Mojave Desert
Air Quality Management District

SMOKE MANAGEMENT PROGRAM

ELDON HEASTON, EXECUTIVE DIRECTOR

September 12, 2006
DATE

14306 PARK AVE, VICTORVILLE, CA 92392-2310
PHONE: (760) 245-1661
FAX: (760) 245-2699

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MOJAVE DESERT AIR QUALITY AIR MANAGEMENT DISTRICT SMOKE MANAGEMENT PROGRAM

I. INTRODUCTION AND BACKGROUND

A. DISTRICT INFORMATION

The Mojave Desert Air Quality Management District (MDAQMD or District) has jurisdiction over the desert portion of San Bernardino County and the far eastern end of Riverside County (the Blythe/Palo Verde Valley area; See Health & Safety Code §41210 and MDAQMD Rule 103). The District is responsible for an area of 20,180 square miles, including the incorporated communities of Adelanto, Apple Valley, Barstow, Blythe, Hesperia, Needles, Twentynine Palms, Victorville, and Yucca Valley. This region also includes the Army National Training Center at Fort Irwin, the Marine Corps Air Ground Combat Center, the Marine Corps Logistics Base, the eastern portion of Edwards Air Force Base, and a portion of the China Lake Naval Air Weapons Station. As of 2005, the District has a population of approximately 500,000 people.

The District is one of four air pollution control districts that have all or portions of their jurisdictions within the Mojave Desert Air Basin (MDAB; 17 Cal. Code Reg. §60109). The four districts within the MDAB are: the Kern County Air Pollution Control District (KCAQMD), the South Coast Air Quality Management District (SCAQMD) the Antelope Valley Air Quality Management District (AVAQMD), and the MDAQMD.

The District experiences prevailing winds primarily from the south and west. The district is considered a dry environment. For the three-year period of 2003-2006, the summer average daily temperature was 81.9°F with a range from 42.9°F to 117.7°F. For the same period, the winter average daily temperature was 50.4°F with a range from 23.8°F to 94.8°F. The District's inversion conditions are much less favorable for the build-up of high pollutant concentrations than in the coastal areas of Southern California. When subsidence inversions occur they are generally 6,000 to 8,000 ft above the desert surface, allowing much greater vertical mixing than along the coast where the inversion base is often much lower.

The District experiences a small amount of prescribed burning in the San Bernardino and Angeles National Forests, limited seasonal tumbleweed burning, and some agricultural burning in irrigated areas.

B. PROGRAM INTENT AND DISTRICT RULES

This Smoke Management Program ("Program") is intended to describe the District's method of implementing 17 California Code of Regulations (CCR) §§80100-80330 *Smoke Management Guidelines for Agricultural and Prescribed Burning*, and of ensuring compliance with District Rule 444 – *Open Outdoor Fires*. One of the District's goals is to achieve and maintain all state and national ambient air quality standards related to particulate matter (PM) through implementation of emission reducing measures, including following the

guidelines of this Program. The Program's objectives are to allow for the continuation of agricultural and prescribed burning as a resource management tool and to provide increased opportunities for agricultural and prescribed burning while minimizing smoke impacts to the public.

C. DISTRICT AUTHORITY

The District derives its authority to implement and enforce this Program from Rule 444 – *Open Outdoor Fires*. This Rule requires applicants for agricultural and prescribed burning to supply such information as is required by the District prior to setting or allowing an outdoor fire. Additionally, Rule 444 requires the District to regulate outdoor burning or require mitigation if it is determined that meteorological conditions could cause smoke to create or contribute to a violation of an ambient air quality standard or to cause a public nuisance. This Rule gives the District broad authority to regulate agricultural and prescribed burning activities in its jurisdiction.

D. PUBLIC OUTREACH AND COMMENT PROCESS

This Program will be prepared in cooperation with public and private land management agencies and fire departments. The District will provide a 30-day public notice and comment period prior to adoption by the Executive Director. Public comments will be received and given due consideration.

E. FUTURE DISTRICT PLANNED ACTIONS

The Health & Safety Code (H&S Code) provides authority to implement and enforce this Program (H&S Code §§40752 and 42400 et seq.). H&S Code §§40725 et seq. also allows modifications to District Rules and Regulations, including but not limited to Rule 444. The District plans to modify Rule 444 to conform its provisions with those found in 17 CCR §§80100 et seq. Once the Program is fully developed and implemented, the District may discover additional changes that need to be made in the District's other rules and regulations. Any changes needed to the District's rules and regulations to fully develop and implement the Program will be drafted, and after public review, adopted by the District's Governing Board.

II. DEFINITIONS AND ACRONYMS

A. DEFINITIONS

1. "Agricultural Burning" – Open Outdoor Fires used in Agricultural Operations, including the burning of Agricultural Wastes, or Open Outdoor Fires used in disease and pest prevention. Agricultural Burning also includes Open Outdoor Fires used in the operation or maintenance of a system for the delivery of water in Agricultural Operations.

2. "Agricultural Operations" – Any operation occurring on a ranch or farm directly related to the growing of crops or raising of fowls or animals for the primary purpose of making a profit, for a livelihood, or for conducting agricultural research or instruction by an educational institution.

3. "Agricultural Wastes" – Unwanted or unsalable materials produced wholly from Agricultural Operations, other than forest or range management operations. Agricultural Wastes do not include pesticide and fertilizer containers, except sacks, burned in the field where they were emptied. Agricultural Wastes do not include broken boxes, pallets, sweat boxes, packaging material, packing boxes, or any other materials produced in the packing or processing of agricultural products. Agricultural Wastes do not include wastes created by land use conversion to non-agricultural purposes unless the destruction of such waste by Open Outdoor Fire is ordered by the County Agricultural Commissioner or the Secretary of California Department of Food and Agriculture upon his determination that the waste is infested with infectious transmittable or contagious plant disease or pest which is an immediate hazard to Agricultural Operations conducted on adjoining or nearby property.

4. "Forest Management Burning" - The use of Prescribed Burning, as part of a forest management practice, to remove forest debris. Forest management practices include Timber Operations, Silvicultural practices, and forest protection practices.

5. "Prescribed Burning" - The planned application of fire, including natural or accidental ignition, to vegetation to achieve any specific objective on lands selected in advance of that application.

6. "Range Improvement Burning" - The use of Prescribed Burning to remove vegetation for a wildlife, game or livestock habitat, or for the initial establishment of an agricultural practice on previously uncultivated land.

7. "Wildland Vegetation Management Burning" - The use of Prescribed Burning conducted by a public agency , or through a cooperative agreement or contract involving a public agency, to burn land predominantly covered with chaparral (as defined in Title 14, CCR, §1561.1), trees, grass, or standing brush.

B. ACRONYMS

CARB – California Air Resource Board
CCR – California Code of Regulations
CEQA – California Environmental Quality Act
IASC – Interagency Air and Smoke Council
MDAB – Mojave Desert Air Basin
MDAQMD – Mojave Desert Air Quality Management District
NEPA – National Environmental Policy Act
PFIRS – Prescribed Fire Incident Reporting System
RAWS – Regional Air Weather Station
SMP – Smoke Management Plan

III. SMOKE MANAGEMENT PROGRAM

The District's Program is divided into six sections: permitting, registration, authorization, planning, resources, and enforcement with supporting appendices. Each section describes procedures related to that particular subject, including specific actions required and general guidelines or procedures used by District staff. The appendices include pertinent documents that support the Program. Smoke management is complex and is affected by many variables. This Program is designed to provide general direction, and does not override common sense considerations in regulating burning in the District.

A. BURN PERMITS

1. District Permitting Procedures:

   a. District staff (or the applicable local fire agency) issue burn permits for all agricultural projects in addition to any burn permit required by the applicable fire protection agency. The burn permit includes conditions limiting burning to permissive burn days, limiting types of material to be burned, requiring material burned be free of moisture and dirt, and requiring use of approved ignition devices. The permit allows the District or local fire agency to add conditions to limit the amount of material to be burned or burn hours, as necessary. In addition to the burn permit application, land managers/burners must also submit a Smoke Management Plan (SMP) for prescribed burning projects. All agricultural burning requires a valid permit from the local fire department. The most current version of the permit application is attached as Appendix A.

   b. District staff approve Smoke Management Plans for prescribed burning projects. The plan shows compliance to District Rule 444. An approved SMP serves as a conditional permit to burn when proper notification to the District is made. The most current version of the SMP application is attached as Appendix B.

2. Burning conducted pursuant to permits issued by the District and/or a fire agency must comply with all conditions specified on such permits, including those on an approved SMP. (See Section (III)(D) for further discussing of SMP requirements.) Failure to abide by permit conditions is a violation of District Rule 204 – *Permit Conditions* and H&S Code §41852.

3. Permissive-burn days

   All permits issued for agricultural and prescribed burning by the District or fire agency shall contain the following, or similar, words: "This permit is valid only on those days during which agricultural burning, including prescribed burning, is not prohibited by the State Air Resources Board or by an air district pursuant to H&S Code §41855, and when burning on the lands identified herein has been approved by the air district".

   a. A permissive-burn day in the Mojave Desert Air Basin will be declared when the following criteria are met (17 CCR §80311):

(1) Near the time of day when the surface temperature is at a minimum, the temperature at 3,000 feet above the surface is not warmer than the surface temperature by more than 13 degrees Fahrenheit.

(2) The expected temperature at 3,000 feet above the surface is colder than the expected surface temperature by at least 11 degrees Fahrenheit for 4 hours.

(3) The expected daytime wind speed at 3,000 feet above the surface is at least 5 miles per hour.

4. Marginal-burn days

The District may issue special permits for agricultural burning, or special approval for registered prescribed burning on no-burn days if denial of such permits would threaten imminent and substantial loss. The District limits the amount of burning that can occur pursuant to issuance of such a permit to the extent it ensures no exceedances of air quality standards or significant adverse smoke impacts to smoke sensitive areas. Each applicant for a no-burn day permit shall submit a completed Authorization to Burn on a No-Burn Day application to the District or information and documentation as otherwise required by the District to make this determination.

B. BURN REGISTRATION AND REPORTING

1. All persons desiring to conduct prescribed burning in the District in any particular calendar year must register his planned burn projects with the District. The burn registration must include the name of the permittee, including a contact person with phone number; a listing of all projects planned, with legal descriptions of their locations (section, township and range); and an estimate of total acreage and/or tons of material to be burned.

2. A report of agricultural and prescribed burning conducted each calendar year in the District shall be submitted to California Air Resources Board (CARB) within 45 days of the end of each calendar year. This report includes estimated tonnage and/or acreage for each type of waste burned from both agricultural and prescribed burning by county area.

3. The District shall report all special permits (no-burn day permits) issued each calendar year to CARB within 45 days of the end of each calendar year. This report includes number of such permits issued, date of issuance of each permit, person or persons to whom the permits were issued, an estimate of tonnage and/or acreage for each type of waste burned pursuant to the permit, and a summary of the reasons why denial of each permit would have threatened imminent and substantial economic loss.

4. The District will continue to fully participate to the greatest extent possible in the Prescribed Fire Incident Reporting System (PFIRS), or other suitable electronic reporting system.

C. BURN AUTHORIZATION SYSTEM

1. The District operates a daily burn authorization system regulating agricultural and prescribed burning. The burn authorization system specifies the amount, timing, and location for each burn project within the District boundaries.

2. The purpose of the burn authorization system is to minimize smoke impacts in smoke sensitive areas, avoid cumulative smoke impacts, and prevent public nuisances.

3. In evaluating burn authorization requests, the District considers the following factors:

   a. Air quality;

   b. Meteorological conditions expected during burning; including wind speeds and directions at the surface and aloft, and atmospheric stability;

   c. Types and amounts of materials to be burned;

   d. Location and timing of materials to be burned;

   e. Locations of smoke sensitive areas;

   f. Smoke from all burning activities, including burning in neighboring air districts or regions which may affect air quality in the District;

   g. Historical data and information from previous burning.

4. Burn authorizations may be issued to land managers and burners for specific burn projects 24 hours in advance of ignition of each project. To obtain District authorization to burn any project, the land manager or burner shall contact the District via telephone, fax, e-mail, or in person announcing intent to burn. The burner shall submit the Daily Authorization Request and Information Reporting or other suitable form to the District (Appendix C). Using the above criteria, the District staff either grants or denies authorization to burn. When two or more burns are proposed for the same day and in the same general location, the burn agencies shall communicate and decide which burn will proceed. Once a burn authorization is granted, it is only rescinded if meteorological conditions change such that adverse air quality impacts are likely.

5. A burn authorization from the District only authorizes ignition of a burn if smoke management conditions specified in the projects SMP are met at a

time of ignition and for duration of the burn. A burn authorization does not relieve the burner from meeting conditions of the SMP. It is the burner's responsibility to ensure all conditions listed in the SMP are met prior to ignition. To validate specific smoke transport conditions existing on each site, the land manager/burner shall launch a helium-filled balloon, set a test fire, rely on local weather forecasts, spot weather forecasts, Regional Air Weather Station (RAWS) or other validation method, as specified in their SMP.

6. To receive a burn authorization for burning on a No-Burn Day, the land manager/burner shall submit a completed Authorization to burn on a No-Burn Day Burn application to the District as soon as possible prior to ignition. As a prerequisite to burning on a No-Burn Day, the District shall require the burn project be entered with CARB and shall have received the 48/72/96 notices for at least 3 days prior to ignition (48-hour forecasts, 72-hour outlooks, and 96-hour trends. Additionally, the District may require the land manager/burner to supply on-site or RAWS meteorological weather observations, site-specific weather forecasts, or other information necessary to assist in authorizing the burn project.

7. To assist land managers/burners in their planning process, the District may require land managers/burners to enter their burn project with CARB to receive a 48-hour forecast, 72-hour outlook, and a 96-hour trend. To accomplish this, the land manager/burner shall submit a completed CB-3 form to the CARB and the District. The land manager/burner may contact the District after 3 p.m. Monday through Friday, to obtain forecast information. If requested, the District shall contact the burner with this information. On weekends and holidays, the land managers/burners may need to call the CARB before 4 p.m. These forecasts are not a substitute for a burn authorization, and contain no guarantee a favorable forecast will necessarily lead to a burn authorization approval, but are intended solely to help in burn project planning.

8. The District shall maintain a daily log, recording burn authorizations, locations of burns, amounts of material burned, planned and unplanned wildfires occurring that day, and any other relevant information related to smoke impacts for that day. These data are used in the burn authorization process for subsequent days and in evaluating success and efficiently of the SMP. The District shall also maintain maps indicating burn locations in the District for easy reference of daily burning, location of smoke sensitive receptors, and potential cumulative smoke impacts from other burning in the region.

9. Multi-day burns require authorization on a daily basis from the District and consultation with the CARB.

10. If smoke from a project may impact other districts or states, District staff shall notify the appropriate neighboring air quality agency by faxing, or by other electronic means, the Controlled Burn/Prescribed Fire Notification (Appendix D) as soon as practicable and prior to ignition. Any concerns these agencies have over the planned burn shall be incorporated into the authorization.

11. If increased burning activities causes competition for burning between burn agencies, the District shall, in coordination with those agencies, establish guidelines for prioritizing all agricultural burns, including prescribed burns. In considering priorities, the District shall consider public benefits of burn projects, including safety, public health, forest health and wildfire prevention, ecological needs, economic concerns, and disease and pest prevention. Efforts to reduce smoke emissions, such as removal of excess material, shall also be considered.

12. At any given time, a burn permit holder may call the number on the burn permit to determine if it is a burn/no burn day in Area 53 (Mojave Desert Air Basin) or check online at http://www.arb.ca.gov/smp/histor/histor.htm. The District consults with CARB and fire agencies as necessary to make the final determination.

D. SMOKE MANAGEMENT PLANNING

1. Each prescribed burn project shall be registered for smoke management planning purposes as described in Section (III)(B)(1).

2. For prescribed burns, all requirements of California Code of Regulations (CCR) §80160 will be implemented. This can be fulfilled by the submittal of a SMP.

3. Burn projects less than 10 acres in size or expected to emit less than one ton of particulate matter may only need to obtain a burn permit. Burn projects greater than 10 acres or expected to emit in excess of one ton of particulate matter shall prepare and submit a District SMP. Before issuing an authorization to burn, the District, at its discretion, may require additional smoke management procedures to be used if a burn meets any of the following criteria:

   a. The project is greater than 100 acres in size;

   b. The project may impact smoke sensitive areas; and/or

   c. The project may present other potential problems

4. Minimum smoke management actions shall be considered for every burn project, and may require written submittal to the District of actions taken consistent with the guidelines above and the District SMP form:

a. Meteorological Prescription:

A detailed meteorological prescription shall be met to proceed with the burn. At a minimum, such prescription shall include acceptable wind direction. Other considerations include wind speed, temperature profile, winds aloft, humidity, temperature, actual and predicted inversions, burn day status, and forecast precipitation. The District may require weather forecasts be obtained to make smoke management decisions for the burn project.

b. Contingency Actions:

Actions the burner shall take if smoke from the burn project produces unacceptable smoke impacts, these may include: stopping further ignitions, active fire suppression, rapid mop up of smoldering, and other appropriate techniques discussed with the District.

c. Smoke Mitigation:

Actions which shall be taken to minimize smoke from the burn, which will include: minimum drying times/fuel moistures, piling and/or windrowing materials, active mop up of smoldering, pretreatment of fuels, and other appropriate techniques.

d. Burning Alternatives:

Alternatives to burning, which have been considered for this burn project and the basis of why such alternatives were not feasible or justified. Alternatives are listed in the SMP.). Additionally for projects requiring National Environmental Policy Act/California Environmental Quality Act (NEPA/CEQA) environmental documentation, alternatives to burning shall be addressed in the air quality section of such documents. Location of these documents shall be noted in the SMP.

e. Smoke Sensitive Receptors:

Description of any smoke sensitive receptors, such as towns, schools, or roads, with a map showing location of sensitive receptors and predicted smoke travel.

f. Public Notification:

Potentially affected public shall be notified of the burn project by one or all of the following: media announcements, phone contact lists, road signs, and/or other appropriate techniques.

g. Complaint Handling Procedures:

A procedure shall be developed insuring all complaints regarding smoke impacts received by a company or individual conducting the burn are promptly reported to the District.

h. Smoke Monitoring:

Procedures to be used to monitor and track smoke transport from the burn project; this may include: a smoke spotter to check on downwind sites, ambient air monitoring, aerial monitoring, or other appropriate methods.

5. Naturally Ignited Wildland Fires: A District Smoke Management Plan shall be completed and submitted to the appropriate Air District within 72 hours from start of a burn if size of the fire is expected to exceed ten acres and will be managed for resource benefit. When a natural ignition occurs on a no-burn day, the initial "go/no-go" decision to manage fire for resource benefit shall be a "no-go" unless:

a. After consultation with the District, District staff determine, for smoke management purposes, the burn can be managed for resource benefit; or

b. For periods of less than 24 hours, a reasonable effort has been made to inform the District, or if the District is not available, the CARB; or

c. After 24 hours, the District has been informed, or if the District is not available, the CARB has been informed and concurs the burn can be managed for resource benefit.

d. A "no-go" decision does not necessarily mean the fire must be extinguished, but does mean such fire cannot be considered as a prescribed fire.

6. District staff shall maintain the highest possible level of training with regards to smoke management. Staff assigned to the District's agriculture and prescribed burn program shall attend smoke management workshops, seminars, and training sessions. Participation and cooperation in smoke management alliances and, Interagency Air and Smoke Council (IASC) meetings, shall be optimized. When the PFIRS, or some other electronic substitute, becomes available, the District shall participate to the fullest extent possible.

7. For those burns that are either in excess of 250 acres, created smoke impacts or were conducted on No Burn Days, the responsible burn agency shall complete a District Project Post Burn Form. These shall be completed and returned to the District within 30 days from completion of the burn project. This information shall then be reviewed and can assist in issuing burn authorization for similar projects.

8. Agricultural burning projects (for the purpose of this subsection, this shall exclude prescribed burn projects) shall be registered with the District for smoke management planning purposes through the permitting process as described in Section (A)(1)(a). Agricultural burning projects shall be required to abide by burn permit conditions, including general smoke management under Regulation IV.

E. DISTRICT RESOURCES

1. General Resources

The District consists of 39 staff and a 14 member Governing Board. The Compliance Section will be responsible for implementing this Program, including permitting, enforcement and decision-making functions. The District shall rely on the CARB for forecasting.

2. Meteorological Resources

a. The District relies primarily on the CARB to provide daily burn day decisions and 48/72/96 forecasts to guide burn authorizations.

b. The District utilizes the Internet as a tool to access general weather trends, RAWS data, and fire weather forecast data for specific burns.

c. The District may also utilize special weather forecasts obtained by burn agencies through the Interagency Fire Forecast and Warning Unit, especially for large burn projects of those located near sensitive receptors.

d. The District will purchase, if deemed necessary, a portable weather station for use at burn projects when site-specific data is not available. This equipment would include wind speed, wind direction, temperature, relative humidity and possibly barometric pressure. District staff currently utilize handheld anemometers and handheld digital sling psychrometer/thermohygrometers to gather data. The District also uses portable visual equipment (video and still cameras, binoculars) to observe and document smoke impacts, plume dispersion, and other phenomenon.

3. Air Monitoring Resources

Currently, several PM10 and PM2.5 monitoring stations are located within the District. Data from these sites shall be used, as appropriate, to monitor impact of burn projects. District staff shall make visual observations at selected viewpoints to measure visibility and may determine, as appropriate, to reduce burning on days where visibility is impaired.

F. INSPECTION AND ENFORCEMENT

1. Subject to constraints of time and availability, District staff shall conduct on-site inspections of a representative number of agricultural and prescribed burns each year. Such inspections are prioritized based on the following criteria:

   a. Active burns conducted in an area or by someone historically generating many complaints:

   b. Active burns generating complaints;

   c. Large (100+ acres) active burns or located near sensitive receptors; and/or

   d. Prescribed burns representing a variety of source and fuels.

2. Inspections of active burns shall document that meteorological conditions are within acceptable parameters; amount of acreage and/or fuel given in the burn registration and authorization is what is actually being burned; and burn is not significantly impacting any sensitive receptors.

3. Inspections of prescribed burns shall document projected acreage and/or fuel loading is consistent with that reported in the burn registration; meteorological prescription is reasonable for the location; and actions taken to reduce fuel loading and/or smoke emissions have been implemented.

4. If unacceptable smoke impacts occur to a smoke sensitive area from an authorized burn, and such impacts are verified by District staff, the burner shall promptly be notified and required to take such contingency actions as are practicable.

5. Disposition of Notices of Violation issued for violations of the District's Smoke Management Program shall be in accordance with the District's Mutual Settlement Program.

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Appendix "A"

Air District Burn Permit Application

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MOJAVE DESERT
AIR QUALITY MANAGEMENT DISTRICT

RULE 444 ANNUAL BURN PERMIT

"THIS PERMIT IS VALID ONLY ON THOSE DAYS DURING WHICH AGRICULTURAL BURNING IS NOT PROHIBITED BY THE STATE AIR RESOURCES BOARD PURSUANT TO SECTION 41855 OF THE HEALTH & SAFETY CODE" AND ONLY FOR THE MATERIALS LISTED ON THIS PERMIT, AND ONLY AT THE SITE LISTED ON THIS PERMIT

Issued to: _____ Telephone: _____
(Print full name)

_____
(Address, Street number, City or Town, State, Zip)

Burn Location: _____
(Street, road, cross street or other description)

_____

City/Town: _____ County of: _____ State of California.

BURN TYPE

☐ Agricultural Burn: CROP _____
An agricultural operation is growing crops or raising fowl or animals for profit, livelihood, or education (444(B)(2)).

☐ Tumbleweeds ☐ Piled Wood Waste/Brush ☐ Empty Explosive Containers ☐ Other: _____

Amount to be burned: _____ (acres cleared) PERMIT expires on: _____

Burn Hours: _____

APPLICANT AGREES TO THE FOLLOWING CONDITIONS:

- Before burning call: _____ (Rule 444(C)(3))
- All material must be piled/stacked in such a manner as to promote drying and insure combustion with a minimum of smoke. For minimum drying times see Rule 444(C)(4)(b)(i-v).
- Before ignition remove all trash, tires, oil filters, construction/demolition debris, plastics, rubber, motor vehicle bodies, tar, shop and household debris, etc., as provided in Rule 444 (C)(1) and (C)(4)(c).
- Permittee must not burn during very hot, dry periods when winds are strong enough that burning would be unsafe.
- The fire shall be attended at all times by a responsible person. Fire control tools, (shovel and water are required) must be on site and available until the fire is dead out.
- All fires shall be confined within cleared firebreaks or barriers to prevent it from escaping control. If permittee allows a fire to escape, he may be found civilly or criminally negligent or in violation of the law, and held liable for All Fire Suppression Costs incurred by the Fire Department. (Health & Safety Code §13009).
- Permittee shall conform to all conditions of this permit and all applicable local and state rules and regulations.
- Permittee shall curtail burning when informed by the issuing agency, or Air District, that such burning is causing, or contributing to the creation of, a public nuisance (H&S Code §41700).
- This permit must be in possession of the responsible person at the burn site during the burn.
- If all conditions on this permit are not met, this permit shall automatically terminate.
- Additional restrictions or remarks: _____

_____

I own or legally control the above-described land and I agree to comply with all fire and air quality management laws, ordinances, regulations and terms of the permit. I certify that I have read, understand and agree to comply with the conditions on this permit. The information on this permit is true to the best of my knowledge.

SIGNED: _____ DATE: _____

For Official Use Only:		Permit Number
ISSUING AGENCY	APPROVING OFFICER	DATE / TIME

PLEASE BE FIRE SAFE

DISTRIBUTION: Applicant Copy - White FPA Copy - Canary AQMD Copy – Pink

Burn Permit/pd
7/6/05

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Appendix "B"

Smoke Management Plan (SMP) Application For Burn Permit

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SMOKE MANAGEMENT PLAN
APPLICATION FOR BURN PERMIT

In accordance with the Mojave Desert Air Quality Management District's (MDAQMD) Smoke Management Program, this Smoke Management Plan (SMP) serves as a permit application that is to be completed by the applicant and submitted to the MDAQMD officials. This SMP application consists of three sections, a Project Description section, and sections A and B. **ALL APPLICANTS MUST COMPLETE THE PROJECT DESCRIPTION SECTION (pages 4 and 5).** Both sections A and B of the SMP may need to be completed depending on the burn's potential to impact smoke sensitive areas and the size of the burn. Once approved by the MDAQMD, this SMP serves as a conditional permit to burn, when combined with the district's permit to burn.

General Information and Requirements regarding this SMP are provided on **pages 1 and 2**. Terms used in this form have the same meaning as those defined in the MDAQMD open burning regulation definition or the California Code of Regulations, Title 17, § 80101. Where differences occur, the Air District's definitions apply. **Emission Factors** to assist with calculating burn particulate matter emissions are provided on **pages 12 and 13**. Contact the MDAQMD if you have questions or need assistance with making these calculations.

The **District Review (page 3)** is for MDAQMD use only, but must be kept intact with the Project Description section. The **Project Description section (pages 4 and 5)** requests general information and identifies conditions for all prescribed burn projects. It identifies the permittee and relevant contact information, who the land owner is, the project name, project location, burn size, purpose of the burn, type of fuel to be burned, and estimated emissions from the burn. It provides a checklist of additional sections of the SMP that may be filled out and attached. Finally, it requests the preparer's signature, the name of the permittee or authorized representative, and the permittee or authorized representative's signature.

Section A (pages 6 - 8), must be completed and attached to the Project Description section if the burn has the potential to result in impacts to smoke sensitive areas. Smoke sensitive areas are defined as "populated areas and other areas where a district determines that smoke and air pollutants can adversely affect public health or welfare." Such areas can include, but are not limited to, towns and villages, campgrounds, trails, populated recreational areas, hospitals, nursing homes, schools, roads, airports, public events, shopping centers, and Class I Areas (areas that are mandatory visibility protection areas designated pursuant to section 169A of the federal Clean Air Act). The MDAQMD can tell you if you are in a Class I Area.

Section B (pages 9 and 10), is a form that must be completed and attached to the Project Description section if the burn will be greater than 100 acres or will produce more than ten tons of particulate matter. Section B identifies meteorological conditions necessary for ignition, contingency actions that will be taken if smoke impacts begin to occur from the burn, and information on consideration and use of alternatives to burning. A **Post-Burn Evaluation** form is provided on **page 11.** This form is to be used for burns greater than 250 acres or for burns that result in impacts to smoke sensitive areas.

Information may need to be extracted from the project burn plan (if available) to supplement the SMP. MDAQMD review of the burn plan is for informational purposes only. When the burn plan is reviewed, the MDAQMD assumes no approval authority or liability for approving the burn plan. The permittee is responsible for assuring firefighter and public safety, which is not the intent of the information included on this form.

General Information and Requirements

SMP Conditions Must Be Met on the Day of the Burn (CCR § 80160(j))

The land manager or his/her designee conducting a prescribed burn is required to ensure that all conditions and requirements stated in the smoke management plan are met on the day of the burn event and prior to ignition. Ignition of a burn project will not occur unless the MSAQMD has authorized the burn on the day of the burn.*

Conditions of Vegetative Material to be Burned (CCR § 80160 (m – p))

Material should be:

- in a condition that will minimize the smoke emitted during combustion when feasible, considering fire safety and other factors;
- piled where possible, unless good silvicultural practices or ecological goals dictate otherwise; and
- prepared so that it will burn with a minimum of smoke.

Description of Burn Types

Forest Management Burning is the use of open fires, as part of a forest management practice, to remove forest debris or for forest management practices which include timber operations, silvicultural practices, or forest protection practices.

Range Improvement Burning is the use of outdoor fires to:

- remove vegetation for wildlife or game habitat;
- remove vegetation for livestock habitat; and
- remove vegetation for the initial establishment of an agricultural practice on previously uncultivated land.

Wildland Vegetation Management Burning is the use of prescribed burning conducted by a public agency, or through a cooperative agreement with a private manager or contract involving a public agency, to burn land predominantly covered with chaparral (as defined in Title 14, California Code of Regulations, §1561.1), trees, grass, or standing brush.

Determination of Smoke Sensitive Areas

Smoke sensitive areas are defined as "populated areas and other areas where an Air District determines that smoke and air pollutants can adversely affect public health or welfare." Such areas can include, but are not limited to, towns and villages, campgrounds, trails, populated recreational areas, hospitals, nursing homes, schools, roads, airports, public events, shopping centers, and Class I Areas (areas that are mandatory visibility protection areas designated pursuant to section 169A of the federal Clean Air Act. Your Air District can tell you if your burn is in a Class I Area. If a burn is near a populated area,

* CCR 80120(e) provides that an Air District may, by special permit, authorize agricultural burning, including prescribed burning, on days designated by the ARB as no-burn days if the denial of such

permit would threaten imminent and substantial economic loss.

has potential for substantial emissions, has a long duration, or has the potential for poor smoke dispersion, a smoke sensitive area could be impacted and Section A of the SMP should be completed. Burners may obtain Air District assistance in determining if Section A should be completed.

Procedures for Permittees to Report Public Smoke Complaints to Air Districts to Address Smoke Management Guidelines § 80160(l)

1. The permittee shall immediately report any air quality smoke complaints received about this burn project to the Air District with jurisdiction over the burn. A phone call to the District during normal seasonal business hours will suffice. During non-business hours a fax or voicemail message will suffice.
2. The complaint report shall include the following: the location of the smoke impact, a short description of the smoke behavior including wind direction and speed, visibility, and public safety impacts if available from the complainant.
3. The permittee shall inform the complainant that he or she may also contact the District directly and shall provide the District name, telephone number and address.
4. The permittee shall, in coordination with the Air District, seek resolution for all complaints, as necessary.

Natural Ignition on a No-burn Day (CCR section 80160(h))

When a natural ignition occurs on a no-burn day, the initial "go/no-go" decision to manage the fire for resource benefit will be a "no-go" unless:

1. After consultation with your Air District, the Air District decides, for smoke management purposes, that the burn can be managed for resource benefit; or

2. For periods of less than 24 hours, a reasonable effort has been made to contact the Air District, or if the Air District is not available, the Air Resources Board (ARB); or

3. After 24 hours, the Air District has been contacted, or if the Air District is not available, ARB has been contacted and concurs that the burn can be managed for resource benefit. A "no-go" decision does not necessarily mean that the fire must be extinguished, but that the fire cannot be considered as a prescribed fire.

DISTRICT REVIEW
(For District Use Only)

___ I have reviewed and approved this SMP as a conditional burn permit to be combined with agricultural burn/air pollution permit number _____ , which expires on _____.

___ This burn project is greater than 250 acres and/or is a multi-day burn which requires ARB consultation prior to final approval pursuant to CCR 80160(g)).
Date ARB Notified: _____ Date ARB approval received: _____

Smoke from this fire is expected to travel into the following non-attainment or maintenance areas:
_____
_____
_____

Name: _____
Signature: _____
Agency : _____
Date: _____

SMP Project Description (Complete This Section for ALL PRESCRIBED BURNS)*

* If your burn is less than 10 acres with less than one ton particulate matter emissions, and your burn will not impact any smoke sensitive areas, you may complete only this section. Attach appropriate SMP sections for all other burns.

1.1 Project Name:	Project Location: (Report at least one of the following location descriptions. Provide attachment as needed.) 1.8a Legal: T _____ R _____ S _____ M&B _____ 1.8b Lat/Long: Lat _____(deg.) _____(min) _____ (sec) Long _____(deg.) _____(min) _____ (sec) 1.8c UTM: Zone: ____ N_____m, E_____m
1.2 Permittee Name: _____ 1.3 Permittee Address: Street: _____ City: _____ State: _____ Zip: _____	
1.4 Permittee/Field Contact:	1.9 Project Elevation (msl feet): Top:_____ Bottom:_____
1.5 24-hour Phone/Pager:	1.10 Land Owner Name: _____ Street:_____ City: _____ State: _____ Zip: _____
1.6 Project Location (Counties):	
1.7 Nearest Town:	

1.11 Anticipated Time of Year for Burn (Month/Year): _____

1.12a Is the Primary Purpose of the Burn for Fire Hazard Reduction? _____

1.12b Burn Type (Check one): _____ Forest Management: _____ Range Improvement _____ Wildland Vegetation Management _____ Natural Ignition
(see General Information on page 1 for description of these burn types)

1.13 For Range Improvement Burns, Check Vegetation Management Objective:
____ Wildlife or Game Habitat Improvement ____ Livestock Habitat Improvement
____ Initial Establishment of an Agricultural Practice on Previously Uncultivated Land

1.14 Vegetation Type (Percentage): ____ Brush _____ Grass ____ Timber Litter
____Timber Slash ____ Other (Describe): _____

1.15 Vegetation Condition: ____ Machine Pile Burn ____ Hand Pile Burn
____ Understory ____ Landing Pile Burn ____ Broadcast

1.16 Project Area: _____(acres)

1.17 Number of Piles: _____

1.18 Average Pile Size: _____

1.19 Total Project Fuel Loading: _____ (tons vegetation)

1.20 Particulate Matter Emissions: _____ (tons PM10)
(Use Emissions Factors Tables on pages 12-13 for assistance with emissions calculation)

1.21 Emission Factor Table Used or EPA-Approved Calculation Method:
_____

1.22 Preferred Ignition Hours for the Fire: _____

1.23 Expected Burn Duration (ignition to complete extinction):
Total Time: _____ (hours or days)

1.24 Fuel Drying Time and Conditions Prior to Ignition: _____
_____

1.25 Limitations on Pile Size, Pile Number, and/or Acreage Limitations to Minimize Smoke (complete as appropriate): _____
_____
_____

It is the responsibility of the permittee to ensure that conditions of the SMP are met on the day of the burn. The permittee will obtain authorization to burn from the Air District contact listed below no more than 24 hours prior to ignition.**

1.26 Air District Name:	1.28 Contact:
1.27 Address:	1.29 24-hour Telephone:
	1.30 Fax:
	1.31 Email:

The permittee will report public smoke complaints to the Air District per the procedures described in the General Information section of this SMP on pages1 and 2.

Check as Applicable:

- ❑ **This burn could have an impact on smoke sensitive areas – I have filled out and attached all of Section A.**
- ❑ **This burn could have an impact on smoke sensitive areas and Air District policies require that information on meteorological conditions for ignition and contingency planning be provided – I have filled out and attached line items B.1 and B.2 of Section B.**
- ❑ **This burn is greater than 100 acres (or is estimated to produce greater than 10 tons of particulate matter) – I have filled out and attached all of Section B.**

Preparer's Statement: To the best of my knowledge the information submitted in this application is complete and accurate.

SMP Preparation Date: _____
Preparer's Name/Title (print): _____
Preparer's Phone: (_____)_____-_____
Preparer's Signature: _____
Name of Authorized Representative in Control of the Property (if applicable):
_____
Permittee or Authorized Representative Signature:
_____
Signature Date: _____

** Burner/Air District burn authorization coordination to be determined by the Air District.

SECTION A: AS REQUIRED BY TITLE 17 AND AIR DISTRICT POLICIES, THIS SECTION APPLIES TO ALL BURNS WITH THE POTENTIAL TO IMPACT SMOKE SENSITIVE AREAS (SSAs) *

A.1. Describe locations of SSAs and distances from burn site (miles) – (Also the attached Map#_____ shows SSAs)

_____

_____

_____

A.2 The attached map# _____ provides smoke travel projections for:
_____ Day _____ Night _____ Topographical considerations.

A.3 Has prescribed burning historically occurred in this area? ____ Yes ____ No
____ Don't Know

A.4 If yes, were there impacts to smoke sensitive areas? ____ Yes ____ No
____ Don't Know

A.5 If yes, please describe impacts:

_____

_____

_____

A.6 For burns that will occur past daylight hours and/or for more than one day, please provide Air District contact information and a description of contact procedures that will be used to affirm that the burn project remains within the conditions specified in this SMP, and/or whether contingency actions are necessary. The permittee will follow any instructions by the Air District to communicate directly with ARB when necessary. Air District contact (or designee)

_____

A.7a Telephone: (___) _____-_____
A.7b 24-hour Pager (___) _____-_____
A.7c Fax: (___) _____-_____
A.7d E-mail: _____

A.8 The permittee will use the frequency and method of contact described below:

_____

_____

_____

_____

_____

_____

The permittee will monitor the burn project for meteorological conditions and smoke behavior before, during, and after the burn using the following techniques and timing:

A.9 Weather Observation (Wind Direction, Wind Speed, and Temperature):

Method	Details			
____ Belt Weather Kit	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ RAWS	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ Aircraft	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ Other	Location _____			
	Beginning _____	Interval _____	Ending _____	

____ Additional Requirements: _____

_____

_____

A.10 Smoke Behavior Observations:

Method	Details			
____ Visual**	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ Test Fire	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ Balloon	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ Aircraft	Location _____			
	Beginning _____	Interval _____	Ending _____	
____ PM Monitoring Inst	Location _____			
	Beginning _____	Interval _____	Ending _____	

____ Additional Requirements: _____

_____

_____

A.11a The permittee shall begin public notification before the day of burning. The notification shall be on-going until the end of burning. Check which of the following procedures will be used to notify and educate the public about this burn project. ___Television ___Radio ___Newspaper ____Posters/flyers ____Telephone calls ___ Other (Explained in A.11b below)

A.11b The specifics of the notification procedure(s) checked above are as follows:

_____

_____

_____

A.12 The permittee will place appropriate signage at or near burn sites to identify the burn project to the public as noted on the attached map#_____.

Adjacent Air Districts and neighboring state Air Districts which may potentially be impacted by smoke travel or which have previously been impacted by smoke from similar burn projects are listed below.

A.13 Air District Name: _____
A.14 Contact: _____
A.15 Address: _____
_____
A.16 24-hour Telephone: _____
A.17 Fax: _____

A.18 Air District Name: _____
A.19 Contact: _____
A.20 Address: _____
_____
A.21 24-hour Telephone: _____
A.22 Fax: _____.

23 Neighboring State Air District Name: _____
A.24 Contact: _____
A.25 Address: _____
_____
A.26 24-hour _____
Telephone: _____
A.27 Fax: _____

* **See General Information on page 1 for determining if your burn has the potential to impact a smoke sensitive area.**

** **Visual smoke observation refers to observations made through the eyes of designated individuals.**

SECTION B: AS REQUIRED BY TITLE 17 AND AIR DISTRICT POLICIES, THIS SECTION APPLIES TO ALL BURN PROJECTS GREATER THAN 100 ACRES OR PRODUCING MORE THAN 10 TONS OF PARTICULATE MATTER

B.1. Meteorological Conditions for Ignition

Source of Meteorological Information: _____

Surface Wind Direction:
Ideal: _____ Acceptable Range: _____ (degrees)

Surface Wind Speed:
Ideal: _____ Maximum: _____ Minimum: _____ (mph)

Transport Wind Direction:
Ideal: _____ Acceptable Range: _____ (degrees)

Relative Humidity:
Ideal: _____ Maximum: _____ Minimum: _____ (%)

Target Mixing Height Parameters: _____

Acceptable Temperature Range: _____ (degrees)

Other Considerations to Assure Acceptable Smoke Dispersion:

_____

_____

B.2a Describe contingency actions/methods/procedures permittee will take in the event that serious smoke impacts begin to occur or meteorological conditions deviate from those specified in this SMP (for example: stop ignitions, initiate mop-up, conduct fire suppression – describe in detail):

_____

_____

_____

_____

B.2b Describe any applicable interior unit contingency cutoff lines (refer to map# ___ as appropriate):

_____

_____

_____

_____

_____

B.3 An evaluation of alternatives to burning is described below:

_____ It is a part of the environmental documentation required for the burn project pursuant to the National Environmental Policy Act or the California Environmental Quality Act and is either attached to this SMP, is on file with the Air District, or is provided for as agreed to by the Air District. Document location:

_____

_____ Neither a National Environmental Policy Act or the California Environmental Quality Act assessment of alternatives has been performed. Alternatives to reduce fuel load are described in section B.4 – B.9 below.

B.4 Alternatives Considered:

_____
_____
_____
_____

B.5 Alternatives Rejected and Reasons for Rejection:

_____
_____
_____

B.6 Alternatives Used, and Tons of Vegetative Material Treated With Each Alternative:

_____
_____
_____

B.7 Particulate Reduction for Each Alternative Used (tons):

_____
_____
_____

B.8 Total Particulate Reductions from Alternatives Used:

_____

B.9 If this project is greater than 250 acres or smoke impacts occur, the permittee will provide a completed Post Burn Evaluation Form (see page 11) to the Air District within 30 days of project completion.

B.10 For burns greater than 250 acres, complete Sections A.9 and A.10 to describe the site monitoring requirements.

Post-Burn Evaluation
For Burns Greater Than 250 Acres
or Burns For Which Smoke Impacts Occurred*

Section A. General Information:

Date of Burn: _____ Burn Location: _____
Number of Acres Burned: _____ Estimated Actual PM Emissions: _____ (tons)
Burner Name: _____
Burner Address: _____
_____
Burner Phone Number: _____
Burner Email: _____

1. Did the burn remain within the conditions specified in the Smoke Management Plan? _____
2. Were there substantial complaints or adverse smoke impacts? _____ If so, complete Section B below.
3. Lessons learned (Optional) (Provide attachment if desired):
_____
_____
_____

Section B. For Burns That Had Smoke Impacts, Complete The Following:

1. Describe adverse smoke impacts below (add attachment if needed):
_____
_____
_____
_____
_____
2. Were there substantial complaints from the public? _____ If so, how many and from whom:
_____
_____
_____
_____
3. What Air Districts were Notified (who, when, and at what phone number(s))?
_____
_____
_____
_____
_____
4. Lessons learned (add attachment if needed):
_____
_____
_____
_____
_____
5. Attach all smoke observation and weather data collected before, during, and after the burn. See collection methods checked in sections A.9 and A.10 of the burn plan for relevant data.

* **As required by title 17 and air district policies.**

Table 1 PM-10 EMISSIONS CALCULATIONS FOR PILES

1. Choose the pile size most representative of the piles on your burn site.
2. Multiply the number of piles in your project with the corresponding "Tons of PM10/Pile" value to get the total PM10 tonnage.

PM10 EMISSIONS FOR SPECIFIED PILE SIZES		
PILE SIZE (in feet)	**Pile Tonnage**	**TONS OF PM10/PILE**
4' diameter x 3' height	0.056	0.0005
5' diameter x 4' height	0.12	0.001
6' diameter x 5' height	0.21	0.002
8' diameter x 6' height	0.45	0.004
10' diameter x 6' height	0.71	0.007
12' diameter x 8' height	1.3	0.01
15' diameter x 8' height	2.1	0.02
20' diameter x 10' height	4.7	0.04
25' diameter x 10' height	7.4	0.07
50' diameter x 10' height	29	0.3
Pile Tonnage calculated using paraboloid volume formula[a] multiplied by 30 lbs/cu.ft, multiplied by 0.2 packing ratio[b]		
U.S. Forest Service's Conformity Handbook, Table 6 – PM10 Emissions Factor of 19.0 pounds/ton of fuel burned - average pile and burn slash		
Revised 2/13/2001		

a. Formula used for Paraboloid Volume (cu.ft.) = 3.1416 x [height x (diameter)^2]/8 (see Refernce b. below).
b. USDA (2/1996). Forest Service General Technical Report. Report Number: PNW-GTR-364.

Table 2 PM 10 EMISSION CALCULATION FOR BURNING OF MULTIPLE FUEL TYPES[1,2]

Section 80160 (b) of Subchapter 2 Smoke Management Guidelines for Agricultural and Prescribe Burning, Title 17, California Administrative Code states, "requires the submittal of smoke management plans for all burn projects greater than 10 acres in size or estimated to produce more than 1 ton of particulate matter". To determine what the particulate matter (PM 10) amount is of your burn project please use the equation below and review the following examples.

Information needed for PM 10 Calculations:

a. VT = Vegetation type
b. ACRES VT = Estimated number of acres for VT
c. FL est. = Estimated fuel loading in VT TONS per ACRE
d. EV = PM10 emission/ton of fuel

Calculating PM10 Emissions from Prescribed Burning of multiple vegetation types:

PM10 ton(s) emissions per VT = (number of acres VT) (FL tons per acre) (Emission Value (EV)) = _____ ton(s)/VT
PM10 ton(s) emissions per VT = (number of acres VT) (FL tons per acre) (Emission Value (EV)) = _____ ton(s)/VT
Sum Total is the Estimated PM 10 for the project = _____ ton(s)/project

VEGETATION TYPE(S)	ACRES (VT) x	FL est. x	EV[1]	PM10 EMISSIONS (ton(s))
Basing Sage/Low Sage	(_____) x	(_____) x	(0.010) =	_____
Ceanothus	(_____) x	(_____) x	(0.010) =	_____
Chamise	(_____) x	(_____) x	(0.009) =	_____
Giant Sequoia	(_____) x	(_____) x	(0.007) =	_____
Grass/Forb	(_____) x	(_____) x	(0.007) =	_____
Hackberry Oak	(_____) x	(_____) x	(0.005) =	_____
Hardwood (Stocked)	(_____) x	(_____) x	(0.003) =	_____
Hardwood (Non-stocked)	(_____) x	(_____) x	(0.003) =	_____
Jeffrey Pine/Knobcone	(_____) x	(_____) x	(0.007) =	_____
Live Oak (Canyon)	(_____) x	(_____) x	(0.007) =	_____
Live Oak (Interior)	(_____) x	(_____) x	(0.007) =	_____
Lodgepole Pine	(_____) x	(_____) x	(0.007) =	_____
Manzanita (Productive Brush)	(_____) x	(_____) x	(0.009) =	_____
Mixed Chaparral/Montane	(_____) x	(_____) x	(0.008) =	_____
Mixed Conifer	(_____) x	(_____) x	(0.006) =	_____
Oak (Black)	(_____) x	(_____) x	(0.005) =	_____
Oak (Blue)	(_____) x	(_____) x	(0.003) =	_____
Oak (White)	(_____) x	(_____) x	(0.003) =	_____
Pinyon Pine	(_____) x	(_____) x	(0.007) =	_____
Ponderosa Pine, Gray Pine	(_____) x	(_____) x	(0.007) =	_____
Red Fir	(_____) x	(_____) x	(0.007) =	_____
Wet Meadow	(_____) x	(_____) x	(0.004) =	_____
Willow	(_____) x	(_____) x	(0.007) =	_____
Sum Total of the Estimated PM10 for the project in tons/project			=	_____

1. See Table 3 on next page for values used to calculate EVs.
2. For vegetation types not listed, contact Air District for assistance with determining appropriate emission factors.

Table 3
EMISSION VALUES (EVs) FOR BURNING OF MULTIPLE VEGETATION TYPES*

Calculation of PM10 emission values = (% combustion) x (PM10 emission lbs/ton) x (1 ton/2000 lbs)*

VEGETATION fuel)	%Combustion		PM Emissions (lbs/ton fuel)		Conversion Factor	PM EMISSION VALUE (PM10 tons emissions/ton
Basing Sage/Low Sage	= (1.0)	x	(20.17 lbs/ton)	x	(1 ton/2000 lbs)	= 0.010
Ceanothus	= (1.0)	x	(20.17 lbs/ton)	x	(1 ton/2000 lbs)	= 0.010
Chamise	= (0.9)	x	(20.17 lbs/ton)	x	(1 ton/2000 lbs)	= 0.009
Giant Sequoia	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Grass/Forb	= (1.0)	x	(15 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Hackberry Oak	= (0.4)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.005
Hardwood (Stocked)	= (0.4)	x	(15 lbs/ton)	x	(1 ton/2000 lbs)	= 0.003
Hardwood (Non-stocked)	= (0.4)	x	(15 lbs/ton)	x	(1 ton/2000 lbs)	= 0.003
Jeffrey Pine/Knobcone	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Live Oak (Canyon)	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Live Oak (Interior)	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Lodgepole Pine	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Manzanita (Productive Brush)	= (0.9)	x	(20.17 lbs/ton)	x	(1 ton/2000 lbs)	= 0.009
Mixed Chaparral/Montane	= (0.8)	x	(20.17 lbs/ton)	x	(1 ton/2000 lbs)	= 0.008
Mixed Conifer	= (0.6)	x	(20.5 lbs/ton)	x	(1 ton/2000 lbs)	= 0.006
Oak (Black)	= (0.4)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.005
Oak (Blue)	= (0.4)	x	(15 lbs/ton)	x	(1 ton/2000 lbs)	= 0.003
Oak (White)	= (0.4)	x	(15 lbs/ton)	x	(1 ton/2000 lbs)	= 0.003
Pinyon Pine	= (0.6)	x	(22 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Ponderosa Pine, Gray Pine	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Red Fir	= (0.6)	x	(23.1 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007
Wet Meadow	= (0.6)	x	(15 lbs/ton)	x	(1 ton/2000 lbs)	= 0.004
Willow	= (0.6)	x	(25 lbs/ton)	x	(1 ton/2000 lbs)	= 0.007

* **Percent combustion and PM10 emission factors for various fuel types derived from Table 8, Section 6, "Air Quality Conformity Handbook" from the USDA-Forest Service Air Resources / Fire Management Pacific Southwest Region dated November 1995.**

** **These are the vegetation's estimated emissions values(EV) from the vegetation type as determined above to be use when the burn operator provides the vegetation's fuel loading estimate per acre.**

*** **For additional information on emissions factors, see EPA document AP-42: "Compilation of Air Pollutant Emission Factors. Volume 1: Stationary Point and Area Sources," Fifth Edition, AP-42, January 1995, U.S. EPA. Table 2.5-5.**

Appendix "C"

Daily Authorization Request and Information Reporting Form

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DAILY AUTHORIZATION REQUEST & INFORMATION REPORTING
(CCR 80145)

This information must be submitted to the MDAQMD before 3:30 (1530) daily

Burn Date (Mo/Day/Yr)	Permit #	Crop			County (SB/RVSD)	Comments
		Name	Acres Burned	Tons Burned		

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Appendix "D"

Controlled Burn and Prescribed Fire Notification Form (CB-3)

Form can be found on-line at http://www.arb.ca.gov/smp/techtool/cb3.htm

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Controlled Burn "Notices" (24-hr decisions, 48-hr forecasts, 72-hr outlook, and 96-hr trends)

State of California
Air Resources Board
Planning and Technical Support Divis
Meteorology Section
P.O. Box 2815
Sacramento, CA 95812

Name of Burn: **Merckx**
Organization responsible for Burn: ____
Natural Ignition (FURB?) __ **Yes** / __ **No**
Active during Month: **May** Year **2002**
Burn Window - Start: **5/1/2002** End: **06/01/02**

Coun **Kings** Mean Elevation (ft.): **1250** Overnight? __ Yes / **X** No

Distri **San Joaquin Valley** Min. Elevation (ft.): **500** Total Acres **200** Tons/Acre: **30**

Air Basi **San Joaquin Valley** Max. Elevation (ft.): **2000** Acres/Day **200** Percent treated: **50**

Meridian Humboldt / **x** Mt. Diablo / __ San Bernardino *Latitude:* ____ *Longitude:* ____

Location T ____ R ____ Section(s) ____ T ____ R ____ Section(s) ____

Location of nearest sensitive ar ____ is ____ / ____ (miles/direction) from the burn

____ is ____ / ____ (miles/direction) from the burn

Special Circumstances Multi-day __ (# of days: ____) Large (>250 acres) __ ARB SMP Approval ____

Comments (prescription/burn w indow /notificatior ____

District: Contact's Telephone Nu (**800**) **867** - **5309** **& Date Smoke Mgmt Plan Reviewed:** ____

Land Manager: Telephone Nun (**888**) **867** - **5309** **Weekend Numbe** (____) ____ - ____

District Contact's e-ma **Tommy@tutone.net** **Land Manager's e-mail:** **jenny@tutone.net**

			District w ill Determine Yes/ x No			Provided to District By ARB Duty Meteorologist						
	Issued		**24-hr Decision**			**48-hr Forecast**		**72-hr Outlook**		**96-hr Trend**		
Dat	Time **PST**	By	Valid Date	Yes/No	By D or C*	Valid Date	Fav/Unfav (L,M,H/X)**	Valid Date	Fav/Unfav (✓ or X)	Valid Date	Fav/Unfav (✓ or X)	Comments
#			29		C	30		1		2		
#			30		C	1		2		3		
#			1		C	2		3		4		
1			2		C	3		4		5		
2			3		C	4		5		6		
3			4		C	5		6		7		
4			5		C	6		7		8		
5			6		C	7		8		9		
6			7		C	8		9		10		
7			8		C	9		10		11		
8			9		C	10		11		12		
9			10		C	11		12		13		
#			11		C	12		13		14		
#			12		C	13		14		15		
#			13		C	14		15		16		
#			14		C	15		16		17		

*D - by District, C - othe **L - low , M - medium, H - high confidence level for a favorable 48-hr forecast, X - Unfavorable

Notes: Burn completed/cancelled ____

Additional information (Evaluation done? Smoke impact? E ____

Request received from district s ____ on (date/time) ____ by ____

A.R.B. Duty Meteorologist: (916) 322-6014, Fax: (916) 445-0786, e-mail: armet1@arb.ca.gov (CB-3, 01/02)