

Eastern Kern Air Pollution Control District

RULE 402.2 AGRICULTURAL OPERATIONS

STAFF REPORT

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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.

Proposed Draft Rule 402.2 will be presented to the District's Governing Board for adoption at its regular Board Meeting held March 12, 2015 in Rosamond, California.

Fugitive dust contains varying sizes of respirable particulate matter including those with an aerodynamic diameter of 10 micrometers or less (PM₁₀). The purpose of Draft Rule 402.2 is to reduce PM₁₀ and fugitive dust emissions from agricultural operations located in Eastern Kern County by requiring implementation of Conservation Management Practices (CMP)s to prevent, reduce, or mitigate PM₁₀ emissions.

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

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 revision 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.

An open hearing to consider adoption of Draft Rule 402.2 occurred on January 8, 2015. A Notice of Public Hearing was duly published 30 days prior to this hearing in adjudicated newspapers the Mojave Desert News and the Daily Independent. The notice requested written comments on the Rule and associated staff report by January 8, 2015.

Due to a large number of public comments at the Board Hearing stating that there had not been adequate notice of adoption, the District's Board withdrew the item to allow at least an additional 30-day public review/comment period.

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

In 1987, EPA replaced the earlier Total Suspended Particulate (TSP) air quality standard with a PM₁₀ standard. The new standard focused on smaller particles that are responsible for adverse health effects because of their ability to reach the lower regions of the respiratory tract. The PM₁₀ standard includes particles with a diameter of 10 micrometers or less (0.0004 inches or one-seventh the width of a human hair). EPA's health-based National Ambient Air Quality Standard (NAAQS) for PM₁₀ is 50 µg/m³ (measured as an annual mean) and 150 µg/m³ (measured as a daily concentration).

California Air Resources Board (ARB) has adopted State Ambient Air Quality Standards for PM₁₀ that are the most health-protective standards in the nation. The PM₁₀ standards in California are 20 µg/m³ (measured as an annual mean) and 50 µg/m³ (measured as a daily concentration). Virtually the entire State is nonattainment for the State PM₁₀ standards; this includes Eastern Kern.

Major concerns for human health from exposure to PM₁₀ include: Effects on breathing and respiratory systems, damage to lung tissue, cancer, and premature death. People with heart or lung diseases, children, and older adults are especially sensitive to the effects of particle pollution exposure. However, even if you are healthy, you may experience temporary symptoms from exposure to elevated levels of particle pollution.

District PM₁₀ Designations

There are three (3) PM₁₀ classification areas located in the District. One area has been designated Serious Nonattainment for the NAAQS. 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.

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

Agricultural operations have been steadily increasing within Eastern Kern. Unfortunately, BACM or BACT is not being voluntarily implemented by all agricultural operations. Agricultural operations have been identified as a significant source of PM₁₀ emissions in Eastern Kern that can be mitigated. Rule 402.2 would implement BACM on existing agricultural operations to achieve PM₁₀ emission reductions and minimize an increase in future PM₁₀ emissions caused by new agricultural operations. Once adopted, Rule 402.2 will become part of the District's PM₁₀ attainment plan.

III. SENATE BILL 700

On September 22, 2003, Governor Davis signed into law Senate Bill 700 (SB 700), authored by Senator Florez. The bill amended air pollution control requirements in the California Health and Safety Code (CH & SC) to include requirements for agricultural sources of air pollution. Agricultural sources of air pollution were the focus of the bill for two main reasons.

First, activities associated with agricultural operations significantly contribute to the very poor air quality in some regions of the state that have the highest asthma rates in the nation. SB 700 addresses the agricultural contribution to these problems, while recognizing that the problems are not the same, nor is the contribution from all agricultural operations, throughout the state.

Second, California law had previously exempted agricultural operations from requirements to obtain air permits. This resulted in a conflict between state and federal law, and California faced sanctions if it failed to correct the problem. Had the bill not been signed, new and expanding businesses in the state would have faced significant and costly hurdles to obtain air permits required under federal law, and the state would have lost billions of dollars in federal transportation funding.

SB 700 does the following six primary tasks:

1. Defines "Agricultural Source" in state law;
2. Removes the restriction from state law that prevented air districts from requiring permits for agricultural sources;
3. Establishes specific permitting and exemption requirements for agricultural sources;
4. Requires emission control regulations in areas that do not attain NAAQS for PM10;
5. Requires permits and emissions mitigation for Confined Animal Facilities (CAFs) that are defined by ARB as "Large"; and
6. Requires the California Air Pollution Control Officers Association (CAPCOA) to compile a clearinghouse of information about available emissions control and mitigation for agricultural activities.

SB 700 allows air districts to adopt an agricultural rule, in lieu of issuing operating permits to all agricultural operations, if emissions are mitigated from all types of associated activities and equipment listed in the bill. This includes (but not limited to) tilling, discing, cultivation, the raising of livestock and fowl, and similar activities, to a level that the district determines does not cause or contribute to a violation of a state or federal ambient air quality standard, a toxic air contaminant

standard, or other air limitation. SB 700 specifically states that the permit exemption must be adopted as a program, which means it is a regulatory action.

Note: SB 700 does not remove the exemption from the general odor-nuisance provisions of the CH & HC.

Agricultural Operations Rules in California

The following nine (9) California air districts have already adopted and implemented 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

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) for each of the following categories (1 through 4), on each agricultural parcel located in Eastern Kern County, and perform all related requirements designed to prevent, reduce, or mitigate fugitive dust emissions.

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.

CMP Plan Submittal

An owner/operator shall 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. CMP Plan must be maintained and correspond to the current crop being grown. See Sections VI and VII of Appendix A for complete details.

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

1. Within 210-days (approximately 6 months plus a 30-day grace period) after adoption of this rule, for existing agricultural operation(s).
2. Within 180-days (approximately 6 months) 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 VII 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 VII, Administrative Requirements of Appendix A for complete details.

V. EXEMPTIONS

Section IV of Appendix A specifies exemptions that will be effective upon full implementation of the rule. Exemptions include:

1. Agricultural Operation where total acreage of all agricultural parcels is less than 10 acres.

2. Woodland or wasteland not 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. AFOs with less than:
 - a. 500 dairy cows;
 - b. 190 Mature non-dairy cows;
 - c. 55,000 turkeys;
 - d. 82,00 laying hens; or
 - e. 125,000 chickens.

VI. RULE CONSISTENCY ANALYSIS

Pursuant to Section 40727.2 of the CH & SC, 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

A. District Rules

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

B. 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 PM₁₀ emissions from agricultural engines and agricultural burning operations. Farming in the desert is a regional phenomenon 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.

C. EPA - Alternative Control Technology (ACT)

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

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

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

E. 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. 2012 ARB Almanac Emission Projection Data by EIC, Published in 2013.

TABLE 1 State PM Emissions Inventory

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

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

TABLE 2 District PM Emissions Inventory

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 the provisions of Draft Rule 402.2 are expected to achieve approximately an 80% compliance rate. This high compliance rate is expected because similar control technology has been implemented in other air districts resulting in an 80% compliance rate.
2. Based on the District’s emissions inventory, there are currently four applicable CMP categories. These categories include: Land Preparation and Cultivation, Harvest Activities, Unpaved Roads and Traffic Areas, and Windblown Dust/Cropland Other (District does not have large animal feeding operations, dairy farms, etc.). Due to the similar nature of agricultural practices, climate, and land conditions found throughout Kern County, the District uses 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 Control Efficiencies

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 PM₁₀ means PM₁₀ and PM_{2.5} combined because both are regulated pollutants that will be mitigated by this Rule. (See Equation 1 for calculation methodology)

TABLE 4 PM₁₀ Emissions Reductions

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) = PM10E
 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 (tons/day) X 0.80 = **1.004 (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 (tons/day) X 365 (days/year) = **366.46 (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 also include any monetary savings generated by rule implementation.

Cost effectiveness of CMP implementation depends largely on the current farming/operating system. For example, some CMPs may be easier to implement than others; additionally, an operator may choose one CMP over another for a myriad of reasons.

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 State-Wide Costs of Implementing CMPs

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.

TABLE 6 District Costs of Implementing CMPs

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)

There are currently no significant cash grain operations located within the District (wheat, rice, corn soybean, etc.) or livestock operations (including dairy, poultry, and egg farms) so those categories have been excluded from District analysis.

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.

C. Results

1. Emissions Reduction

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

2. Cost-Effectiveness

Low Cost Scenario:

\$10,480/year/366.46 (tons/year) = Savings (\$28.60)/ton of PM₁₀ reduced/year

High Cost Scenario:

\$342,880/year/366.46 (tons/year) = Costs \$935.65/ton of PM₁₀ reduced/year

Cost-Effectiveness analysis reveals implementing CMPs within the District presents a range of annual savings of \$28.60 per ton of PM₁₀ reduced to an annual cost of \$935.65 per ton of PM₁₀ reduced. Both scenarios are considered acceptable and reasonable under rule development policies (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. Rule 402.2 was brought before the District's Governing Board January 8, 2015 for adoption. Due to numerous comments that more review time was needed, the rule is being held until the next regular Board Meeting. The District anticipates that the Rule will be adopted by the District's Governing Board at its March 2015 meeting. Draft Rule 402.2 will be sent to CARB to be forwarded to EPA as revision to the SIP.

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APPENDIX A:
DRAFT RULE 402.2
AGRICULTURAL OPERATIONS

RULE 402.2 Agricultural Operations - Adopted X/X/XXXX

I. Purpose

Fugitive dust contains varying sizes of respirable particulate matter including those with an aerodynamic diameter of 10 micrometers or less (PM₁₀). The purpose of this Rule is to prevent, reduce, and mitigate ambient concentrations of anthropogenic fugitive dust emissions generated from agricultural operations through implementation of Conservation Management Practices.

II. Applicability

Provisions of this Rule are applicable to agricultural operations located within the Eastern Kern Air Pollution Control District (District).

III. 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.

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- 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%.

IV. Exemptions

- A. Except for the recordkeeping requirements of Section VII.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.

V. 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 for each of the following categories (1 through 4), and perform all related requirements, on each agricultural parcel, pursuant to the schedule listed in Section VII.B:

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

CMPs are not required for categories 1 and 2 on parcels implementing Conservation Tillage. However, Conservation Tillage parcels shall still implement CMPs for categories 3 and 4.

B. Pursuant to Section VII of this Rule, 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.

C. Except as provided in Section V.D. an owner/operator shall implement the approved CMP Plan for each agricultural operation site pursuant to Section VII, no later than ten (10) days after receiving CMP Plan approval from the APCO.

D. An owner/operator that discontinues implementation of a CMP as committed to in an approved CMP Plan, or makes other changes inconsistent with the CMP Plan, shall comply with the requirements of Section VII.B.3.

E. An owner/operator shall ensure that implementation of each selected CMP does not violate any other local, state, or federal law.

VI. 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 VI.D.3.

A. Land Preparation and Cultivation (Category V.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,
10. Mulching,

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

B. Harvest Activities (Category V.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 V.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 V.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 VI.A. and VI.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.

VII. 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 VI.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 VII;
 - 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 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 VII.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 VII.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 VII.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 VII.B.3.b, VI.B.3.c, or VI.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 V.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 IV 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 VII.B.

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APPENDIX B

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.

An open hearing to consider adoption of Draft Rule 402.2 occurred on January 8, 2015. A Notice of Public Hearing was duly published 30 days prior to this hearing in an adjudicated newspapers the Mojave Desert News and the Daily Independent. The notice requested written comments on the Rule and associated staff report by January 8, 2015.

Due to a large number of public comments at the Board Hearing stating that there had not been adequate notice of adoption, the District's Board withdrew the item to allow at least an additional 30-day public comment period. Draft Rule 402.2 will be considered for adoption at the District's regular Board Meeting held March 12, 2015.

I. PUBLIC COMMENTS

The following comment was made by the public following at the 9/16/14 workshop.

Public: *Are horses subject to the rule?*

District: No, horses are not regulated by the rule.

The following comments were made by the public following the workshop.

Some of the public comments deal with both Draft Rule 402.2 and Amended Rule 402. The two rules are separate but related and some comments appear and are addressed in this staff report and the staff report for proposed Amended Rule 402.

Public: Per item number 4 on the attached East Kern County Air Pollution Control District (EKCAPCD) Board of Directors agenda, I am writing you personally to show my support of the proposed fugitive dust ordinance changes, indicated as Rule 402 in the also-attached letter from Glen Stephens of the East Kern County Air Pollution District.

I will be unable to attend the meeting tomorrow in person, but I wanted to

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express my appreciation to you, the other Board Members, and the staff of the East Kern County Air Pollution Control District for taking on this very important initiative. I would also like to request if you could formally enter this statement into the public record.

While I understand that there is likely going to be resistance from opposing interests that represent only a handful of the population of the Indian Wells Valley, I am of the opinion that those in opposition are more motivated to protect their financial interests than they are at being good neighbors and taking steps to protect the welfare and well-being of the rest of the residents of the IWV. It's that, or they simply think the desert is already a "dusty place" and they are not adding anything to the PM10 levels, which is an ignorant and arrogant view of what a native and UNDISTURBED desert really is...and that is a clean and generally dust-free environment. Dust storms in the desert only occur in areas that have been disturbed by man's activities, or in naturally occurring dry lakebeds or native sand dune environments. Neither dust from the China Lake naturally-occurring dry lakebeds, nor any local native sand dune habitats (if there are any native sand dunes!) have ever represented any sort of growing PM10 plague to the residents of the IWV.

Based on my and my family's own horrific personal experience (and our neighbors) with fugitive dust and sand from what transpired in my own community of Black Mountain Estates in 2013 affected by poor and negligent land clearing practices on a large scale, I am very glad to see these proposed changes to the fugitive dust ordinance. I believe that this initiative is innovative, forward-leaning thinking, and is yet another recent proactive approach by Kern County to bring a more modern way of managing for our most important local issues of assuring sustainable and reliable clean water and improving air quality for the overall good of the residents of the IWV.

While the proposed changes go a long way in improving our air quality environment, I do have a couple questions for the Air District and Board to consider:

1. The term Good Agricultural Practices (GAP) is being used. I don't know exactly what GAP is, who decides when it is properly being implemented, and who decides if it is not working and needs further revision. Will the EKCAPCD be able to help better define how Ag using GAP is going to be determined to be properly exempted from this revised fugitive dust ordinance?
2. The use of PM10 monitors is discussed. What is not clear is the criteria for specifically when the monitors will be used and who decides when they are needed, and who is paying for them. Would these costs be put on the taxpayer or the landowner/offender who is now required to have County PM10 monitoring?

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- District:** 1. The term “GAP” is located in Rule 402, Fugitive Dust. GAP will be dropped from Rule 402 because Draft Rule 402.2, Agricultural Operations is inclusive to ag operations. The term “Conservation Management Practice (CMP)” in rule 402.2 will be used in place of GAP.

CMP is defined as: An activity or procedure that prevents, reduces, or mitigates PM10 normally emitted by, or associated with, an agricultural activity. The proposed rule requires the Ag Operation to submit a CMP plan to the District and receive approval of the plan. The proposed rule defines CMP Plan as follows: 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.

The District will decide if a plan is working and if it needs to be revised. Each ag operation is required to submit a CMP Plan annually.

2. Use of PM10 monitors is discussed in Rule 402, Fugitive Dust. Under provisions of Rule 402, an owner/operator of a site required to install, use, and maintain PM10 monitors will be responsible for all associated costs. The District will decide if air monitors are needed or a source producing fugitive dust emissions may voluntarily install them to show compliance.

Rule 402.2, Agricultural Operations will not require PM10 monitors. However, their use will be allowed if the owner/operator of an ag operation elects to use them to show compliance.

- Public:** With regards to the also-attached News Review News Article, I did want to inquire with you about a couple of the statements attributed to you that you might be able to clarify for me:

1. The article states that IWV is in attainment with PM10. That is true for the federal standard. But is it also true that IWV is NOT in attainment for PM10 under California’s CARB standards of 50uG/3m? If I am incorrect please let me know and if you could, provide the current IWV PM10 known levels.
2. You stated that there is no evidence that there has been any increases in PM10 levels in East Kern County. Is there any studies that have been undertaken recently that document that PM10 levels have not increased? Or is this a case of no one has actually recently measured

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and done an analysis of PM10 trends over time for the past 10 years or so. That makes a difference as to the statement. You may not have evidence of an increase, but maybe no one has actually conducted a robust study to determine if that is, in fact, the case. Please verify if there is a study out there that supports the notion that PM10 has not increased, and if so, can you refer me to it? Based on simple observations over the past couple years, I would not concur with the statement reported by the NR.

In closing, thank you all once again for your proactive efforts to address a situation that continues to grow and become a significant issue to the IWV and the residents and industries here in the valley that suffer the ill effects of ever-increasing fugitive dust. Speaking on behalf of my family and their health, I fully support this proposed ordinance change.

District: Thank you for your support of proposed District Rules 402 (Dust Control) and 402.2 (Agricultural Operations). To answer your questions:

1. You are correct. The Indian Wells Valley portion of Eastern Kern (IWV) is attainment for the Federal PM-10 standard however, is non-attainment for the State PM-10 standard of 50-ug/m3.
2. The air monitor in Ridgecrest shows IWV to be in compliance with Federal PM-10 standards. There has been no new studies to address PM-10 in the IWV. However, the drought could have a negative impact on ambient PM-10 concentrations throughout the State. More importantly, the proposed regulations will minimize air pollution, thereby keeping the IWV as an attainment area and not allowing it to fall into non-attainment.

Public: I have a residence in Black Mountain Estates in Southern Inyokern.

I am writing you this in support of the proposed fugitive dust ordinance revisions which are on your agenda today for discussion. I am requesting that you please add this correspondence to the public record, and consider my points of view prior to today's meeting, which I cannot be in attendance for.

I believe these revisions are necessary to stop and reverse uncontrolled fugitive dust and sand from continuing to expand and impact the Indian Wells Valley.

My community of Black Mountain Estates was obliterated from a series of dust and sand storms starting in February of 2013 caused by uncontrolled scraping off of 80 acres of vegetation and the undisturbed topsoil immediately upwind to my community and home. The result was devastating. People became sick with dust-related respiratory ailments

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that still plague them today and likely will in the future. Homes and properties became virtually uninhabitable during repeated dust storms, while property value and resale potential for the adjoining homes certainly have plummeted. My family has even been forced to abandon our residence in Black Mountain out of fear of the continued risk of health affects to my young children from the on-going high level of dust particulate matter that still hangs over Black Mountain Estates in a continuous pall, even on calm days, and made worse when the wind picks up. And all of this simply because someone used a current loophole in the fugitive dust ordinance to claim that they did not have to take any responsibility and implement best management practices for dust suppression because they were "doing agriculture" and, someday, going to plant pistachios.

Well here it is, 23 months since the 80 acres was scraped clean off, and 20 reported sand and dust storms later, not one tree has been planted. There isn't even enough water available on the site to grow 80 acres of trees to maturity, and no irrigation is functioning to even water them if there were trees planted. In their rush to claim their "property rights" they stole my family's rights and my neighbor's rights from enjoying our properties by pounding us with dust storms and sand dunes that blew right off of those cleared 80 acres.

And we are not the only ones in the IWV that have suffered from the poor land use practices of irresponsible landowners, people who clear their lands for their own purposes without any regard to their neighbors and their community. This revision to the fugitive dust ordinance is a big step in the right direction to stop these practices and make landowners responsible for their own actions, and put controls in place that will allow all residents of the IWV to once again enjoy their rights to their own properties and, most of all, restore their right and their children's rights to breathe clean outdoor air.

Any vote against these revisions to the ordinance is a vote against your own professional staff recommendations. Such a vote against would fly in the face of common sense, and only favor a small minority at the expense of the majority. Such a vote would only do a special service and favor a small special interest group with relief from being responsible, meanwhile at the expense of the health and welfare of the public good in the IWV. A vote against this ordinance revision throws East Kern County backwards compared to the rest of California and keeps open a dangerous loophole, especially when one considers the rise of Valley Fever in Kern County.

So please, for the benefit of my family, my community, and everyone in the Indian Wells Valley, provide good unbiased civic leadership and protect the health and welfare of the public you govern. Lead us into the 21st century and with the rest of California's fugitive dust laws and wisely approve the recommendations of your staff with regards to the proposed

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fugitive dust ordinance revisions.

Public: We, too, are in support of the proposed fugitive dust ordinance revisions. We are requesting that this correspondence be added to the public record for any future meetings as we cannot be in attendance due to the fact that we are both professionally employed.

We have lived here for almost 23 years. Never in that space of time did our neighborhood suffer from fugitive dust issues. We certainly never had dust coming in through our windows, door jams, or under the baseboards of our house.

If we ever had to suffer through what we've had to suffer through since Mr. Mike McGee graded his 80 acres just west of our home, we would have moved LONG ago. I suffered through sinus infection after sinus/lung infection a month after that land was cleared through this last summer resulting in 10 lost days of work and seven Doctor/Urgent Care visits from March of 2013 – Feb. of 2014.

Also, we do not believe the statements that AG. Businesses are good neighbors. It took a county public nuisance hearing with Black Mountain Estates residents providing a PowerPoint presentation to the BOS before Mr. McGee and his partner were willing to admit any wrongdoing. And, then, it has taken the force of the county to keep him on the straight and narrow to do any dust mitigation at all.

We look out at the 80 acres of beautiful native desert that was completely denuded of all vegetation and our hearts break. We went through this same mess when Mrs. Pat Faris and the Balloon Festival Corporation completely cleared 50 acres of native desert South of Black Mountain Estates and then walked away, leaving our neighborhood to choke on dust for almost 20 years before it hard packed down.

We been to the AG sites in North Inyokern and have seen the devastation of fugitive dust from fields that have been in existence far longer than what we've had to deal with here in our neighborhood. There are sand dunes at least 2 feet high in places and many dead native plants.

We also think about the debt of our well and the recent groundwater reports and wonder what a commercial agriculture field of 11,000 trees will do this water level? Our well is only 1 block from the 3 new agricultural commercial wells that will be providing water to those 11,000 trees. How much money will it cost the BME residents to drill deeper while Mr. McGee makes money?

Please consider the lives of us homeowners who have to work hard at jobs that do not negatively impact a neighborhood or a whole valley, to make our money and deserve to come home to a house that doesn't have

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dust in it, doesn't have the sound of continual big AG. Equipment, and has enough water to continue living in this valley.

Public: On behalf of myself I personally show support of the proposed fugitive dust ordinance changes, indicated as Rule 402.2.

This pistachio field located on Ridgecrest Blvd in Inyokern has not only effected the health of myself and 2 of my pets (dog & SA Sulcata tortoise) in which I have had numerous trips to various veterinarians for respiratory infections I believe that have come from the fugitive dust since the 80 acres have been stripped.

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 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 V and VI 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 VI.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 III, 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 V.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 “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 V.A.4 and VI.D. of Appendix A.

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

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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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