

# **Tuolumne County Air Pollution Control District Smoke Management Program**

**District Adoption Date: September 25, 2001**

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# Introduction and Background

Tuolumne County is located east of the city of Modesto in the foothills of the central Sierra Nevada. The Tuolumne County Air Pollution Control District (District) is responsible for the entire county comprising 2,229 square miles with elevations ranging from 200 to 13,000 feet. Tuolumne County is bordered by Calaveras County to the north, Mono County to the east, Mariposa County to the south and Stanislaus County to the west. A major portion of the Stanislaus National Forest and the northern half of Yosemite National Park are located within Tuolumne County. This county has a population of approximately 55,000 people with the City of Sonora being the largest incorporated city. Tuolumne County has cool to mild winters (except the higher elevations) and warm to hot summers. Predominate surface winds are westerly, with northerly or southerly influences. Like most foothill counties, Tuolumne County experiences up-slope winds during the day and down-slope winds at night during the dry season. During the spring, summer and fall seasons, temperature inversions are a normal occurrence, which prohibits good dispersion of smoke and other air pollutants. Since 1996, the amount of prescribed and agricultural burning has varied dramatically with a high of 13,570 acres in 1997 and a low of 2,137 acres in 2000. The majority of these burns were either pile or understory burns.

Tuolumne County is one of seven air pollution control districts that make up the Mountain Counties Air Basin (MCAB). The MCAB consists of Amador, Calaveras, El Dorado, Mariposa, Northern Sierra (Nevada, Plumas, and Sierra Counties), Placer, and Tuolumne air pollution control districts. The seven air districts work closely together employing a regional approach to air pollution control.

This Smoke Management Program (Program) is intended to describe the Tuolumne County Air Pollution Control District's (District) methods of implementing Sections 80100-80330 of the California Code of Regulations Title 17, Smoke Management Guidelines for Agricultural and Prescribed Burning, and of ensuring compliance with District Regulation III - Open Burning (Rules 300-311). One of the District's goals is to achieve and to maintain all state and federal ambient air quality standards related to particulate matter through implementation of emission reducing measures, which includes this Program. The Program's objectives are to allow for the continuation of agricultural and prescribed burning as a resource management tool and provide increased opportunities for agricultural and prescribed burning while at the same time minimizing smoke impacts to the public. One of the main goals of the Program is to use prescribed fires to reduce fuel loadings in areas that have seen large accumulations, since the advent of fire suppression at the turn of century. By reducing the fuels present, the risk of large uncontrollable fires can be decreased along with the potential for smoke impacts.

The District derives its authority to implement and enforce this Program from District Regulation III, Rule 302 - Burning Permits, and Rule 307.3 - Burn Plan. These rules require applicants for agricultural and prescribed burning to supply such information as is required by the District prior to setting or allowing the use of an outdoor fire. Additionally, Rule 304 - Burning Management Requirements, requires the District to regulate burning or require mitigation if it is determined that

meteorological conditions could cause smoke to create or contribute to a violation of an air quality standard or cause a public nuisance. These rules give the District broad authority to regulate agricultural and prescribed burning activities in its jurisdiction.

This Program was prepared by the MCAB's Technical Advisory Committee (TAC), with Program endorsement by the MCAB Basinwide Control Council, which is made up of elected District Board members. Public and private land management agencies have been given the opportunity to comment on this Program through participation in the Mountain Counties Air Basin Smoke Management Alliance (MCABSMA). Additionally, the District provided a 30-day public notice and comment period prior to the Tuolumne County Air Pollution Control Board's adoption.

The District plans to continue participating in the MCABSMA, which provides a forum to develop agreements with public and private land management agencies to provide more detailed smoke management activities and associated tools. The MCABSMA Charter is attached as Appendix A.

Since the District's current regulations provide the authority to implement and enforce this Program, no modifications to Regulation III are anticipated at this time. Once the program is fully developed and implemented, the District may discover changes that need to be made in the District's regulations. Any changes needed to fully develop and implement the Program will be drafted and after public review adopted by the Air Pollution Control Board.

The Program is divided into six sections: Permitting, Registration, Authorization, Planning, Resources, and Enforcement with supporting Appendices. Each section describes the methods used by District staff for that particular issue. Some sections describe specific actions that are required, while others may only list general guidelines or procedures that are meant to provide direction to District staff. The appendices include pertinent documents that support the Program. Since smoke management is complex and is affected by many variables, no written program will be able to address every situation. This Program is designed to be used for general direction, but should not override common sense in regulating open burning in the District.

## Section 1- Burn Permits

District staff issues burn permits for all agricultural and prescribed burning projects in addition to the burn/fire permit required by the fire protection agency. The burn permits are issued at the District's office but also may be issued via fax, mail or e-mail. The burn permit includes conditions that limit burning to permissive burn days, limit types of material to be burned, requires material that is burned to be free of moisture and dirt, and requires approved ignition devices be used. The permit allows the District to add conditions to limit the amount of material to be burned or burn hours if necessary. In addition to the burn permit, land managers/burners must also submit a smoke management plan for prescribed burning projects.

- a) All agricultural and prescribed burning requires a valid burn permit from the District. The most current version of the burn permit application is attached as Appendix B. An approved Smoke Management Plan serves as a conditional permit to burn when combined with the burn permit. The most current version of the Smoke Management Plan application is attached as Appendix C.
- b) A valid burn permit may also be required from the fire agency that has jurisdiction in the area of the proposed burn project.
- c) Burning conducted pursuant to such permits issued by the District and a fire agency must comply with all the conditions specified on such permits including an approved Smoke Management Plan. See Section 4 for further discussion on the Smoke Management Plan requirements. Failure to abide by permit conditions is a violation of Section 41852 of the California Health and Safety Code and of District Rule 505 - Conditional Approval.
- d) All permits issued for agricultural and prescribed burning by the District or fire agency must contain the following words or words of similar meaning: "This permit is valid only on those days during which agricultural burning, including prescribed burning, is not prohibited by the State Air Resources Board or by an air district pursuant to Section 41855 of the California Health and Safety Code, and when burning on the lands identified herein has been approved by the air district."
- e) Special permits for agricultural or prescribed burning on no-burn days may be issued by the District, if denial of such permits would threaten imminent and substantial economic loss. The District limits the amount of burning that can occur pursuant to the issuance of such a permit to the extent that it ensures no exceedences of air quality standards or smoke impacts to smoke sensitive areas. Each applicant for a no-burn day permit shall submit a completed Authorization to Burn on a No Burn Day Application to the District or as otherwise required by the District to make this determination.

## Section 2 - Burn Registration and Reporting

- a) All persons who desire to conduct prescribed burning in the District in any particular calendar year must register their planned burn projects with the District. The MCABSMA members register their burns semi-annually prior to the spring and fall burn seasons. Updates and late additions to this registration process are accepted from members and non-members. The burn registration must include the name of the permittee, including a contact person with phone number; a listing of all projects planned; with legal descriptions of their locations (township, range, section #); and an estimate of the total acreage and/or tons of material to be burned.
- b) Each day during the burn season, land managers/burners will submit a daily report to the District. This report shall at a minimum list the project name, date, location and acres or amounts of material burned. The Daily Authorization Request & Information Reporting (Appendix C, Section 5) or other suitable form can be used for this purpose.
- c) A report of the agricultural and prescribed burning conducted each calendar year in the District is submitted to ARB within 45 days of the end of each calendar year. The report includes the estimated tonnage and/or acreage for each type of waste burned from both agricultural and prescribed burning by county.
- d) The District also reports all special permits (no-burn day permits) issued each calendar year within 45 days of the end of each calendar year. This report includes the number of such permits issued, the date of issuance of each permit, the person or persons to whom the permit was issued, an estimate of tonnage and/or acreage for each type of waste burned pursuant to the permit, and a summary of the reasons why denial of each permit would have threatened imminent and substantial economic loss.
- e) Upon full implementation of a suitable electronic reporting system, and upon proven effectiveness of this system, the District will participate to the greatest extent possible and encourage participation by MCABSMA members.

## Section 3 - Burn Authorization System

- a) The District operates a daily burn authorization system that regulates agricultural and prescribed burning. The burn authorization system specifies the amount, timing, and location for each burn project within the District's boundaries.
- b) The purpose of the burn authorization system is to minimize smoke impacts in smoke sensitive areas, avoid cumulative smoke impacts, and prevent public nuisance. As such all burn authorization requests are evaluated first by these considerations.
- c) In evaluating burn authorization requests the District consider the following factors:
  - 1) Air quality;
  - 2) Meteorological conditions expected during burning;
  - 3) Types and amounts of materials to be burned;
  - 4) Location, including but not limited to elevation, and timing of materials to be burned;
  - 5) Locations of smoke sensitive receptors;
  - 6) Smoke from all burning activities, including burning in neighboring air districts or regions which may affect the air quality in the District; and
  - 7) Historical data from previous burning.
  - 8) Pre-fire fuel treatment measures

Burn authorizations may be issued to land managers and burners for specific burn projects 24 hours in advance of ignition of each project. To obtain District authorization to burn any project, the land manager or burner must contact the District via telephone, fax, E-mail, or in person announcing the intent to burn. The burner must submit the Daily Authorization Request & **Information Reporting Form (Appendix C, Section 5) or other suitable form to the District 24 hours in advance of the burn. Using the above criteria, District staff would either grant or deny authorization to burn.** When two or more burns are proposed for the same day and in the same general location, if necessary to avoid smoke impacts, the burn agencies will coordinate amongst themselves and decide which burn, or if both burns can proceed. Once a burn authorization is granted it is normally only rescinded if meteorological conditions change such that adverse air quality impacts are likely.

- d) A burn authorization from the District only authorizes the ignition of a burn, if the smoke management conditions specified in the project's Smoke Management Plan are met at the time of ignition and for the duration of the burn. A burn authorization does not relieve the burner from meeting the conditions of the smoke management plan. It is the burner's responsibility to ensure all conditions listed in the Smoke Management Plan are met prior to ignition. To validate the specific smoke transport conditions that exist on each site, the land manager/burner will launch a helium-filled balloon, set a test fire, rely on local weather forecasts, special weather forecasts, RAWS or other validation method, as specified in their Smoke Management Plan.
- e) To receive a burn authorization for burning on a no-burn day, the land manager/burner must submit a completed Authorization to Burn on a No Burn Day Burn Application (Appendix E) to the District as soon possible, and prior to ignition. As a prerequisite to burning on a no-burn day, the District requires that the burn project be entered with ARB and have received the 48/72/96 notices for at least 3 days prior to ignition. In addition, the District may require the land manager/burner to supply on-

site or RAWS meteorological weather observations, site specific weather forecasts, or other information necessary to assist in authorizing the burn project.

- f) In order to assist the land managers/burners in their planning process, the District may require the land managers/burners to file their burn project with ARB to receive a 48-hour forecast, 72-hour outlook, and a 96-hour trend. To accomplish this, the land manager/burner shall submit a completed CB-3 form (Appendix F) to the ARB. The land managers/burners shall indicate the District's contact information on the CB-3 form to ensure the ARB provides the forecast information to the District. The land manager/burner may contact the District after 3 p.m. Monday through Friday or the ARB before 4 p.m. on weekends and holidays to obtain the forecast information only if the ARB does not provide that information directly to the land manager/burner. These forecasts are not a substitute for a burn authorization, and contain no guarantee that a favorable forecast will necessarily lead to a burn authorization approval, but are intended solely to help in burn project planning.
- g) The District maintains a daily log, recording burn authorizations, location of the burns, amounts of material burned, planned and unplanned wildfires occurring that day, and any other relevant information related to smoke impacts for that day. This data is used in the burn authorization process for subsequent days and in evaluating the success and efficiency of the smoke management program. The District also maintains maps indicating burn locations in the District for easy reference of daily burning, location of smoke sensitive receptors, and potential cumulative smoke impacts from other burning in the region.
- h) Multi-day burns require authorization on a daily basis from the District and consultation with the ARB.
- i) If smoke from a project may impact other Districts or states, District staff shall notify the appropriate air quality agency by faxing or by other electronic means, the Controlled Burn/Prescribed Fire Notification Form (Appendix D) or other method as soon as practical and prior to ignition. Any concerns these agencies have over the planned burn will be incorporated into the authorization.
- j) If increased burning activities causes competition for burning between burn agencies, the District will, in coordination with MCABSMA members, establish guidelines for prioritizing all agricultural burns, including prescribed burns. In considering priorities, the District shall consider the public benefits of burn projects, including safety, public health, forest health and wildfire prevention, ecological needs, economic concerns, and disease and pest prevention. Efforts to reduce smoke emissions, such as removal of excess material and pre-fire fuel treatment measures, shall also be considered.
- k) The District operates a burn day information recording (209) 533-5598 to announce the daily burn day decision in the District. The District consults with the ARB and fire agencies as necessary to make the final determination.



## Section 4 - Smoke Management Planning

- a) Each prescribed burn project will be registered for smoke management planning purposes as described in Section (2)(a).
- b) Burn projects less than 10 acres in size or that will emit less than one ton of particulate matter may only need to obtain a burn permit. Burn projects greater than 10 acres or that will emit in excess of one ton of particulate matter must complete a Smoke Management Plan. Prior to issuing an authorization to burn, the District, at its discretion, may require additional smoke management procedures to be used if a burn: 1) is greater than 100 acres in size; 2) may impact smoke sensitive areas; or 3) presents other potential problems.
- c) The following minimum smoke management actions will be considered for every burn project, and may require written submittal to the District of the actions taken consistent with the guidelines above and the District's Smoke Management Plan:
  - 1) Meteorological Prescription: Provide a detailed meteorological prescription that must be met to proceed with the burn. At a minimum the prescription must include acceptable wind direction. Other considerations may include wind speed, temperature profile, winds aloft, humidity, temperature, actual and predicted inversions, burn day status, and forecast precipitation. The District may require weather forecasts to be obtained to make smoke management decisions for the burn project.
  - 2) Contingency Actions: The actions the burner will take if smoke from the burn project produces unacceptable smoke impacts, which may include: stopping further ignitions, active fire suppression, rapid mop up, and/or other appropriate techniques approved by the District.
  - 3) Smoke Mitigation: Actions that will be taken to minimize smoke from the burn, which may include: minimum drying times/fuel moistures, piling and/or windrowing materials, active mop up of smoldering, pre-fire fuel treatment, and/or other appropriate techniques.
  - 4) Burning Alternatives: Describe the alternatives to burning that have been considered for this burn project and the basis of why the alternatives were not feasible or justified. Types of alternatives are listed in the SMP. Additionally, for projects requiring NEPA/CEQA environmental documentation, alternatives to burning are addressed in the air quality section of such documents. The location of these documents is noted in the SMP.
  - 5) Smoke Sensitive Receptors: A description of the smoke sensitive receptors such as towns, schools, hospitals, roads, recreational and Class 1 areas is required along with a map showing the location of sensitive receptors and predicted smoke transport.
  - 6) Public Notification: The potentially affected public will be notified of a burn project by one or all of the following: media announcements, phone contact lists, road signs, and/or other appropriate techniques.
  - 7) Cross Jurisdictional Notification: The District will notify air districts, fire protection agencies, and other public agencies of impending large or multi day burn projects by either emailing or faxing Controlled Burn/Prescribed Fire Notification Forms and/or Controlled Burn Notices (CB-3). Biannual meetings of the MCABSMA and monthly MCAB TAC meetings will be used to

provide air district staff and land managers notification of upcoming burn projects, improve communication procedures, and provide feedback for better coordination and uniformity in the Smoke Management Program.

- 8) Complaint Handling Procedures: A procedure is in place that insures all complaints regarding smoke impacts received by an agency, company, or individual conducting the burn is promptly reported to the District.
  - 9) Smoke Monitoring: Describe the procedures that will be used to monitor and track the smoke transport from the burn project, which may include: a smoke spotter to check on downwind sites, ambient air monitoring, aerial monitoring, or other appropriate methods.
- d) Naturally Ignited Wildland Fires: A Smoke Management Plan shall be completed and submitted to the District within 72 hours from the start of a burn if the size of the fire is expected to exceed ten acres in size and will be managed for resource benefit. When a natural ignition occurs on a no-burn day, the initial “go/no-go” decision to manage the fire for resource benefit will be a “no-go” unless:
- 1) After consultation with the District, District staff decide, for smoke management purposes, the burn can be managed for resource benefit, provided there is a minimal risk of smoke related health problems; or
  - 2) 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 Air Resources Board (ARB); or
  - 3) 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.
- e) District staff will maintain the highest possible level of training with regards to smoke management. Staff that are assigned to the District’s agricultural and prescribed burning program will attend smoke management workshops, seminars, and training sessions. Participation and cooperation in smoke management alliances, Interagency Air and Smoke Council meetings, and MCAB TAC meetings will be strongly encouraged.
- f) Commencing on April 1, 2001, the District will take part in an experimental ARB program which will refine the daily permissive burn day status to one of four categories; marginal, fair, good, and superior burn days. These ARB decisions will assist the District in issuing burn authorizations.
- g) For those burns that are either in excess of 250 acres, have created smoke impacts, or were burned on no burn days, the responsible burn agency must complete a District Project Post Burn Form (Appendix C, Section 6). These are to be completed and returned to the District within 30 days from the completion of the burn project. This information will then be reviewed and can assist in issuing burn authorizations for similar projects.

## Section 5 - District Resources

### a) General District Resources

The District's resources currently consist of three staff members and a five member Air Pollution Control Board. The three staff are a Air Pollution Control Officer, Deputy Air Pollution Control Officer, a vacant Air Pollution Control Specialist position, and Deputy Agricultural Commissioner. This staff will be responsible to carry out this Program, including, but not limited to permitting, enforcement and decision-making functions. The District will rely on the ARB for forecasting and other resources as needed, and the MCABSMA for planning.

### b) Meteorological Resources

The District will rely primarily on the ARB to provide the daily burn day decision and the 48/72/96 forecasts to guide the burn authorization. To augment its forecasting tools, the ARB funds a local meteorological data gathering flight out of the Columbia airport to obtain more accurate data on atmospheric conditions within the air basin.

The District will utilize the Internet as a tool to access general weather trends, RAWS data, and fire weather forecast data for specific burns. The District may also utilize special weather forecasts obtained by burn agencies through the Interagency Fire Forecast and Warning Unit, especially for burn projects that are large or located near sensitive areas/receptors.

The District would consider participating in a partnership with burn agencies to fund more RAWS stations within the air basin. The District utilizes handheld anemometers and handheld digital sling psychrometer/thermo-hygrometer to gather wind and humidity data. The District also possesses cameras and binoculars to observe and document smoke impacts, plume dispersion, and other information.

### c) Air Monitoring Resources

Currently no particulate matter (PM) monitoring stations are located within the District. The closest PM monitoring station is located in San Andreas on Gold Strike Road. Data from this site can be used for planning and informational purposes. The District owns a Wedding & Associates Hi-Vol PM10 monitor that may be used in the future if District funds and staffing allow. The District will continue to conduct visual monitoring at selected sites to assess visibility and may decide to reduce burning on days where visibility is impaired. The National Park Service operates a TEOM and the U.S. Forest Service owns monitoring and data logging equipment that can provide real time particulate matter data.

## Section 6 - Inspection and Enforcement

- a) Subject to time and resource constraints, District staff will conduct on-site inspections of a representative number of agricultural and prescribed burns each year. Such inspections are prioritized based on the following criteria:
  - 1) Active burns that are conducted in an area or by a source that historically generates many complaints;
  - 2) Active burns that are generating complaints;
  - 3) Active burns that are large (100+ acres) or located near sensitive receptors; and
  - 4) Planned burns representing a variety of sources and fuels.
- b) Inspections of active burns will document that meteorological conditions are within acceptable parameters; that the amount of acreage and/or fuel specified in the burn registration and authorization, is what is actually being burned; and that the burn is not impacting any sensitive receptors.
- c) Inspections of planned burns document that the projected acreage and/or fuel loading is consistent with that specified in the burn registration; that the meteorological prescription is reasonable for the location; and that actions taken to reduce fuel loading and/or smoke emissions have been carried out.
- d) If unacceptable smoke impacts occur to a smoke sensitive receptor/area from an authorized burn, and such impacts are verified by District staff, then the burner will be promptly notified and required to take such contingency actions as are possible.
- e) Notices of Violation issued for violations of the Smoke Management Program are handled according to the District's Mutual Settlement Program.

# APPENDIX A

## Mountain Counties Air Basin Smoke Management Alliance CHARTER

1/14/00

### STATEMENT OF PURPOSE

The Mountain Counties Air Basin Smoke Management Alliance is established and maintained to provide coordination and uniformity in smoke management efforts in the Mountain Counties Air Basin (MCAB), recognizing the need for and role of fire in ecosystems management and fuel reduction while protecting the public health.

### GOALS

- Minimize smoke impacts on smoke sensitive areas.
  
- Consistency and predictability:
  - Smoke Management Plan (SMP) forms.
  - Rules related to Title 17 Smoke Management Guidance.
  - Post-burn smoke management evaluation forms.
  - Permit conditions and application process.
  - Requesting 48-72 forecasts.
  - Ignition decisions.
  - Fees to recover district program costs.
  - Burn coordination procedures for determining timing and placement of burns.
  - Monitoring/surveillance of smoke.
  
- Communication, coordination, and cooperation:
  - Annual pre-season notification of upcoming projects.
  - Annual mid-season update of projects.
  - Post-season/post-burn smoke management evaluations, as needed.
  - Cooperation of burn project public notifications and cross-jurisdictional notifications.
  - Burn authorization and burn project coordination procedures.
  - Complaint coordination.
  
- Development of tiered requirements based on potential for smoke impacts:
  - Information required in SMPs.
  - SMP review and inspections.
  - Cost recovery/fees.

### MEMBERSHIP

- MCAB Air Districts.
- State, federal, and private land managers (hereinafter, “land managers”) that conduct prescribed burns on lands within the MCAB.
- Interested parties: Neighboring jurisdictions with potential smoke impacts from burn projects conducted within the MCAB, and state and federal oversight agencies are welcome to attend meetings to communicate concerns and share information, but will not be “voting” members.

## MEETING FREQUENCY

Bi-annual (twice per year):

- January meeting: This meeting will have the primary purpose of providing each land manager's annual pre-season notification of planned upcoming burn projects. Maps and big-picture information are requested.
- June (toward the end of the month): This meeting will have the primary purpose of providing each land manager's update on completed and planned burn projects.

Note: Additional agenda items, as determined by the membership, will be included, with subject matter generally within the intent of the goals listed above.

## MEETING HOST

The meeting host will alternate between the MCAB Technical Advisory Committee (TAC) Chairman and a designated land manager member. The meeting host is responsible for developing the agenda (with membership input), distributing the agenda, making arrangements for meeting place, distributing the meeting minutes from the prior meeting with the agenda, chairing the meeting they host, and coordinating the completion of minutes for the meeting.

- January meeting: MCAB Technical Advisory Committee Chairman.
- June meeting: Land manager (rotation).

## COMMUNICATION

The current MCAB TAC Chair will be the point of contact for the air districts. The land manager membership will designate a point of contact (initially Christie Neill). E-mail will be used to the greatest extent feasible to reduce communication costs. The points of contact will maintain and coordinate membership/interested party lists with mailing addresses, phone numbers, fax numbers, and e-mail addresses. Lists will be updated at least annually. Points of contact will be responsible for communicating with their respective membership.

# APPENDIX B

## TUOLUMNE COUNTY AIR POLLUTION CONTROL DISTRICT BURN PERMIT

Mailing: 2 South Green Street, Sonora, CA 95370  
Phone: 533-5693, Fax: 533-5520, Burn Line: 533-5598

### CHECK THE BURN CATEGORY

Agricultural	Land Development Clearing / Oversized Residential
Forest or Wildland Vegetation Management	Ditch, Road, Reservoir, and Right of Way Clearing
Range Management	Other (list):

### APPLICANT INFORMATION (please print clearly)

Agency:	
Name:	
Phone:	Fax:
Mailing address:	
Burn site address:	
Distance to nearest residential area or house (in feet):	
Describe material to be burned:	
Amount (acres, tons, pile # and sizes):	

**CALL 533-5598 PRIOR TO LIGHTING  
A FIRE TO OBTAIN THE BURN DAY STATUS!**

### BURN PERMIT CONDITIONS

1. This permit is valid only on those days during which agricultural burning, including prescribed burning, is not prohibited by the State Air Resources Board or by the Tuolumne Air District pursuant to section 41855 of the Health and Safety Code, and when burning on lands identified herein has been approved by the air district.
2. Material to be burned must consist only of natural vegetation that originated on the property.
3. Material to be burned must be reasonably free of visible moisture and dirt to minimize smoke.
4. Only approved ignition devices may be used to ignite fires. Those devices include LPG, butane, propane or diesel oil burners, or flares.
5. Only the amount of material that can be expected to completely burn within the following 24 hours may be ignited in any one day.
6. Burning is only valid on land owned or legally controlled by the applicant and while being attended.
7. Burning hours must comply with fire agency regulations, when applicable.
8. This burn permit does not exempt the applicant from obtaining a fire agency permit.
9. Burning must comply with all applicable district, county and state regulations.
10. Additional conditions: \_\_\_\_\_

*I have read and fully understand the conditions of this permit. I understand that this permit doesn't relieve me from liability if my fire creates a nuisance or hazard.*

Signature of applicant:
-------------------------

#### AIR DISTRICT USE ONLY

Permit Number:	Expiration Date:
Issued By:	Date:

# APPENDIX C

## Tuolumne County Air Pollution Control District Smoke Management Plan Check Off Sheet (for permittee use only)

Permittee Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

Check ( ✓ ) one of the following as a result of the information listed above or other pertinent information:

	Less than 1 ton of Particulate Matter (PM10) emissions and/or less than 10 acres in size, applicant must complete and comply with an Air District Burn Permit.
	Between 1 ton and 10 tons of PM10 emissions and/or between 10 and 100 acres complete sections 1, 2, 3, and 5 of the Smoke Management Plan.
	Over 10 tons of PM10 emissions and/or 100 acres complete sections 1-5 of the Smoke Management Plan and over 250 acres, complete sections 1-6.
	Regardless of size or PM10 emissions, if smoke has the potential to impact a smoke sensitive area, complete those sections of the Smoke Management Plan identified by the Air District.

Those Sections checked ( ✓ ) are to be completed and submitted as the Smoke Management Plan to the Tuolumne County APCD for review.

	Section 1 – GENERAL INFORMATION AND APPROVALS
	Section 2 – PROJECT SPECIFIC INFORMATION
	Section 3 – PUBLIC NOTIFICATION AND ALTERNATIVES
	Section 4 – SMOKE DISPERSAL SURVEILLANCE AND MONITORING
	Section 5 – DAILY AUTHORIZATION REQUEST AND INFORMATION REPORTING FORM
	Section 6 – AIR DISTRICT PROJECT POST BURN FORM

Section 5 to be completed and submitted every day of active ignition.

Section 6 to be completed and submitted within 30 days after completion of project.



## **SMOKE MANAGEMENT PLAN 2001 BURN SEASON**

In accordance with the District's Smoke Management Program, this Smoke Management Plan (SMP) serves as part of the applicant's permit application. Once approved by the District, this SMP serves as part of the conditional permit to burn, when combined with the standard single page permit to burn.

Final authorization to burn this project may be granted by District staff 24 hours in advance of ignition and must be obtained for each day of actual ignition. Final authorization may be denied if the conditions set forth in this Smoke Management Plan have not been met by the day of the ignition. (CCR 80160(j))

This SMP is required for all prescribed burns (Forest Management Burning, Range Improvement Burning, Wildland Vegetation Management Burning). Unless specified on the Check Off Sheet, a Smoke Management Plan is not required for burn projects less than ten acres in size.

The information required herein is the minimum information needed to evaluate the effectiveness of smoke management efforts for this project. Further information may be needed if the proposed burn:

- 1) Is large and/or multi day burn;
- 2) Has the potential to impact a smoke sensitive area;
- 3) May have multi-jurisdictional smoke impacts;
- 4) Have other complexities, which make more information necessary.

Additional information may be needed to supplement the SMP. The District assumes no liability for approving the burn plan. The burn agency is responsible for providing firefighter and public safety, which is not the intent of the information included on this form.

Terms used in the SMP have the same meaning as those defined in the District's open burning regulation definitions and/or the California Code of Regulations, Title 17, §80101. Where differences occur, the District's definitions apply.

**SECTION 1 – GENERAL INFORMATION**

**A. PROJECT INFORMATION:** (CCR 80160(b))

<b>Project Name/Number</b>				<b>District Permit Number</b>			
<b>Legal Location</b>	<b>T</b>	<b>R</b>	<b>S</b>	<b>Project Acres</b>			
<b>Street/Crossroads</b>							

Check ( ✓ ) the category(ies) of prescribed burning that applies to this project:

<b>Forest Management Burning:</b> 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.
<b>Range Improvement Burning:</b> use of outdoor fires to remove vegetation for a wildlife, game, or livestock habitat or for the initial establishment of an agricultural practice on previously uncultivated land.
<b>Wildland Vegetation Management Burning:</b> the use of prescribed burning conducted by a public agency, or through a cooperative agreement with a private manager or contract involving a public agency, to burn land predominantly covered with chaparral (as defined in Title 14, California Code of Regulations, section 1561.1), trees, grass, or standing brush.
<b>Naturally Ignited Wildland Fire Managed for Resource Benefits.</b> ( <i>Refer to the Procedures page for requirements</i> ) (CCR 80160(h)(i))
<b>Improvement of Land for Wildlife or Game Habitat:</b> include with this SMP a statement from the California Department of Fish and Game, which certifies that this burn is desirable and proper. This CDFG statement may specify the amount of brush treatment that is appropriate for this project (for non-federal lands). (CCR 80160(p)) <i>Comments:</i>

Check ( ✓ ) the types of burn project(s):

<b>Machine Pile Burn</b>	<b>Hand Pile Burn</b>	<b>Landing Pile Burn</b>
<b>Broadcast Burn</b>	<b>Understory Burn</b>	<b>Other</b> _____

Check ( ✓ ) the types of vegetation(s):

<b>Brush</b>	<b>Grass</b>	<b>Timber Litter</b>
<b>Residual Timber Slash</b>	<b>Other</b> _____	

Fill In the following Information:

Burn Window/Season:	
Desired Season for Burn:	Acceptable Season for Burn:
Project/Unit Elevation (ft):	
Top of Unit(s):	Bottom of Unit(s):
Duration of Burn: (CCR 80160(b))	
Ignition _____ days	Burndown _____ days
Total _____ days	

<b>Will an ARB Controlled Burn Notice 48/72/96 be requested?</b> (Refer to the Procedures for the use of the CB-3 form.)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
---	------------------------------	-----------------------------

**B. EMISSIONS ESTIMATES (Fill In):**

EPA-approved method used to calculate emissions	
Total estimated emissions: Particulate Matter (PM10)	tons

See Attached Calculations

**C. IDENTIFICATION OF SMOKE SENSITIVE AREAS: (CCR 80160(b))**

Smoke Sensitive Areas (SSA) include population centers (e.g. towns, villages, developments), hospitals, schools, daycare centers, nursing homes, shopping centers, public events, and may include campgrounds and trails inhabited by significant numbers of people.

Fill In and/or Check (✓)			Yes	No
<b>Could any Smoke Sensitive Areas be affected by project?</b>				
<b>SSA</b>	<b>Distance/Direction From Burn</b>	<b>Unacceptable Conditions</b>		
			Yes	No
<b>Does the planned project have the potential to impact a Class I area?</b> If yes, why:				
<b>Does the planned project have the potential to impact another air district or state?</b> If yes, why:				
<b>Is the planned project located in more than one air district?</b> If yes, list:				
<b>Historically, has burning in this area impacted any SSA?</b> If yes, list conditions that led to the impact:				

If burning this project on a day concurrent with other burn projects, or if this is a multi-day burn which might cause a smoke impact on any SSA, it is the burn agency's responsibility to communicate daily and coordinate this burn project with the air district staff and/or the ARB, and other burners to minimize or avoid these impacts. (CCR 80160(e))

Check the attached maps that will accompany the SMP

✓	<b>Smoke Management Plan Maps</b>
	Desired range of daytime plume path during ignition map (CCR80160(c))
	Possible night time smoke path map (CCR 80160(c))
	Smoke sensitive areas map (CCR 80160(b))
	Interior cut off lines map (Estimate/Potential)
	Project map

**D. APPROVAL**

*I, the undersigned permittee, understand that this SMP, once approved by the District and/or California Air Resources Board, is a condition of the District's burn permit. This information is complete and true to the best of my knowledge.*

SMP Preparer's Agency:	Telephone Number:
SMP Preparer's Name (print):	Title:
Signature:	Submittal Date:

✓	DISTRICT USE ONLY BELOW THIS LINE
	ARB Consultation (Required for multi-day or projects greater than 250 acres) (CCR 80160(g))
	Approved as submitted: _____ Date: _____ <i>District Staff Signature</i>
	Approved with changes or conditions: _____ Date: _____ <i>District Staff Signature</i> Changes/conditions:
	Disapproved as submitted: _____ Date: _____ <i>District Staff Signature</i> For the Following Reasons:

## SECTION 2 – PROJECT SPECIFIC INFORMATION

### A. WIND PRESCRIPTION: (CCR 80160(c))

<b>Fill in the Surface Wind Direction.</b>	
<b>Ideal:</b>	<b>Allowable:</b>
<b>Fill in the Wind Direction Aloft (Transport Direction).</b>	
<b>Ideal:</b>	<b>Allowable:</b>
<b>Identify potential meteorological conditions that would prohibit acceptable smoke dispersal:</b>	

Note: The District may require additional on-site weather observations and/or spot weather forecasts.

### B. MITIGATIONS: (CCR 80160(m)(n) and (o))

Please check off the mitigations below, which will be implemented to reduce smoke impacts, especially if the smoke will impact a smoke sensitive area.

✓	Mitigations
	Vegetation will be in the following condition during combustion, considering fire safety and other factors: _____
	Vegetation will be piled and prepared where possible so that it can be burned with a minimum amount of smoke, unless good silvicultural or ecological practices dictate otherwise.
	Limit burning to _____ piles or _____ acres per day.
	No more than _____ piles shall be burning at one time
	Allow _____ hours between ignition of _____ (piles/units).
	Mop up will begin within: <input type="checkbox"/> 18 hrs <input type="checkbox"/> 24 hrs <input type="checkbox"/> 48 hrs <input type="checkbox"/> 72 hrs <input type="checkbox"/> after ignition.
	Special weather condition forecast:
	Burn window: Begin ignitions (time): _____ Terminate ignitions (time): _____
	Other, explain:

### C. CONTINGENCIES: (CCR 80160(e))

Please check off the contingency actions that can be practically and safely implemented if smoke impacts a smoke sensitive area. Adequate resources must be provided for contingency actions.

✓	Contingencies
	Stop ignitions, except as needed to maintain control of fire (allow fire to burn to contingency control lines).
	Fire suppression.
	Begin mop up immediately.
	Begin mop up within _____ hours of problem identification.
	Begin complete mop up within _____ hours of smoke problem identification.
	Discontinue mop-up if favorable conditions return.
	Other, explain:

**D. SMOKE IMPACT COMPLAINT PROCEDURES: (CCR 80160(I))**

1. All smoke related complaints shall be forwarded within two (2) hours or as soon as practical to the District and either the Prescribed Fire Manager, Burn Boss and/or Incident Commander via fax or telephone.
2. The permittee will attempt to obtain at least the following minimum information from complainant and forward it to the District (District form):
  - a. Date of complaint;
  - b. Time of complaint;
  - c. Complainant's name;
  - d. Complainant's address;
  - e. Complainant's telephone #; and
  - f. Nature of the complaint (smoke impacts, visibility, fear of fire)
3. The Prescribed Fire Manager, Burn Boss and/or Incident Commander, in coordination with the District staff, shall seek resolution for all complaints, as necessary.
4. A log of all complaint calls related to a burn project shall be kept in the project file folder for a period of one year from the conclusion of the burn project.

**E. CONTACTING RESPONSIBLE OFFICIALS: (CCR 80160(I))**

**Note: Do not display or release personal phone information in burn or smoke plans.**  
Make available to the Air District:

1. Who is the Prescribed Fire Manager/Burn Boss/Incident Commander: \_\_\_\_\_  
\_\_\_\_\_
2. How can this person be reached at the burn project: \_\_\_\_\_  
\_\_\_\_\_

**SECTION 3 – PUBLIC NOTIFICATION, ALTERNATIVES, AND PRE-FIRE FUEL TREATMENT:**

**A. PUBLIC NOTIFICATION: (CCR 80160(c.6)(l))**

Check below all of the actions that will be taken to advise the SSA(s) that burning is planned. When burning is imminent, known sensitive receptors will be contacted.

✓	Type Of Notification	Describe The Activity And Timing
	Radio Station	
	Newspaper	
	Posters/Flyers/Letters	
	Television	
	Door to Door	
	Signage	
	Personal Phone Calls	
	Other, explain:	

**B. EVALUATION OF ALTERNATIVES TO BURNING: (CCR 80160(c))**

<p><b>Have alternative treatments other than burning been considered for this project?</b></p> <p><input type="checkbox"/> No. Please explain why burning was chosen over any alternatives.</p>		
<p><input type="checkbox"/> Yes. Please list alternatives below.</p>		
Alternative	Extent Used	Particulate Reduction (tons)
<p><input type="checkbox"/> Yes, part of NEPA/CEQA documentation.</p> <p><input type="checkbox"/> Attached</p> <p><input type="checkbox"/> On File with:</p>		

**C. PRE-FIRE FUEL TREATMENT MEASURES: (CCR 80145 (m))**

<p><b>Have pre-fire fuel treatment measures been planned for this project?</b></p> <p><input type="checkbox"/> Yes. Please list the measures being planned.</p>
<p><input type="checkbox"/> No.</p>

**SECTION 4 – SMOKE DISPERSAL SURVEILLANCE AND MONITORING (CCR 80160(d))**

*Check all of the activities/procedures used for smoke surveillance and monitoring. (e.g. before, during and post-burn). (Note: indicate timing of each item.) All weather and surveillance records shall be filed in the project folder and be available for air district review upon request.*

✓	<b>Smoke Dispersal Surveillance And Monitoring</b>
	Test Fire
	Balloon(s)
	Weather Collection (i.e. RAWS)
	Aircraft
	Weather Forecast
	Visual Monitoring
	Other:
Method/Location of Visual Monitors:	
Interval of smoke dispersal monitoring:	

Note: If this project is larger than 250 acres or if there is the potential for impacts to SSAs, a Post-Burn Evaluation will be required from the burner within 30 days after completion of the burn. (CCR 80160(k))



**SECTION 5 - DAILY AUTHORIZATION REQUEST & INFORMATION REPORTING (CCR 80145)**

This information must be submitted to the District before 3:30 p.m. daily

**AGENCY:** \_\_\_\_\_

<i>Burn Date</i>	<i>Acres</i>		<i>Project Name</i>	<i>Legal Location</i>	<i>County</i>	<i>Burn Type</i>	<i>Consumption Ton/Acre (est.)</i>	<i>Reported By</i>	<i>District Authorization**</i>	
	<i>Planned</i>	<i>Actual</i>							<i>Date</i>	<i>Initials</i>

**\*\*The smoke management plan and meteorological conditions, special permit conditions (if applicable) have been completed and adjacent burn agencies or land managers have been contacted.**

**SECTION 6 - AIR DISTRICT PROJECT POST BURN FORM**

Complete the following for burn projects greater than 250 acres, burns that created smoke impacts, burning on a no burn day or as required by the Air District. Forward to the Air District within 30 calendar days of the completion of the burn.

**A. GENERAL INFORMATION:**

Burner/Agency/Permittee Name							
Project Name/Number				Air District Permit Number			
Legal Location	T	R	S	Project Acres			
Street/Crossroads							

**B. BURN INFORMATION:**

Date Of Burn	Burn Day Status	Ignition Time	Planned Acres	Actual Acres	Tonnage Consumed	Completion Date Of Burn

**C. EMISSIONS INFORMATION:**

Pollutant	Total Emissions (tons/burn)
PM10	
Other Pollutants	

**D. NARRATIVE INFORMATION:**

1. Was this burn conducted as per the Smoke Management Plan’s air quality conditions: \_\_\_\_\_  
\_\_\_\_\_
2. Were there any smoke impacts, including impacts to Smoke Sensitive Areas, neighboring air districts and or states? If yes, list areas, reasons, and duration of impacts: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Number of complaints received (Forward complaints to District): \_\_\_\_\_
4. List contingency actions initiated to reduce impacts: \_\_\_\_\_  
\_\_\_\_\_
5. List recommendations to utilize for future burns in this area to minimize impacts: \_\_\_\_\_  
\_\_\_\_\_
6. Was the burn successful with regards to air quality: \_\_\_\_\_

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

District Use Only		
Staff Reviewer:	Date Reviewed:	Date Logged:

## **PROCEDURES**

### **Use of the 48/72/96 forecast: (CCR 80145(f))**

Fill in the requested information for the project on the supplied ARB Control Burn Notice - CB-3 form, being specific as to when the proposed burn will take place. In the first position of the "Person to be notified" column write in the name and phone number of the District where the burn will take place. In the second position, fill in your name or agency name and phone number. Fax this form to the ARB (916-445-0786) and either send or fax a copy to the District seven (7) days prior to the start of the burn. The ARB will then notify the District of the forecast for the burn and the Air District will relay this information to you on a daily basis. Please notify the District and ARB within 24 hours when this burn is canceled, postponed, deactivated, or completed.

### **Naturally Ignited Wildland Fires Managed For Resource Benefit**

A Smoke Management Plan (SMP) shall be completed and submitted to the appropriate District within 72 hours from the start of the fire if the size of the burn is expected to exceed ten acres in size. (CCR 80160(i))

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 staff decide, 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 District, or if the District is not available, the Air Resources Board (ARB); or
3. 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. (CCR 80160(h))

## PM10 EMISSIONS CALCULATIONS FOR DIFFERENT PILE SIZES

Choose the pile size most represented on your burn site.

Multiply the number of piles in your project with the corresponding “Tons of PM10” values to get the total PM10 tonnage.

<b>PM10 EMISSIONS FOR SPECIFIED PILE SIZES</b>	
<b>GENERIC PILE BURNING in feet, tonnage</b>	<b>TONS OF PM10</b>
4 width x 3 height, 0.18 tons	0.002
5 width x 4 height, 0.36 tons	0.003
6 width x 5 height, 0.63 tons	0.006
8 width x 6 height, 1.24 tons	0.012
10 width x 6 height, 1.80 tons	0.017
12 width x 8 height, 3.41 tons	0.032
15 width x 8 height, 5.10 tons	0.048
20 width x 10 height, 11.04 tons	0.105
25 width x 10 height, 16.90 tons	0.161
* Revised 10/3/00	
* Tonnage was calculated using 38 lbs/cu. ft.	
* U.S. Forest Service's Conformity Handbook, Table 6 Emissions Factor of 19 pounds/ton of fuel burned - average pile and burn slash	

*See Exhibit A and B for additional information on calculation emissions.*

# APPENDIX D

## TUOLUMNE COUNTY AIR POLLUTION CONTROL DISTRICT

### Controlled Burn/Prescribed Fire Notification

Mailing: 2 South Green Street, Sonora, CA 95370

Phone: 533-5693, Fax: 533-5520, Burn Line: 533-5598

Agencies checked below are hereby advised that a controlled burn or prescribed fire is scheduled to take place within the jurisdiction of the Tuolumne Air District. Details are outlined below. Please call if there are questions.

<u>To:</u>	<u>MCAB &amp; Others (check agencies being notified)</u>	<u>Fax Number</u>
<input type="checkbox"/>	Calaveras County APCD	(209)754-6521
<input type="checkbox"/>	El Dorado County APCD	(530)642-1531
<input type="checkbox"/>	Great Basin Unified APCD	(760)872-6109
<input type="checkbox"/>	Mariposa County APCD	(209)966-8248
<input type="checkbox"/>	Northern Sierra AQMD	(530)274-7546
<input type="checkbox"/>	Placer County APCD	(530)889-7107
<input type="checkbox"/>	Tuolumne County APCD	(209)533-5520
<input type="checkbox"/>	ARB Meteorology	(916)445-0786
<input type="checkbox"/>	Nevada, Bureau of Air Quality	(775)587-6396
<input type="checkbox"/>	Fire Protection District	_____
<input type="checkbox"/>	Other Agency _____	_____

Fire location: \_\_\_\_\_

Date ignition starts: \_\_\_\_\_ Date ignition ends: \_\_\_\_\_

Estimated acreage to be burned: \_\_\_\_\_

Description of material to be burned: \_\_\_\_\_

Agency responsible for the fire: \_\_\_\_\_

Contact person: \_\_\_\_\_ Phone: \_\_\_\_\_

Report complaints to: \_\_\_\_\_ Phone: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Notification provided by: \_\_\_\_\_ Date: \_\_\_\_\_