannot be used to estimate the future-year 24-hour average transported secondary PM10 concentrations. For the purposes of this analysis, it was presumed that the future-year transported secondary PM10 concentration is the same as the 1995 base-year transported secondary PM10

concentration. Under this worse-case presumption, the estimated future-year 24-hour transported secondary PM10 contribution is an upper bound of the transported secondary PM10. Therefore, if the estimated future-year 24-hour average PM10 air quality meets the 24-hour average PM10 standard, one would be confident that the 24-hour average standard will continue to be met in the future years.

CHAPTER 7

NATURAL EVENTS ACTION PLAN STATUS AND UPDATE

INTRODUCTION

This chapter discusses the following:

- ✓ Status of the 1996 Natural Events Action Plan; and
- ✓ The 2002 Natural Events Action Plan.

BACKGROUND

As described elsewhere, the U.S. EPA Natural Events Policy allows the exclusion of air quality data when it can be demonstrated that emissions are attributable to natural sources and/or that BACM are implemented for all man-made sources. U.S. EPA guidance recommends that a Natural Events Action Plan (NEAP) be develop to address future events and to protect public health. Recommended elements of a NEAP include: public notification and education programs, measures to minimize public exposure to high PM10 concentrations, programs to abate or minimize appropriate controllable PM10 sources, evaluation and implementation of practical mitigation measures, and procedures for periodically reevaluating the NEAP program.

STATUS OF THE 1996 NATURAL EVENTS ACTION PLAN

Chapter 6 of the 1996 CV Plan contained the Coachella Valley NEAP. Table 7-1 summarizes the actions specified in the Coachella Valley NEAP and provides a status update.

Table 7-1

1996 Coachella Valley Natural Events Action Plan

1996 NEAP Elements	Status
Public notification/education	Implemented – Brochure detailing Coachella Valley PM10 program distributed to the public and industry. Press release updates prepared and distributed by AQMD. Public meetings noticed and held for high-wind events.
Minimize public exposure to high PM10 concentrations	Implemented – High-wind/dust advisory issued on a daily basis and available via a toll-free phone number.
Abate or minimize appropriate controllable PM10 sources	Implemented – Existing local government/AQMD control programs and enhanced through proposed 2002 CVSIP program upgrades.
Evaluation and implementation of practical mitigation measures	Partially implemented – Initial blowsand study completed in 1992. Phase 2 blowsand study has not been initiated due to funding constraints.
Periodic reevaluation of NEAP elements	Implemented - 2002 CVSIP contains current air quality data and continued commitment to above elements (see next section).

2002 NATURAL EVENTS ACTION PLAN

As detailed in Table 7-1, all of the 1996 Coachella Valley NEAP actions have either been implemented or are ongoing, with exception of the Phase 2 Coachella Valley blowsand study. The following paragraphs describe on-going work efforts and future commitments relative to the 2002 CVSIP.

PM10 Education and Public Outreach

The AQMD continues to work closely with the Coachella Valley Association of Governments (CVAG), local business and community leaders, the media and interested groups to educate the community about the PM10 problem and the steps being carried out to protect Valley resident's health. As detailed in the 1996 CV Plan, these efforts have included the distribution of 30,000 information pamphlets, interviews with local media, and briefings to the various CVAG committees (Elected Officials, City Managers, PM10 Task Force members). Additionally, AQMD conducted a Public Consultation Meeting in April 1997 to describe expanded public outreach programs and to disclose data associated with the proposed removal of air quality data associated with a natural event. AQMD staff will continue these efforts and will provide press releases when warranted.

Public Notification of Ambient PM10 Levels

The AQMD has established a daily wind forecasting system that determines when wind conditions are expected to be greater than 25 miles per hour (mph). In conjunction with this system, the AQMD forecasts the anticipated PM10 levels for the following day. Under the system, anticipated PM10 levels are reported using the Pollutant Standards Index (PSI). A dust advisory is issued when the forecasted PM10 concentration exceeds 150 $\mu g/m^3$. The dust advisory information is made available to the general public via a toll free phone number and is also available to the media. The AQMD has also created a dust advisory business card that has been widely distributed to businesses, residents, and educational institutions in the Coachella Valley. A fact sheet was also developed for distribution to the Valley's schools and hospitals. The fact sheet includes answers to frequently asked questions regarding air quality in the Coachella Valley, a description of the PSI, and suggestions to reduce PM10 exposure during a forecasted dust advisory. The 1996 CV Plan includes the Coachella Valley PM10 program business card and fact sheet.

Notification Enhancements

To improve the accuracy of the high wind/dust advisory forecast system, the AQMD has recently received a $50,000 U.S. EPA Section 105 grant to purchase/install new wind monitoring equipment. By comparing the forecasted wind speeds, that are based on meteorological conditions, with actual wind speed data, AQMD staff will be able to refine the forecast methodology to more accurately predict wind speeds. Additionally, the wind speed data may be used to provide high wind forecasts for various portions of the Valley (e.g., Whitewater area, cove areas, etc.) instead of one Valley-wide forecast. Based on funding availability, staff will continue the work to improve the Coachella Valley high wind/dust advisory forecasting program.

BACM Implementation

Local jurisdictions and AQMD enforced a full compliment of SIP-approved fugitive dust rules that, until recently, had demonstrated attainment with the PM10 standards.

BACM Implementation Enhancements

As detailed in Chapter 5, the 2002 CVSIP proposes to upgrade several existing programs to ensure that the most stringent PM10 control measures utilized in other PM10 non-attainment areas are implemented in the Coachella Valley. Subsequent to adoption of the proposed Coachella Valley dust control program upgrades AQMD staff will conduct compliance training classes for local government staff and for industry.

Future Control Measure Research

When the AQMD's Governing Board adopted the first Coachella Valley SIP in 1990 it was acknowledged that the Valley's blowsand condition was unique and warranted further study. The Initial Blowsand Study for the Coachella Valley was completed in 1992. The report contained: 1) a description of the natural blowsand region and activity; 2) a description of applicable sand control measures; 3) plans for attenuating blowsand activity in identified areas; 4) an estimation of control costs, and 5) a description of issues associated with disposal of mechanically transported sand.

Although the Initial Coachella Valley Blowsand study did contain recommendations for possible blowsand control strategies, it was determined that future studies would be required prior to development of a long-term blowsand control program. AQMD continues to work with CVAG, local developers, and federal agencies to assess and develop feasible, effective, and legal controls.

Stakeholder/Public Involvement

In response to the current Coachella Valley situation, a PM10 Task Force has been convened by CVAG. Task Force members include representatives from each of the nine Coachella Valley cities, the County of Riverside, the Building Industry Association, CVAG, Coachella Valley Water District, Local Indian Tribes, CalTrans, Bureau of Land Management, and AQMD. The Task Force purpose is to review draft materials and to provide input based on local conditions. Task Force meetings will continue through adoption of the 2002 CVSIP and the associated control measures.

In addition to stakeholder involvement, extensive effort has been undertaken to ensure public involvement in the PM10 reduction program. Public Workshops have been held for previous SIPs to solicit public input on plan development. A Public Workshop and Public Hearing will also be held in the Coachella Valley for the 2002 CVSIP. This will provide the public with the opportunity to review and comment on the NEAP before its adoption by the AQMD's Governing Board. Additionally, the 2002 CVSIP will also be submitted to CARB and the U.S. EPA for review and comment.

NEAP Reevaluation (2007)

As discussed previously, the District will remain active in the Coachella Valley PM10 reduction program through high wind/dust advisory forecasting, air quality monitoring, attendance at CVAG committee meetings, public presentations, compliance training

classes, compliance assistance, and technical support. Based on U.S. EPA guidance, a NEAP should be reevaluated every five years at a minimum and appropriate changes should be incorporated into the plan. In addition to the ongoing activities, the AQMD commits to a formal reevaluation of the Coachella Valley NEAP in 2007 and the reevaluation will be submitted to CARB and the U.S. EPA for review and comment.

CHAPTER 8

REQUEST FOR EXTENSION OF THE 2001 PM10 ATTAINMENT DEADLINE

INTRODUCTION

This chapter contains the following:

- ✓ CAA requirements for requesting an extension of the 2001 attainment date;
- ✓ A discussion of how the CAA requirements for an attainment date extension have been met;
- ✓ A formal request to extend the Coachella Valley PM10 attainment deadline; and
- ✓ A commitment to revise the 2002 CVSIP in 2003.

CAA REQUIREMENTS FOR PM10 ATTAINMENT DATE EXTENSION

If attainment of the PM10 NAAQS is not practicable by December 31, 2001, CAA Section 188(e) allows the extension of a serious area PM10 non-attainment date for up to five years. Requirements for an attainment date extension include the following:

- Demonstration of compliance with requirements and commitments pertaining to the Coachella Valley in implementation plans.
- Demonstration that attainment by December 31, 2001 is impracticable.
- Documentation that the SIP includes the most stringent measures (MSM) included in any State Implementation Plan or achieved in practice by any State, and can feasibly be implemented in the area.
- Demonstration that the expected attainment date is the most expeditious alternative date practicable.

Staff believes that these CAA attainment date extension requirements have been met by previous and ongoing PM10 reduction efforts and through the documentation contained in the 2002 CVSIP and previous SIP submittals. The following paragraphs detail how the CAA attainment date extension requirements have been met.

Compliance with all SIP Requirements and Commitments

The 2002 CVSIP in conjunction with the previous SIP submittals incorporated by reference complies with all CAA requirements (emissions inventory, control measures, attainment demonstration, etc.) for serious PM10 non-attainment areas. Chapter 1 of the 1996 CV Plan summarizes the 1990 CVSIP control measures and documents control measure implementation through 1996. Chapter 1 of the 2002 CVSIP documents local dust ordinance and AQMD rule SIP-approval and compliance efforts. The required MSM analysis is contained in Chapter 4 of the 2002 CVSIP. The additional 2002 CVSIP control measures are documented in Chapter 5.

Attainment of the PM10 NAAQS by 2001 is Impracticable

Despite the implementation of an aggressive control program of local and AQMD regulations that demonstrated attainment for many years in the 1990s, annual average PM10 levels rose above the standard in 1999. Although the levels have decreased since then in response to greater compliance efforts, the maximum 2001 annual arithmetic mean in the Coachella Valley was 50.2 $\mu g/m^3$(see Chapter 2). Chapter 2

also describes that the expected three year (1999-2001) annual average mean (used for compliance determinations) is 51.7 $\mu g/m^3$. Under the U.S. EPA Natural Events Policy, the 24-hour PM10 NAAQS have not been exceeded since 1993. Based on year 2001 annual average data and the three year annual average mean values, ambient Coachella Valley PM10 concentrations are above the federal PM10 NAAQS. Accordingly, the Coachella Valley has not met the federal PM10 NAAQS by December 31, 2001.

SIP Includes Most Stringent Measures

The Coachella Valley MSM analysis is provided in Chapter 4. It includes a demonstration that the 2002 CVSIP control measures and commitments are as stringent as those contained in any State Implementation Plan or achieved in practice in any State, and can feasibly be implemented in the Coachella Valley. Chapter 5 describes the PM10 control measures and SIP commitments that represent the maximum degree of emission reductions that can feasibly be implemented in the Coachella Valley, based on information at this time. Chapter 5 also describes that the control measures will be implemented as soon as feasible, but no later than January 1, 2004.

Attainment Date is as Expeditious as Practicable

Chapter 3 includes the historical year Coachella Valley PM10 emission inventory for 1995 (modeling base year) and 2000 (increased construction activity year). Chapter 3 also includes future year emission inventories for 2003 and 2006, with and without the additional controls described in Chapter 5. These future year emission inventories were used in the Chapter 6 attainment demonstration modeling (Attainment demonstration is based on the annual average PM10 standard as this standard was not met by the December 31, 2001 attainment deadline.) Chapter 6 shows that with application of control factors associated with the enhanced PM10 reduction program listed in Chapter 5 (e.g., revised dust control ordinance, AQMD regulations, clean streets management, etc.) the year 2003 modeling shows that annual average PM10 levels will not be below the standard. With the more complete and most expeditious implementation of 2002 CVSIP control measures and reduced transport from the Basin due to Basin control measure implementation, modeling demonstrates attainment of the PM10 annual average NAAQS by 2006. The year 2006 is considered as the most expeditious alternative practicable attainment date that can be demonstrated due to the desert-like conditions, uncertainties in emissions estimates and modeling, potential fluctuations in construction activity, and feasibility issues that may arise during control measure adoption and implementation. Although expeditious implementation will result in some emission reductions in 2004 and 2005, full emission reduction potential described in Chapter 5 is not expected until 2006. The impact of the phased implementation of certain control measures and time necessary to achieve full control penetration and rule compliance leads to the conclusion that 2006 will be the earliest attainment date practicable. The specific levels of reductions in 2004 and 2005 cannot be sufficiently quantified to provide a meaningful attainment demonstration. Thus, although emission reductions will occur in 2004 and 2005, future-year baseline emissions are assumed in 2004 and 2005 for attainment demonstration purposes. Projected emissions in those years do not demonstrate attainment of the annual average PM10 NAAQS. AQMD staff will pursue expeditious adoption and implementation of the 2002 CVSIP control measures to re-

achieve the PM10 annual average NAAQS as soon as practicable and no later than 2006.

The modeling analysis demonstrates that the 24-hour standard PM10 NAAQS will continue to be maintained through 2006.

FORMAL REQUEST FOR COACHELLA VALLEY PM10 ATTAINMENT DATE EXTENSION

As demonstrated above, the 2002 CVSIP (in conjunction with previous SIP submittals incorporated by reference) provides sufficient information that attainment of the annual average PM10 NAAQS by 2001 is impracticable and meets all requirements to support the Coachella Valley PM10 attainment date extension. Accordingly, the AQMD does hereby formally withdraw its attainment redesignation request for the annual average PM10 standard (1996 CV Plan) and requests an extension of the attainment date for the annual average PM10 standard in the Coachella Valley from December 31, 2001 to December 31, 2006.

COMMITMENT TO REVISE THE 2002 CVSIP IN 2003

As described in Chapter 3, the mobile source portion of the Coachella Valley PM10 emissions inventory is based on EMFAC7G. Although extensive efforts are ongoing to update EMFAC, these efforts will not be complete in time for inclusion into the 2002 CVSIP. Based on U.S. EPA comments, the AQMD will make a SIP commitment in the 2002 CVSIP Board Resolution to revise the 2002 CVSIP in 2003 to reflect, at a minimum, the latest approved version of EMFAC and the latest approved planning assumptions. This process will also present a revised Coachella Valley transportation conformity budget and will be submitted to CARB and the U.S. EPA for review and inclusion as a SIP revision.

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