

Eastern Kern Air Pollution Control District

Rule 402.2 AGRICULTURAL OPERATIONS

**STAFF REPORT
December 19, 2014**

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I. INTRODUCTION

The Eastern Kern Air Pollution Control District (District) is proposing to adopt Draft Rule 402.2, Agricultural Operations. Draft Rule 402.2 is designed to reduce fugitive particulate matter (with an aerodynamic diameter smaller than or equal to ten microns- PM₁₀) emissions from agricultural operations. The District has 3 PM₁₀ attainment classifications:

District Portion	Attainment Status
Indian Wells Planning Area	Attainment/ Maintenance
Cummings and Kern River Valley Areas	Nonattainment/Serious
Balance of District Jurisdiction	Attainment/Unclassifiable

As noted above, the District has a serious nonattainment area for the National Ambient Air Quality Standard (NAAQS) for PM₁₀. The federal Clean Air Act requires areas designated as serious nonattainment for PM₁₀ to implement Best Available Control Measure (BACM) and Best Available Control Technology (BACT) on all significant sources of emissions. It has been determined agricultural operations produce a significant source of PM₁₀ emissions due to uncontrolled grading, tilling, and other farming practices.

Agricultural operations in the District have been minimal over the past twenty years; however, with new crops (pistachios, lettuce, and other organic products), agricultural operations have been increasing. Unfortunately, voluntary use of BACT or BACM has not been utilized by all agricultural operations. Proposed Rule 402.2 provides BACM to agricultural operations in order to minimize PM₁₀ emissions.

On September 16, 2014 the District held a public rule development workshop at the Mojave Veteran's Building in Mojave, CA. At this workshop District staff presented proposed Draft Rule 402.2 Agricultural Operations. The District submitted copies of the proposed rule to the California Air Resources Board (CARB) and the Region IX office of the U.S. Environmental Protection Agency (EPA) for an initial review prior to the workshop. A 30-day public review and comment period followed the workshop.

District Rule 419, Nuisance shall still be used to prevent or correct specific public nuisances and health hazards.

Appendix A: Copy of proposed Draft Rule 402.2, Agricultural Operations.

Appendix B: District's Response to Comments following the September 16, 2014 public workshop held at the Mojave Veteran's Center in Mojave, CA.

II. BACKGROUND

District staff has identified agricultural operations as a significant source of PM₁₀ emissions and a source where PM₁₀ emissions can be reduced. Proposed Rule 402.2 is part of the District's particulate matter attainment strategy. In this strategy, Rule 402.2 would be utilized to implement BACM on existing agricultural operations to achieve PM₁₀ emission reductions and minimize an increase in PM₁₀ emissions caused by new agricultural operations. District Staff intends to submit Rule 402.2 to the District Governing Board for consideration of adoption no later than the first quarter of 2015.

Other District Rules and Regulations

There are 35 air pollution control/management districts in California. The following districts currently have adopted Agricultural Operations rules:

Air District	Rule/Regulation No.
Bay Area AQMD	Regulation 2, Rule 10
Butte County AQMD	Rule 450
Great Basin APCD	Rule 502
Imperial County APCD	Rules 217 and 806
Sacramento Metro AQMD	Rule 496
San Joaquin Valley APCD	Rule 4550
South Coast AQMD	Rules 233 and 403 Agricultural Handbook
Tehama County APCD	Rule 4:42
Yolo-Solano AQMD	Regulation 2, Rule 30

In order to promote regulatory uniformity throughout Kern County, proposed Draft Rule 402.2 is based on San Joaquin Air Pollution Control District's (SJVAPCD) Rule 4550, Conservation Management Practices, Re-adopted August 19, 2004.

III. RULE DEVELOPMENT

The purpose of this Rule is to reduce particulate matter 10 microns and less (PM₁₀) and fugitive dust emissions from agricultural operations located in Eastern Kern County by requiring implementation of Conservation Management Practices to prevent, reduce, or mitigate PM₁₀ emissions. An Agricultural Operation is defined as: Any activity or portion of land associated with the commercial growing of crops or the raising of fowl or animals. There are approximately six agricultural companies currently operating in Eastern Kern County that will be subject to this rule.

IV. REQUIREMENTS

Effective upon adoption of Draft Rule 402.2, an owner/operator of an agricultural operation site of ten (10) or more acres, shall implement at least one (1) Conservation Management Practice (CMP) and perform all related requirements for each of the following categories (1 through 4), on each agricultural parcel, unless the Conservation Tillage CMP is implemented, pursuant to the schedule listed in Section IV.A. below:

1. Land Preparation and Cultivation.
2. Harvest Activities.
3. Unpaved Roads and Traffic Areas.
4. Windblown Dust/Cropland-Other.

Additional CMP's from categories 1 and 2 are not required on acres implementing the Conservation Tillage CMP. However, at least one CMP from categories 3 and 4 is required. An owner/operator shall prepare and submit a CMP Application for each agricultural operation site to the APCO for approval. A CMP Application approved by the APCO shall constitute a CMP Plan. See Sections IV and V of Appendix A for complete details.

A. Conservation Management Practice Plan Submittal

An owner/operator shall prepare and submit a CMP Application for each agricultural operation site. Owner/operator must maintain a CMP Plan that corresponds to the current crops being grown in the field.

A complete CMP Application must be submitted to the APCO in accordance with the following schedule:

1. Within 210-days after adoption of this rule, for existing agricultural operation(s).
2. Within 180-days after adoption of this rule, for agricultural operation(s) or agricultural parcel(s) that are acquired and become subject to the provisions of this Rule after adoption date.
3. Within 60 days of any modification (operational, administrative, or other) that necessitates the revision of the CMP Plan. A modification includes, but is not limited to:
 - a. Administrative changes to any information provided pursuant to Section V of Appendix A;
 - b. Implementation of a CMP other than the CMP listed in a CMP Plan;

- c. Change of crop type or AFO type on an agricultural parcel; or
- d. Any other changes as determined by the APCO.

An approved CMP Plan is valid for a period of one year from date of approval. CMP Application/Plan shall be resubmitted annually, at least 60 days prior to expiration date, or the plan will be disapproved as of the expiration date. If all circumstances remain identical to those identified in the previously approved CMP Plan, the resubmittal may contain a simple statement of "no-change".

See Section VI, Administrative Requirements of Appendix A for complete details.

B. Conservation Management Practice

An owner/operator subject to the requirements of Draft Rule 402.2 shall implement on each agricultural parcel, at least one CMP from each source category listed in Section V, Conservation Management Practices of Appendix A. CMPs are defined in Section II, Definitions of Appendix A.

Unpaved Roads/Traffic Areas and Windblown Dust/Cropland-Other categories may be subject to additional requirements based on volume of traffic and condition of land. See Section V of Appendix A for complete details.

V. EXEMPTIONS

Section III, Exemptions of Draft Rule 402.2 specifies Agricultural Operations exemptions that will be effective upon full implementation of the rule. The proposed exemptions are similar to those listed in SJVAPCD Rule 4550. Staff reduced the minimum acreage for exemptions from 100-acres to less than 10-acres. See Section III, Exemptions of Appendix A for complete details.

VI. RULE CONSISTENCY ANALYSIS

Pursuant to Section 40727.2 of the California Health and Safety Code, prior to adopting, amending, or repealing a rule or regulation, the District is required to perform a written analysis that identifies and compares the air pollution control elements of Draft Rule 402.2 with the corresponding elements of existing or proposed District and EPA rules, regulations, and guidelines that apply to the same source category. Rule elements that were analyzed are emission limits or control efficiency, operating parameters and work practices, monitoring and testing, and recordkeeping and reporting requirements.

Results of Consistency Analysis

District Rules

Facilities subject to Draft Rule 402.2 may still be subject to District Rule 419, Nuisance but will not be subject to any other District Rules and Regulations. Proposed Draft Rule 402.2 is developed for agricultural operations; historically, agricultural operations were exempt from District Rules and Regulations, except Rule 419, Nuisance.

EPA Rules and Regulations

Currently there are no State regulations that specifically address anthropological dust emissions from agricultural facilities. However, there are State regulations that address PM emissions from agricultural engines and agricultural burning operations. Farming in the desert is a regional phenomenon as opposed to a statewide issue and expected to increase with desert crops, such as pistachios.

Currently there are no EPA regulations (Code of Federal Regulations {CFR} Title 40) specifically to address anthropological dust emissions from agricultural facilities. However, there are Federal regulations that address PM emissions from agricultural engines and agricultural burning operations.

A. EPA - Alternative Control Technology (ACT)

Currently no EPA ACT guidance documents are available to address anthropological dust emissions from agricultural facilities.

B. Standards of Performance for New Stationary Sources (NSPS)

Currently no NSPS guidance documents are available to address anthropological dust emissions from agricultural facilities.

C. National Emission Standards for Hazardous Air Pollutants (NESHAP) and Maximum Achievable Control Technologies (MACTs)

Currently no NESHAP guidance documents are available to address anthropological dust emissions from agricultural facilities.

VII. PM₁₀ EMISSION REDUCTIONS

Table 1 provides the state-wide Particulate Matter emissions inventory, related to agricultural operations, from the 2012 ARB Almanac Emission Projection Data by EIC, Published in 2013.

TABLE 1

Operation	PM (tons/day)	PM10 (tons/day)	PM2.5 (tons/day)
Ag Burning (prunings & field crops)	11.35	11.13	10.52
Farm Equipment (gas & diesel)	5.02	5.82	5.47
Harvesting Operations Dust	125.03	56.80	8.52
Livestock Husbandry	42.84	20.77	2.56
Tilling Dust	148.32	67.38	10.10
Unpaved Farm Roads & Traffic Areas	44.52	29.86	2.99
Windblown Dust Ag. Pasture	28.98	13.17	2.27
Windblown Dust Ag. Non-Pasture	169.74	77.11	13.31
Total:	575.80	282.04	55.74

As shown in Table 1, agricultural operations produce a significant amount of state-wide PM emissions. Rule 402.2 provides a variety of control measures designed to mitigate these fugitive PM emissions.

Table 2 provides the District's Particulate Matter emissions inventory, related to agricultural operations, from the 2012 ARB Almanac Emission Projection Data by EIC, Published in 2013

TABLE 2

Operation	PM (tons/day)	PM10 (tons/day)	PM2.5 (tons/day)
Ag Burning (prunings & field crops)	x	x	x
Farm Equipment (primarily diesel)	0.04	0.04	0.04
Harvesting Operations Dust	0.34	0.16	0.02
Livestock Husbandry	x	x	x
Tilling Dust	0.20	0.09	0.01
Unpaved Farm Roads & Traffic Areas	0.05	0.03	x
Windblown Dust Ag. Pasture	x	x	x
Windblown Dust Ag. Non-Pasture	9.69	4.40	0.76
Total:	10.32	4.72	0.83

x - Significantly low or not reported/calculated.

A. Assumptions used for calculating emission reductions:

1. Agricultural operations subject to Rule 402.2 are expected to achieve an 80% compliance rate. . A high compliance rate is expected because identical control technology has been implemented in the San Joaquin Valley portion of Kern County resulting in an 80% compliance rate.
2. Based on the District's emissions inventory, there are currently four categories of CMP that can be utilized within the District (Due to limited industry, District does not have large animal feeding operations, dairy

farms, etc.). Categories available are: Land Preparation and Cultivation, Harvest Activities, Unpaved Roads and Traffic Areas, and Windblown Dust/Cropland Other. Due to the similar nature of agricultural practices and climate/land conditions found throughout all of Kern County, the District used average Control Efficiencies from SJVAPCD's *Conservation Management Practices Program Report for 2005* for determining Rule 402.2 Control Efficiencies. Table 3 provides each CMP category with its corresponding control efficiency.

TABLE 3

CMP Category	Control Efficiency (percentage)
Land Preparation and Cultivation	28%
Harvest Activities	30%
Unpaved Roads and Traffic Areas	47%
Windblown Dust	20%

B. Emission Reduction Calculations:

Table 4 provides estimated PM₁₀ emissions reductions that will be accomplished by Rule 402.2 adoption and implementation. For the purposes of this table/calculations, PM₁₀ means PM₁₀ and PM_{2.5} combined because both are regulated pollutants that will be mitigated by the Rule. (See Equation 1 for calculation methodology):

TABLE 4

CMP Category	PM₁₀ Emission (tons/day)	Control Efficiency (percentage)	Emission Reductions (tons/day)
Land Preparation and Cultivation	0.1	28%	0.028
Harvest Activities	0.18	30%	0.054
Unpaved Roads and Traffic Areas	0.03	47%	0.141
Windblown Dust/Cropland-Other	5.16	20%	1.032
Total:	5.47		1.255

Equation 1:

Where: PM₁₀ Emissions (tons/day) = PM_{10E}
 Control Efficiency (%) = CE
 Emissions Reductions (tons/day) = ER

$$ER \left(\frac{\text{tons}}{\text{day}} \right) = PM10E \left(\frac{\text{tons}}{\text{day}} \right) \times \frac{CE}{100}$$

Sum of Emission Reductions is 1.255 tons/day (as shown in Table 4)

Emission Reductions from implementation of Rule 402.2 is product of the Sum of the Emission Reductions for each category and the Compliance Factor (80%).

$$1.255 \text{ (tons/day)} \times 0.80 = \mathbf{1.004 \text{ (tons/day)}}$$

Equation 2

Where: Rule Emissions Reductions (tons/day) = RER
 Compliance Factor (%) = CF
 Emissions Reductions (tons/day) = ER

$$RER \left(\frac{\text{tons}}{\text{day}} \right) = ER \left(\frac{\text{tons}}{\text{day}} \right) \times \frac{CF}{100}$$

$$1.004 \text{ (tons/day)} \times 365 \text{ (days/year)} = \mathbf{366.46 \text{ (tons/year)}}$$

1.004 tons/day of PM₁₀ emission reductions converts to an annual emission reduction of 366.46 tons/year of PM₁₀ emissions reductions.

VIII. COST EFFECTIVENESS ANALYSIS

Cost Effectiveness is, the cost of implementing a regulation (rule) in relation to the amount of emissions reductions generated by that rule; expressed in dollars per ton (\$/ton). The cost can include equipment costs, engineering design costs, additional labor cost and maintenance costs. Cost effectiveness should include any monetary savings generated by the rule implementation.

The cost effectiveness of implementing CMPs depends largely on the current farming/operating system. Growers/operators may implement certain CMPs more easily than others; additionally, an operator may choose one CMP over another for a myriad of reasons. Selection of CMPs will determine the cost effectiveness and CMP selection depends on the industry within the District.

A. Assumptions used for Calculating Cost Effectiveness

Table 5 provides annual cost of implementing CMPs per specific Standard Industrial Code (SIC) throughout the state. This information is provided in SJVAPCD's Staff Report for Rule 4550.

TABLE 5

SIC	SIC Name	CMP Cost (\$/Year)	
		Low Cost Scenario	High Cost Scenario
SIC 011	Cash Grains	(49,000)	3,813,000
SIC 013	Field crops, except cash grains	(42,000)	7,260,000
SIC 016	Vegetable and melons	(247,000)	1,536,000
SIC 017	Fruit and tree nuts	(235,000)	8,348,000
SIC 021	Livestock, except dairy and poultry	20,000	890,000
SIC 024	Dairy Farms	449,000	8,733,000
SIC 025	Poultry and egg	56	276,000
Total:		(104,000)	30,856,000

(Parentheses indicates savings)

B. Calculating Cost Effectiveness

Table 6 provides annual cost of implementing CMPs per specific SIC in the District. District does not currently have any significant cash grain operations (wheat, rice, corn soybean, etc.) or livestock operations (including dairy, poultry, and egg farms). A 0.02 factor has been applied to the Low Cost and High Cost scenarios. This is proportional to District’s emission inventory in contrast to the state-wide emission inventory.

TABLE 6

SIC	SIC Name	CMP Cost (\$/Year)	
		Low Cost Scenario	High Cost Scenario
SIC 013	Field crops, except cash grains	(840)	145,200
SIC 016	Vegetable and melons	(4,940)	30,720
SIC 017	Fruit and tree nuts	(4,700)	166,960
Total:		(10,480)	342,880

(Parentheses indicates savings)

Cost effectiveness for low and high CMP Scenarios is as follows:

Low Cost Scenario:

$$\$10,480/\text{year}/366.46 \text{ (tons/year)} = (\$28.60)/\text{ton of PM}_{10} \text{ reduced/year}$$

High Cost Scenario:

$$\$342,880/\text{year}/366.46 \text{ (tons/year)} = \$935.65/\text{ton of PM}_{10} \text{ reduced/year}$$

C. Results

1. Emissions Reduction

The emissions reduction analysis arrived at an estimated PM₁₀ emissions reduction of 1.004 tons/day (366.46 tons/year).

2. Cost-Effectiveness

The preliminary cost effective analysis presents a range of \$28.60 in savings to 935.65 per ton of PM₁₀ reduced each year. Both scenarios are considered acceptable under rule development policies and considered reasonable (e.g. cost effective).

IX. ENVIRONMENTAL IMPACTS

Both the California Environmental Quality Act (CEQA) and ARB policy require an evaluation of the potential adverse environmental impacts of proposed projects. The intent of Draft Rule 402.2 is to protect public health by reducing the public's exposure to potentially harmful PM₁₀ emissions. An additional consideration is the impact that the proposed rule may have on the environment. District has determined that no significant adverse environmental impacts should occur as a result of adopting Draft Rule 402.2.

Pursuant to the Section 15061, Subsections (2) & (3) of the CEQA Guidelines, staff will prepared and file a Notice of Exemption for this project upon adoption.

X. SOCIOECONOMIC IMPACTS

CHSC Section 40728.5 exempts districts with a population of less than 500,000 persons from the requirement to assess the socioeconomic impacts of proposed rules. Eastern Kern County population is below 500,000 persons.

XI. RULE APPROVAL PROCESS

The District accepted written comments and concerns from persons interested in Draft Rule 402.2 for a period of 30 days starting September 16, 2014 following the workshop held in Mojave. All written comments have been addressed as detailed in Appendix B of this staff report. District anticipates Draft Rule 402.2 will be considered for adoption by the Board at the January 2015 Board Hearing. Upon adoption, Rule 402.2 will be sent to CARB to be forwarded to EPA as revision to the SIP.

APPENDIX A:
DRAFT RULE 402.2
AGRICULTURAL OPERATIONS

RULE 402.2 Agricultural Operations - Adopted X/X/XXXX

I. Applicability

The purpose of this rule is to reduce particulate matter 10 microns and less (PM₁₀) and fugitive dust emissions from agricultural operations located in Eastern Kern County by requiring implementation of Conservation Management Practices to prevent, reduce, or mitigate PM₁₀ emissions.

II. Definitions

A. Administrative change: A change to a CMP Plan that:

1. Corrects typographical errors;
2. Identifies a change in the name, address, or phone number of any person identified in the CMP Plan, or provides a similar minor administrative change which has no effect on the selected CMPs and does not change any information that could be used to determine emissions reduction; or
3. Allows for the change of ownership or operational control of an agricultural operation site or agricultural parcel.

B. Agricultural Operation: The growing and harvesting of crops or the raising of fowl or animals, for the primary purpose of earning a living, or of conducting agricultural research or instruction by an educational institution.

C. Agricultural Operation Site: One or more agricultural parcels that meet the following:

1. Are under the same or common ownership or operation, or which are owned or operated by entities which are under common control; and
2. Are located on one or more contiguous or adjacent properties wholly within the District jurisdiction.

D. Agricultural Parcel: A portion of real property, including but not limited to, cropland and animal feeding operation (AFO) used by an owner/operator for carrying out a specific agricultural operation. Roads, vehicle/equipment traffic areas, and facilities on or adjacent to the cropland or AFO are part of the agricultural parcel.

E. Alternative Tilling: Till alternative rows for weed management, reducing approximately 50% of field activity related to tilling, in addition to stabilizing soil surface and reducing soil compaction.

F. Air Pollution Control Officer (APCO): Air Pollution Control Officer of the Eastern Kern Air Pollution Control District or his designee.

- G. Animal Feeding Operation (AFO): A lot or facility where animals have been, are on, or will be, gathered, fed, or stabled for a total of 45 days or more in any 12 month period and where crops, vegetation, forage growth, or post-harvest residues are not sustained over any portion of the lot or facility (as defined in 40 CFR 122.23 (b) (1)).
- H. Application Efficiencies: Use more efficient application equipment so as to reduce a minimum of one ground operation. Examples include: compact or low volume spray equipment; aerial applications; micro-heads or infrared spot sprayers; electrostatic sprayers. Reduces soil compaction, passes and chemical usage.
- I. Baling/Large Bales: Reduce a minimum of one pass through the field per acre by using large balers to harvest crops.
- J. Bed/Row Size or Spacing: Reduce a minimum of one tillage operation by Increasing or decreasing the size of the planting bed area (can be done for field and permanent crops) or adjusting spacing. Spacing adjustments reduce the number of passes and soil disturbance by increasing plant density/canopy through reduction of row width to contain PM within the canopy.
- K. Bulk Materials Control: Minimize visible dust emissions from bulk materials by using dust suppressant or water to form a stabilized surface, or using a tarp to fully cover the pile or truckbed, or using a wind barrier or 3-sided structure to reduce entrainment of fugitive dust.
- L. Chemigation/Fertigation: Reduce a minimum of one ground operation by applying chemicals through an irrigation system. This reduces the need to travel in the field for application purposes, thus reducing operations and soil disturbance while increasing the efficiency of the application.
- M. Chips/Mulches, Organic Materials, Polymers, Road Oil & Sand: Application of any nontoxic chemical or organic dust suppressant that meets all specification required by any federal, state, or local water agency and is not prohibited for use by any applicable regulations. Chips/Mulches and organic materials should meet the specifications in the mulches definition below. Polymers, road oil and sand should create a stabilized surface during high traffic times such as harvest.
- N. Combined Operation: Combine equipment to perform several operations during one pass, thereby reducing a minimum of one tillage operation. Examples include: use of one-pass till equipment in ground preparation or crop tillage; and cultivation and fertilization of a field crop in a single pass. Other benefits are reduction of soil compaction and time to prepare fields, both of which can be precursors to additional tillage requirements. If a combined operation is accomplished through equipment change/technological improvement, that action is considered one CMP, and either Equipment Changes/Technological Improvements CMP or Combined Operations CMP may be selected in a CMP Plan, but not both.

- O. Conservation Irrigation: Reduce a minimum of one tillage operation related to weeding by conserving the amount of water used by using either drip, sprinkler, or buried/underground line irrigation. Conserving water reduces weed population, which in turn reduces the need for tillage and reduces soil compaction.
- P. Conservation Management Practice (CMP): An activity or procedure that prevents, reduces, or mitigates PM₁₀ normally emitted by, or associated with, an agricultural activity.
- Q. Conservation Management Practice Plan (CMP Plan): A document prepared by the owner or operator of an Agricultural Operation site that lists the selected CMPs for implementation. The CMP Plan also contains, but is not limited to, contact information for the owner or operator, a description of the Agricultural Operation Site and locations of Agricultural Parcels, and other information describing the extent and duration of CMP implementation.
- R. Conservation Management Practice Program (CMP Program): A District program with the purpose of reducing air pollutants from agricultural operation sites.
- S. Conservation Tillage (e.g.: no tillage, minimum tillage): A tillage system that reduces a minimum of three tillage operations. This system reduces soil and water loss by reducing the number of passes and by leaving crop residue on the field after harvest as well as managing the residue so that it remains intact during the planting season. It reduces the number of passes and amount of soil disturbance. It improves soil because it retains plant residue and increases organic matter.
- T. Contiguous or Adjacent Property: A property consisting of two or more parcels of land with a common point or boundary, or separated solely by a public roadway or other public right-of-way.
- U. Cover Crops: Establish cover crops that maintain a minimum of 60 percent ground cover, as determined by the Line Transect Test Method. Native or volunteer vegetation that meets the minimum ground cover requirement is acceptable.
- V. Crop Residue Management: Maintain crop residue from previous crops until tilling for the next crop. Crop residues must maintain a minimum of 60 percent ground cover as determined by Line Transect Test Method. Implements such as undercutters or sweeps can maintain crop residues without burying or destroying residues.
- W. Cross Wind Stripcropping: Establish crops in parallel strips across the prevailing wind erosion direction and arranged so that strips susceptible to wind erosion are alternated with strips having a protective cover that is resistant to wind erosion. The strips with the protective cover should be at least as wide as the strips susceptible to wind erosion.

- X. Equipment Changes/Technological Improvements: Reduce a minimum of one tillage operation by modifying equipment or making technological improvements. Examples include flame cultivation or equipment that combines discing, chiseling and ring rolling. If an equipment change/technological improvement is made in order to combine operations, that action is considered one CMP; either Equipment Changes/Technological Improvements CMP or Combined Operations CMP may be selected in the CMP plan, but not both.
- Y. District: As defined in Rule 102 (Definitions).
- Z. Fallow Land: Temporary or permanent removal from production. Eliminates entire operation/passes or reduces activities.
- AA. Field Windbreaks: Plant or maintain a single or multiple row of trees or shrubs adjacent to windward edge of the field as close to perpendicular as practical with the direction of erosive winds. Windbreaks such as trees or shrubs should be established at a right angle to the prevailing wind direction. Sites downwind of the windbreak are considered protected if they fall within an area that is less than or equal to 10 times the height of the windbreak. The windbreak should have a porosity of 50 %. This CMP should be implemented consistent with NRCS Code 380 – Windbreak/Shelterbelt Establishment.
- BB. Fugitive Dust: As defined in Rule 102 (Definitions).
- CC. Gravel: Placing a layer of Gravel at least 3 inches in depth to minimize dust generated from vehicle movement and to dislodge any excess debris which can become entrained.
- DD. Green Chop: Reduce a minimum of one ground operation by harvesting a forage crop without allowing it to dry in the field. This practice reduces soil disturbance and soil compaction.
- EE. Grinding/Chipping/Shredding: Grinding pruning's and orchard removals instead of burning; incorporate to soil. Reduces PM from burning crop residues.
- FF. Ground Operation: An agricultural operation that is not a tillage operation that involves equipment passing across the field, such as a chemical spray application. A pass through the field may be a subset of a ground operation.
- GG. Hand Harvesting: Reduce a minimum of one ground operation by harvesting a crop by hand. It reduces soil disturbance due to machinery passes.
- HH. Integrated Pest Management: Reduce a minimum of one ground operation by using a combination of techniques including organic, conventional and biological farming concepts to suppress pest problems. It creates beneficial insect habitat that reduces the use of herbicides/pesticides thereby reducing number of passes for spraying. It also reduces soil compaction and the need for additional tillage. If integrated pest management CMP uses the same practices described in the Organic Practices CMP, this action is considered one CMP, and either Integrated Pest Management CMP or Organic Practices CMP may be selected in a CMP plan, but not both.

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- II. Irrigation Power Units: Use cleaner burning engines, electric motors (CMP only applicable if engines are cleaner than otherwise required by current local, state and federal requirements).
- JJ Mature Dairy Cow: A cow that has had its first calf.
- KK. Mulching: Reducing PM10 emissions and wind erosion and preserving soil moisture by uniformly applying a protective layer of plant residue or other material to a soil surface prior to disturbing the site to reduce soil movement. Mulching material shall be evenly applied, and if necessary, anchored to the soil. Mulch should achieve a minimum 70% cover, and a minimum of 2 inch height above the surface. Inorganic material used for mulching should consist of pieces of .75 to 2 inches in diameter.
- LL. Night Farming: Operate at night when moisture levels are higher and winds are lighter. It decreases the concentration of PM emissions during daytime and the increased ambient humidity reduces PM emissions during the night. Night farming should take place between sundown and sunrise.
- MM. Night Harvesting: Implementing harvesting practices at night when moisture levels are higher and winds are lighter. It reduces PM by operating when ambient air is moist, thereby reducing PM emissions. Night harvesting should take place between sundown and sunrise.
- NN. No Burning: Switching to a crop/system that would not require waste burning. It reduces emissions associated with burning.
- OO. Non Tillage/Chemical Tillage: Reduce a minimum of one tillage operation by, for example, using a flail mower or low volume sprayers. It reduces soil compaction and stabilizes soil.
- PP. NRCS: The United States Department of Agriculture Natural Resource Conservation Service.
- QQ. Opacity: As defined in Rule 402, Fugitive Dust.
- RR. Organic Practices: Reduce a minimum of one ground or tillage operation by using biological control methods or non-chemical control methods. Examples include: organic certification, biological controls, mulches and humus. If an organic practice CMP uses the same practice as described in the integrated pest management CMP, this action is considered one CMP, and either Organic Practices CMP or Integrated Pest Management CMP may be selected in a CMP plan, but not both.
- SS. Owner/Operator: Includes, but is not limited to, any person who leases, supervises, operates equipment, or owns/operates a fugitive dust source, in addition to the normal meaning of owner or operator.
- TT. Particulate Matter: As defined in Rule 102 (Definitions).

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- UU. Paved Road: Any road/area that is covered by concrete, asphaltic concrete, asphalt, recycled asphalt, or concrete, which provides structural support for vehicles.
- VV. Permanent Crops: Having an established permanent crop that is not replanted annually.
- WW. PM₁₀: As defined in Rule 402, Fugitive Dust.
- XX. Precision Farming (GPS): Reduce a minimum of one pass through the field per acre by using satellite navigation to calculate position in the field, therefore manage/treat the selective area. It reduces overlap and allows operations to occur during inclement weather conditions and at night thereby generating less PM.
- YY. Pre-Harvest Soil Preparation: Applying a water or stabilizing material to soil prior to harvest to form a visible crust. It reduces PM emissions at harvest.
- ZZ. Reduced Pruning: Reduce a minimum of one ground operation by reducing the frequency of pruning (e.g. one time per year, or every other year).
- AAA. Restricted Access: To restrict or eliminate public access to unpaved private roads with signs or physical obstructions. At each access point, install signs or physical barriers such as gates, fencing, posts, signs, shrubs, trees that block or effectively control access to the area. It reduces vehicle traffic and thus reduces associated fugitive dust.
- BBB. Ridge Roughness: Establish stabilized ridges, sufficient to meet the definition of stabilized surface, by normal tillage and planting equipment as close to perpendicular as practical with the direction of erosive winds (not appropriate for unstable soils such as sands or loamy sands). After establishment, ridges shall be maintained through those periods when wind erosion is expected to occur, or until growing crops provide enough cover to protect the soil from wind erosion. Ridge spacing should be no greater than 4 times the ridge height. This CMP should be implemented consistent with NRCS Code 588 -- Cross Wind Ridges.
- CCC. Road: Any road or street, highway, freeway, alley, way, access easement or driveway.
- DDD. Road Mix: A mixture of tank bottoms from crude oil storage tanks, material from crude oil spills, or other crude-oil-containing soil mixed with aggregates and soils, that are used as a base cover materials for roads, parking lots, berms, tank and well locations, or similar applications.
- EEE. Shed Packing: Reducing a minimum of one pass through the field per acre by packing commodities in a covered or closed area, rather than field-pack. It reduces field traffic, thereby reducing PM emissions.
- FFF. System/Large Carrier: Reduce a minimum of one pass through the field per acre by hauling multiple or larger trailers/bins per trip.
- GGG. Soil Amendments: Organic or chemical materials uniformly applied to the soil for improvement (e.g: gypsum, lime, polyacrylamide).

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- HHH. Speed Limits: Control speed limits to 15 mph on unpaved roads through worker behavior modifications, signage, or any other necessary means.
- III. Stabilized Surface: As defined in Rule 402, Fugitive Dust.
- JJJ. Sulfur Reduction or Elimination: Reduce a minimum of one ground operation by reducing or eliminating sulfur dusting, an organic chemical used to control disease in crop, ornamental and home and gardens.
- KKK. Surface Roughening: Produce and maintain stable clods or aggregates on the land surface, sufficient to meet the definition of stabilized surface, by bedding, rough disking, or tillage that leaves the surface covered by stable clods. Soil clods prevent wind erosion because they resist the forces of the wind and because they shelter other erodible materials. This CMP should be implemented consistent with NRCS Code 609 – Surface Roughening.
- LLL. Tillage Operation: An agricultural operation that mechanically manipulates the soil for the enhancement of crop production. Examples include discing, weeding, or bedding. A pass through the field may be a subset of a tillage operation.
- MMM. Track-Out Control: Minimize any and all material that adheres to and agglomerates on all vehicle and equipment from unpaved roads and falls onto a paved public road or the paved shoulder of a paved public road. Install one of the following devices: a grizzly, a gravel pad or a wheelwash system at all intersections of unpaved roads and public roads. Track-out control should be implemented pursuant to Rule 402, Fugitive Dust, Section V.F.E.
- NNN. Transgenic Crops: Use of GMO or Transgenic crops such as “herbicide-ready” to reduce a minimum of one tillage operation. It reduces the need for tillage or cultivation operations, as well as reduces soil disturbance. It can also reduce the number of chemical applications.
- OOO. Unpaved Road: Any road that is not covered by one of the materials described in the paved road definition.
- PPP. Unpaved Vehicle/Equipment Traffic Area: Any nonresidential area that is not covered by asphalt, recycled asphalt, asphaltic concrete, concrete, or concrete pavement that is used for fueling and servicing; shipping, receiving and transfer; or parking or storing equipment, haul trucks, vehicles, and any conveyances.
- QQQ. Visible Dust Emissions (VDE): Dust emissions visible to an observer. Opacity observations to determine compliance with VDE standards shall be conducted in accordance with the test procedures for “Visual Determination of Opacity” as described in Appendix B of Rule 402, Fugitive Dust.
- RRR. Vehicle: As defined in Rule 102 (Definitions).
- SSS. Water Application: Application of water to unpaved roads and traffic areas to create a visibly moist surface.

TTT. Wind Barriers (Herbaceous): Reduce wind erosion by planting or maintaining perennial or annual plants established in rows or narrow strips interspersed throughout a crop field as close to perpendicular as practical with the direction of erosive winds. This CMP should be implemented consistent with NRCS Code 603 – Herbaceous Wind Barriers. To be effective, the selected plant(s) must create a stand at least three feet tall, with a porosity of 50%.

III. Exemptions

- A. Except for the recordkeeping requirements of Section VI.E.2, provisions of this rule shall not apply to:
1. Agricultural operation site where the total acreage of all agricultural parcels is less than 10 acres.
 2. Woodland and wasteland not actually under cultivation or used for pasture.
 3. Land placed in the Conservation Reserve Program meeting the definition and criteria set by the NRCS.
 4. Agricultural operation parcel used for the purpose of:
 - a. Propagating young trees, shrubs, or other miscellaneous crops for transplanting, and exhibiting plants under controlled conditions inside a building with walls and roof;
 - b. Providing grazing rangeland or pasture; or
 - c. Forestry, including but not limited to timber harvest operations, silvicultural practices, forest management burning, or forest protection practices.
 5. AFO of mature dairy cows with less than 500 mature dairy cows, whether milked or dry.
 6. AFO of cattle, other than mature dairy cows or veal calves, with less than 190 cattle, other than mature dairy cows or veal calves. Cattle includes, but not limited to, heifers, steers, bulls and cow/calf pairs.
 7. AFO of turkeys with less than 55,000 turkeys.
 8. AFO of chickens, other than laying hens, with less than 125,000 chickens.
 9. AFO of laying hens with less than 82,000 laying hens.
 10. AFO other than an AFO for mature dairy cows, cattle, turkeys, chickens, or laying hens.
- B. This rule does not exempt the owner/operator from any other District Rules or Regulations.

IV. Requirements

A. Effective upon adoption of this rule, an owner/operator of an agricultural operation site of ten (10) acres or more, shall implement at least one (1) CMP from Section V, for each of the following categories (1 through 4) and perform all related requirements, on each agricultural parcel, unless the Conservation Tillage CMP is implemented, pursuant to the schedule listed in Section VI.B:

1. Land Preparation and Cultivation, CMPs in Section V.A;
2. Harvest Activities, CMPs in section V.B;
3. Unpaved Roads and Traffic Areas, CMPs in Section V.C;
4. Windblown Dust CMPs, in Section V.D; and

Additional CMP's from categories 1 and 2 are not required on acres implementing the Conservation Tillage CMP. However, at least one CMP from categories 3, 4, and associated provisions are required.

- B. An owner/operator shall prepare and submit a CMP Application for each agricultural operation site to the APCO for approval, pursuant to Section VI. A CMP Application approved by the APCO shall constitute a CMP Plan.
- C. Except as provided in Section IV.D, an owner/operator shall implement the approved CMP Plan for each agricultural operation site pursuant to Section VI, no later than ten (10) days after receiving CMP Plan approval notification from APCO.
- D. An owner/operator that discontinues implementation of a CMP as committed to in an approved CMP Plan, or makes other changes that are inconsistent with the CMP Plan, shall comply with the requirements of Section VI.B.3.
- E. An owner/operator shall ensure that the implementation of each selected CMP does not violate any other local, state, or federal law.

V. Conservation Management Practices

An owner/operator subject to the requirements of this rule shall implement on each agricultural parcel, at least one CMP from each of the following source categories listed below. An owner/operator of Fallow Land must comply with Section V.D.3.

A. Land Preparation and Cultivation (Category IV.A.1)

1. Alternative Tilling,
2. Bed/Row Size Spacing,
3. Chemigation/Fertigation,
4. Combined Operations,
5. Conservation Irrigation,
6. Cover Crops,
7. Equipment Changes/Technological Improvements,
8. Fallow Land,
9. Integrated Pest Control,

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10. Mulching,
11. Night Farming,
12. Non Tillage /Chemical Tillage,
13. Organic Pesticides,
14. Precision Farming (GPS), or
15. Transgenic Crops.

B. Harvest Activities (Category IV.A.2).

1. Baling /Large Bales,
2. Combined Operations,
3. Equipment Changes/Technological Improvements,
4. Green Chop,
5. Hand Harvesting,
6. Fallow Land,
7. Night Harvesting,
8. No Burning,
9. Pre-Harvesting Soil Preparation,
10. Shed Packing, or
11. Shuttle System/Large Carrier.

C. Unpaved Roads and Traffic Areas (Category IV.A.3)

1. At least one of the following CMPs shall be implemented, at all times, on all unpaved roads and traffic areas on agricultural operation site:
 - a. Chips/Mulches, Organic Materials, polymers, road oil and sand,
 - b. Gravel,
 - c. Paving,
 - d. Restricted access,
 - e. Low Speed limit (15 mph or less),
 - f. Track-out control,
 - g. Water Application, or
 - h. Field windbreak.
2. Unpaved roads or traffic areas that have high traffic volume of fifty (50) or more vehicle trips per day; or twenty (20) or more vehicle trips per day made by three (3) or more axle vehicles, shall limit VDE to 20% opacity by implementing and maintaining one or more of the following CMPs:
 - a. Pave,
 - b. Apply Chemical Stabilization as directed by product manufacturer to control dust on Unpaved Roads,
 - c. Apply and maintain Gravel, recrushed/recycled asphalt or other material of low Silt (<5%) content to a depth of three or more inches,
 - d. Water Application,
 - e. Permanent road closure, or
 - f. Restrict unauthorized vehicle access.

D. Windblown Dust (Category IV.A.4)

1. When preparing a field for planting, owner/operator shall minimize the time that newly tilled soil is smooth and dry by leaving the field surface with large clods for as long as possible and bedding and planting the field as soon as possible once it no longer has large clods.
2. At least one of the following windblown dust CMPs shall be implemented on all agricultural operation sites in addition to CMPs employed pursuant to Section V.A. and V.B:
 - a. Alternate Tilling,
 - b. Application Efficiencies,
 - c. Bailing/Large Bales,
 - d. Bulk Materials Control,
 - e. Chemigation/Fertigation,
 - f. Conservation Irrigation,
 - g. Fallow Land,
 - h. Grinding/Chipping/Shredding,
 - i. Integrated Pest Management,
 - j. Irrigation Power Units,
 - k. Mulching,
 - l. Night Farming,
 - m. No Burning,
 - n. Non Tillage/Chemical Tillage,
 - o. Organic Practices,
 - p. Permanent Crops,
 - q. Reduced Pruning,
 - r. Soil Amendments,
 - s. Soil Incorporation,
 - t. Sulfur: Reduction or Elimination of Dusting,
 - u. Surface Roughening,
 - v. Transgenic Crops, or
 - w. Wind Barrier.
3. If an agricultural operation site has fields that are in between crops or more permanently fallow, the owner/operator shall implement at least one of the following windblown dust CMPs to limit VDE to no more than 20% opacity:
 - a. Cover Crop,
 - b. Conservation Tillage,
 - c. Crop Residue Management,
 - d. Cross Wind Stripcropping,
 - e. Field Windbreaks,
 - f. Ridge Roughness,
 - g. Surface Roughening, or
 - h. Wind Barrier.

VI. Administrative Requirements

A. CMP Application Preparation

An owner/operator shall prepare and submit a CMP Application for each agricultural operation site. Owner/operator must maintain a CMP Plan that corresponds to the current crops being grown in the field. Each CMP Application shall include, but is not limited to, the following information:

1. Name, business name, business address, and phone number of the owner/operator responsible for the preparation and implementation of the CMP Plan.
2. Signature of the owner/operator and date the application was signed.
3. Plot plan or map which contains the following information:
 - a. Location of the agricultural operation site;
 - b. Location of each agricultural parcel on the agricultural operation site;
 - c. Location of unpaved roads and unpaved equipment/traffic areas to be covered by the CMP Plan; and
 - d. Location where the CMP Plan will be implemented.
4. Type of crop, AFO, or other use of parcel, and total crop acreage or number of animals.
5. Total length (miles) of unpaved roads and the total area (acres or square feet) of unpaved equipment and traffic areas to be covered by the CMP Plan.
6. List of applicable CMPs being implemented for each crop, unpaved roads, unpaved traffic areas, and windblown dust control. CMPs implemented should be described to verify that implementation is consistent with the CMP definitions in this rule.
7. Any other information as determined by the APCO.

B. CMP Application Submission

An owner/operator shall submit a complete CMP Application to the APCO, pursuant to Section V.A, in accordance with the following schedule:

1. Within 210-days after adoption of this rule, for existing agricultural operation(s).
2. Within 180-days after adoption of this rule, for agricultural operation(s) or agricultural parcel(s) that are acquired and become subject to the provisions of this Rule after adoption date.

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3. Within 60 days of any modification (operational, administrative, or other) that necessitates the revision of the CMP Plan. A modification includes, but is not limited to:
 - a. Administrative changes to any information provided pursuant to Section V;
 - b. Implementation of a CMP other than the CMP listed in a CMP Plan;
 - c. Change of crop type or AFO type on an agricultural parcel; or
 - d. Any other changes as determined by the APCO.
4. An approved CMP Plan is valid for a period of one year from date of approval. CMP Application/Plan shall be resubmitted annually, at least 60 days prior to expiration date, or the plan will be disapproved as of the expiration date. If all circumstances remain identical to those identified in the previously approved CMP Plan, the resubmittal may contain a simple statement of "no-change". Otherwise a resubmittal shall contain all items specified in Section VI.A.

C. CMP Application Review and Evaluation

1. APCO shall:
 - a. Review the CMP Application and determine whether the submitted CMP Application is complete. Completeness shall be determined by evaluating whether the CMP Application meets the requirements of Section VI.A of this rule and Section I of Rule 301, Permit Fees.
 - b. Notify the owner/operator in writing after determination of CMP Application completeness and, if applicable, request the owner/operator provide any additional information to the District within 30 days.
 - c. Evaluate and approve or disapprove the CMP Application and provide written determination to the owner/operator within 180 days after receipt of the complete CMP Application.
2. A CMP Application for modification of a CMP Plan pursuant to Section VI.B.3.a shall be deemed approved as submitted, unless APCO provides written comments to the owner/operator within 30 days of receipt of the CMP Application.
3. A CMP Application for modification of a CMP Plan pursuant to Sections VI.B.3.b, V.B.3.c, or V.B.3.d shall be deemed conditionally approved as submitted unless APCO provides written comments to the owner/operator within 30 days of receipt of the CMP Application.
4. The approval of a CMP Application shall not serve to excuse the owner/operator from complying with law, nor shall it excuse any violation.

D. Test Methods

1. Stabilized Surface: See Rule 402, Fugitive Dust, Appendix A, Determination of Stabilization.
2. Visible Crust Determination: See Rule 402, Fugitive Dust, Appendix A, Section II.
3. Line Transect Method: See Rule 402, Fugitive Dust, Appendix A, Section IV. A.
4. Opacity: See Rule 402, Fugitive Dust, Appendix B, Visual Determination of Opacity, Section 1.

E. Recordkeeping

1. An owner/operator subject to this rule shall maintain the following records for a minimum of five (5) years:
 - a. A copy of each CMP Plan.
 - b. Supporting information necessary to confirm implementation of the CMP Plan.
2. An owner/operator claiming an exemption pursuant to Section III shall maintain records for a minimum of five (5) years demonstrating the agricultural operation site or agricultural parcel qualified for the exemption.
3. An owner/operator shall make all required records available to the APCO, upon request.

F. Loss of Exemption

An owner/operator of an agricultural operation site or agricultural parcel that becomes subject to the provisions of Section IV through loss of exemption shall comply with all applicable provisions of this rule pursuant to the schedule in Section VI.B.

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APPENDIX C

DRAFT RULE 402.2

AGRICULTURAL OPERATIONS

RESPONSE TO COMMENTS

402.2 Staff Report - Response to Comments

On September 16, 2014 the District held a public rule development workshop at the Mojave Veteran's Building in Mojave, CA to present proposed Draft Rule 402.2, Agricultural Operations. The District submitted copies of the proposed Rule to the Air Resources Board (ARB) and the Region IX office of the U.S. Environmental Protection Agency (EPA) in September for an initial 30-day review.

Upon completion of review, ARB and EPA offered comments and suggested changes to District staff regarding the proposed amendment of Rule 402.2.

Industry/public representatives present at the 9/16/2014 workshop provided one questions regarding the proposed amendments; and no written public comments were received by the District during the 30-day comment period following the workshop.

I. PUBLIC COMMENTS

The following was made by a public reprehensive at the worshop.

Public: *Are horses subject to the rule?*

District: No.

II. ARB COMMENTS

The following changes were made to Draft Rule 402.2 in response to ARB comments.

ARB: *The Staff Report for the Rule 402.2 contains an error on page 8 (Section IX.B.) – the final CMP High Cost Scenario in the table should not be in parentheses (which denotes savings and not cost). In addition, their rounding on page 7 is a bit off, but is minor.*

District: Both were corrected.

III. EPA COMMENTS

The following changes were made to the 9/10/2014 proposed revision of Rule 402 in response to EPA comments.

1. EPA: *Section II. K: The Conservation Management Practice List (CMP List) is included in the staff report (Appendix B) but not in the draft rule text. Based on the staff report (p. 3) the District does not plan to submit the CMP List for SIP approval. However, if the District intends to submit Rule 402.2 for SIP approval, the District should either: 1) submit the CMP List*

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for SIP approval; or 2) include the CMP List in the rule text. For example, the San Joaquin Valley Air Pollution Control District (SJVAPCD) submitted its "List of Conservation Management Practices, May 20, 2004" for SIP approval with SJVAPCD Rule 4550 Conservation Management Practices. Imperial County Air Pollution Control District (ICAPCD) Rule 806 Conservation Management Practices defines the CMPs in the text of the rule.

District: Revised Rule to include CMP definitions from ICAPCD Rule 806. See Sections IV and V of Appendix A.

2. EPA: *CMP list (Appendix B of staff report) lists each CMP title, followed by a general description, benefits, and examples. However, many of the CMPs lack implementation specifics or associated test methods for determining effective implementation. Our approval of SJVAPCD Rule 4550 relied, in part, on the submitted CMP forms that direct the owner/operator to provide details on how the CMP will be implemented. (See 71 Fed. Reg. 7,683-01, 7,683-88 (Feb. 14, 2006), upheld in Latino Issues Forum et al v. EPA, U.S. Court of Appeals for the Ninth Circuit, No. 06-71907, filed March 5, 2009.) If EKAPCD follows this approach, the Rule 402.2 CMP application forms should require similar CMP implementation details.*

District: Appendix B CMP List was deleted and Rule 402.2 was revised per suggestion above.

3. EPA: *For additional clarity, we recommend that the District consider adding specific implementation parameters and test methods to the CMP List or, alternatively, require specific implementation parameters to be included on submitted CMP forms, particularly when a practice would not be expected to vary greatly from farm to farm.*

Additional specificity further assists both regulated community and regulators to be clear on the minimum requirements for CMP implementation. Please see, e.g., ICAPCD Rule 806 for reference. Rule 806 defines each CMP with certain minimum requirements or test methods to determine compliance. See Rule 806, Section C. Definitions (which also references definitions in Rule 800), E.3 and E.4. For example:

District: Appendix B CMP List was deleted and Rule 402.2 was revised per suggestion above. (EPA Comment 1)

4. EPA: *EKAPCD's "Cover Crops" CMP in Appendix B is described as "Use seeding or natural vegetation/regrowth of plants to cover soil surface." In contrast, ICAPCD's Rule 806 definition of "Cover Crops" (See C.16) provides minimum requirements and a method to test compliance: "Establish cover crops that maintain a minimum of 60 percent ground cover, as determined by the Line Transect Test Method..." (Note: The Line Transect Method is included in the SIP).*

District: Definitions were revised to be more specific, see Section V.C.2. of Appendix A.

5. EPA: *The "Conservation Tillage" CMP in Appendix B is described as "Types of tillage that reduce loss of soil and water in comparison to conventional tillage." ICAPCD 806 sets a minimum standard (See C.15): "A tillage system that reduces a minimum of three tillage operations..." A "tillage operation" is "[A]n agricultural operation that mechanically manipulates the soil for the enhancement or crop production (See C.50)." These definitions set a clear expectation for implementing the conservation tillage CMP.*

District: Revised per suggestion. See Section II, Definitions of Appendix A.

6. EPA: *We further recommend (based on research commissioned by the SJVAPCD demonstrating remarkably high emission reductions when using conservation tillage v. traditional tillage, California Spring 2008 Tillage Campaign: Data Analysis, a project performed for the San Joaquin Valleywide Air Pollution Study Agency by Space Dynamics Laboratory/Utah State University Research Foundation, Contract 07-1 AG, Document Number SDL/08-556, June 20, 2013. The results showed that conservation tillage practices (in this case, strip-till) reduced PM10 emissions from one farm by 86% (2004) and 52% (2005) and from a second farm by 85% (2004) and 93% (2005)), that the District provide incentives to owner/operators to implement conservation tillage. For example, ICAPCD Rule 806 allows the owner/operator to "take credit" for an additional two CMPs when they implement conservation tillage. (See D.1)*

District: Revised per suggestion. See Section IV.A

7. EPA: *Windblown Dust – To the extent that windblown dust contributes to agricultural PM10 emissions in the District, we recommend that the District consider adding a specific CMP category for "windblown dust control." The Appendix B CMP List includes five categories of cropland CMPs: 1) Land Preparation/Cultivation; 2) Harvest; 3) Other; 4) Unpaved Roads; and 5) Unpaved Vehicle/Equipment Traffic Areas. There is no requirement that an owner/operator implement controls for windblown dust. While the*

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“Other” category includes windblown dust controls, it also includes other types of controls that are not designed specifically to control windblown dust (e.g., chemigation, baling, no burning, fallowing land). Therefore, a facility can comply with the “Other” CMP category without selecting a windblown dust CMP. As an example, fallowing land, listed in the “Other” category, reduces PM10 by removing land from tilling or harvest activities. However, fallowed land, unless stabilized or otherwise controlled, can become a source of windblown dust. ICAPCD Rule 806 includes a sixth CMP category: “Windblown Dust Control” (See Section D.1.f.). By adding this category, the district ensures that each facility commits to implement a specific windblown dust CMP.

District: Revised per suggestion. See Sections IV.A.4 and V.D. of Appendix A.

8. EPA: *Section II. K.: Typographical error (date of CMP list).*

District: Definition deleted

9. EPA: *Section II. N. “Contiguous or Adjacent Property” and II.V “PM10”: We are unable to find this rule reference.*

District: Definition deleted

10. EPA: Section III. A.1: It appears that “...thru Section III.A.5” should either read “...through Section III.A.4” or “...through Section III.A.10.”

District: Definition deleted.

11. EPA: *Section V.A.6.a: We recommend adding “subject to each CMP” at the end of this section. This would account for facilities that plant more than one crop. Different crops may require different CMPs.*

District: Section deleted

12. EPA: Section V.B.3.a: We recommend that use of a “new CMP not on the CMP list” also requires EPA prior approval.

District: Section deleted.

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13. EPA: *Section V.C CMP Application Submission: We note that Draft Rule 402 Fugitive Dust (August 11, 2014) requires annual resubmission of the dust control plan. We recommend that District consider adding an annual resubmission requirement in Rule 402.2. We further recommend that the rule require plans to be completed/resubmitted on a specific date prior to the start of dust producing activities each year (e.g. March 31st).*

District: Revised per suggestion. See Section VI.B.4. of Appendix A

14. EPA: *Section C.3.b: We recommend that the section be modified as follows: "Implementation of a[n approved] CMP other than the CMP listed in the CMP Plan."*

District: Not applicable, there is no Section C.3.b. in the rule.

15. EPA: *Section V. E.3: Consider adding a timeframe (e.g., within 2 days).*

District: Records are required upon request.

16. EPA: *Comments on EKAPCD Rule 402.2 Agricultural Operations Staff Report, Draft September 12, 2014: Section III: For context, consider adding the number of facilities subject to the rule, and the percentage of the total crop (acres) and animal operations (population) subject to the rule.*

District: Revised per suggestion, 6 sources will be subject.

17. EPA: *Section VII.A (1st paragraph): Similar to SJVAPCD's application process, please consider creating crop-specific CMP menu forms (e.g., pistachios, grains) that include only the CMPs most appropriate and effective for that crop. See http://www.valleyair.org/General_Info/Ag_App_Loader.htm.*

District: CMP Section has been revised. Ag operations can submit a plan that best fits their operation.

18. EPA: *Section VII.A (2nd paragraph): Please clarify this following sentence in VII. A. "EPA regulations are similar to State regulations for identical reasons."*

District: Revised per suggestion.

19. EPA: Section VIII: For clarity, please include citations for the ARB and Eastern Kern emissions tables. In addition, it would be helpful to explain the why, in certain categories, the ARB and District percentages are notably different. For example, it would appear that the “Dust from Unpaved Roads” accounts for almost 50% of the state’s agricultural PM10 emissions, whereas, it accounts for 6% of the total EKAPCD PM10 emissions. Also, based on these tables, “Dust from Agricultural Land (non-pasture)” accounts for 17% of ARB’s total, whereas the same category accounts for 89% of EKAPCD PM10 emissions.

District: Control efficiency revised per information provided in SJVAPCD’s Conservation Management Practices Program report for 2005.

20. EPA: *Section VIII.A: The staff report assumes an 80% compliance rate for 2015 and beyond. Please consider whether it is appropriate to discount the compliance rate further in the first year of operation.*

District: SJVAPCD assumes an 80% compliance rate. Ag sources and climate is similar throughout Kern County. The District assumes an 80% compliance rate based on SJVAPCD’s findings and data.

21. EPA: *Section VIII.A.2: The table in this section lists control efficiencies for each of four CMP categories, and the staff report states that the District same control efficiencies as did SJVAPCD in developing Rule 4550. Please include a citation for the control efficiencies in the table, and consider whether they are still applicable.*

District: Revised per suggestion. See Section VIII.A.2. of the Staff Report.

22. EPA: *Specifically, the control efficiencies in the table appear to be higher than some of those in the SJVAPCD’s Conservation Management Practices (CMP) Program Report for 2005, prepared by Patia Siong and Samir Sheikh, January 19, 2006. See http://www.valleyair.org/farmpermits/updates/cmp_program_report_for_2005.pdf. This 2005 SJVAPCD report (Appendix B - CMP Emission Reduction Methodologies) describes each CMP and how the emission factors and control efficiencies were derived. For example, the emission reduction calculation methodology for “Speed Limits” CMP states that SJVAPCD used “a control effectiveness of 81% “for reducing speed to 5 mph, 58% for reducing speed to 10 mph, 42% for reducing speed to 15 mph, and 3% for reducing speed to 25 mph from the baseline speed of 25.9 mph used for the emission factor.” We note that under the draft Rule 402.2 an agriculture operation could comply with the CMP category for unpaved roads by implementing this CMP at a maximum of 25 mph, which, using the SJVAPCD analysis, could result in as little as a 3%*

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control efficiency. In contrast, the table in the staff report for Rule 402.2 lists an 80% control efficiency for Unpaved Roads. Based on the 2005 report, it appears that the CMP would have to require a speed reduction to around 5 mph. Please clarify.

District: Revised per suggestion. See Section VIII of the Staff Report.

23. EPA: *Section IX.B (table): Typographical error (Total number for the “High Cost Scenario”)*

District: Table has been revised.

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