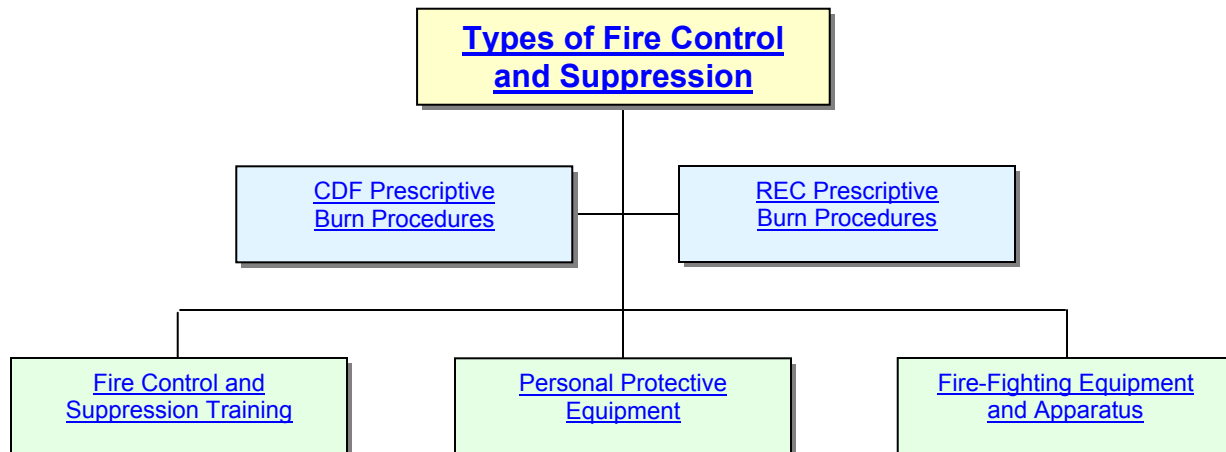


FIRE CONTROL AND SUPPRESSION



[Link to the entire Policy & Procedures \(12 pages\)](#)

**AGRICULTURE AND NATURAL RESOURCES
RESEARCH AND EXTENSION CENTER SYSTEM
POLICY AND PROCEDURES
FIRE CONTROL AND SUPPRESSION**

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ATTACHMENT

[Attachment A](#) - Fire Control and Suppression Flow Chart

**AGRICULTURE AND NATURAL RESOURCES
RESEARCH AND EXTENSION CENTER SYSTEM
POLICY AND PROCEDURES**

FIRE CONTROL AND SUPPRESSION

I. INTRODUCTION

As part of routine operational, research, and farming activities, Research and Extension Center (REC) and REC Administrative Office (AO) employees recognize the possibility for the outbreak of a fire. In addition, REC employees are aware that prescriptive fires are set for research, vegetation management, and practice purposes. Laboratory, office, shop, and other infrastructure buildings and pasture, range, or timber lands all potentially may experience fire outbreaks or prescriptive fires that require control or suppression responses from employees.

The purpose of this Policy and Procedures document is to delineate the types of fires, fire control and suppression responses, and training that are appropriate for REC and REC AO employees.

II. POLICY

RECs and REC AO are committed to protecting the health and safety of employees. Accordingly, personnel from RECs and REC AO have cooperatively developed a program that purposefully incorporates measures to reduce employee exposure to risks during fire control and suppression efforts and thereby, maximizing employee health and safety.

III. SCOPE

This Policy and Procedures document provides descriptions of standard procedures for assessing types of fires and determining the proper fire control and suppression responses. In addition, this document identifies the types and frequencies of fire control and suppression training required for REC and REC AO employees.

IV. TYPES OF FIRE CONTROL AND SUPPRESSION RESPONSES

A. Structure Fires

1. REC and REC AO employees are not authorized to fight structure fires.
2. Structure fires include fires that are burning the walls or roofs of buildings.
3. Fire fighting equipment available at RECs and REC AO is not designed (i.e., incapable) to control or suppress structure fires.

4. In the case of a structure fire, an alarm shall be sounded and employees shall be notified to promptly evacuate the structure and report to the designated REC or REC AO meeting place. Thereafter, immediately seek professional fire fighting assistance by dialing 911.

B. Semi-Contained Fires

1. Semi-contained fires are characterized by being of small or limited extent and not having spread beyond their starting point. Examples of semi-contained fires would be a small or limited fire occurring on a stove or hot plate or in a vehicle, implement, tractor, equipment, fume hood, locker, trash can, or dumpster.
2. Portable fire extinguishers are typically of suitable capacity for suppressing Class A, Class B, Class C, or Class D semi-contained fires.
3. The type of portable fire extinguisher must be compatible with the fire class. Accordingly, an ABC-rated portable fire extinguisher may be used on Class A, Class B, or Class C fires.
4. Portable fire extinguisher use is limited to those employees who voluntarily agree to use them and complete REC (or equivalent) portable fire extinguisher training.
5. Employees shall acknowledge receiving and understanding portable fire extinguisher training by signing and dating a training registration sheet.
6. Portable fire extinguishers shall be deployed according to the PASS acronym as follows:
 - P - Pull the pin.
 - A - Aim the extinguisher nozzle toward the base of the fire.
 - S - Squeeze the trigger while holding the canister upright.
 - S - Sweep the extinguisher from side to side, causing the fire area to be covered.
7. Employee volunteers must always locate and maintain an escape route between themselves and the semi-contained fire they are attempting to suppress.
8. Employee volunteers shall not attempt to use a portable fire extinguisher on a fire that is no longer semi-contained and has spread beyond its starting point.
9. Employee volunteers must leave the semi-contained fire area whenever:
 - a. The escape route becomes threatened;
 - b. The portable fire extinguisher becomes depleted; or
 - c. The fire becomes uncontrollable.
10. In the case of a semi-contained fire that cannot be suppressed or controlled, an alarm shall be sounded and employees shall be notified to promptly evacuate the expanded fire area and report to the designated REC meeting place. Thereafter, immediately seek professional fire fighting assistance by dialing 911.

C. Headquarters Protection

1. Protection of REC headquarters areas encompasses the use of portable fire extinguishers to suppress semi-contained fires and where available (i.e., Sierra Foothill and Hopland RECs), fixed fire boxes containing fire hoses for the control and suppression of vegetation fires threatening headquarters facilities and to protect threatened buildings from adjacent structural fires (i.e., utilize direct exterior attack methods only for wetting down buildings adjacent to a burning structure).
2. Portable fire extinguisher and fire hose use is limited to those employees who voluntarily agree to use them and complete REC (or equivalent) fire hose training.
3. Employees shall acknowledge receiving and understanding portable fire extinguisher and fire hose training by signing and dating a training registration sheet.
4. Portable fire extinguishers shall be deployed on headquarters area semi-contained fires as described above under [Paragraph IV.A.](#)
5. Fire hoses shall be deployed, under the direction of the senior REC employee volunteer, to control and suppress vegetation fires threatening headquarters area facilities or protect threatened buildings from an adjacent structure fire.
6. Employee volunteers must always locate and maintain an escape route between themselves and the headquarters area vegetation fire they are attempting to suppress.
7. Employee volunteer responses to headquarters vegetation fires should consist of standby fire observation and light fire suppression duties (i.e., fire mop-up duties or defensive suppression methods the employee volunteer is comfortable with).
8. Employee volunteers shall not attempt to use fire hoses on a fire that is uncontrollable.
9. Employee volunteers must leave the headquarters area vegetation fire area whenever the:
 - a. Escape route becomes threatened;
 - b. Fire hose water pressure cannot be sustained; or
 - c. Fire becomes uncontrollable.
10. In the case of a headquarters area vegetation fire that cannot be suppressed or controlled, an alarm shall be sounded and employees shall be notified to promptly evacuate the headquarters area vegetation fire zone and report to the designated REC meeting place. Thereafter, immediately seek professional fire fighting assistance by dialing 911.

D. Prescriptive Burns

1. Prescriptive burns are designed and implemented as vegetation management practices, practice burns, ecological research tools, REC management burns, or combinations of the foregoing.
2. Prescriptive burns do not encompass routine burning of brush piles. The local air district is responsible for approving routine burning of brush piles.

3. Prescriptive burns may be performed under the direction and responsibility of the California Department of Forestry and Fire Protection (CDF) or RECs. Responsibility for the types of prescribed burns given below are designated as follows:

| <u>Type of Prescriptive Burn</u> | <u>Responsible Group</u> |
|----------------------------------|--------------------------|
| Vegetation Management Program | CDF |
| Practice Burn | CDF |
| REC Management Burn | REC |
| REC Research Burn | REC |

4. All prescriptive burns conducted during the fire season require permit approval from CDF.
5. All prescriptive burns, regardless of the fire season, require approval from the local Air Quality Management District or Air Pollution Control District.
6. If a prescriptive burn requires a permit approval, then CDF is responsible for delineating the operational conditions, including burn size, for the prescriptive burn.
7. Certain prescriptive burns that qualify as either REC Management Burns or REC Research Burns and are conducted outside the fire season may not require permit approval from CDF. In these cases, the REC is responsible for meeting the procedural elements presented under [Paragraph VI](#).
8. REC employee participation in prescriptive burns is limited to those employees who voluntarily agree to participate and complete REC (or equivalent) prescriptive burn training.
9. REC employees who complete prescriptive burn training will be issued personal protective equipment that is commensurate with level of risk exposure.
10. Prior to participating in a prescriptive burn, REC employee volunteers shall review the prescribed burn plan and acknowledge awareness of their assigned tasks, escape routes, and emergency procedures by signing and dating a prescriptive burn plan review sheet.

E. Pasture, Range or Timber Wildfire

1. Upon outbreak of a pasture, range, or timber fire, REC employees shall immediately dial 911 to request professional fire fighting services.
2. REC employees who have completed prescriptive burn training and have been issued personal protective equipment may volunteer, with approval from their supervisor, to assist the professional fire fighting service.
3. Prior to assisting the professional fire fighting service, REC employee volunteers shall also complete any additional training appropriate for the level of risk exposure. The extent of additional training may vary among employee volunteers depending on the exposure to risk and requirements of the professional fire fighting service.

V. PROCEDURES FOR INITIATING CDF PRESCRIPTIVE BURNS

A. CDF Prescriptive Burn Planning Elements

1. The REC Superintendent shall begin the CDF prescriptive burn regulatory process by contacting and establishing coordination with the local CDF Battalion Chief.
2. CDF prescriptive burns shall be conducted under approved burn plans that are developed as part of the CDF permitting process.
3. RECs shall develop burn plans according to CDF requirements.

B. CDF Prescriptive Burn Approvals

1. The CDF prescriptive burn plan shall be submitted to the CDF Battalion Chief for approval by the CDF Division Chief.
2. REC Superintendents shall also obtain approval for the CDF prescriptive burn from the local Air Quality Management District or Air Pollution Control District.

C. CDF Prescriptive Burn Mobilization Activities

Based on information given in the approved CDF prescriptive burn plan including permit conditions, the REC Superintendent in consultation with the REC Safety Coordinator shall:

1. Provide employee volunteers with necessary personal protective equipment as described under [Paragraph VIII. B.](#) and fire fighting equipment and apparatus as described under [Paragraph IX.](#)
2. Schedule and complete employee volunteer training as described under [Paragraph VII. C.](#)

D. Initiating the CDF Prescriptive Burn

1. Based on information given in the approved CDF prescriptive burn plan including permit conditions, the REC Superintendent in consultation with the REC Safety Coordinator and CDF Battalion Chief shall:
 - a. Prior to initiating the prescriptive burn, perform weather testing to assure conditions meet the requirements described in the approved permit and plan.
 - b. If weather conditions exceed the established parameters for the prescribed burn, then cancel and reschedule the prescribed burn.
 - c. Review the prescribed burn checklist to assure all employee volunteers and equipment are in place and communication systems are functioning.

2. Upon determining all conditions of the burn plan and permit have been met, the REC Director in consultation with the REC Superintendent and CDF Battalion Chief shall make the final decision to authorize initiation of the prescribed burn.

VI. PROCEDURES FOR INITIATING REC PRESCRIPTIVE BURNS

A. REC Prescriptive Burn Planning Elements

1. The REC Superintendent shall begin the prescriptive burn process by contacting the local CDF Battalion Chief to determine whether CDF will require a permit for the proposed REC prescriptive burn and wants to actively participate in the prescriptive burn.
2. If CDF determines that a permit will be required for the proposed REC prescriptive burn, then the procedures described under [Paragraph VI.](#) shall be followed.
3. REC prescriptive burns are conducted under approved burn plans that are developed as part of an internal REC process. REC prescriptive burn plans should incorporate the following:
 - a. A map depicting the area to be burned plus nearby structures and facilities, access roads, primary and secondary fire lines and breaks, and escape routes.
 - b. Descriptions of specific prescribed weather conditions that need to be met prior to ignition, including ranges of relative humidity, temperature, and wind speed.
 - c. Descriptions of the procedures to be used to initiate and maintain the prescriptive burn.
 - d. Descriptions of the deployment of fire-fighting apparatus, equipment, and personnel.
 - e. Descriptions of personal protective equipment to be used.
 - f. Descriptions of communication methods, equipment, and channels.
 - g. Descriptions of emergency actions to be taken if the wind velocity or direction changes and causes the prescriptive burn to change velocity or direction.
 - h. Descriptions of the dangers of fire encroaching upon petroleum storage tanks, live electrical wires, and liquid propane tanks.
 - i. Descriptions of how the prescriptive burn will be monitored and personnel will be deployed to suppress spot fires.
 - j. Descriptions and documentation of participating employees fire control and suppression training.
4. The REC prescribed burn plan shall be signed and dated by the author.

B. REC Prescriptive Burn Plan Approval

1. REC Superintendents shall obtain approval for the REC prescriptive burn from the local Air Quality Management District or Air Pollution Control District.

2. All REC prescriptive burn plans shall be reviewed and approved in writing by the REC Director in consultation with the REC Superintendent and if appropriate, the REC Safety Coordinator.

C. REC Prescriptive Burn Mobilization Activities

Based on information provided in the REC prescriptive burn plan, the REC Superintendent in consultation with the REC Safety Coordinator shall:

1. Requisition or purchase the required personal protective equipment as described under [Paragraph VIII. B.](#) and fire fighting equipment and apparatus as described under [Paragraph IX.](#)
2. Schedule and complete employee volunteer training as described under [Paragraph VII. C.](#)
3. Implement pre-burn maintenance and field actions such as testing communication systems, servicing equipment, and identifying and establishing the burn date and time, primary and secondary fire breaks, escape routes, and staging areas.

D. Initiating the REC Prescriptive Burn

1. Based on information provided in the approved REC prescriptive burn plan, the REC Superintendent in consultation with the REC Safety Coordinator shall:
 - a. On the day of the burn, notify CDF and the local Air Quality Management District or Air Pollution Control District of the intent to initiate the prescribed burn.
 - b. Cancel and reschedule the prescribed burn if CDF or the local Air Quality Management District or Air Pollution Control District object to initiating the prescribed burn.
 - c. Prior to initiating the prescriptive burn, perform weather testing to assure conditions meet the requirements described in the approved plan.
 - d. Cancel and reschedule the prescribed burn if weather conditions exceed the established parameters for the prescribed burn.
 - e. Review the prescribed burn checklist to assure all employee volunteers and equipment are in place and communication systems are functioning.
2. Upon determining all conditions of the burn plan and permit have been met, the REC Director in consultation with the REC Superintendent shall make the final decision to authorize initiation of the REC prescribed burn.

VII. FIRE CONTROL AND SUPPRESSION TRAINING

A. Semi-Contained Fire Training

1. All REC and REC AO employees who voluntarily agree to use portable fire extinguishers shall undergo initial training and annual training thereafter.

2. Portable fire extinguisher training shall encompass, at a minimum, the following:
 - a. Descriptions of semi-contained fires.
 - b. A discussion of the classes of fires and portable fire extinguisher ratings.
 - c. A description of the limitations of portable fire extinguishers.
 - d. An explanation of the PASS acronym.
 - e. A discussion of fire escape routes.
 - f. A demonstration of portable fire extinguisher deployment that includes employee participation.
 - g. An explanation of the portable fire extinguisher inspection requirements.

B. Headquarters Protection Training

1. All REC and REC AO employees that voluntarily agree to use portable fire extinguishers and fixed fire boxes containing fire hoses shall undergo initial training and annual training thereafter.
2. Portable fire extinguisher training shall encompass, at a minimum, the topics presented under [Paragraph VII.A.2.](#)
3. Fire hose training shall encompass, at a minimum, the following:
 - a. Descriptions of vegetation fires that could threaten headquarters facilities.
 - b. A discussion of the types of responses to protect headquarters facilities, including standby spot fire observation and light fire suppression duties.
 - c. An explanation of hose nozzle mechanics.
 - d. A discussion of the limitations of the REC fire hoses, including the effects of water pressure and hose diameter.
 - e. A presentation that addresses locating and maintaining escape routes.
 - f. A demonstration of fire hose deployment that includes employee participation.
 - g. An explanation of potential light fire suppression hazards, including eye injuries, skin burns, heat exhaustion and dehydration, inhalation of smoke or other hazardous materials, and back injuries.
 - h. A description of the appropriate personal protective equipment (PPE) for use in headquarters protection, including discussion of PPE limitations and storage.
 - i. An explanation of the fire hose inspection program.

C. Prescriptive Burns

1. All REC employees who voluntarily agree to assist CDF personnel with conducting vegetation management practice or practice burns or participate in a REC management or research burn shall undergo initial training and annual training thereafter.

2. Volunteer employees shall have completed fire hose training that encompasses, at a minimum, the topics presented under [Paragraph VII.B.3.](#)
3. Additional training for volunteer employees should encompass the following types of topics:
 - a. A description of the prescribed burn, including review of the prescriptive burn plan.
 - b. A discussion of the types of fire-fighting apparatus that may be used, including instruction on the proper use and hazards of the apparatus (i.e., bulldozer track layers, water trucks, chainsaws, etc.).
 - c. If a burn area does not support or provide for an escape route or safe zone that employees can retreat to within 20 seconds, information shall be provided about how they will be issued fire shelters and complete a training course in fire shelter deployment.
 - d. For employees that operate bulldozer track layers to establish fire breaks or clear undergrowth and trees, information shall be provided about how they will be issued fire shelters and complete a training course on fire shelter deployment.
 - e. An explanation of potential prescriptive burn hazards, including falling debris, tripping over rocks and fallen timber, snake bites, insect bites and stings, poison oak, barbed wire fences, and high pressure hose breaks.
 - f. A discussion of fire entrapment avoidance.
 - g. A description of fire behavior under varied weather conditions.

D. Pasture, Range or Timber Wildfires

1. All REC employees who voluntarily agree to assist the professional fire fighting service with conducting wildfire control and suppression shall undergo initial training and annual training thereafter.
2. Initial wildfire training shall encompass CDF training or equivalent.
3. Volunteer employees shall have completed fire hose training that encompasses, at a minimum, the topics presented under [Paragraph VII.B.3.](#)
4. Additional training for volunteer employees should encompass the types of topics described in [Paragraph VII.C.3.](#)

VIII. PERSONAL PROTECTIVE EQUIPMENT (PPE)

A. Headquarters Protection PPE

1. Employees who voluntarily agree to control and suppress vegetation fires threatening REC headquarters areas and to protect threatened buildings from adjacent structural fires shall, at a minimum, wear the following PPE:
 - a. Trousers.
 - b. Long-sleeve shirt.
 - c. Gloves.
 - d. Eye protection.
 - e. Head protection.

- f. Leather boots.
2. As necessary, employee volunteers will be issued PPE (i.e., gloves and eye and head protection).
- B. Prescriptive Burn PPE
1. Employees who voluntarily agree to control and suppress prescriptive burns shall, at a minimum, wear the following PPE:
 - a. Fire-resistant trousers.
 - b. Fire-resistant long-sleeve shirt.
 - c. Fire-resistant gloves.
 - d. Head protection with goggles and shroud.
 - f. Leather boots.
 2. As necessary, employee volunteers will be issued additional PPE (i.e., fire-resistant clothing and gloves, eye and head protection, fire shelters).
- C. Pasture, Range or Timber Wildfires
1. Employees who voluntarily agree to control and suppress wildfires shall, at a minimum, wear PPE described in [Paragraph VIII.B.1.](#)
 2. As necessary, employee volunteers will be issued additional PPE (i.e., fire-resistant clothing and gloves, eye and head protection, fire shelters).
 3. At all times during wildfire deployment, a potable drinking water source will be made available to employee volunteers.

IX. FIRE-FIGHTING EQUIPMENT AND APPARATUS

- A. As part of fire-fighting activities, employee volunteers may use the following types of equipment and apparatus:
1. Bulldozer track layer.
 2. Water truck (also termed a water tender by CDF).
 3. 500 gallon brush rig (also termed a Type III engine by CDF).
 4. 100 to 300 gallon skid mounted pump.
 5. Field tank sprayers.
 6. Indian back pumps.
 7. Portable fire extinguishers.
 8. Chain saws.
 9. McCleod tools.
 10. Fire rakes.
 11. Shovels.
 12. Hard hats.
 13. Gloves.
 14. Eye protection.
 15. Fire-resistant clothing.
 16. Shrouds.
 17. Fire shelters.

18. Portable radios.
19. Pocket Weather Station or sling psychrometer kit.
20. Pulaski tools.

- B. Employee volunteers shall receive initial equipment and apparatus training prior to using the items listed under [Paragraph IX.A.](#)
- C. Employee volunteers shall receive refresher training for items listed under [Paragraph IX.A.](#) either annually, when the equipment or apparatus changes, or at five-year intervals.