

**Smoke Management Program**  
**for the Great Basin Unified**  
**Air Pollution Control District**

## Smoke Management Program for the Great Basin Unified Air Pollution Control District

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## **Smoke Management Program for the Great Basin Unified Air Pollution Control District**

### **1.0 Purpose of the Smoke Management Program**

The Smoke Management Program for the Great Basin Unified Air Pollution Control District was developed in cooperation with the California Air Resources Board, public and private land managers, and fire protection authorities for the purpose of minimizing adverse air quality impacts related to smoke from prescribed burning within the District's jurisdiction of Inyo, Mono, and Alpine counties (See Figure 1). This smoke management program was adopted by the Great Basin Unified Air Pollution Control District Board on November 7, 2001. Each participating agency is a signatory to a Memorandum of Agreement for Smoke Management (Attachment A), which outlines the roles and responsibilities of the agencies to comply with the requirements of the Smoke Management Program and the District regulations for prescribed burning. Current participating agencies include: Great Basin Unified Air Pollution Control District (District), California Air Resources Board (ARB), Inyo National Forest, Humboldt-Toiyabe National Forest, Eldorado National Forest, Stanislaus National Forest, Death Valley National Park, US Bureau of Land Management and the California Department of Forestry. Additional signatories to the Agreement may be added in the future.

This Smoke Management Program was adopted by the Great Basin Unified APCD Board along with revisions to the District's regulations for open outdoor fires. The Smoke Management Program and corresponding regulations were revised and adopted to comply with the agricultural burning requirements in Title 17 of the California Code of Regulations (effective March 14, 2001). District regulations related to open outdoor fires and prescribed burning for agricultural operations, forest management, range management and wildlands and wildland/urban interface areas are included in Attachment B.

### **2.0 Requirements for Agricultural Burning Operations**

#### **2.1 Applicable Open Burning Activities**

The District's Smoke Management Program and corresponding regulations for prescribed burning apply to all open outdoor fires used in agricultural burning operations for:

- The growing of crops or raising of fowl or animals,
- Forest management,
- Range improvement,
- Improvement of land for wildlife and game habitat,
- Disease or pest prevention,
- Maintenance of water delivery systems,
- Wildland vegetation management, and
- Natural or accidental wildfire ignitions.

Detailed definitions for agricultural burning and prescribed burning activities are included in Rule 101 Definitions, see Attachment B.

Most of the requirements discussed in this program document do not apply to non-agricultural burning operations. Requirements pertaining to open outdoor fires for non-agricultural burning operations can be found in the open outdoor burning regulations in Attachment B.

**2.2 General Requirements for Agricultural Burning**

District regulations included in Attachment B provide detailed requirements for agricultural burning. The following is a summary of the District's agricultural burning regulations to provide an overview of the requirements for prescribed burning.

These requirements apply to all agricultural burning:

- a. Prescribed burning is to be conducted on permissive burn days, unless a special burn permit is obtained from the Air Pollution Control Officer (APCO).
- b. No person shall burn agricultural waste without a burn permit issued by the fire protection agency with jurisdiction for the location of the burn.
- c. Burning shall be curtailed when smoke is drifting into a populated area or creating a public nuisance.
- d. Vegetation to be burned shall be free of tires, rubbish, tar paper or construction debris, and reasonably free of dirt and soil.
- e. Material to be burned shall be arranged in a manner and condition to burn with a minimum of smoke.

These additional requirements apply to agricultural burning for the purpose of range improvement, forest management, and wildland vegetation management. The land manager or his/her designee, shall:

- f. Submit an annual or seasonal list of proposed burn projects to the APCO, including areas considered for potential naturally-ignited wildland fires managed for resource benefits.
- g. Submit a smoke management plan to the APCO for review and approval for all burn projects over 1 acre or that have the potential to emit more than 1 ton of particulate matter emissions, and for accidental or naturally-ignited wildland fires managed for resource benefits.

- h. Notify the District at least 3 days before a planned burn to receive a burn day authorization before proceeding with the burn.
- i. Submit reports in January of each year, summarizing prescribed burning activities conducted by the Fire Management Agency in the last calendar year. Reports should include the date, location, fuel type, fuel loading, and total acres or tons of vegetation burned for each prescribed burn operation and wildfire. The annual reports will allow the District to track the total particulate matter emissions from prescribed burning operations and to determine general conformity with the air quality plans in federal PM-10 non-attainment areas.
- j. 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.

**2.3 Smoke Management Plans for Range Improvement, Forest Management, and Wildland Vegetation Management Burning**

An example form for smoke management plans is included in Attachment C. The specific requirements for information that must be included in the plans can be found in Rule 411.C and is discussed below.

- **For Burn Projects Greater than 1 acre or 1 ton of PM:**

For burn projects greater than 1 acre in size or estimated to produce more than 1 ton of particulate matter, the land manager, or his/her designee, shall submit a smoke management plan to the APCO for review and approval in advance of the proposed burn project, containing at a minimum the following information:

- a. Location, types, and amounts of material to be burned;
- b. Expected duration of the fire from ignition to extinction;
- c. Identification of responsible personnel, including telephone contacts;
- d. Identification and location of all smoke sensitive areas; and
- e. Procedures for public notification and education, including appropriate signage at burn sites, and for reporting of public smoke complaints.

For burn projects greater than 250 acres and for any burn from which the APCO determines that there has been a significant smoke impact, the land manager or his/her designee shall also perform a post-burn smoke management evaluation.

- **For Burn Projects Greater than 100 acres or 10 tons of PM:**

For burn projects greater than 100 acres in size or estimated to produce more than 10 tons of particulate matter, the land manager, or his/her designee, shall submit a smoke management plan to the APCO for review and approval in advance of the proposed burn project, containing at a minimum all the information shown above for the less than 1 acre or 1 ton burns, and the following additional information:

- a. Identification of meteorological conditions necessary for burning.
  - b. The smoke management criteria the land manager or his/her designee will use for making burn ignition decisions.
  - c. Projections, including a map, of where the smoke from burns are expected to travel, both day and night.
  - d. Specific contingency actions (such as fire suppression or containment) that will be taken if smoke impacts occur or meteorological conditions deviate from those specified in the smoke management plan.
  - e. An evaluation of alternatives to burning considered; if an analysis of alternatives has been prepared as part of the environmental documentation required for the burn project pursuant to the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA), as applicable, the analysis shall be attached to the smoke management plan in satisfaction of this requirement.
  - f. Discussion of public notification procedures.
  - g. PM10 emissions from burn projects are limited to 10 tons within the Mono Basin non-attainment area and to 42 tons within the Owens Valley non-attainment area (See Figure 1) in accordance with the State Implementation Plan (SIP) for each area and to the General Conformity provisions of District Regulation XIII.
- **If Smoke May Impact Sensitive Areas:**

If smoke may impact smoke sensitive areas, the land manager, or his/her designee, shall include in the smoke management plan; visual monitoring, ambient particulate matter monitoring or other monitoring approved by the district, as required by the APCO for the following burn projects:

- a. Projects greater than 250 acres;
- b. Projects that will continue burning or producing smoke overnight;
- c. Projects conducted near smoke sensitive areas; or
- d. As otherwise required by the Air Pollution Control Officer.

- **For Multi-Day Burns:**

For multi-day burns which may impact smoke sensitive areas, the land manager or his/her designee, shall provide daily notification to the District and ARB to affirm that the burn project remains within the conditions specified in the smoke management plan, or whether contingency actions are necessary.

- **For Accidental or Natural Ignition Fires:**

For any accidental or naturally-ignited wildland fire managed for resource benefits that are expected to exceed 10 acres in size, the land manager or his/her designee, shall submit a smoke management plan to the District for review and approval within 72 hours of the start of a fire. For any accidental or natural ignition that 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:

- a. After consultation with the district, the district decides, for smoke management purposes, that the burn can be managed for resource benefit; or
- b. For periods of less than 24 hours, a reasonable effort has been made to contact the District, or if the District is not available, ARB;
- c. After 24 hours, the District has been contacted, or if the District is not available, the ARB has been contacted and concurs that the burn can be managed for resource benefit.
- d. 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.

### **3.0 Permissive Burn Days**

“Permissive-burn days” and “no burn days” for open outdoor burning will be determined by the California Air Resources Board (ARB) for the Great Basin Valleys Air Basin, which includes; Inyo, Mono and Alpine Counties. A permissive burn day will be declared when the following criteria area met:

- a. Near 4:00 a.m., the mean 500 mb height over the Great Basin Valleys Air Basin is less than the limiting mean height given in the Table 1.
- b. The expected 4:00 p.m. mean 500 mb height over the Great Basin Valleys Air Basin is less than the limiting mean height given in the Table 1.

**Table 1. Limiting Mean 500-Millibar Heights by Month**

<b>Month</b>	<b>Mean 500-mb Height (meters)</b>
<b>January</b>	<b>5750</b>
<b>February</b>	<b>5740</b>
<b>March</b>	<b>5740</b>
<b>April</b>	<b>5760</b>
<b>May</b>	<b>5800</b>
<b>June</b>	<b>5850</b>
<b>July</b>	<b>5880</b>
<b>August</b>	<b>5880</b>
<b>September</b>	<b>5870</b>
<b>October</b>	<b>5850</b>
<b>November</b>	<b>5810</b>
<b>December</b>	<b>5780</b>

**3.1 No Burn Days for High Fire Hazard Conditions**

Federal, State or local fire protection agencies in Inyo, Mono, or Alpine Counties may prohibit burning on days when weather and/or fuel moisture conditions create a potential wildfire risk. In this case, “no burn” day determinations declared by fire protection agencies over-rides permissive burn day determinations made by the ARB. The determinations are broadcast daily through the local radio stations and can be confirmed by calling the Owens Valley Interagency Control Center (dispatch) at (760) 873-2405.

**3.2 Permissive Burn Day Forecasts**

The ARB will provide a daily voice message that will be updated at 3:00 PM to declare the burn day status for the following day in the Great Basin Valleys Air Basin. This voice message can be obtained by calling (916) 445-0745.

Forty-eight (48), 72 and 96-hour burn day forecasts can be obtained by calling the ARB Meteorology Section at (916) 322-6014 and by submitting a request on the form in Attachment D. A 2 or 3 day forecast should be obtained from ARB for any prescribed burn that will involve significant resources and would cause a hardship if the burn were cancelled due to the no burn day status. Although the Air Pollution Control Officer may issue a special permit to conduct a prescribed burn on a “no burn” day as declared by the ARB, the permittee will be required to show good cause for granting the special permit, and the amount of material allowed to be burned may be limited by the APCO (see Attachment E and Rule 411.B.2).

### 3.3 Daily Burn Authorization

In order to minimize smoke impacts on smoke sensitive areas, avoid cumulative smoke impacts, and prevent public nuisance, the amount of prescribed burning may be limited on a daily basis or postponed if the APCO determines that air quality is expected to exceed State or federal air quality standards on the day of a proposed burn. The District will issue daily burn authorizations at least 24-hours prior to the burn, however, this authorization is subject to change if meteorological conditions, or conditions affecting smoke dispersion, or air quality are different from those that were anticipated.

The land manager or his/her designee shall contact the District office by calling (760) 872-8211, at least 3 days prior to any anticipated prescribed burn for burn projects that will be greater than 1 acre in area or emit more than 1 ton of PM-10 to receive a District daily burn authorization. If a wildfire or an approved burn project is within 25 miles of another approved burn project and is planned for the same day, the APCO may limit the amount of material to be burned, or require the postponement of a prescribed burn, considering 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; and
- f. Smoke from all burning activities, including burning in neighboring air districts or regions which may affect the district or region.

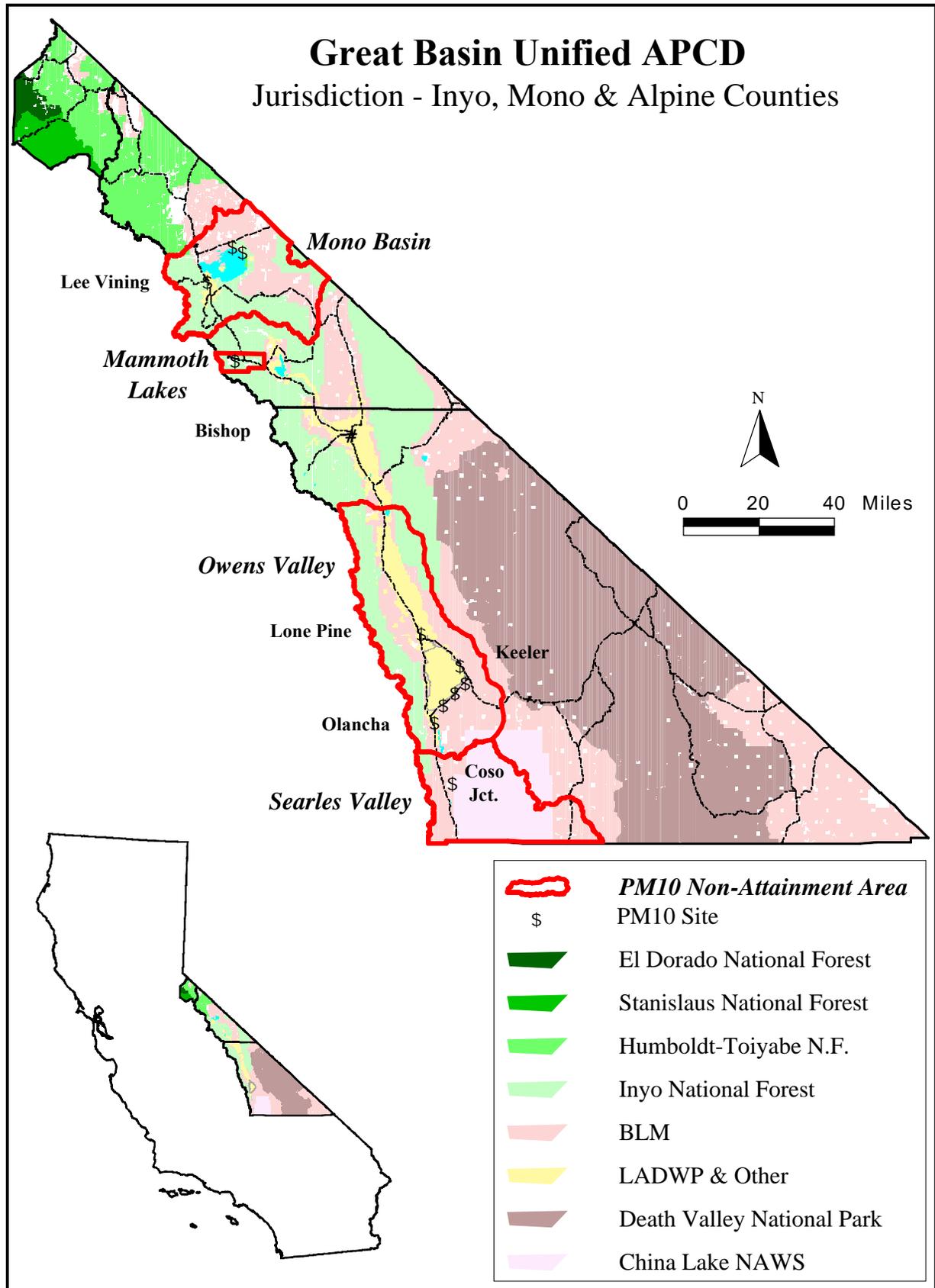
Considering the same factors, the APCO may also postpone prescribed burning activities on days when air quality is expected to exceed State or federal ambient air quality standards based on the District's ambient air monitoring network. This network currently includes meteorological towers, and particulate matter monitor sites at; Mono Lake, Lee Vining, Mammoth Lakes, Lone Pine, Keeler, Olancha and two other sites on the southeast side of Owens Lake (See Figure 1). All sites are monitored for PM-10 and meteorological data. Keeler also has a PM-2.5 sampler and Mammoth Lakes also has PM-2.5 and ozone samplers. Five of the sites have modem access to provide real-time hourly PM and meteorological data to aid in decision-making. The APCO will alert the signatories to the Smoke Management MOU if a suspension of prescribed burning activities is instituted based on poor air quality.

**4.0 District Smoke Management Program Tracking and Enforcement**

Land managers, fire protection personnel or the public may contact the APCO, Deputy APCO or the smoke management program coordinator at the District office (760) 872-8211 if there are any questions regarding the smoke management program or burn day authorizations. The APCO, DAPCO and two inspectors will be responsible for enforcement of all District regulations related to open outdoor fires and prescribed burning. Notices of violation issued for open outdoor fires or prescribed burning will be treated and settled in the same manner as all other District regulations.

The Smoke Management Program coordinator will ensure that the State of Nevada Department of Environmental Protection are advised of any prescribed burns that take place within 50 miles of Nevada. The program coordinator will also track prescribed burns and wildfires in the Sequoia, Kings Canyon and Yosemite National Parks, the Mountain Counties, Tahoe, Mojave Desert, and the San Joaquin Valley air basins. Fire tracking will be done by FAX and internet access to the Park Service and Forest Service fire websites. If requested, other agencies or the public will be advised of prescribed burns that take place in the District. An annual prescribed burning report summarizing the burn activities and the amount of material treated will be submitted to ARB at the end of each year.

Figure 1. Map of Great Basin Unified APCD



# **Attachment A**

## **Memorandum of Agreement for Smoke Management**

**MEMORANDUM OF AGREEMENT FOR SMOKE MANAGEMENT**

**BY AND BETWEEN THE**

**GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT,  
CALIFORNIA AIR RESOURCES BOARD,  
AND  
AGENCIES RESPONSIBLE FOR SMOKE MANAGEMENT  
AND FIRE PROTECTION**

This Memorandum of Agreement for Smoke Management (Agreement) has been entered into this seventh day of November, 2001, by and between the Great Basin Unified Air Pollution Controls District, hereinafter called "District," the California Air Resources Board, hereinafter called "ARB," and each of the fire management and protection agencies and authorities, hereinafter called "Fire Management Agencies," which are signatories to this Agreement.

WHEREAS, the District and the State of California have adopted regulations and guidelines for the management of smoke from all sources of open burning to protect populated areas from excessive smoke exposure and to prevent the violation of ambient air quality standards, and

WHEREAS, Fire Management Agencies conduct, or allow through the issuance of permits, prescribed and open burning for purposes such as, to dispose of forest debris from timber harvesting, to manage vegetation for range management and agricultural crops, to enhance wildlife habitat, and to reduce fire hazards and household rubbish,

NOW, THEREFORE, in recognition of these interests and mutual concerns, the District, the ARB, and the Fire Management Agencies hereby agree as follow:

- A. The Fire Management Agencies shall for the proposed burn locations where they have jurisdictional authority:
  - 1. Issue burn permits.
    - a. The burn permits shall contain the following words or words of similar import, "This permit is valid only on those days during which agricultural burning is not prohibited by the ARB or by the Air Pollution Control Officer pursuant to Section 41855 of the Health and Safety Code."

ATTACHMENT A – MEMORANDUM OF AGREEMENT FOR SMOKE MANAGEMENT

- b. Each applicant for a burn plan shall provide the information required by the issuing agency on forms prepared jointly by said agency and the District.
2. Submit annual or seasonal lists of the potential burn projects to the Air Pollution Control Officer, including areas considered for potential naturally-ignited wildland fires managed for resource benefits, with updates as they occur.
3. Submit burn plans to the District for those operations classified as forest management, range management or wildland vegetation management burning, as defined in District Rule 101 - Definitions.
  - a. Burn plans shall be submitted at least 30 days in advance of the date of the proposed burn for any burn greater than 1 acre in size or estimated to produce more than 1 ton of particulate matter.
  - b. Burn plans shall ensure compliance with District Rules 409 - Range Management Burning, 410 - Forest Management Burning, and 411 - Wildland Vegetation Management Burning.
4. Not conduct or allow burns on a 'No Burn Day' as announced by the State Air Resources Board (ARB), except when the Air Pollution Control Officer has authorized a specific project burn by special permit pursuant to District Rule 411.B.2, because the denial of such permit would threaten imminent and substantial economic loss.
5. Restrict burns to forecasted periods when the smoke plume will not impact any populated or smoke sensitive areas.
6. Contact the District whenever there is an unforeseen wind shift or other meteorological occurrence that results in a smoke plume moving into a sensitive area. Whenever such an event occurs, the Fire Management Agency shall minimize additional smoke generation through a cessation of fuel lighting to the extent possible. If such an occurrence transpires during non-business hours, the Fire Management Agency shall leave a phone message on the District recorder at (760) 872-8211.
7. Conduct burning and the issuance of permits in accordance with the conditions of this Agreement and the following District Regulations: Rule 101 - Definitions, Rule 406 - Open Outdoor Fires, Rule 409 - Range

ATTACHMENT A – MEMORANDUM OF AGREEMENT FOR SMOKE MANAGEMENT

Management Burning, Rule 410 - Forest Management Burning, and Rule 411 - Wildland Vegetation Management Burning.

8. Submit a smoke management plan to the District for review and approval within 72 hours of the start of a fire for any accidental or naturally-ignited wildland fire managed for resource benefits that are expected to exceed 10 acres in size. For any accidental or natural ignition that 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:
  - a. After consultation with the district, the district decides, for smoke management purposes, that the burn can be managed for resource benefit; or
  - b. For periods of less than 24 hours, a reasonable effort has been made to contact the District, or if the District is not available, ARB;
  - c. After 24 hours, the District has been contacted or, if the District is not available, the 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.

9. Submit reports in January of each year summarizing prescribed burning activities conducted by the Fire Management Agency in the last calendar year. Reports should include the date, location, fuel type, fuel loading, and total acres or tons of vegetation burned for each prescribed burn operation and wildfire.

B. The ARB shall:

1. Make daily decisions on “permissive-burn days” and “no burn days” for open outdoor burning for the purpose of air quality protection for the Great Basin Valleys Air Basin, which includes Inyo, Mono and Alpine Counties, and provide such information to the District, Fire Management Agencies and the public.
2. Provide 48, 72 and 96-hour forecasts for no burn day decisions to the District, Fire Management Agencies and the public upon request.

ATTACHMENT A – MEMORANDUM OF AGREEMENT FOR SMOKE MANAGEMENT

3. If the District staff is unavailable, make “go” or “no-go” decisions to manage any accidental or natural ignition that occurs on a no-burn day as a prescribed fire for resource benefit.

C. The District shall:

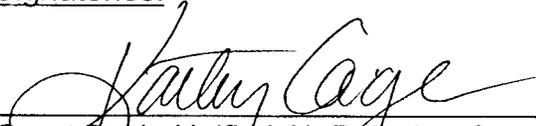
1. Issue “special burn permits” to allow a project burn on “No Burn Days” as announced by the ARB if:
  - a. The applicant, pursuant to District Rule 411.B.2, can show that the denial of such permit would threaten imminent and substantial economic loss; and
  - b. Methods such as acreage limitations or wind direction restrictions are employed to minimize the impact on sensitive receptors.
2. Review and approve burn plans and:
  - a. Within 30 days of receipt of a burn plan, provide comments on elements of the plan that must be revised to minimize the potential adverse air quality impacts.
  - b. Provide automatic District approval of the burn plans if written comments are not transmitted to the Fire Management Agency within 30 days of receipt of the burn plan.
3. Provide copies of smoke management plans to ARB no later than ten days prior to a burn for burns that are greater 250 acres or for burns that will occur over multiple days.
4. Consult with ARB 48 hours prior to a burn for burns that are greater 250 acres or for burns that will occur over multiple days.
5. Issue daily burn authorizations at least 24-hours prior to the burn.
6. Submit by February 14 of each year, as per Title 17, Section 80130, annual reports to the ARB summarizing agricultural burning operations, including prescribed burning, conducted in the District in the last calendar year.

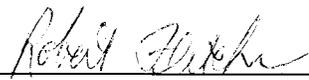
ATTACHMENT A – MEMORANDUM OF AGREEMENT FOR SMOKE MANAGEMENT

- D. The Fire Management Agencies, ARB and the District mutually agree that:
1. Nothing in this Agreement shall be construed as superseding, altering or otherwise modifying the intent or applicability of any rule, regulation, or ordinance of the District or the Fire Management Agencies.
  2. Enforcement actions for any violation of applicable regulations may be pursued by the District, the Fire Management Agency with jurisdiction, or if appropriate, jointly by both agencies.
  3. Any party hereto will have the right to terminate this Agreement with the other parties by giving 60 days notice in writing to each party to this Agreement. Unless so terminated, it shall remain in force through November 7, 2006, at which time it will expire or be renewed.
  4. This Agreement may be amended or supplemented by mutual agreement by the signers or their successors.
  5. The District, ARB and the Fire Management Agencies shall each designate a coordinator who will represent their respective agencies on matters of mutual interest.
  6. Other fire or smoke management agencies having jurisdiction in Inyo, Mono or Alpine Counties may become a party to this Agreement by signing this Agreement and sending a copy to the other signatories.
  7. Changes with the scope of this instrument shall be made by the issuance of an executed modification by all parties.
  8. Any information furnished to parties under this instrument is subject to the Freedom of Information Act (5 U.S. C. 552).
  9. This instrument is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement of contribution of funds between the parties to this instrument will be handled in accordance with applicable laws, regulations, and procedures.

ATTACHMENT A – MEMORANDUM OF AGREEMENT FOR SMOKE MANAGEMENT

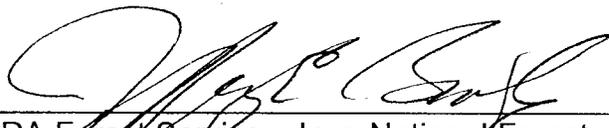
Signatories:

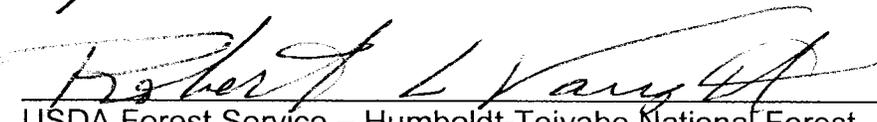
  
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Great Basin Unified Air Pollution Control District  
Kathy Cage, Board Chair  
Date 11/7/01

  
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California Air Resources Board  
Robert Fletcher, Chief, Planning & Technical Support Division  
Date 12/5/01

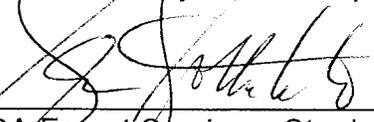
  
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U.S. Bureau of Land Management  
Steve Addington, Field Manager  
Date 10/29/01

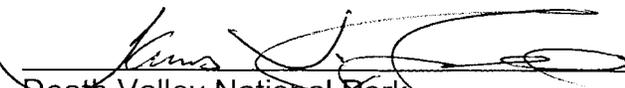
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California Department of Forestry and Fire Protection  
Date \_\_\_\_\_

  
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USDA Forest Service – Inyo National Forest  
Jeffrey E. Bailey, Forest Supervisor  
Date 10/29/01

  
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USDA Forest Service – Humboldt-Toiyabe National Forest  
Robert L. Vaught, Forest Supervisor  
Date 10/30/01

  
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USDA Forest Service – Eldorado National Forest  
John Berry, Forest Supervisor  
Date 3-20-2002

  
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USDA Forest Service – Stanislaus National Forest  
GLENN GOTTSCHALL, Deputy Forest Supervisor  
Date 10/29/01

  
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Death Valley National Park  
James T. Reynolds, Superintendent  
Date 10/26/01

# **Attachment B**

## **District Regulations for Open Outdoor Burning**

## **RULES AND REGULATIONS FOR THE GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT**

### **RULE 101. DEFINITIONS**

ADOPTED 9/05/74 REVISED 3/10/76, 10/01/76, 6/25/79, 2/09/81, 11/04/92, 5/08/96, 11/07/01

Except as otherwise specifically provided in these rules and except where the content otherwise indicates, words used in these rules are used in exactly the same sense as the same words are used in Part 1 of Division 26 of the Health and Safety Code.

#### **A. AGRICULTURAL BURNING**

1. "Agricultural burning" means open outdoor fires used in agricultural operations in the growing of crops or raising of fowl or animals, or open outdoor fires used in forest management, range improvement, or the improvement of land for wildlife and game habitat, or disease or pest prevention.
2. "Agricultural burning" also means open outdoor fires used in the operation or maintenance of a system for the delivery of water for the purposes specified in Subsection 1.
3. "Agricultural burning" also means open outdoor fires used in wildland vegetation management burning. Wildland vegetation management burning is 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, trees, grass, tule, or standing brush. Prescribed burning is the planned application of fire to vegetation to achieve any specific objective on lands selected in advance of that application. The planned application of fire may also include natural or accidental ignition.

#### **B. AGRICULTURAL OPERATION**

"Agricultural operation" means the growing of crops, the raising of fowl, animals or bees, as a gainful occupation.

#### **C. AGRICULTURAL WASTES**

"Agricultural wastes" are defined as unwanted or unsalvageable material produced wholly from agricultural operations directly related to the growing of crops or the raising of animals for the primary purpose of making a profit or for a livelihood. This also includes, for the purpose of cultural

practice burns, the burning of fence rows and ditch banks for weed control and weed maintenance and burning in nontillage orchards operations and of paper raisin trays, but does not include such items as shop wastes, demolition materials, garbage, oil filters, tires, pesticide containers (except paper pesticide containers), broken boxes, pallets, and other similar material, or orchard or vineyard wastes removed for land use conversion to non-agricultural purposes.

D. AIR CONTAMINANTS

"Air Contaminant" includes smoke, charred paper, dust colloids, soot, grime, carbon, noxious acid, noxious fumes, noxious gases, odors, or particulate matter, or any combination thereof.

E. ATMOSPHERE

"Atmosphere" means the air that envelopes or surrounds the earth. Where air contaminants are emitted into a building or structure not designed specifically as a piece of air pollution control equipment such emission into the building or structure shall be considered an emission into the atmosphere.

F. BOARD

"Board" means the Air Pollution Control Board of the Great Basin Unified Air Pollution Control District.

G. BRUSH TREATED

"Brush treated" means that the material to be burned has been felled, crushed or uprooted with mechanical equipment, has been desiccated with herbicides, or is dead.

H. BURN DAY

"Burn day," or "permissive-burn day" means any day on which agricultural burning, including prescribed burning, is not prohibited by the state board within the Great Basin Unified Air Pollution Control District and is authorized by the Air Pollution Control Officer consistent with District regulations related to open outdoor fires.

I. COMBUSTIBLE REFUSE

"Combustible Refuse" is any solid or liquid combustible waste material containing carbon in a free or combined state.

J. COMBUSTION CONTAMINANTS

"Combustion Contaminants" are solid or liquid particles discharged into the atmosphere from the burning of any kind of material containing carbon in a free or combined state.

K. DUSTS

"Dusts" are minute solid particles released into the air by natural forces or by mechanical processes such as crushing, grinding, milling, drilling, demolishing, blasting, shoveling, conveying, covering, bagging and sweeping or any combination thereof.

L. FLUE

"Flue" means any duct or passage for air, gases, or the like, such as a stack or chimney.

M. FOREST MANAGEMENT BURNING

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

1. "Timber Operations" means cutting or removal of timber or other forest vegetation.
2. "Silvicultural" means the establishment, development, care and reproduction of stands of timber.

N. FUMES

"Fumes" are minute solid particles generated by the condensation of vapors from solid matter after volatilization from the molten state, or generated by sublimation, distillation, calcination or chemical reaction, when these processes create air-borne particles.

O. HOUSEHOLD RUBBISH

"Household Rubbish" means combustible waste material and trash, including garden trash and prunings, normally accumulated by a family in a residence in the course of ordinary day to day living. Tires, oils and other petroleum products are excluded.

P. INCINERATOR

"Incinerator" means any furnace or other closed fire chamber used for the burning of combustible refuse from which the products of combustion are directed through a chimney or flue.

Q. MULTIPLE-CHAMBER INCINERATOR

"Multiple-chamber incinerator" is any article, machine, equipment, contrivance, structure or part of a structure used to dispose of combustible refuse by burning, consisting of three or more refractory lined combustion furnaces in series, physically separated by refractory walls, interconnected by gas passage ports or ducts and employing adequate design parameters necessary for maximum combustion of the material to be burned.

R. OIL-EFFLUENT WATER SEPARATOR

"Oil-effluent Water Separator" is any tank, box, sump or other container in which any petroleum or product thereof, floating on or entrained or contained in water entering such tank, box, sump or other container is physically separated and removed from such water prior to outfall, drainage, or recovery of such water.

S. OPEN OUTDOOR FIRE

"Open Outdoor Fire" means the burning or smoldering of any combustible material of any type outdoors in the open air, either inside or outside a fireproof container, where the products of combustion are not directed through a chimney or flue.

T. PARTICULATE MATTER

"Particulate matter (PM)" means any airborne finely divided material, except uncombined water, which exists as a solid or liquid at standard conditions (e.g., dust, smoke, mist, fumes or smog). "PM2.5" means particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers. "PM10" means particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers (including PM2.5).

U. PERSON

"Person" means any person, firm, association, organization, partnership, business trust, corporation, company contractor, supplier, installer, user, owner, or any Federal, State or local governmental agency or public district, or any officer, or employee thereof. "Person" also means the United States or its agencies, to the extent authorized by Federal Law.

V. PRESCRIBED BURNING

"Prescribed burning" means the planned application of fire to vegetation on lands selected in advance of such application, where any of the purposes of the burning are specified in the definition of agricultural burning as set forth in Health and Safety Code Section 39011.

W. PROCESS WEIGHT PER HOUR

"Process Weight" is the total weight of all materials introduced into any specific process which process may cause any discharge into the atmosphere. Solid fuels charged will be considered as part of the process weight, but liquid and gaseous fuels and combustion air will not. The "Process Weight per Hour" will be derived by dividing the total process weight by the number of hours in one cycle of operation from the beginning of any given process to the completion thereof, excluding any time during which the equipment is idle.

X. RANGE IMPROVEMENT BURNING

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

Y. REGULATION

"Regulation" means one of the major subdivisions of the rules of the Great Basin Unified Air Pollution Control Districts.

Z. RULE

"Rule" means a rule of the Great Basin Unified Air Pollution Control District.

AA. SECTION

"Section" means the section of the Health and Safety Code of the State of California, as amended, effective January 1, 1976, unless some other statute is specifically mentioned.

AB. SOURCE OPERATION

"Source Operation" means the last operation preceding the emission of an air contaminant for which the operation both:

1. Results in the separation of the air contaminant from the process materials or in the conversion of the process materials into air contaminants, as in the case of combustion of fuel; and
2. Is not an air pollution abatement operation.

AC. WILDLAND VEGETATION MANAGEMENT BURNING

"Wildland vegetation management burning" means 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, California Administrative Code, Section 1561.1), trees, grass, tule, or standing brush.

AD. NON-INDUSTRIAL WOOD WASTE

"Non-industrial wood waste" means wood waste from trees, vines and brush that is not produced as a result of an industrial process.

AE. OPEN BURN/OPEN DETONATION OPERATIONS (OB/OD)

"Open burn/open detonation operations" refers to the treatment of propellants, explosives, and pyrotechnics (PEP) at military bases. During "open burning," raw material mixes with air and burns at temperatures which can exceed 3500 degrees Kelvin and pressures greater than 1000 pounds per square inch absolute. The open burning process entails a rapid oxidation of some fuel with a heat release and formation of combustion products. The burning of waste munitions converts the solid materials to gaseous products and particulate matter. Open detonation produces temperatures and pressures that are considerably greater than open burning. Detonation is an explosion in which a chemical transformation passes through the material faster than the speed of sound.

AF. "Air quality" means the characteristics of the ambient air as indicated by state ambient air quality standards which have been adopted by the state board pursuant to section 39606 of the Health and Safety Code and by National Ambient Air Quality Standards which have been established pursuant to sections 108 and 109 of the federal Clean Air Act pertaining to criteria pollutants and section 169A of the federal Clean Air Act pertaining to visibility.

AG. "Ambient air" means that portion of the atmosphere, external to buildings, to which the general public has access.

- AH. “CARB,” “ARB” or “state board” means the California Air Resources Board.
- AI. “Burn plan” means an operational plan for managing a specific fire to achieve resource benefits and specific management objectives. The plan includes, at a minimum, the project objectives, contingency responses for when the fire is out of prescription with the smoke management plan, the fire prescription (including smoke management components), and a description of the personnel, organization, and equipment.
- AJ. “Burn project” means an active or planned prescribed burn or a naturally ignited wildland fire managed for resource benefits.
- AK. “Class I Area” means a mandatory visibility protection area designated pursuant to section 169A of the federal Clean Air Act.
- AL. “Fire protection agency” means any agency with the responsibility and authority to protect people, property, and the environment from fire, and having jurisdiction within a district or region.
- AM. “Land manager” means any federal, state, local, or private entity that administers, directs, oversees, or controls the use of public or private land, including the application of fire to the land.
- AN. “National Ambient Air Quality Standards (NAAQS)” mean standards promulgated by the United States Environmental Protection Agency that specify the maximum acceptable concentrations of pollutants in the ambient air to protect public health with an adequate margin of safety, and to protect public welfare from any known or anticipated adverse effects of such pollutants (e.g., visibility impairment, soiling, harm to wildlife or vegetation, materials damage, etc.) in the ambient air.
- AO. “No-burn day” means any day on which agricultural burning, including prescribed burning, is prohibited by the state board, or the Air Pollution Control Officer.
- AP. “Open burning in agricultural operations in the growing of crops or raising of fowl or animals” means:
1. The burning in the open of materials produced wholly from operations in the growing and harvesting of crops or raising of fowl or animals for the primary purpose of making a profit, of providing a livelihood, or of conducting agricultural research or instruction by an educational institution.

2. In connection with operations qualifying under paragraph 1:
    - a. The burning of grass and weeds in or adjacent to fields in cultivation or being prepared for cultivation.
    - b. The burning of materials not produced wholly from such operations, but which are intimately related to the growing or harvesting of crops and which are used in the field, except as prohibited by district regulations. Examples are trays for drying raisins, date palm protection paper, and fertilizer and pesticide sacks or containers, where the sacks or containers are emptied in the field.
- AQ. “Prescribed fire” means any fire ignited by management actions to meet specific objectives, and includes naturally-ignited wildland fires managed for resource benefits.
- AR. “Smoke Management Plan” means a document prepared for each prescribed fire by land managers or fire managers that provides the information and procedures required in Rule 411.
- AS. “Smoke sensitive areas” are populated areas and other areas where the Air Pollution Control Officer 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 mandatory Class I areas.
- AT. “State ambient air quality standards” means specified concentrations and durations of air pollutants which reflect the relationship between the intensity and composition of air pollution to undesirable effects, as established by the state board pursuant to Health and Safety Code section 39606.
- AU. “Wildfire” means an unwanted wildland fire.
- AV. “Wildland” means an area where development is generally limited to roads, railroads, power lines, and widely scattered structures. Such land is not cultivated (i.e., the soil is disturbed less frequently than once in 10 years), is not fallow, and is not in the United States Department of Agriculture (USDA) Conservation Reserve Program. The land may be neglected altogether or managed for such purposes as wood or forage production, wildlife, recreation, wetlands, or protective plant cover. “Wildland” also means any lands that are contiguous to lands classified as a state responsibility area if wildland fuel accumulation is such that a wildland fire occurring on these lands would pose a threat to the adjacent

- state responsibility area. For California Department of Forestry (CDF) only, “Wildland” as specified in California Public Resources Code (PRC) section 4464(a) means any land that is classified as a state responsibility area pursuant to article 3 (commencing with section 4125) of chapter 1, part 2 of division 4 and includes any such land having a plant cover consisting principally of grasses, forbs, or shrubs that are valuable for forage.
- AW. “Wildland fire” means any non-structural fire, other than prescribed fire, that occurs in the wildland. For CDF only, “wildland fire” as specified in PRC section 4464(c) means any uncontrolled fire burning on wildland.
- AX. “Wildland/urban interface” means the line, area, or zone where structures and other human development meet or intermingle with the wildland.

## RULE 405. EXCEPTIONS

ADOPTED 9/05/74 REVISED 3/10/76, 5/08/96, 11/07/01

Rules 400, 404-A and 404-B do not apply to:

- A. Fire set by or permitted by a public officer if such fire is set or permission given in the performance of an official duty of such officer, and such fire, in the opinion of such officer, is necessary:
  - 1. For the purpose of the prevention of a fire hazard which cannot be abated by other means, or
  - 2. The instruction of public employees in the methods of fighting fire.
- B. Fires set pursuant to a permit on property used for industrial purposes for the purpose of instruction of employees in methods of fighting fire.
- C. Agricultural operations necessary in the growing of crops or raising of fowls or animals, or
- D. The use of an orchard, field crop, or citrus grove heater which does not produce unconsumed, solid carbonaceous matter at a rate in excess of that allowed by State law.
- E. The use of other equipment in agricultural operations necessary in the growing of crops, or raising of fowls, or animals.
- F. The treatment of waste propellants, explosives and pyrotechnics (PEP) in open burn/open detonation operations on military bases for operations approved in accordance with a burn plan as required in Rule 432.
- G. Burning of materials for the purpose of creating special effects during production of commercial or educational films, videos or photographs.
- H. Disposal of contraband (confiscated controlled substances) by burning.
- I. Recreational or ceremonial fires contained in a fireplace, barbeque, or fire pit.
- J. A fire set for the purpose of eliminating a public health hazard that cannot be abated by any other practical means.

## RULE 406. OPEN OUTDOOR FIRES

ADOPTED 1/21/76 REVISED 10/01/76, 11/04/92, 11/07/01

A person shall not burn any combustible refuse in any open outdoor fire within the boundaries of the Great Basin Unified Air Pollution Control District, except:

- A. When such fire is set or permission for such fire is given in the performance of the official duty of any public officer, and such fire in the opinion of such officer is necessary:
  - 1. For the purpose of the prevention of a fire hazard which cannot be abated by other means, or
  - 2. The instruction of public employees, or public volunteers under the supervision of a public officer, in the methods of fighting fire.
- B. When such fire is set pursuant to permit on property used for industrial purposes for the purpose of instruction of employees in methods of fighting fires.
- C. Agricultural fires necessary to maintain and continue an agricultural operation set or permitted by a fire official having jurisdiction in the performance of official duty for the purposes of:
  - 1. Control and disposal of agricultural wastes.
  - 2. Range improvement burning.
  - 3. Forest management burning.
  - 4. Fires set in the course of any agricultural operation in the growing of crops, or raising of fowls or animals.
  - 5. Abatement of an immediate health hazard.
  - 6. Wildland vegetation management burning.
- D. On burn days as declared by the State Air Resources Board and pursuant to a valid burn permit as authorized by the Great Basin Unified Air Pollution Control District, fires for the disposal of household rubbish of a single or two family dwelling on its premises.
- E. Fires used only for the cooking of food for human beings or for recreational purposes.

- F. Fires, on burn days as declared by the State Air Resources Board and pursuant to a valid burn permit as authorized by the Great Basin Unified Air Pollution Control District, for the clearing of rights-of-way by a public entity or public utility where access by chipping equipment is not available by existing means or for reservoir maintenance.
- G. Except in case of emergency, permits for the setting of a fire or fires permitted by this rule shall be granted by the Air Pollution Control Officer, or by the public fire official having jurisdiction over the proposed burn location.
- H. When such fire is set for the purpose of burning non-industrial wood waste pursuant to a valid permit as authorized by the Great Basin Unified Air Pollution Control District under District Rule 412.
- I. Burning of materials for the purpose of creating special effects during production of commercial or educational films, videos or photographs. Such burn events cannot pose a public nuisance or health threat, or cause an exceedance of National or State ambient air quality standards.
1. Any person seeking to set fires under this provision shall obtain a valid burn permit from the local fire protection agency.
  2. To gain an exemption, the following information shall be submitted to the District in writing at least 10 days in advance of the burn: ;
    - a. Location of proposed burn,
    - b. Date and approximate time of proposed burn,
    - c. Type and volume of material to be burned, and
    - d. Expected duration of proposed burn.
  3. The burner shall notify the APCO the day before each burn.
  4. Permission to burn on other than a permissive burn day shall be subject to written approval by the APCO. If the APCO grants written approval, such approval shall be available at the burn location for inspection by District personnel.
- J. Disposal of contraband (confiscated controlled substances) by burning. Such fire must be set and tended by official law enforcement personnel and must have been deemed not disposable by any other means by such officials. Prior to such burns, the District shall be informed of the place, date and time of the burn, and type and quantity of contraband to be disposed.

1. Any person seeking to set fires under this provision shall obtain a valid burn permit from the local fire protection agency.
  2. The burner shall notify the APCO the day before each burn.
  3. Permission to burn on other than a permissive burn day shall be subject to written approval by the APCO. If the APCO grants written approval, such approval shall be available at the burn location for inspection by District personnel.
- K. Recreational or ceremonial fires contained in a fireplace, barbeque, or fire pit, provided material burned is free of household, municipal, and industrial waste, such as; tires, tar, plastics and wet wood.
- L. A fire set for the purpose of eliminating a public health hazard that cannot be abated by any other practical means.
1. Any person seeking to set fires under this provision shall obtain a valid burn permit from the local fire protection agency.
  2. To gain an exemption, the following information shall be submitted to the District in writing at least 10 days in advance of the burn:
    - a. Written recommendation for such fire by a public health officer,
    - b. Location of proposed burn,
    - c. Date and approximate time of proposed burn,
    - d. Type and volume of material to be burned, and
    - e. Expected duration of proposed burn.
  3. The burner shall notify the APCO the day before each burn.
  4. Permission to burn on other than a permissive burn day shall be subject to written approval by the APCO. If the APCO grants written approval, such approval shall be available at the burn location for inspection by District personnel.

## RULE 407. INCINERATOR BURNING

ADOPTED 9/05/74

A person shall not burn any combustible refuse in any incinerator, except in a multiple-chamber incinerator as described in Rule 101(n), or in equipment found by the Air Pollution Control Officer in advance of such use to be equally effective for the purpose of air pollution control as an approved multiple-chamber incinerator.

This rule shall not apply to incinerators used to burn only household rubbish and yard trimmings and brush of a single or two-family dwelling on its premises on authorized burn days.

## RULE 408. OPEN BURNING IN AGRICULTURAL OPERATIONS OR DISEASE OR PEST PREVENTION

ADOPTED 9/05/74 REVISED 3/10/76, 6/25/79, 7/01/92, 11/04/92, 11/07/01

- A. No person shall burn agricultural wastes on "no burn" days as announced by the State Air Resources Board for the Counties of Inyo, Mono, and Alpine or when prohibited by the Air Pollution Control Officer.
- B. Such burning when authorized shall conform to the following criteria:
1. Material to be burned shall be as dry as feasible prior to burning, and shall be free from combustible impurities such as tires, tar paper, rubbish, plastics, demolition or construction debris, and shall be reasonably free of dirt, soil, and visible surface moisture.
  2. Trees and branches over two inches in diameter shall have been dried for at least 10 days prior to burning.
  3. Branches under two inches in diameter and prunings shall have been dried for at least 1 week prior to burning.
  4. Wastes from field crops that are cut in a green condition shall have been dried for at least 1 week prior to burning.
  5. Exceptions to the foregoing may be made by the fire authority which issues the permits to burn, after notification to the Air Pollution Control Officer, and if the material to be burned is diseased or insect infested and there would be irreparable damage if the foregoing standards were rigidly enforced.
  6. Material to be burned shall be so arranged as to burn with a minimum of smoke.

7. All burning shall conform to the applicable jurisdictional fire code(s).
  8. Rice, barley, oat, and wheat straw shall be ignited only by stripfiring into the wind or by backfiring, except under a special permit of the district issued when and where extreme fire hazards are declared by a public fire protection agency to exist, or where crops are determined by the district not to lend themselves to these techniques.
- C. The use of oil or tires in connection with the ignition or burning of agricultural wastes, roadsides, ditch banks, or patches of vegetation is prohibited.
- D. No agricultural wastes shall be burned without a permit issued by a fire protection authority having jurisdiction over the proposed burn location. As a condition to the issuance of a permit, each applicant shall provide the information required by the issuing agency on forms prepared jointly by said agency and the District. The permit may place a limit upon the amount of materials to be burned in any one day and the hours of the day during which time the material may be burned. Further, the form of this permit shall contain the following words or words of similar import: 'This permit is valid only on those days during which agricultural burning is not prohibited by the State Air Resources Board or by the Air Pollution Control Officer pursuant to Section 41855 of the Health and Safety Code.'
- E. Burning shall be curtailed when smoke is drifting into a populated area or creating a public nuisance.
- F. Burning hours shall be set so that no field crop burning shall commence before 10:00 a.m. or after 5:00 p.m. of any day, unless the Air Pollution Control Officer determines that local conditions indicate that other hours are appropriate.

#### RULE 409. RANGE IMPROVEMENT BURNING

ADOPTED 3/10/76 REVISED 10/01/76, 7/01/92, 11/07/01

- A. No range improvement burning may be done without first having obtained a permit from the California Department of Forestry and Fire Protection or other designated agency having jurisdiction over the proposed burn location. The form of this permit shall contain the following words or words of similar import: 'This permit is valid only on those days during which agricultural burning is not prohibited by the State Air Resources Board or by the Air Pollution Control Officer pursuant to Section 41855 of the Health and Safety Code.'

- B. Range improvement burning, when permitted, shall comply with all the provisions of this rule and all the provisions for wildland vegetation management burning in wildland and wildland/urban interface areas under District Rule 411.
- C. Range improvement burning when permitted shall conform to the following criteria:
  - 1. Where economically and technically feasible, brush shall be treated by chemical or mechanical means at least 6 months prior to a proposed burn, to kill or uproot the brush in order to insure rapid combustion.
  - 2. Unwanted trees over 6" in diameter in the burn area or those not effectively treated at the time of the brush treatment shall be felled at least 3 months prior to the burn, but a longer time may be required where conditions warrant.

#### RULE 410. FOREST MANAGEMENT BURNING

ADOPTED 9/05/74 REVISED 3/10/76, 7/01/92, 11/07/01

- A. No forest management burning may be done without first having obtained a permit from the California Department of Forestry and Fire Protection or other designated agency having jurisdiction over the proposed burn locations. The form of this permit shall contain the following words or words of similar import: 'This permit is valid only on those days during which agricultural burning is not prohibited by the State Air Resources Board or by the Air Pollution Control Officer pursuant to Section 41855 of the Health and Safety Code.'
- B. Forest management burning, when permitted, shall comply with all the provisions of this rule and all the provisions for wildland vegetation management burning in wildland and wildland/urban interface areas under District Rule 411.
- C. Forest management burning, when permitted, shall conform to the following criteria:
  - 1. Waste shall be dried sufficiently to insure rapid combustion.

2. Where possible, unless good management dictates otherwise, waste to be burned shall be windrowed or piled so as to burn with a minimum of smoke.

#### RULE 411. WILDLAND VEGETATION MANAGEMENT BURNING IN WILDLAND AND WILDLAND/URBAN INTERFACE AREAS

ADOPTED 9/05/74 REVISED 3/10/76, 7/01/92, 11/07/01

- A. No wildland vegetation management burning may be done without first having obtained a permit from the California Department of Forestry and Fire Protection or other designated agency having jurisdiction over the proposed burn locations. The form of this permit shall contain the following words or words of similar import: 'This permit is valid only on those days during which agricultural burning is not prohibited by the State Air Resources Board or by the Air Pollution Control Officer pursuant to Section 41855 of the Health and Safety Code.'
- B. No person shall conduct wildland vegetation management burning on "no burn" days as announced daily by the State Air Resources Board for the Inyo, Mono and Alpine Counties or when such burning is prohibited by the Air Pollution Control Officer except when the Air Pollution Control Officer has authorized, by special permit pursuant to Section 80120, California Code of Regulations (CCR), Title 17, agricultural burning on days designated by the State Air Resources Board as no-burn days because the denial of such permit would threaten imminent and substantial economic loss. In authorizing such burning the Air Pollution Control Officer shall limit the amount of acreage which can be burned in any one day and only authorize burning when downwind populated areas are forecasted by the State Air Resources Board to achieve the ambient air quality standards. Every applicant for a permit to burn agricultural waste pursuant to this section shall provide information in writing to the Air Pollution Control Officer for evaluation, stating why the denial of such a permit would threaten imminent and substantial economic loss.
- C. Wildland vegetation management burning, when permitted, shall conform to the following criteria:
  1. The land manager, or his/her designee, shall annually or seasonally submit a potential list of burn projects to the Air Pollution Control Officer, including areas considered for potential naturally-ignited wildland fires managed for resource benefits, with updates as they occur.

2. For burn projects greater than 1 acre in size or estimated to produce more than 1 ton of particulate matter, the land manager, or his/her designee, shall submit a smoke management plan to the Air Pollution Control Officer for review and approval at least 30 days in advance of the proposed burn project, containing at a minimum, the following information:
  - a. Location, types, and amounts of material to be burned;
  - b. Expected duration of the fire from ignition to extinction;
  - c. Identification of responsible personnel, including telephone contacts;
  - d. Identification and location of all smoke sensitive areas; and
  - e. procedures for public notification and education, including appropriate signage at burn sites, and for reporting of public smoke complaints.
  
3. For burn projects greater than 100 acres in size or estimated to produce more than 10 tons of particulate matter contain, at a minimum, the land manager, or his/her designee, shall submit a smoke management plan to the Air Pollution Control Officer for review and approval at least 30 days in advance of the proposed burn project, containing all the information in subsection 2 and the following additional information:
  - a. Identification of meteorological conditions necessary for burning.
  - b. The smoke management criteria the land manager or his/her designee will use for making burn ignition decisions.
  - c. Projections, including a map, of where the smoke from burns are expected to travel, both day and night.
  - d. Specific contingency actions (such as fire suppression or containment) that will be taken if smoke impacts occur or meteorological conditions deviate from those specified in the smoke management plan.
  - e. An evaluation of alternatives to burning considered; if an analysis of alternatives has been prepared as part of the environmental documentation required for the burn project pursuant to the National Environmental Policy Act (NEPA) or the California Environmental Quality Act (CEQA), as applicable, the analysis shall be attached to the smoke management plan in satisfaction of this requirement.
  - f. Discussion of public notification procedures.
  
4. If smoke may impact smoke sensitive areas, the land manager, or his/her designee, shall include in the smoke management plan; visual monitoring, ambient particulate matter monitoring or other

monitoring approved by the district, as required by the Air Pollution Control Officer for the following burn projects:

- a. Projects greater than 250 acres;
  - b. Projects that will continue burning or producing smoke overnight;
  - c. Projects conducted near smoke sensitive areas; or
  - d. As otherwise required by the Air Pollution Control Officer.
5. For multi-day burns which may impact smoke sensitive areas, the land manager or his/her designee, shall provide daily notification to the District and the CARB to affirm that the burn project remains within the conditions specified in the smoke management plan, or whether contingency actions are necessary.
6. For any natural ignition that 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:
- a. After consultation with the district, the district decides, for smoke management purposes, that the burn can be managed for resource benefit; or
  - b. For periods of less than 24 hours, a reasonable effort has been made to contact the district, or if the district is not available, the ARB;
  - c. After 24 hours, the District has been contacted, or if the District is not available, the 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.

7. For any naturally-ignited wildland fire managed for resource benefits that are expected to exceed 10 acres in size, the land manager or his/her designee, shall submit a smoke management plan to the District for review and approval within 72 hours of the start of a fire.
8. The land manager or his/her designee, shall 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.
9. For burn projects greater than 250 acres, the land manager or his/her designee shall perform a post-burn smoke management evaluation.

10. Vegetation shall be in a condition that will minimize the smoke emitted during combustion when feasible, considering fire safety and other factors.
  11. Material to be burned shall be piled where possible, unless good silvicultural practices or ecological goals dictate otherwise.
  12. Piled material to be burned shall be prepared so that it will burn with a minimum of smoke.
  13. The burn plan applicant shall file with the District a statement from the Department of Fish and Game certifying that the burn is desirable and proper if the burn is to be done primarily for improvement of land for wildlife and game habitat. The Department of Fish and Game may specify the amount of brush treatment required, along with any other conditions it deems appropriate.
  14. Burn plans shall limit burning or require mitigation when the meteorological conditions could otherwise cause smoke to create or contribute to an exceedance of a state or federal ambient air quality standard or cause a public nuisance.
  15. Vegetation to be burned shall be free of tires, rubbish, tar paper or construction debris, and reasonably free of dirt and soil.
  16. The material to be burned shall be ignited only by devices approved by the California Department of Forestry and Fire Protection, or the local fire protection agency, and ignition shall be as rapid as practicable within applicable fire control restrictions.
  17. Prescribed burning shall not be allowed on Sundays, the last Saturday in April, or legal holidays, except for multi-day burns that cannot be reasonably treated on other days.
  18. All burning shall conform to the applicable jurisdictional fire code(s).
  19. Burning shall be curtailed when smoke is drifting into a populated area or creating a public nuisance.
- D. The total amount of material burned in any one day, may be limited by the District, taking into consideration matters which would affect the ambient air quality of the District.

**RULE 412 OPEN BURNING OF NON-INDUSTRIAL WOOD WASTE AT CITY OR COUNTY DISPOSAL SITES**

ADOPTED 9/05/74 REVISED 2/09/81, 11/04/92

- A. No person shall burn non-industrial wood waste on "no-burn" days as announced by the State Air Resources Board for the Counties of Inyo, Mono, and Alpine or when prohibited by the Air Pollution Control Officer.
  
- B. Burning of non-industrial wood waste at city or county disposal sites shall be restricted to sites above 1,500 feet (above mean sea level), that have been approved for such burning by the Air Pollution Control Officer (APCO) and the California Air Resources Board. Approval shall be based upon the submittal of written documentation for each site which shall include:
  - 1. A copy of the resolution by the applicable city council or county board of supervisors declaring their intention to allow burning at designated sites.
  - 2. The estimated tonnage and type of material to be burned at each site with the estimated criteria pollutant emissions, broken down by month for a one year period and an analysis of air quality trends showing that the proposed burns will not prevent the achievement or maintenance of the ambient air quality standards.
  - 3. Location and elevation of the sites to be used for burning.
  - 4. A copy of a written statement by the owner of the land on which the disposal site is located approving the burn on such land.
  - 5. Written approval of the fire protection agency having authority over the proposed burn site.
  - 6. A statement explaining why burning at the disposal site will not create a nuisance. This shall include consideration for the site's proximity to population centers and the prevailing wind pattern.
  - 7. A statement indicating who is responsible to verify that only non-industrial wood waste is burned and how often inspections shall be made at each site.
  
- C. Such burning when authorized shall conform to the following criteria:
  - 1. Material to be burned shall be as dry as feasible prior to burning, and shall be free from combustible impurities such as tires, tar paper,

- rubbish, plastics, demolition or construction debris, and shall be reasonably free of dirt, soil, and visible surface moisture.
2. Trees and branches over two inches in diameter shall have been dried for at least 10 days prior to burning.
  3. Branches under two inches in diameter and prunings shall have been dried for at least 1 week prior to burning.
  4. Exceptions to the foregoing may be made by the fire authority which issues the permits to burn, after notification to the Air Pollution Control Officer, and if the material to be burned is diseased or insect infested and there would be irreparable damage if the foregoing standards were rigidly enforced.
  5. Material to be burned shall be so arranged as to burn with a minimum of smoke.
  6. All burning shall conform to the applicable jurisdictional fire code(s).
- D. The use of oil or tires in connection with the ignition or burning of non-industrial wood wastes is prohibited.
- E. No non-industrial wood waste shall be burned without a permit issued by a fire protection authority having jurisdiction over the proposed burn location. As a condition to the issuance of a permit, each applicant shall provide the information required by the issuing agency on forms prepared jointly by said agency and the District. The permit may place a limit upon the amount of materials to be burned in any one day and the hours of the day during which time the material may be burned. Further, the form of this permit shall contain the following words or words of similar import: 'This permit is valid only on those days during which agricultural burning is not prohibited by the State Air Resources Board or by the Air Pollution Control Officer pursuant to Section 41855 of the Health and Safety Code.'
- F. Burning shall be curtailed when smoke is drifting into a populated area or creating a public nuisance. If smoke from a particular site repeatedly drifts into a populated area or causes a nuisance, the APCO will revoke approval for that site.
- G. The total amount of material burned in any one day, may be limited by the District, taking into consideration matters which would affect the ambient air quality of the District.

# **Attachment C**

## **Example Form**

### **for Smoke Management Plan**

# GREAT BASIN UNIFIED APCD APPLICATION TO APPROVE SMOKE MANAGEMENT PLAN

In accordance with the Smoke Management Program for the Great Basin Unified Air Pollution Control District (Air District), this Smoke Management Plan (SMP) serves as an application for SMP approval to comply with Air District Rule 411.C. This SMP application is to be completed by the applicant and submitted to the Air District for review and approval at least 30 days prior to performing the proposed prescribed burn. This SMP application consists of a Project Description page and two sections – A and B. **ALL APPLICANTS MUST COMPLETE THE PROJECT DESCRIPTION PAGE (page 3).** Both sections A and B of the SMP (**pages 5-9**) 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 Air District, this SMP serves as a conditional approval 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 Air District's Rule 101 or the California Code of Regulations (CCR), Title 17, Section 80101. Where differences occur, the Air District's definitions apply. **Emission Factors** to assist with calculating burn particulate matter emissions are provided on **pages 11 and 12**. Contact the Air District at (760) 872-8211 if you have questions or need assistance with making these calculations.

The **District Review (page 2)** is for Air District use only, but must be kept intact with the Project Description. The **Project Description** section (**pages 3 and 4**) requests general information and identifies conditions for all prescribed burn projects. It identifies the applicant 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 applicant or authorized representative, and the applicant or authorized representative's signature.

**Section A (pages 5-7)** must be completed and attached to the Project Description page 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 the 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). Class I Areas in, or near, the Great Unified APCD include; South Sierra Wilderness, John Muir Wilderness, Ansel Adams Wilderness, Mokelumne Wilderness, Yosemite National Park, Kings Canyon National Park, and Sequoia National Park.

**Section B (pages 8 and 9)** must be completed and attached to the Project Description page 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 10**. This form is to be used for burns greater than 250 acres or for burns that result in impacts to smoke sensitive areas. It should be filled out after the burn, as appropriate.

Information may need to be extracted from the project burn plan (if available) to supplement the SMP. Air District review of the burn plan is for informational purposes only. When the burn plan is reviewed, the Air District assumes no approval authority or liability for approving the burn plan. The applicant 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 Air District has authorized the burn for the day of the burn. [Note: CCR § 80120(e) and Air District Rule 411.B.2 provide that the 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.]

### 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
- ◆ 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
- ◆ 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, CCR §1561.1), trees, grass, or standing brush.

### Determination of Smoke Sensitive Areas

Smoke sensitive areas are defined as “populated areas and other areas where the Air Pollution Control Officer (APCO) 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. If a burn is near a populated area, 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 to Report Public Smoke Complaints to the Air District (CCR § 80160(l))

1. The applicant shall immediately report any air quality smoke complaints received about this burn project to the Air District. A phone call to the District during normal seasonal business hours will suffice. During non-business hours a fax or voicemail message will suffice [(760) 872-6109 (fax), 872-8211 (voice)].
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 applicant 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 applicant shall, in coordination with the Air District, seek resolution for all complaints, as necessary.

**Natural Ignition on a No-burn Day (CCR § 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, the 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.

**Holidays and Sundays Are No Burn Days for Prescribed Burning in the Great Basin Unified APCD (District Rule 411.C.17)**

Prescribed burning is not allowed on Sundays, the last Saturday in April, or legal holidays, except for multi-day burns that cannot be reasonably treated on other days.

**FOR GREAT BASIN UAPCD REVIEW**  
**(For District Use Only)**

\_\_\_ I have reviewed and approved this SMP as a conditional approval, 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 impact the following non-attainment or maintenance areas:

\_\_\_\_\_  
\_\_\_\_\_

Conditions of Approval:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name: \_\_\_\_\_

**SMP Project Description**  
 (Complete This Page for ALL PRESCRIBED BURNS)1

<p><b>1.1 Project Name:</b> _____</p>	<p><b>Project Location: Report at least one of the following location descriptions and attach a map indicating the project location.</b></p> <p><b>1.8a Legal:</b> T ___ R ___ S ___ M&amp;B ___</p> <p><b>1.8b Lat/Long:</b>                  Latitude ___ (deg.) ___ (min) ___ (sec)                  Longitude ___ (deg.) ___ (min) ___ (sec)</p> <p><b>1.8c UTM: Zone:</b> ___ N ___ m, E ___ m</p>
<p><b>1.2 Applicant Name:</b> _____</p> <p><b>1.3 Applicant Address:</b>                  Street: _____                  City: _____                  State: _____ Zip: _____</p>	
<p><b>1.4 Applicant/Field Contact:</b> _____</p>	
<p><b>1.5 24-hour Phone/Pager:</b> _____</p>	<p><b>1.9 Project Elevation (feet above msl)</b>                  Upper: _____ Lower: _____</p>
<p><b>1.6 Project Location (Counties):</b> _____</p>	<p><b>1.10 Land Owner</b>                  Name: _____                  Street: _____                  City: _____ State: _____ Zip: _____</p>
<p><b>1.7 Nearest Town(s):</b> _____</p>	

- 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
- 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 7-8 for assistance with emissions calculation)
- 1.21 Emission Factor Table Used or EPA-Approved Calculation Method: \_\_\_\_\_
- 1.22 Preferred Ignition Hours for the Fire: \_\_\_\_\_
- 1.22 Expected Burn Duration (ignition to complete extinction):  
 Total Time: \_\_\_\_\_ (hours or days)
- 1.23 Fuel Drying Time and Conditions prior to ignition: \_\_\_\_\_
- 1.24 Limitations on Pile Size, Pile Number, and/or Acreage Limitations to Minimize Smoke (complete as appropriate): \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**It is the responsibility of the applicant to ensure that conditions of the SMP are met on the day of the burn. The applicant will obtain authorization to burn from the Air District contact listed below**

**Agenda Item No. 3 - Attachment 2a**

1 If your burn is less than 1-acre with less than one ton particulate matter emissions, and your burn will not impact any smoke sensitive areas, you may complete only this page. Attach appropriate SMP sections for all other burns.

**no more than 24 hours prior to ignition.2**

<b>1.26 Air District:</b> Great Basin Unified APCD	<b>1.28 Contact:</b>
<b>1.27 Address:</b> 157 Short Street	<b>1.29 24-hour Telephone:</b> (760) 872-8211
Bishop, California 93514	<b>1.30 Fax:</b> (760) 872-6109
	<b>1.31 Email:</b> greatbasin@qnet.com

The applicant will report public smoke complaints to the Air District per the procedures described in the General Information section of this SMP on page 1.

**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 (print): \_\_\_\_\_

Title: \_\_\_\_\_

Preparer’s Phone: (\_\_\_\_\_) \_\_\_\_\_ - \_\_\_\_\_

Preparer’s Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Authorized Representative in Control of the Property,  
if applicable (print): \_\_\_\_\_

Applicant or Authorized  
Representative Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**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 applicant 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 applicant will use the frequency and method of contact described below:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The applicant 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):**

<u>Method</u>	<u>Details</u>
____ 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.9 Smoke Behavior Observations:**

<u>Method</u>	<u>Details</u>
____ 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 applicant 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 applicant 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 applicant 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 applicant 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, Sections A.9 and A.10 describe the site monitoring requirements.

**Post-Burn Evaluation  
For Burns Greater Than 250 Acres  
or Burns For Which Complaints or 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 any 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 any 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 PM-10 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 <sup>a</sup> multiplied by 30 lbs/cu.ft, multiplied by 0.2 packing ratio <sup>b</sup>		
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)<sup>2</sup>]/8 (see Reference 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<sup>1,2</sup>**

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 <sup>1</sup>	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) =	_____
<b>Sum Total of the Estimated PM10 for the project in <u>tons/project</u></b>				<b>= _____</b>

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.

## 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	%Combustion	PM Emissions (lbs/ton fuel)	Conversion Factor	PM EMISSION VALUE (PM10 ions emissions/ton fuel)
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.

# **Attachment D**

## **Example ARB Form for Controlled Burn (CB) Notices (24, 48, 72 and 96-hour)**

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

Air Resources Board  
 Planning and Technical Support Division  
**Meteorology Section**  
 P.O. Box 2815  
 Sacramento, CA 95812

**Name of Burn:** \_\_\_\_\_  
**Organization doing burn:** \_\_\_\_\_  
**Natural Ignition (FURB?)** Yes / No \_\_\_\_\_  
 Active during Month: \_\_\_\_\_ Year: \_\_\_\_\_  
 Burn Window - Start: \_\_\_\_\_ End: \_\_\_\_\_

County: \_\_\_\_\_ Mean Elevation (ft.): \_\_\_\_\_ Overnight? Yes / No \_\_\_\_\_  
 District: \_\_\_\_\_ Min. Elevation (ft.): \_\_\_\_\_ Total Acres: \_\_\_\_\_ Tons/Acre: \_\_\_\_\_  
 Air Basin: \_\_\_\_\_ Max. Elevation (ft.): \_\_\_\_\_ Acres/Day: \_\_\_\_\_ Percent treated: \_\_\_\_\_  
**Meridian:** Humboldt / Mt. Diablo / San Bernardino **Latitude:** \_\_\_\_\_ **Longitude:** \_\_\_\_\_  
**Location(s):** T \_\_\_\_\_ R \_\_\_\_\_ Section(s) \_\_\_\_\_ T \_\_\_\_\_ R \_\_\_\_\_ Section(s) \_\_\_\_\_

Location of nearest sensitive area(s): \_\_\_\_\_ is \_\_\_\_\_ / \_\_\_\_\_ (miles/direction) from the burn,  
 \_\_\_\_\_ is \_\_\_\_\_ / \_\_\_\_\_ (miles/direction) from the burn.

**Special Circumstances:** Multi-day \_\_\_\_ [no. of days? \_\_\_\_] Large (>250 acres) \_\_\_\_ ARB SMP Approval \_\_\_\_\_

Comments (prescription/burn window/notification/etc.): \_\_\_\_\_

**District Contact's Telephone Number:** ( ) \_\_\_\_\_ - \_\_\_\_\_ & **Date Smoke Mgmt Plan Reviewed:** \_\_\_\_\_

**Land Manager Telephone Number:** ( ) \_\_\_\_\_ - \_\_\_\_\_ **Weekend Number:** ( ) \_\_\_\_\_ - \_\_\_\_\_

Date	Issued Time PST	By	24-hr Decision			Provided to District By ARB Duty Meteorologist						Comments
			Valid Date	Yes/No	By D or C*	48-hr Forecast		72-hr Outlook		96-hr Trend		
						Valid date	Fav/Unfav (L,M,H/X)**	Valid Date	Fav/Unfav (check/X)	Valid Date	Fav/Unfav (check/X)	
17			18			19		20		21		
18			19			20		21		22		
19			20			21		22		23		
20			21			22		23		24		
21			22			23		24		25		
22			23			24		25		26		
23			24			25		26		27		
24			25			26		27		28		
25			26			27		28		29		
26			27			28		29		30		
27			28			29		30		1		
28			29			30		1		2		
29			30			1		2		3		
30			1			2		3		4		

\* D - by district, C - other \*\* L - low, M - medium, H - high confidence level for a favorable 48-hr forecast; X - Unfavorable.

**Notes:** Burn completed/cancelled on \_\_\_\_\_

Additional information (evaluation done? smoke impact? etc.) \_\_\_\_\_

Request received from district staff \_\_\_\_\_ on (date/time): \_\_\_\_\_ by: \_\_\_\_\_

A.R.B. Duty Meteorologist: (916) 322-6014, Fax: (916) 445-0786, e-mail: [armet1@arb.ca.gov](mailto:armet1@arb.ca.gov) (CB-3c, draft/6/2001)

# **Attachment E**

## **Example Special Permit Form to Burn on a No-Burn Day**

# No-Burn Day

Burn Permit Application

Permit # \_\_\_\_\_

Day of Burn \_\_\_\_\_

Owner/Operator \_\_\_\_\_ Date Requested \_\_\_\_\_

Address \_\_\_\_\_ Zip \_\_\_\_\_ Phone \_\_\_\_\_

Location of Burn \_\_\_\_\_ Amount in Acres/Tons \_\_\_\_\_

Material to be Burned \_\_\_\_\_ Drying Time \_\_\_\_\_ Days

Ag Burn Permit No. \_\_\_\_\_ Fire District \_\_\_\_\_

Ambient AQ standard exceedance forecast for today? \_\_\_\_\_ Downwind Impact? \_\_\_\_\_

How many no-burn days occurred in the 7 days prior to today? \_\_\_\_\_

State below the reasons why denying you a permit to burn TODAY - on a No-Burn Day - "would threaten imminent and substantial economic loss" pursuant to Section 41862 of the California Health & Safety Code.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (Continue on reverse if necessary)

Estimate dollar value of economic loss you will incur if burning is not completed TODAY.

Did you attempt to burn this material before today? \_\_\_\_\_ If not, why not? \_\_\_\_\_

**I DECLARE UNDER PENALTY OF PERJURY THAT THE FOREGOING IS TRUE AND CORRECT** pursuant to Section 118 of the California Penal Code:

Executed on (date) \_\_\_\_\_ at \_\_\_\_\_, California

Signature \_\_\_\_\_

**PERMIT VALID  
ONE DAY ONLY**

Mail Copy to: Compliance Division  
Air Resources Board  
PO Box 2815

Sacramento, CA 95812  
Agenda Item No. 3 - Attachment 2a

AQ Exceedance \_\_\_\_\_

Permit Denied \_\_\_\_\_

Permit Approved \_\_\_\_\_

Signed \_\_\_\_\_

**APCD**

**Operating Plan For  
Wildland Fire Use Smoke Management  
Between the Great Basin Unified Air Pollution Control District,  
Inyo National Forest and the U.S.D.I Bureau of Land Management-  
Bishop Field Office**



Signatories:

 _____ USDA Forest Service – Inyo National Forest Jeff Baily, Forest Supervisor	<u>5/2/05</u> Date
 _____ U.S.D.I Bureau of Land Management-Bishop Field Office Bill Dunkelberger, Field Manager	<u>5/2/05</u> Date
 _____ Great Basin Unified Air Pollution Control District Theodore D. Schade, Air Pollution Control Officer	<u>5-2-05</u> Date

**INYO NATIONAL FOREST/BISHOP BLM FIELD OFFICE  
AND  
GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT**

**Wildland Fire Use Smoke Management Guidelines**

Wildland Fire Use (WFU) fire is an essential resource management tool for the Forest Service and Bureau of Land Management (BLM) in the Eastern Sierra. Also extremely important to these agencies, as well as to the Great Basin Unified Air Pollution Control District (District), is the management of smoke and particulate matter emissions during WFU type incidents and minimizing smoke impacts on the public. These WFU Guidelines have been developed for land management agencies to use when determining whether to approve a WFU.

In addition to following the July 2004 Wildland Fire Use Coordination and Communication Protocol, Forest Service and BLM (Agency) Line Officers will use these WFU guidelines to assess information on previous, current, and forecasted smoke management situations prior to authorizing any WFU that will exceed 10 acres.

These Guidelines were developed as a cooperative effort between the Agency and the District and may be modified upon agreement by both the District and the Agency on a case-by-case basis to allow for unforeseen conditions.

**I. USING AIR QUALITY INFORMATION FOR DECISION MAKING**

**The Fire Use Manager (FUMA) is responsible for contacting the appropriate Air District and Agency Meteorologist for necessary information and determining the following:**

1. In coordination with the District, determine whether any Federal or State-approved PM-10 monitor located in a community within 25 miles of the new WFU has monitored a 24-hour average PM-10 impact greater than  $50 \mu\text{g}/\text{m}^3$  within the previous 15 days or smoke impacts greater than  $35 \mu\text{g}/\text{m}^3$  within the previous four consecutive days of ignition of the new WFU.

**Actions:**

- a. If such impacts have occurred, the FUMA will make the Agency Line Officer aware of this situation and communicate the possibilities of social, political, and economic impacts to the effected local communities and will recommend to the Line Officer, a No Go in the Stage I process.
- b. If the projected growth over the next 10 days is minimal (less than 10 acres a day) the FUMA will work with the District and develop a smoke/emissions management plan that is acceptable to both parties.

2. Obtain a Smoke Transport/Stability Forecast from the Interagency Fire Weather Center in Riverside (<http://www.fs.fed.us/r5/fire/south/fwx/gb.txt>) and the California Air Resources Board. The FUMA along with the District will determine whether the forecast is favorable for WFU.

**Actions:**

- a. If the forecast is unfavorable and the predicted fire growth is greater than 100 acres on any day during the forecasted period, the Agency shall consider a suppression or holding action until better conditions prevail. If smoke dispersal conditions are predicted to be favorable during the forecasted period, the Agency and the District will consider allowing more than 100 acres of fire growth on any day without calling for a suppression or holding action.
- b. If the projected growth over the next 10 days is 100 acres or less on every day, the FUMA will work with the District to develop a smoke/emissions management plan that is acceptable to both parties.

**II. ACTIONS TO REDUCE EMISSION PRODUCTION**

**During the management of the WFU actions will be taken to minimize the production of smoke/emissions.**

If cumulative or daily smoke production exceeds State PM-10 and/or PM-2.5 Standards or a 96 hour forecast is unfavorable for smoke impacts, the land management agencies will take action to reduce emission production. These actions can include, but are not limited to:

- Minimizing burn activity by controlling fire spread along certain perimeters.
- Reducing available fuel by directing fire spread away from concentrations, physically reducing fuels ahead of the fire (where feasible), burning out fuel ahead of the fire and accelerating burning and reducing long-term smoke production. Initiating action mid-week to reduce smoke on high visitation or special event weekends in the affected local communities.
- Taking appropriate suppression actions.

**III. MONITORING EMISSION PRODUCTION AND IMPACTS**

Monitoring emission production is important to measure the success and failures of strategies and tactics used to curtail smoke impacts. Monitoring, collecting and analyzing this data will help managers define future WFU project and policies. The following actions should be taken, when feasible, to predict potential and measure actual smoke impacts:

- Monitor and document fire weather, fire behavior, smoke dispersal and volume, and validate fire behavior predictions. Smoke monitoring

locations will depend upon the fire activity and threats from that fire. Smoke monitoring frequency will be based on fire activity and location. If further effects analysis is desired, fuel consumption and emissions production can be estimated using CONSUME, NFSPUFF or other emission production models.

- Place the Forest Service EBAM in communities that may be impacted.
- Monitor existing air quality sensors, operated by the Great Basin APCD, Lone Pine Paiute/Shoshone Tribe, the Bishop Paiute Tribe and any other monitors in the District.
- Fire use monitors will use photographic and written documentation to record smoke movement, fire behavior, fuel types, weather observations, and other site-specific information within the Maximum Manageable Area.
- Model plume trajectory and smoke dispersion by using NFSPUFF or Blue Sky, a software program used for modeling dispersion over complex terrain. Worst-case scenarios should also be modeled to determine potential impacts to communities and high-use areas.
- Visually record smoke during aerial reconnaissance and by ground monitoring crews with still and video cameras.
- Issue alerts through the media to advise employees and visitors if there is a potential for health concerns (Refer to the attached PM-10 Health Effects and Activity Restrictions table).

The Land Management Agencies and the Great Basin APCD will meet annually in November to complete an “After Action Review” of this document as it relates to each WFU for that year. At that time, this document should be modified and/or updated as appropriate based on actual experiences.

**PM<sub>10</sub> Health Effects and Activity Restrictions**

<b>PM<sub>10</sub> Concentration</b> (µg/m <sup>3</sup> ) 24-hr ave	<b>Air Quality Characterization</b>	<b>Health Effects Statements</b>	<b>Activity Restrictions</b>
0 to 50	Good	Meets State standard. No health effects are expected when air quality is in this range.	None
51 to 150	Moderate	Meets Federal Standard. Violates State standard. No health effects are expected when air quality is in this range.	None
151 to 250	Unhealthy for Sensitive Groups	Increasing likelihood of respiratory symptoms and aggravation of lung disease, such as asthma.	People with respiratory disease, such as asthma, should limit outdoor exertion.
251 to 350	Unhealthy	Increased respiratory symptoms and aggravation of lung disease, such as asthma; possible respiratory effects in general population.	People with respiratory disease, such as asthma, should avoid outdoor exertion; everyone else, especially the elderly and children, should limit prolonged outdoor exertion.
351 to 425	Very Unhealthy	Significant increase in respiratory symptoms and aggravation of lung disease, such as asthma; increasing likelihood of respiratory effects in general population.	People with respiratory disease, such as asthma, should avoid any outdoor activity; everyone else, especially the elderly and children, should limit outdoor exertion.
426 to 600	Hazardous	Serious risk of respiratory symptoms and aggravation of lung disease, such as asthma; respiratory effects likely in general population.	Everyone should avoid any outdoor exertion; people with respiratory disease, such as asthma, should remain indoors.