

# Santa Clara County Fire Prevention Operational Procedure

When Using Internal Combustion Engine  
And Other Equipment  
Which May Cause Flame or Sparks in  
Dry Grass, Brush or Forest  
Covered Areas of the County

In Cooperation With  
The California Department of Forestry  
And Fire Protection  
Santa Clara Unit

May 14, 2001

## TABLE OF CONTENTS

1. Procedural Objective
2. Fire Season Defined
3. Operational Procedures and Required Equipment
4. Equipment Inspection and Record Keeping
5. Applicable Laws and Regulations
6. Contact Information

Attachments:  
Sample Forms

# 1. Procedural Objective

It is the objective of the County of Santa Clara to be in compliance with all codes, regulations, and ordinances pertaining to fire prevention standards.

This document serves as a procedural guideline for ALL Santa Clara County Departments, performing operations INVOLVING COMBUSTIBLE ENGINE EQUIPMENT OR EQUIPMENT WHICH CAUSES SPARKS OR FLAMES within the grass, brush or forest covered areas of the Santa Clara County.

All Departments are encouraged to complete as many projects in the grass, brush or forest covered areas of the County prior to the curing of flammable vegetation whenever practical.

## 2. Fire Season Defined

- (a) It is the intent of this policy to implement the most cautious measures during "Fire Season".
- (b) For purpose of this document, Fire Season is defined as
  - (II) May 1 through November 30 of any calendar year, or
  - (III) anytime weather monitoring indicates that relative humidity is less than 30%.

This policy will be implemented fully during May 1 through November 30 irrespective of weather monitoring results, and will be extended into other days and months of the year anytime relative humidity is less than 30%.

- (c) In non-fire season, wind speed above 10 MPH will in itself not stop operations. In fire season, sustained wind speed above 10 MPH will stop operations

### 3. Operational Procedures and Required Equipment

**DURING FIRE SEASON, OPERATIONS** Involving use of combustible engines or equipment which produce flames or sparks which will be **CONDUCTED WITHIN OR ADJACENT TO NON-IRRIGATED GRASS, BRUSH OR FOREST AREAS WILL BE CONDUCTED USING THE FOLLOWING RULES:**

(a) Prior to commencement of operations:

(II) Staff will secure the current fire conditions from Santa Clara County Communications at (408) 299-2507.

No OPERATIONS shall occur within 24 hours of a predicted Red Flag day AS DETERMINED BY the National Weather Service.

(III) Staff will assess current weather conditions at the planned site of operation every two hours:

In the event one of the following readings are noted, Operations shall not begin, or will cease IMMEDIATELY!

THE RELATIVE HUMIDITY IS AT OR BELOW 30%

SUSTAINED WIND SPEEDS REACH 10MPH

(IV) If ambient temperature reaches 80 degrees Fahrenheit at any time during the operation, weather samples must be taken hourly.

(b) Required Equipment

**During Fire Season, THE FOLLOWING EQUIPMENT MUST BE IMMEDIATELY AVAILABLE AT the Actual JOB SITE:**

(II) 1 serviceable round point shovel with an overall length of not less than 46 inches

(III) 1 (5 gallon) water backpack pump fire extinguisher

(IV) Weather Sampling Device

**(IV) Non-Divertible Truck mounted water pump Required**

In addition to a backpack water pump, shovel, and weather-sampling device, **all high-risk activities must have a non-divertible water pump equipped pick-truck** assigned to the operation. A trained observer that is familiar with the operation, the fire apparatus, the vehicle radio, and the location of the operation must staff the truck. The observer must remain in the immediate area of the truck; and the truck must remain in the immediate area of the activity being monitored.

**High Risk Activities include:**

Flailing, Disking, Operating Brush Hog Equipment and Grading in heavy brush areas with less than 10' of clearance and other like activities.

**(V) Non-Divertible Truck mounted water pump Not Required**

**Low to Moderate risk activities do not require a non-divertible water pump equipped pick-truck.** However, a shovel, 5-gallon backpack water pump and weather-sampling device must still be immediately available at the actual job site.

**Low to Moderate Risk Activities include:**

Weed-whacking, Torch Cutting, Spot Welding, High Wheel Mowing, Generators, Mowing light grass immediately adjacent to irrigated lawns where natural fire breaks like roads, creeks or paved paths are present.

**(VI) Exempted Activities**

It is not required to check weather conditions or suspend operations on red flag days when performing any type of work in or around well-irrigated green lawns or while using a leaf blower. However, shovels and backpack fire pumpers shall be near-by as a precautionary measure.

**DURING NON- FIRE SEASON, OPERATIONS CONDUCTED WITHIN OR ADJACENT TO GRASS, BRUSH OR FOREST AREAS WILL BE CONDUCTED USING THE FOLLOWING RULES:**

**(a) Prior to commencement of operations:**

**(II) Weather Samples will be taken at the job site**

If relative humidity is more than 30% operations can proceed without further weather monitoring or other fire fighting devices.

If original relative humidity reading is less than 30% the preceding operational rules for fire season will be followed.

## 4. Equipment Inspection and Record Keeping

- (a) Prior to May 1<sup>st</sup> of each calendar year, Santa Clara County will inspect all combustible engine equipment that is intended for use by the County in or adjacent to any grass, brush or forested areas within Santa Clara County. Inspected equipment must meet the requirements of section 4442 of the Public Resource Code. Equipment that has not been inspected shall not be used.

*Section 4442 of the Public Resource Code requires that any type of equipment that is powered by an internal combustion engine must be equipped with an approved spark arrestor. This does not include most motor vehicles if, they are equipped with an approved muffler system, routed properly, as described in the Motor Vehicle Code.*

- (b) Hired or contracted private equipment must meet the requirements of this plan. Inspection of hired equipment is the responsibility of the County.
- (c) Santa Clara County will maintain maintenance and inspection records for equipment related to this plan and make them available for inspection.

## 5. Applicable Laws and Regulations:

### CALIFORNIA HEALTH AND SAFETY CODE REFERENCE SECTIONS:

#### 13001. Causing Fire

Every person is guilty of a misdemeanor who, through careless or negligent action, throws or places any lighted cigarette, cigar, ashes, or other flaming or glowing substance, or any substance or thing which may cause a fire, in any place where it may directly or indirectly start a fire, or who uses or operates a welding torch, tar pot or any other device which may cause a fire, who does not clear the inflammable material surrounding the operation or take such other reasonable precautions necessary to insure against the starting and spreading of fire.

#### 13005. Use of Hydrocarbon Burning Engine Without Exhaust Spark Arrester

Every person is guilty of a misdemeanor who:

(a) Sells, offers for sale, leases, or rents to any person any tractor, engine, machine, or truck equipped with an internal combustion engine that uses hydrocarbon fuels, if either:

(1) It is specifically designed for use in harvesting or moving grain or hay or for use on land covered with any other flammable agricultural crop, unless the exhaust system of the engine is equipped with a spark arrester in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443 of the Public Resources Code.

(2) It is not specifically designed for any of the uses described in paragraph (1) but could be used for any of those uses, unless the person provides written notice to the purchaser or bailee at the time of sale or at the time of entering into the lease or rental contract stating that the use or operation of the engine on any flammable agricultural cropland is a violation of subdivision (b), unless the exhaust system is equipped with a spark arrester in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443 of the Public Resources Code.

(b) Operates or causes to be operated any tractor, engine, machine, or truck equipped with an internal combustion engine that uses hydrocarbon fuels in harvesting or moving grain or hay, or on land covered with any other flammable agricultural crop, unless the engine is equipped with a spark arrester maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to Section 4443 of the Public Resources Code.

*Spark arrester, as used in this section, is as defined in Section 4442 of the Public Resources Code. Spark arresters attached to the exhaust system of engines on equipment or vehicles, as described in this section, shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material. Motortrucks, truck tractors, buses, and passenger vehicles except motorcycles, are not subject to the provisions of paragraph (2) of subdivision (a) if the exhaust system is equipped with a muffler as defined in the Vehicle Code.*

**13007.** Any person who personally or through another willfully, negligently, or in violation of law, sets fire to, allows fire to be set to, or allows a fire kindled or attended by him to escape to, the property of another, whether privately or publicly owned, is liable to the owner of such property for any damages to the property caused by the fire.

## **CALIFORNIA PUBLIC RESOURCE CODE REFERENCES SECTIONS:**

**4427.** During any time of the year when burning permits are required in an area pursuant to this article, no person shall use or operate any motor, engine, boiler, stationary equipment, welding equipment, cutting torches, tarpots, or grinding devices from which a spark, fire, or flame may originate, which is located on or near any forest-covered land, brush-covered land, or grass-covered land, without doing both of the following:

(a) First clearing away all flammable material, including snags, from the area around such operation for a distance of 10 feet.

(b) Maintain one serviceable round point shovel with an overall length of not less than forty-six (46) inches and one backpack pump water-type fire extinguisher fully equipped and ready for use at the immediate area during the operation.

Section 4427 (b) of the Public Resource Code also requires these tools to be carried on each piece of equipment and that they be kept in a serviceable condition.

**4442.** (a) Except as otherwise provided in this section, no person shall use, operate, or allow to be used or operated, any internal combustion engine which uses hydrocarbon fuels on any forest-covered land, brush-covered land, or grass-covered land unless the engine is equipped with a spark arrester, as defined in subdivision (c), maintained in effective working order or the engine is constructed, equipped, and maintained for the prevention of fire pursuant to

**4443.** (b) Spark arresters affixed to the exhaust system of engines or vehicles subject to this section shall not be placed or mounted in such a manner as to allow flames or heat from the exhaust system to ignite any flammable material.

(c) A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service.

(d) Engines used to provide motive power for trucks, truck tractors, buses, and passenger vehicles, except motorcycles, are not subject to this section if the exhaust system is equipped with a muffler as defined in the Vehicle Code.

(e) Turbocharged engines are not subject to this section if all exhausted gases pass through the rotating turbine wheel, there is no exhaust bypass to the atmosphere, and the turbocharger is in effective mechanical condition.



## **6. CONTACT INFORMATION:**

### **County Communications – Control 12 Weather Conditions**

(408) 299-2507

### **California Department of Forestry and Fire Protection Morgan Hill Headquarters:**

(408) 779-2121

Ask for the ECC during regular business hours

### **ANY Fire Emergency:**

911

### **CDF / Santa Clara Fire Prevention Bureau:**

(408) 779-2121

## **Attachments:**

### **Sample Forms**

#### Attachment A

Weather Monitoring Sheet

# SANTA CLARA COUNTY WEATHER MONITORING LOG

AGENCY: \_\_\_\_\_ LOCATION: \_\_\_\_\_  
 OPERATOR: \_\_\_\_\_ DATE: \_\_\_\_\_

**PRIOR TO COMMENCEMENT OF AT RISK OPERATIONS INVOLVING EQUIPMENT IN DRY GRASS, BRUSH OR FOREST COVERED AREAS, STAFF WILL SECURE FIRE CONDITIONS FROM COUNTY COMMUNICATIONS (408) 299-2507.**

**NO OPERATIONS WILL OCCUR WITHIN 24 HOURS OF A PREDICTED RED FLAG DAY.**

RED FLAG DAY      Yes      No

TIME	HUMIDITY	WIND SPEED	TEMPERATURE	INITIALS	FIELD NOTES
600					
700					
800					
900					
1000					
1100					
1200					
1300					
1400					
1500					
1600					
1700					

Per Policy, Is a NON-DIVERTIBLE TRUCK MOUNTED FIRE PUMP WITH DRIVER REQUIRED?    YES    NO  
 Per Policy, A BACKPACK FIRE PUMP and ROUND POINT SHOVEL MUST BE ON SITE  
 IS REQUIRED EQUIPMENT ON SITE?    YES    NO

Prior to commencement of AT RISK OPERATIONS, weather samples will be recorded at the site. Additional weather samples will be recorded every **two hours** thereafter until completion of the operation.  
**If the ambient temperature reaches 80 degrees Fahrenheit at any time during the operation, weather samples must be taken and recorded hourly.**

Operations will cease immediately when:  
 The Humidity is AT or BELOW 30%, or  
 Sustained WIND SPEEDS reach 10 MPH or HIGHER