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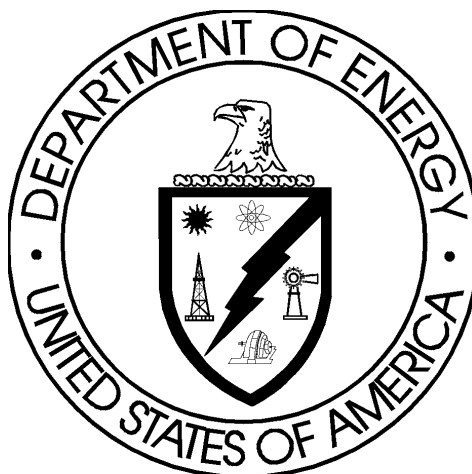
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## IMPLEMENTATION GUIDE

# WILDLAND FIRE MANAGEMENT PROGRAM for Use with DOE 450.1, *Environmental Protection Program*

*[This Guide describes suggested nonmandatory approaches for meeting requirements. Guides are not requirements documents and are not to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice, or Manual.]*

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Washington, D.C. 20585**

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## FOREWORD

DOE Order 450.1, *Environmental Protection Program*, requires all Department of Energy (DOE) elements to incorporate an environmental management systems (EMS) approach into their Integrated Safety Management Systems (DOE P 450.4). DOE O 450.1, defines an EMS as a continuing cycle of planning, implementing, evaluating and improving processes and actions undertaken to achieve environmental goals. The Order also mandates the inclusion of policies, procedures, and training to identify activities with significant environmental impacts in the EMS, as well as methods for managing, controlling, and mitigating the impacts of these activities. The Order specifically states that the protection of resources from wildland and operational fires should be considered (DOE O 450.1 § b(1)(e)). In addition, a February 24, 2003, memorandum, "Department of Energy (DOE) Wildfire Management Policy," from the Secretary of Energy to the Under Secretary for Energy, Science and Environment and the Administrator of the National Nuclear Security Administration directed each Program Secretarial Officer to ensure that sites have wildland fire management plans in place that are consistent with *2001 Federal Wildland Fire Management Policy and Implementing Actions*.

This guidance document was developed to assist DOE program managers in meeting the requirements in DOE O 450.1 and the direction contained in the Secretarial Memorandum. Additionally, DOE O 420.1A, *Facility Safety*, requires compliance to Codes and Standards of the National Fire Protection Association (NFPA) including NFPA Standard 1143, *Wildland Fire Management*, and NFPA Standard 1144, *Protection of Life and Property from Wildfire*.

Established wildland fire management programs may already have most if not all of the elements required by an ISMS/EMS. Parts of a site's wildland fire management program may be very mature, for example, emergency preparedness and response, roles and responsibilities and training, while other parts of the site's wildland fire management program may not be as mature, for example, aspects and impacts identification, cultural resource protection, groundwater protection, air quality protection and ISMS/EMS self assessments. It is possible that most or all of the elements of the ISMS/EMS can be found in the existing wildland fire management program. It is advisable to build on existing systems rather than invent new ones. As noted in the text, the guidance may also be useful in the development of plans and procedures for meeting requirements of DOE O 430.1B and DOE O 440.1A.

This guide imposes no requirements; rather, it provides recommendations, alternatives, and approaches for implementing the requirements set forth in directives, secretarial policy, and regulations. Relevant guidance was extracted from U.S. Forest Service Manual 5100, *Fire Management*. All guidance and recommendations may not be relevant or useful for all DOE sites, but it is provided here to ensure that DOE and its contractors consider and address issues that might be pertinent.

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## *Wildland Fire Management*

### **1 INTRODUCTION**

Following the devastating wildland fires that occurred in the western United States in 2000, Federal agencies with land management responsibilities began to reexamine their wildland fire management programs. Responding in a proactive and responsible manner, DOE imposed a moratorium on all prescribed burning (Secretarial Memorandum, “Moratorium on Prescribed Fires,” dated June 5, 2000) while initiating an evaluation of its fire management programs. However, recognizing that its field sites had a responsibility to continue to address the issue of prescribed burning, DOE instituted a requirement whereby DOE Headquarters would review and approve all prescribed burning activities. The responsibility for approving prescribed burning activities was eventually transferred to field office managers to expedite approval of prescribed burning requests (Secretarial Memorandum, “Fire Management Program Direction,” dated May 11, 2001).

This guidance document was prompted by the issuance of a Secretarial Memorandum, “Department of Energy Wildland Fire Management Policy,” dated February 24, 2003, which requires sites to have a wildland fire management plan consistent with Federal policy (*2001 Federal Wildland Fire Management Policy*). The Secretarial Memorandum also requires site fire management plans to be consistent with DOE O 450.1, *Environmental Protection Program*, section 4.b(1)(e), which requires the protection of site resources from wildland and operational fires.

The guidance that follows is based on the findings and recommendations of the *2001 Federal Wildland Fire Management Policy* and U.S. Forest Service recommendations (Forest Service Manual 5100, *Fire Management*). As with all guidance, site management should consider specific site needs and tailor the fire management program to the unique conditions and requirements of the site.

In general, DOE field elements are responsible for developing, implementing, and overseeing protection programs for individuals and assets under their cognizance. This includes protecting assets from internal structural fire damage and from the conflagration potential associated with the external wildland fire. A Wildland Fire Management Program comprises the full range of activities and functions necessary to plan, prepare, and respond to potential fires and rehabilitate undeveloped lands following a fire. General recommendations for the development of a Wildland Fire Management Program are as follows (see also NFPA Standard 1143, *Wildland Fire Management*.)

- 1.A. Integrate consideration of fire management into the DOE land-use planning and management process, objectives and practices. When developing fire management direction in the land-use planning and management process, identify the foreseeable

effects or enhancements that fire would have on the environment, as well as its impact on any hazardous or mission critical areas including National Security interests.

- 1.B. Develop a Fire Management Plan based on direction in the site land-use planning and management process. Amend Fire Management Plans as necessary to meet land management objectives.
- 1.C. Conduct fire management planning, preparedness, suppression, monitoring, and, where necessary, prescribed fire use on an interagency basis with stakeholder involvement.
- 1.D. Observe the following fire management priorities on all fires.
  - Ensure firefighter, worker, and public safety.
  - Protect mission property and natural and cultural resources based on the relative values to be protected.
- 1.E. Initiate suppression of all wildland fires (except those classified as prescribed fires) as well as any escaped site operational fires conducted in wildland areas, in accordance with applicable procedures. Site management should adopt the concept that a fire within wildland areas will be classified as a wildland fire, a prescribed fire, or an operational fire and should not permit other fires, hot work, or fuel ignition without the proper classification.
- 1.F. Protect the interface between wildlands and all facilities and bordering structures from damage, in accordance with NFPA Standard 1144, *Protection of Life and Property from Wildfire*.
- 1.G. Where appropriate, include a wildland fire risk assessment in other safety documents, such as the Fire Department Baseline Needs Assessment, facility Documented Safety Analysis and Fire Hazards Analysis, or other documents that analyze hazards to specific DOE structures, processes, or programs.

## **2 FIRE MANAGEMENT - WILDLAND/URBAN INTERFACE**

The zone where structures and other human development meet or become intermingled with undeveloped wildland is referred to as the wildland/urban interface. The objectives of wildland/urban interface fire management are (1) to facilitate fire prevention and protection and minimize fire loss and damage to structures, other human development, and wildland resources; (2) to prevent a structure fire from spreading into wildland fuels; and (3) to encourage property owners to take an active role in establishing and maintaining their own fire prevention and safety measures in the wildland/urban interface. The following recommendations are applicable to this category.

- 2.A. Document DOE wildland fire protection and suppression assistance in mutual-aid agreements with all emergency response organizations engaged in such activities.

- 2.B. Collaborate with outside emergency response organizations to (1) establish and update cooperative agreements that recognize the jurisdictional protection responsibilities and assistance capabilities of the respective cooperators; (2) educate wildland firefighters about safe operational procedures in the wildland/urban interface and provide training in safe wildland firefighting operations for structural firefighters who respond to wildland/urban interface fires; (3) provide education to adjoining property owners on fire risks and hazards and on fire prevention responsibilities and actions to minimize losses and damage to structures and lands in the wildland/urban interface; (4) assess, analyze, and plan for fire prevention and protection in conjunction with other Federal, tribal, state, county, and local government entities and with community and citizen groups; (5) integrate wildland/urban interface considerations in the DOE land-use planning and management process, as well as in program project and plans; (6) implement fuel modification projects to mitigate fire hazards; (7) adopt special building construction requirements in wildland/urban interface areas, such as the construction requirements of NFPA 1144; and (8) implement other practices that reduce wildland fire risks.

### **3 WILDLAND FIRE PREVENTION**

The objective of wildland fire prevention is the cost-efficient reduction of fire suppression expenditures and damages from human-caused fires to levels commensurate with resource and mission management objectives and fire management direction. DOE site wildland fire prevention should be:

- 3.A. Planned and evaluated using the Fire Plan Analysis (FPA). (See Appendix B);
- 3.B. Coordinated with local stakeholders to encourage planning and analysis of stakeholder lands in accordance with wildland fire prevention programs utilizing the FPA; or,
- 3.C. Coordinated with other agencies where risks affect other jurisdictions.

### **4 WILDLAND FIRE PREPAREDNESS**

As used in fire management, wildland fire preparedness includes all fire management activities planned and accomplished in advance of wildland fire ignition to ensure safe, efficient, and effective suppression action. Activities include preparedness planning, fire detection, dispatching suppression forces, developing communication systems, rating fire danger, fire weather monitoring, fire suppression training and qualification, and prescribed fire support. Related direction is found in NWCG, PMS 310-1, *Wildland and Prescribed Fire Qualification System Guide*, FSH 5109.18, *Wildfire Prevention Handbook*, Appendix B; the *Fireline Handbook*; and the *National Interagency Mobilization Guide* (NFES 2092), published by the National Interagency Fire Center.

DOE field elements and site management contractors should ensure that sites plan, organize, and implement a cost-effective wildland fire preparedness program that includes the following elements.

- 4.A. Safety. Continue to give high priority to the safety of fire management operations including fire suppression training and the development of a qualified and experienced wildland fire management organization.
- 4.B. Interagency Planning. Developing and conducting preparedness activities in conjunction with other Federal land managing agencies as well as other Federal, state, and local partners, such as the Federal Emergency Management Agency (FEMA); the Environmental Protection Agency (EPA); the National Oceanic and Atmospheric Administration (NOAA); the Department of Defense (DOD); and state and local wildland fire management planning, response, and recovery organizations.
- 4.C. Site Integration. Ensuring integration with the site land-use planning and management process and approved Integrated Safety Management Systems.

#### **4.1. Preparedness Planning**

Preparedness planning provides for timely recognition of approaching fire management situations and for setting priorities, deploying resources, and considering other actions to respond to those situations. Wildland fire preparedness planning should include the following.

- 4.1.A. Preparedness Plans and Reviews. The purpose of preparedness plans and reviews is to ensure the timely recognition of and appropriate response to fire management situations and to provide the basis for ensuring program accountability. Preparedness planning requires (1) an intelligence system, (2) an analysis and decision-making process, and (3) identified actions to be taken at increasing levels of fire severity and activity (preparedness level). Preparedness plans should be documented in a site mobilization guide or other appropriate document.
- 4.1.B. Intelligence System. Each site should have a system in place to gather the information on both wildland and prescribed fires that is needed to permit timely decision making. One option is to coordinate with Geographic Area Coordination Centers (GACC) to submit a daily Interagency Situation Report to the National Interagency Coordination Center (NICC) during the region's established fire season.
- 4.1.C. Analysis and Decision Making. It is essential that DOE site management evaluate those factors that may significantly affect national, regional, and site fire situations and individual fire response actions. Among the factors that should be considered are existing and potential fire severity; suppression resource commitment and availability; prescribed fire activity; wildland fire use and

mission; and interagency environmental, social, political factors or other pertinent factors. Alternative actions for responding to increasing levels of fire severity and activity must also be developed.

- 4.1.D. Preparedness Actions. When developing preparedness plans, consider the following:
  - 4.1.D.i. Actions for responding to fire preparedness levels (National Interagency Mobilization Guide, NFES 2092);
  - 4.1.D.ii. Preparedness levels and actions addressing the full range of anticipated fire danger and activities;
  - 4.1.D.iii. Documented processes to coordinate actions among cooperating agencies and to transmit decisions promptly to all affected organizations, including adjacent units and cooperators; and,
  - 4.1.D.iv. Schedules and approaches for conducting preparedness reviews.
- 4.1.E. Fire Management Plan. Prepare a plan documenting the fire management program that most effectively achieves land-use planning and management process direction (See Appendix B).
- 4.1.F. Site Fire Plan. Prepare annual site fire plans for any activity that increases wildland fire risk or constitutes a wildland fire hazard, such as land clearing, timber harvesting, mining, and power line or highway construction. These plans should describe the responsibilities.
- 4.1.G. Cooperative Firefighting Agreements. Line officers should annually, or as otherwise required, review and update all cooperative wildland fire agreements.

#### **4.2. Fire Weather Forecasting and Monitoring**

As necessary, determine, establish, and maintain sufficient fire weather forecasting and monitoring capability to support the National Fire Danger Rating System (NFDRS) and wildland fire management activities. Communicate and post the current NFDRS fire danger rating and implement preplanned operation limits when fire danger exceeds a “high” rating.

#### **4.3. Preparedness Training and Qualifications**

Provide training adequate to meet fire management needs. Ensure that cognizant DOE and contract employees meet standards for training, experience, and physical fitness before they are certified for wildland fire organization positions. Site management should adhere to the qualifications standards established by the NWCG, NFPA and state or local laws or regulations.



## 5 WILDLAND FIRE SUPPRESSION

The objective of this activity is to safely suppress wildland fires at minimum cost consistent with land and resource management objectives and fire management direction as stated in fire management plans. Expectations or actions to take in the event of a wildland fire include the following.

- 5.A. Ensure that suppression planning, operations, and personnel comply with the wildland fire suppression principles and practices that are set out in the DOE Wildland Fire Management Program and associated procedures.
- 5.B. Conduct fire suppression in a timely, effective, and efficient manner, giving the first priority to firefighter and public safety.
- 5.C. Decide how to organize and conduct suppression operations (suppression strategies). Line managers should minimize both suppression cost and resource loss consistent with the resource management objectives for the values to be protected. Consider fire behavior, the availability of suppression resources, the value of natural resources and property at risk, direction in the site land-use planning and management process, and the potential cost of suppression. Consider using a wildland fire situation analysis to document suppression strategy decisions
- 5.D. Conduct a cost-effective initial attack on any wildland fire not considered as an operational fire or a prescribed fire.
- 5.E. Respond to each reported wildland fire with planned forces and tactics as directed in the fire management plan.
- 5.F. Employees who discover a potential wildland fire are expected to take initial action consistent with their wildland fire qualifications. Employees without wildland fire qualifications are not expected to take initial action to suppress the fire. However, every DOE and DOE contract employee has a responsibility to support and participate in wildland fire suppression support activities as the situation demands. Wildland fire suppression is not limited to those employees with skills in wildland fire operations; rather, it may require the skills of employees in fiscal, human resource, telecommunications, communications, or other areas.
- 5.G. As necessary, notify the National Interagency Fire Center within 24 hours of any wildland fire entrapment. Entrapments are situations where personnel are unexpectedly caught in a fire-behavior-related, life-threatening position where planned escape routes or safety zones are absent, inadequate, or compromised. An entrapment may or may not include deployment of a fire shelter for its intended purpose. These situations may or may not result in injury; they include near misses (NWCG, NFES 1832, PMS 205, November, 1996). The responsible line manager should investigate all fire entrapments promptly and thoroughly.

### **5.1. Suppression Action on Private Land**

Sites may develop a written reciprocal mutual aid or dedicated service agreement with a fire organization to render emergency assistance in suppressing fires and preserving life and property within the vicinity of the site from the threat of fire. Permission to conduct suppression activities on private land should be obtained from the landowner when feasible; however, suppression action should not be delayed while permission is sought.

### **5.2. Fire Suppression Safety**

All activities should reflect a commitment to firefighter and public safety as the first priority. DOE site management contractors should (1) establish procedures for issuance, use, and accountability of personal protective clothing and equipment; (2) ensure that training, use, appropriate employee medical surveillance programs, and maintenance and storage of the protective equipment comply with applicable standards; (3) provide 8 hours of annual wildland fire safety refresher training to personnel directly involved with such activities; and, (4) ensure that work supervisors are responsible for the safety of employees engaged in wildland fire management activities.

## **6 FUELS MANAGEMENT**

Fuels Management is the practice of evaluating, and treating wildland fuel to either reduce flammability or meet environmental goals by mechanical, chemical, biological, or manual means, including prescribed fire in support of the site land-use planning and management process. DOE sites should integrate fuel management and fire management programs in support of the following resource management objectives.

- 6.A. Use an interdisciplinary approach to integrate fuel management planning into all appropriate activities.
- 6.B. Identify, through economic analysis, the most cost-efficient fuel profile to meet resource management direction. Consider a full range of fuel management alternatives, including no treatment. Fuel management activities should be responsive to long-term site productivity, utilization opportunities, and air quality considerations.
- 6.C. Where a management activity, such as timber sales, thinning, or road construction, contributes to an unacceptable fuel profile, modify that activity to reduce its incremental contribution to the fuel profile.
- 6.D. On lands where repetitive management activities will occur, evaluate the projected fuel profile to determine the most cost-efficient time(s) of entry and the level of treatment(s).
- 6.E. Manage fuel in accordance with fire management direction in the site land-use planning and management process.

- 6.F. Inventory fuels and prepare a wildland fire risk assessment to be used in prioritizing treatment areas.
- 6.G. Be aware that defensible space areas, strategic fuel breaks, utility corridors, and safety zones require more intensive fuels management than wildland areas.

### **6.1. Fuel Treatment**

Initiate fuel treatment in accordance with land and fire management plans. Establish priorities for treatment of fuel in these plans. Consider the following treatment options, prioritized in the order listed, when developing fuel management direction and plans.

- 6.1.A. Utilization. Use methods that reduce unwanted fuel through improved harvest techniques or through higher utilization standards. Favor utilization when the cost of onsite treatment equals the cost of removal for utilization.
- 6.1.B. Rearrangement. Redistribute fuel onsite to a condition that is less hazardous or one that enables more rapid deterioration or more effective disposal.
- 6.1.C. Removal. Remove unwanted fuel offsite for further utilization, storage, or disposal. (Test material before moving offsite to ensure that it is not contaminated.)
- 6.1.D. Disposal. Reduce or eliminate unwanted fuel onsite. Disposal methods include manual, mechanical, chemical, biological, and prescribed fire treatments and their associated activities.
- 6.1.E. Conversion. Replace hazardous fuel with less flammable fuel or fuel that offers less resistance to suppression.
- 6.1.F. Non-treatment. Where appropriate, identify if and when fire program costs plus anticipated net value changes do not justify fuel treatment.
- 6.1.G. Interim Protection. Provide protection on an interim basis only when the hazard of newly created fuel cannot be abated in a timely manner and when:
  - 6.1.G.i. An analysis of hazard and risks fully supports the cost-effectiveness of interim protection; and ;
  - 6.1.G.ii. Treatment takes place as soon as practical following creation of the hazard.
- 6.1.H. Supplemental Protection. Use supplemental protection only if the economic analysis indicates that this is the most cost-efficient means of mitigating the fire hazard until deterioration of fuel makes such protection unnecessary. Supplemental protection may be justifiable in limited situations as part of an

overall land management strategy. When justified, the responsible authority should annually review and approve the continued use of supplemental protection.

## **6.2. Fuel Treatment Through Prescribed Fire**

The objectives of prescribed fire use are (1) to use fire from managed ignitions in a safe, carefully planned, cost-effective manner to benefit, protect, maintain, and enhance DOE lands; (2) to reduce future fire suppression costs; and (3) to the extent possible, restore natural ecological processes and achieve the management objectives adopted in the approved land-use planning and management process for the site. The following fire use recommendations apply.

- 6.2.A. All proposals and decisions to use prescribed fire are subject to site analysis, documentation, and disclosure requirements for complying with the national environmental policy (Clean Air Act - 42 U.S.C. 7401 et seq.).
- 6.2.B. A Prescribed Fire Burn Plan (RxBP) meeting interagency requirements, including the use of fire complexity, should be prepared and approved before prescribed fire ignition. A decision to amend a RxBP requires approval at the same or a higher level of authority as required to approve the initial plan.
- 6.2.C. A prescribed fire may be implemented only with trained and qualified personnel. No less than the organization described in the approved RxBP may be used to implement the project. The size and complexity of each prescribed fire will determine the size of the organization needed to safely achieve the objectives of the project. Workforce and equipment needs should be coordinated to ensure that fire use and contingency actions do not exceed site capabilities and are coordinated with mutual aid responders. A qualified burn boss should conduct each prescribed burn.
- 6.2.D. Pre-Ignition Briefing and Forecast Requirements. Assigned personnel should be briefed before ignition to ensure that personnel safety considerations are clearly understood and prescribed burn objectives are clearly defined. During the briefing, discuss elements of the Job Hazard Analysis (JHA) specific to each individual job task. Take into account the slope of terrain and the fuel conditions in which employees will be working and have clearly defined escape routes. Each individual should know and understand his or her role and responsibility for maximizing accomplishment of prescribed fire objectives while minimizing personal safety risk. Obtain a project-specific weather forecast prior to ignition. The forecast should include all fire-behavior-related weather elements that are considered critical to personnel safety and attainment of prescribed fire objectives. Examples of weather parameters to be evaluated are wind speed, wind direction, relative humidity, temperature, and severe weather potential.

- 6.2.E. **Smoke Management.** Air quality considerations are an integral part of the fire use program (see Smoke Management discussion, pages C-3 and C-4 in Appendix C). Coordinate fire use applications with the appropriate air quality specialists and comply with all Federal, state, tribal, and local clean air, smoke mitigation, and visibility regulations applicable to prescribed fires. Appropriate computer modeling techniques may be used as described in the Implementation Guide (see Appendix A) to estimate potential downwind impacts. Smoke management contingency plans may be developed to mitigate potential negative or unacceptable impacts of smoke on air quality in such areas as Class I air sheds, identified smoke sensitive areas, hospitals, main travel routes, and airports.

## **7 FIRE REPORTS**

Timely reports of fire activities provide information essential for land and resource management and for both internal and external administrative purposes. The DOE site offices (through site management contractors) should log a report for each wildland fire in accordance with standard site fire reporting methods, in addition to any other reporting requirements, such as the Occurrence Reporting and Processing System and reporting requirements of the National Interagency Fire Center. A prescribed fire that burns out of prescription and is declared a wildland fire should be reported as a wildland fire.

## **Appendix A**

### **Definitions and References**

**DEFINITIONS.** The source for many of the following definitions is the interagency document, *Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide*. These definitions are provided so that common terminology is used, as appropriate, in DOE Wildland Fire Management planning

Contingency Plan: A backup plan of action for implementation when actions described in the primary plan are no longer appropriate. On prescribed fires these are the actions to be taken if the fire is declared out of prescription and is designated a wildland fire.

Escaped Fire: A fire that has exceeded, or is anticipated to exceed, preplanned initial action capabilities or the fire management direction.

Fire Management Area (FMA): A subgeographic area within a fire management unit (FMU) that represents a predefined ultimate acceptable management area for a fire managed for resource benefits. This predefined area can constitute a maximum manageable area (MMA) and is useful for those units having light fuel types conducive to very rapid fire spread rates. Predefinition of these areas removes the time lag in defining an MMA after ignition and permits preplanning of the fire area; identification of threats to life, property, resources, and boundaries; and identification of initial actions.

Fire Management Plan (FMP): A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. The plan is supplemented by operational plans, such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

Fire Management Unit (FMU): Any land management area definable by objectives, topographic features, access, values to be protected, political boundaries, fuel types, major fire regimes, and so forth, that set it apart from management characteristics of an adjacent unit. The FMUs are delineated in FMPs. These units may have dominant management objectives and preselected strategies assigned to accomplish these objectives.

Fire Use: The use of prescribed fire to meet resource objectives.

FSH: Forest Service Handbook

Fuel: Combustible wildland vegetative materials, living or dead.

Fuel Ignition: Pyrolysis of combustible material through either natural or human action.

Fuel Treatment: The manipulation of wildland fuel, such as lopping, chipping, crushing, piling and burning, or removal for the purpose of reducing its flammability or resistance to control.

Hazard: The measure of ease of ignition, fire spread potential, and fire suppression difficulty as influenced by the type, volume, size, distribution, condition, arrangement, and location of the fuel profile.

Hot Work: Human activities that create a potential for unwanted fuel ignition.

Land-use planning and management process: A process examining the environmental impact, consequences and recommended practices for DOE land use and stewardship, prepared in conformance with applicable DOE Orders, Federal requirements and guidance (see DOE O 430.1B, *Real Property Asset Management*).

Maximum Manageable Area (MMA): The firm limits of management capability to accommodate the social, political, and resource impacts of a wildland fire. Once established as part of an approved plan, the general impact area is fixed and not subject to change. The MMAs can be developed as part of the fire management plan (FMP) and described as a fire management area (FMA).

Natural Fuel: Fuel comprised of combustible wildland vegetation resulting from natural processes and not directly generated or altered by management practices, including fuel that has accumulated as a result of fire exclusion.

NWCG: National Wildfire Coordinating Group

Operational Fire: Planned management action to safely and cost-effectively remove debris from operational or construction activities. A written, approved procedure must exist, and environmental considerations addressed, prior to ignition.

Preparedness: Activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination.

Preparedness Levels: Levels of preparedness planning that recognize increasing fire severity and provide direction for management actions at each level.

Preparedness Plan: A plan providing for timely recognition of approaching critical fire situations, priority setting, the deployment of forces, and other actions to respond to those situations.

Prescribed Fire: Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition.

Prescribed Fire Plan: A plan required for each fire application ignited by managers. The plan is prepared by qualified personnel and approved by the appropriate agency administrator prior to implementation. Each plan follows specific agency direction and includes critical elements described in agency manuals.

Prescription: Measurable criteria that define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social, or legal considerations.

Supplemental Protection: The increased resources assigned to protect activity fuel from wildland fire in lieu of fuel treatment.

Wildland: An area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered

Wildland Fire: Any nonstructural fire that occurs in the wildland.

Wildland Fire Situation Analysis (WFSA): A decision making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

Wildland Fire Suppression: An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources.

**REFERENCES**. Consult the publications listed in this section for guidance on the minimum standards and procedures in various aspects of wildland fire management. The National Wildfire Coordinating Group (NWCG) publications are available upon request by writing or faxing the National Interagency Fire Center (NIFC) at:

National Interagency Fire Center  
Great Basin Cache Supply Office  
3833 S. Development Avenue  
Boise, ID 83705  
Fax Number: (208) 387-5548

### **Guidance Sources**

1. *Field Managers Course Guide* (NWCG, PMS 901-1). This guide contains information on training principles and guidelines, wildland fire training course systems, and course descriptions.
2. *2001 Federal Wildland Fire Management Policy and Implementing Actions*. Available from NIFC.
3. *Firefighters Guide* (NWCG, NFES 1571, PMS 414-1). This guide contains material concerning firefighting basic practices.
4. *National Fire Danger Rating System User's Guide* (NWCG, NFES 1522, PMS 430-3). This guide provides information and guidelines on the National Fire Danger Rating



- System (NFDRS); information concerning location, instrumentation, and maintenance of fire danger weather stations; and instructions for predicting fire danger.
5. *National Interagency Mobilization Guide* (NFES 2092). This guide provides current dispatching and mobilization direction and procedures.
  6. *Prescribed Fire Complexity Rating System Guide* (NWCG, NFES 2474, PMS 424). This guide provides guidance on the complexity elements and process to be used in determining the initial complexity of a project as high, moderate, or low.
  7. *Prescribed Fire Smoke Management Guide* (NWCG, NFES 1279, PMS 420-1). This guide provides guidelines for planning and managing smoke from prescribed fires to achieve air quality requirements through improved smoke management practices.
  8. *Weather Station Handbook - An Interagency Guide for Wildland Managers* (NWCG, PMS 426-1). This guide provides standards and procedures for sighting, installing, operating, and maintaining automated and manual weather stations.
  9. *Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide*. This guide provides interagency guidance on carrying out the Federal Wildland Fire Management Policy (listed in para. 1 of this section).
  10. *Wildland and Prescribed Fire Qualification System Guide* (NWCG, PMS 310-1). This interagency guide provides descriptions, qualifications, and requirements for fire suppression and prescribed fire positions.
  11. *Fire and Aviation Management Qualifications Handbook* (Forest Service Handbook, FSH): This handbook contains wildland fire suppression positions, qualifications, and certification requirements for Forest Service personnel.
  12. *Wildfire Prevention Handbook* (FSH): This handbook provides a framework to develop and manage economically efficient wildland fire prevention programs.
  13. *Fire Management Analysis and Planning Handbook* (FSH): This handbook provides detailed instructions for fire management program analysis and evaluation, coordination with forest planning, program development, budgeting, and implementation planning.
  14. *Wildfire Cause Determination Handbook* (NWCG Handbook 1): This National Wildfire Coordinating Group (NWCG) handbook guides initial attack firefighters and others in determining the cause of a wildland fire.
  15. *Fireline Handbook* (NWCG Handbook 3): This NWCG handbook provides wildland fire suppression principles, organization, and procedures utilizing the Incident Command System.

#### **DOE Requirements Sources (DOE Orders)**

16. DOE O 430.1B, *Real Property Asset Management*.
  17. DOE O 440.1A, *Worker Protection Management for DOE Federal and Contractor Employees*.
  18. DOE O 450.1, *Environmental Protection Program*.
- (References 16, 17 and 18 available on the DOE website at [www.directives.doe.gov](http://www.directives.doe.gov))

#### **DOE Requirements Sources (Secretarial Memoranda)**

19. Secretarial Memorandum, *Moratorium on Prescribed Fires*, June 5, 2000.

20. Secretarial Memorandum, *Fire Management Program Direction*, May 11, 2001.
21. Secretarial Memorandum, *Department of Energy Wildland Fire Management Policy*, February 24, 2003.

**National Fire Protection Association Standards (NFPA)**

22. Standard 1143, *Wildland Fire Management*
23. Standard 1144, *Protection of Life and Property from Wildfire*

## **Appendix B**

### **Wildland Fire Management Planning**

#### INTRODUCTION

The objectives of wildland fire management planning are (1) to base wildland fire program planning and implementation on wildland fire management direction and decisions from the DOE land-use planning and management process; (2) to develop, review, approve, and maintain a wildland fire management plan for each DOE site, documenting a wildland fire management program that is based on the land-use planning and management process and conforms with applicable authorities and references cited in Appendix A; (3) to present accurate, current information in a consistent format needed for the full breadth of the wildland fire management program, including, but not limited to, wildland fire response, analysis, and fuels management development. Recommendations are as follows.

Each DOE site with significant burnable vegetation that warrants planning for wildland fire management activities should have an approved wildland fire management plan that is prepared, reviewed, and approved annually using the guidance and recommendations in this document.

Wildland fire management plans should provide for firefighter and public safety, consideration of values to be protected, and consistency with direction from the site land-use planning and management process. Additionally, plans should address as extensively as possible the full range of potential wildland fire occurrences and should include the full range of fire management actions in a manner consistent with site land-use planning and management process.

#### WILDLAND FIRE PROGRAM IMPLEMENTATION PLANNING

The objective of wildland fire program implementation planning is to develop the details of proposed wildland fire program elements for use in the annual program planning and budgeting system. Planning procedures to consider are as follows. Resource specialists may be assembled to interpret the resource goals and objectives in the site land-use planning and management process for the purpose of developing specific wildland fire management program element objectives, strategies, and considerations by wildland fire management unit or by other geographic units set out in the wildland fire management plan.

Where the land-use planning and management process does not support a full range of wildland fire program options, the site land-use planning and management process may be amended or revised by the DOE Site Manager to reflect a broader Wildland Fire Management Program.

All planning and decision making for Wildland Fire Management Programs should be consistent with the site land-use planning and management process and the approved integrated safety management system.

## WILDLAND FIRE MANAGEMENT PLAN

The wildland fire management plans are prepared, approved and reviewed each year to (1) formally document the site wildland fire program elements, objectives, strategies and resource considerations based on the land-use planning and management process; (2) provide the responsible manager with specific guidance to implement fire-related direction on the ground; and (3) interpret strategic Land Management Plan direction into specific wildland fire management direction for each fire management unit delineated in the wildland fire management plan. A wildland fire management plan does not document wildland fire management decisions; rather, it provides operational parameters whereby fire managers implement the goals and objectives in the site land-use planning and management process.

Content and Format of Wildland Fire Management Plan: Use Exhibit 01 below as a guide for tailoring the site wildland fire management plan to meet your individual site needs. This format is consistent with the interagency wildland fire management plan template approved for interagency use on July 11, 2002, by National Fire Directors for the Bureau of Land Management, Bureau of Indian Affairs, Fish and Wildlife Service, National Park Service, Department of Interior and the Forest Service, Department of Agriculture. Other formats are acceptable if the planning is less complex or if plans meeting the intent of this guidance are approved by DOE.

### Exhibit 01

#### Recommended Content and Format of Fire Management Plan

##### *SECTION I – INTRODUCTION*

- A. **Purpose of the Plan.** State the reasons for developing this plan, including the requirement that wildland fire management plans should be developed for all areas subject to wildland fires in compliance with the following: DOE O 450.1 and DOE P 450.4, *Federal Wildland Fire Management Policy and Program Review; Wildland and Prescribed Fire Management Policy and Implementation Procedures Reference Guide*.
- B. **Collaboration.** Summarize the collaborative processes used to develop the underlying site land-use planning and management process direction and the wildland fire management plan, as well as summarizing additional collaborative opportunities that are available as the wildland fire management plan is implemented.
- C. **Link to Policy/Orders/Contracts.** State that the plan is a detailed program of action to carry out wildland fire management site policies and will help achieve resource management and wildland fire protection objectives as defined in the land-use planning and management process.
- D. **Link to Land and Resource Management Planning.** State that the wildland fire management plan follows the goals and objectives identified in the land-use planning and

management process and that such plan meets National Environmental Policy Act requirements as well as other DOE, state, and Federal regulatory requirements.

- E. **Authorities.** Cite authorities and references for implementing this plan.

*SECTION II – RELATIONSHIP TO LAND MANAGEMENT PLANNING AND WILDLAND FIRE POLICY*

This section is normally extracted from the site land-use planning and management process. It is set out here so that wildland fire managers can identify in broad programmatic terms the direction found in the land-use planning and management process, such as goals, objectives, and desired future condition, as they pertain to wildland fire management activities.

- A. **Reference to Planning and Documents.** Reference the land-use planning and management process or other planning documents concerning wildland fire management.
- B. **Reference to Policy Documents.** Reference wildland fire management policies, and include relevant statements that speak to wildland fire management direction and program guidance.
- C. **Goals and Desired Condition.** Describe site-wide desired condition, goals, and objectives.

*SECTION III - WILDLAND FIRE MANAGEMENT STRATEGIES*

- A. **General Management Considerations.** Briefly describe how wildland fire will be managed and identify any site-wide considerations, such as interagency partnerships, regional strategies, collaborators, and collaborative processes, to be incorporated in wildland fire management strategies.
- B. **Wildland Fire Management Goals.** Develop and list wildland fire management goals. These goals provide the programmatic direction for the wildland fire program and should be stated within the context of the approved land-use planning and management process direction. Goals should be programmatic in nature, such as: “*Achieve a program where firefighter and public safety is the highest priority in every fire management activity,*” or “*Wildland fire and prescribed fire are used wherever appropriate as tools to meet resource management objectives.*” Discuss how these goals contribute to accomplishing regional or national strategic plans.

*SECTION IV – WILDLAND FIRE MANAGEMENT PROGRAM COMPONENTS*

Each wildland fire management plan is composed of the following wildland fire management components that define the site Wildland Fire Management Program. Each of these components should be addressed as they relate to the Wildland Fire Management Program (described in section III). They should be addressed, as needed, in this section; or a reference can be cited as to where this type of information can be found; or they can be identified as “not applicable”.

- A. **General Implementation Procedures.** Implementation of wildland fire management components should be consistent with wildland fire management capabilities and should consider the current and predicted conditions affecting wildland fire behavior. *Preplanned decisions* based on historical wildland fire behavior indices should be considered to most efficiently aid in requiring appropriate management responses for suppression.
- B. **Wildland Fire Suppression.** Describe the following elements related to wildland fire suppression as appropriate.
1. **Range of Potential Behavior.**
  2. **Preparedness Actions.**
    - a. **Fire Prevention, Community Education, Community Risk Assessment, and Other Community Assistance Activities (Firewise).** Explain briefly the overall wildland fire prevention and community education and assistance programs for the site. Describe the typical human-caused wildland fire. Describe the main activities of the site related to wildland fire prevention. If the site has a wildland prevention plan, include it in an appendix.
    - b. **Annual Prevention Program.** Describe wildland fire prevention goals and objectives for the current wildland fire season. Identify any significant deviations from the previous fire season. Highlight the prevention program successes the unit has experienced.
    - c. **Special Orders and Closures.** Describe situations that set up special actions for high-intensity prevention activities. If there is a discussion on restrictions and closures in the site wildland fire prevention plan, summarize the discussion here, provide a cross-reference to the appropriate appendix, and include the wildland prevention plan in that appendix.
    - d. **Industrial Operations and Fire Precautions.** Describe restrictions for industrial operations based on wildland fire danger.
  3. **Annual Fire Training Activities.** Identify annual training activities needed by wildland fire personnel, such as annual safety refresher, such as fire shelter deployment, and explain how this training is carried out.
  4. **Wildland Fire Season Readiness.** Describe the work needed annually to ensure the wildland fire readiness of equipment, personnel, and supplies. Review the following schedule and fire season dates.
    - a. Annual preparedness reviews.
    - b. Season start and stop criteria with typical dates.

5. **Wildland Fire Weather and Fire Danger.**

- a. **Weather Stations.** Provide weather station catalog information and the fuel model used for establishing critical National Fire Danger Rating System (NFDRS) output (90<sup>th</sup> and 97<sup>th</sup> percentile) thresholds. Briefly explain how each station's catalog was developed.
6. **NFDRS.** Select an index or indices for trend monitoring. Identify the means, extremes, and percentiles for the index or indices for comparison. Identify weather thresholds and NFDRS thresholds for the full range of fire management activities as they relate to historical large wildland fire occurrence. Thresholds can be determined by Palmer Drought Indices, METAFIRE, KBDI, ERC, BI, FIRES, preparedness levels, and so forth. Wildland Fire danger thresholds are a key element, as they drive almost all wildland fire management actions on the ground. Discuss the process for developing thresholds used for prevention, initial response, large wildland fire actions, and prescribed fire activities. Include any charts used in the decision-making process. Explain the process for communicating wildland fire danger information to field personnel.
7. **Initial Attack.** State that initial attack is an aggressive suppression action consistent with firefighter and public safety and with values to be protected. Develop the following information that applies to initial attack action on the unit.
  - a. **Information Used To Set Initial Attack Priorities.** Include a list of information sources for completing the Stage 1 Initial wildland Fire Assessment and setting initial attack priorities: wildland urban interface, net value change tables, timber maps, wildlife habitat, archaeological sites, and fuel maps. Include preplanned initial attack strategies. Any known safety hazards should be displayed.
  - b. **Criteria for the Appropriate Initial Attack Response.** Determine and document the criteria that should be used to define the level of response warranted consistent with the land-use planning and management process and wildland fire management plan guidance based on the conditions and expected effects.
  - c. **Response Times.** Identify the typical wildland fire response times at the site by resource type and time of year of wildland fire danger.
8. **Minimum Impact Suppression Tactics (MIST) Requirements.** State the policy requirement for minimum impact suppression tactics (MIST). Summarize specific minimum impact suppression guidelines for the site. Full guidelines and details can be placed in an appendix.
9. **Other Fire Suppression Considerations.** Sites are unique in their management and operation. Any other considerations related to wildland fire suppression can be included here.

C. **Prescribed Fire.**

**1. Planning and Documentation.**

- a. Describe annual activities to prepare for and implement the program (do not include copies of specific prescribed fire unit burn plans). Include discussion on collaborative processes in planning, priority setting, and implementation.
  - b. Relate the long-term prescribed fire strategy for each relevant fire management unit by fire regime and condition class and display planned burn units.
  - c. Identify number and kinds of qualified personnel necessary to plan and execute the proposed annual prescribed fire program.
  - d. Define the weather, fire behavior, and fire effects monitoring associated with prescribed fire applications. Include both short-term and long-term effectiveness monitoring objectives and any issues or concerns identified in related NEPA documents. Verify and monitor for the measurable objectives identified for prescribed fire (see section III-C, "Description of Fire Management Units"). Emphasize protocols and criteria needed to determine if objectives have been met. The full monitoring plan should be included as an appendix or addendum.
  - e. Provide the format for critiques of prescribed fire projects.
  - f. Describe reporting and documentation requirements for accomplishments and escaped fires.
  - g. Develop a historic fuel treatment map of post-burn activities that affect planned actions.
  - h. Explain the local prescribed fire burn plan requirements and include a copy of the burn plan the unit uses in the appendix. A description of the required prescribed burn plan elements can be found in chapter 4 of the implementation guide.
- 2. Prescribed Fire Escape.** Describe procedures in place for responding to an escape. A prescribed fire should be designated as a wildland fire when it exceeds, or is anticipated to exceed, one or more prescription parameters delineated in the fire's documented burn plan. Once a prescribed fire has been declared a wildland fire, it may not be re-designated as prescribed fire. Report escaped fires consistent with direction provided in this guidance.
- 3. Air Quality and Smoke Management.** Describe pertinent air quality issues. (See Appendix C.)
- 4. Hazardous Materials.** Describe any hazardous materials that may be present in burn areas and the potential health or environmental effects if these materials are exposed or



released by the prescribed fire. Describe detection, prevention and mitigation measures that are available for use.

- D. **Non-Fire Fuel Applications.** Describe the scope of non-fire treatment activities related to fuel hazard reduction and the total fire management program. Include discussion on collaborative processes in planning, priority setting, and implementation. Describe generally the mechanical treatment program and consider such items as (1) annual activities to prepare for and implement the program; (2) equipment and seasonal use restrictions by management area or FMU, including restrictions due to weather, species sensitivity, or other concerns that may affect equipment use; and (3) the effects monitoring required, including both short-term and long-term monitoring objectives and any issues or concerns identified in related NEPA documents (any monitoring plan should be included as an appendix or addendum); (4) the format for critiques of mechanical treatment projects; (5) reporting and documentation requirements; and (6) the annual planned project list.
- E. **Emergency Rehabilitation and Restoration.** Reference post-wildland fire rehabilitation (stabilization) and restoration planning and implementation. Refer to the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook or the Burned Area Emergency Rehabilitation Handbook. Any plan for accomplishing burned area rehabilitation should be included in the appendix.

#### *SECTION V – ORGANIZATIONAL AND BUDGETARY PARAMETERS*

- A. **Current fiscal year budget and the ability to support planned and unplanned actions.** Explanation of the wildland fire management budget and how to organize management plans to meet site objectives either here or in an appendix. Include prescribed fire as well as wildland fire.
- B. **Organization chart supported by the current fiscal year budget.** New or updated site wildland fire management organization chart. Explain how management plans to approach initial attack, extended attack, and escapes. Highlight how management will organize when resources are depleted. Include cooperator use.
- C. **Cooperative agreements and interagency contacts.** Description of the interagency coordination needed to implement the wildland fire management plan. List key interagency contacts by function. Discuss local agreements that are in place. Include major cooperators, such as state and other Federal agencies, as well as local volunteer fire companies. Include agreements in an appendix.
- D. **Equipment rental agreements.** Include equipment rental agreements in the appendix or reference such agreements in external service and supply plans.
- E. **Contract suppression and prescribed fire resources.** Include contracts for suppression and prescribed fire resources in the appendix along with contract agreements and contacts, or reference in external service and supply plans.

*SECTION VI – MONITORING AND EVALUATION*

**Reporting Requirements.** Reporting requirements include, but are not limited to, Individual Fire Report, any agency-specific accountability and National Fire Plan reporting, and DOE reporting requirements through the Occurrence Reporting and Processing System (ORPS).

## **Appendix C**

### **Environmental Considerations**

#### **Introduction**

DOE O 450.1, *Environmental Protection Program*, issued January 15, 2003, requires the integration of environmental management systems into an integrated safety management system that addresses site-wide considerations of all environmental areas. DOE O 450.1, § 4.b(1)(e) specifically requires consideration of protection of site resources from wildland and operational fires as part of their environmental management systems. Appendix C briefly discusses some of the environmental resources (i.e., air quality and smoke management, cultural resources, endangered and threatened species, groundwater protection, hazardous and radioactive waste, migratory bird protection and watershed protection) that could potentially be impacted by fire. DOE sites are encouraged to address these and other environmental areas as applicable, as they develop their fire and land use plans as part of their environmental management systems. Wherever feasible, sites should utilize existing land use and fire management plans and update them as appropriate.

#### **Air Quality and Smoke Management**

#### **Background**

Unanticipated wildland fires, prescribed fires that burn wildland vegetation, and operational fires that burn debris from operational and construction activities cause air emissions of many different chemical compounds, such as fine particles, oxides of nitrogen, carbon monoxide and organic compounds. In addition to being associated with adverse health effects at elevated concentration levels, fine particles are also a major cause of visibility impairment in such places as national parks, which are valued for their scenic views and recreation. Fires managed by Federal agencies are most likely to impact air quality in national parks and forests and impair visibility in national parks. Some large fires can be reasonably expected to significantly affect air quality and visibility in and around a DOE site.

#### **Air Quality Requirements**

There are a number of potentially applicable existing and developing regulatory requirements and policies addressing air quality and visibility that can have a substantive impact on DOE's fire management program. The following table is a listing of possible air quality requirements that should be met during the planning stages for prescribed or operational fires and should be addressed in site wildland fire management documents (if the requirement is applicable).

Table. List of Possible Air Quality Requirements to be Addressed in a DOE Wildland Fire Management Program

- Obtain any necessary state or local burn permits
- Comply with the National Ambient Air Quality Standards (NAAQS)
- Protect visibility in congressionally-mandated Class I areas
- Comply with any additional state and/or local air quality regulations, including

smoke management regulatory requirements

- Comply with the provisions of the Clean Air Act (CAA) that address interstate pollutant transport
- Carry out a General Conformity review to demonstrate that projected air emissions from the managed burn would conform with state plans to attain and maintain the NAAQS (if the managed burn takes place in an air quality nonattainment or maintenance area)

The requirements listed above are discussed in more detail in the following paragraphs of this section.

All DOE sites planning to carry out prescribed and operational fires should obtain any necessary state or local burn permits, comply with the NAAQS<sup>1</sup>, and protect visibility in 156 congressionally-mandated Class I areas, "Areas of Great Scenic Importance." Existing requirements to consider effects on visibility have been promulgated by the Environmental Protection Agency (EPA).<sup>2</sup> Protection of visibility as a public welfare consideration is addressed nationally through the secondary particulate matter (PM) NAAQS, which are equivalent to the primary PM NAAQS. The visibility requirements include EPA's regulations to protect these Class I areas from "regional haze" impairment, which were promulgated in April 1999<sup>3</sup>, and future requirements related to control strategies to meet the 1997 NAAQS for PM equal to or smaller than 2.5 micrometers in diameter.

Because the regional haze rule requires states to address the impact of fires and other contributing sources in their emission control strategy analyses, additional state and local requirements on burning will be established for some areas. Also, there may be additional state and/or local air quality regulations that DOE sites may need to comply with, such as ambient air quality standards that are more stringent than the NAAQS, and protection of state-identified scenic views. Some state and local agencies also have smoke management rules to reduce the health-related, nuisance, and visibility impacts of managed fires.

In addition, there are a number of provisions of the CAA that address interstate pollutant transport. For instance, if fires managed for resource benefits in one state cause NAAQS violations in an adjacent state, EPA is authorized to take action under section 110(k)(5) of the CAA to address the problem. Although the CAA authorizes states with approved Prevention of Significant Deterioration (PSD) programs to exclude PM concentrations caused by temporary, emission-related activities, the decision as to whether PM emissions from fire activities should be counted against the PSD increments for PM is a decision to be made by individual states.

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<sup>1</sup> High measured pollutant concentrations attributable to fires managed for resource benefits are valid air quality monitoring data that can be used by air quality regulatory authorities to determine if the area represented by the data is not attaining the NAAQS.

<sup>2</sup> At 40 CFR 51.300 ("Subpart P - Protection of Visibility")

<sup>3</sup> Amendments to 40 CFR 51.300, Subpart P; 64 FR 35713, July 1, 1999

DOE sites responsible for managed burns in nonattainment and maintenance areas<sup>4</sup> have the added responsibility of having to carry out a General Conformity review to demonstrate that projected air emissions from the managed burn would conform with state implementation plans to attain and maintain the NAAQS. To comply with the conformity rule, managers should first estimate air emissions of pollutant(s) of concern for nonexempt managed burns<sup>5</sup>, prior to the initiation of the burn, and compare the estimates with conformity threshold emission rates, in accordance with Office of Environment, Safety and Health (EH) guidance.<sup>6</sup> If estimated emission rates exceed conformity threshold emission rates, further analyses and actions are required. Even if a state agency approves and allows a managed burn without considering General Conformity, the responsible DOE manager is still obligated by statutory and regulatory requirements to conduct a conformity review.

DOE managers responsible for managed burns must identify and comply with all Federal, state, tribal, and local clean air, smoke mitigation, and visibility regulations that apply to managed burns. DOE managers should contact EPA, state or local air quality regulatory staff to ensure that they have identified all clean air requirements prior to the burn.<sup>7</sup>

### **Smoke Management**

Secretarial Memorandum, “Department of Energy Wildland Fire Management Policy,” February 24, 2003, requires DOE sites to have a wildland fire management plan in place that is consistent with the Federal policy and any DOE requirements. DOE managers in charge of a managed fire are responsible for taking appropriate actions to control the fire and reduce exposure to smoke when adverse air quality impacts result from a failure of efforts to protect air quality or from an escaped fire. To address the air quality and visibility issues discussed in this attachment, DOE managers should develop a smoke management plan for inclusion in each burn plan.

The purposes of a smoke management plan are to mitigate the nuisance and public safety hazards (e.g., on roadways and at airports) posed by smoke intrusions into populated areas, to prevent deterioration of air quality and NAAQS violations, and to address visibility impacts in mandatory Class I areas in accordance with the regional haze rules. Elements of a basic smoke management plan should include:

- methods for minimizing air pollutant emissions by considering alternative treatments and/or reducing fuel levels before burning;

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<sup>4</sup> An up-to-date listing of clean air attainment/nonattainment designations for DOE sites is available from the EH-41 (DOE Environmental Policy and Guidance) Web Site at: <http://www.eh.doe.gov/oepa/guidance/caa/designations.pdf>.

<sup>5</sup> If a managed burn program is an ongoing program involving a set number of acres per year in the same general geographic area, a DOE action to carry out a burn at or below this level would be exempt from the general conformity rule, under the applicability provision of the rule, at 40 CFR Part 93.153(c)(iii), which exempts, Acontinuing and recurring activities such as permit renewals where activities conducted will be similar in scope and operation to activities currently being conducted. Assistance concerning the conformity regulations can be provided by EH-41.

<sup>6</sup> “Clean Air Act General Conformity Requirements and the NEPA Process,” available at the following EH-42 (Office of NEPA Policy and Compliance) Web Site: <http://tis.eh.doe.gov/nepa/tools/guidance/caaguidance.pdf>. If the area in which the burn takes place is, for example, a nonattainment area for only PM, the pollutant of concern is PM, and emission estimates need to be developed for PM, but not for carbon monoxide, or oxides of nitrogen, or volatile organic compounds. The conformity guidance contains a statement indicating that a DOE managed burn would conform to the State implementation plan if the burn is managed under a basic smoke management program. This statement was based on erroneous EPA material. A DOE manager responsible for a burn in a nonattainment or maintenance area would need to conduct a conformity review based on technical approaches discussed in the conformity guidance.

<sup>7</sup> EH-41 staff can also provide assistance in this area.

- outlining smoke management considerations for each burn, such as burning only during favorable weather conditions to minimize smoke intrusions;
- plans to notify the public and reduce exposure should smoke intrusions occur
- public education and awareness programs; and
- surveillance and monitoring procedures for ensuring that smoke management plans are effective.

DOE managers responsible for managed burns must comply with state smoke management regulatory requirements; or, if no state requirements exist, should follow relevant smoke management program requirements in EPA's April 1998 document, "Interim Air Quality Policy on Wildland and Prescribed Fires."<sup>8</sup> In this 1998 document, EPA advocates that Federal agencies include smoke management components in all burn plans, regardless of the existence of state or local smoke management plan requirements.

### Cultural Resources

The Department of Energy recognizes its stewardship responsibilities for managing the cultural resources that may exist on properties under its management or over which it has direct control. Cultural resources include, but are not limited to, the following broad range of items and locations: (1) archaeological materials and sites; (2) standing structures that are over 50 years of age or are important because they represent a major historical theme or era; (3) cultural and natural places, certain natural resources, and sacred objects that have importance for Native Americans. To ensure that these cultural resources are not adversely impacted by fire, it is important to identify their locations for planning purposes. This information may already be available in previously completed archaeological surveys, land use planning documents, or site-wide EAs or EISs. A variety of measures that should be utilized to mitigate adverse effects of fires are discussed below.

The following elements should be addressed during the planning stages for prescribed or operational fires and should be addressed in site wildland fire management documents.

1. Develop a fire management strategy that protects cultural resources while achieving fire management objectives.
2. Inventory all cultural properties. These cultural properties include archaeological sites, historic sites and structures, natural landscapes, traditional cultural properties and natural sites of religious significance. Inventories and assessments that have been completed should be incorporated into existing site maps. Locations of some sites may be restricted to protect the site, but the cultural resource manager can assist in identifying the approximate location for fire management purposes and emergency situations.

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<sup>8</sup> This document is available at the following EPA Web Site: <http://www.epa.gov/ttn/oarpg/t1/memoranda/firefnl.pdf>. The document also provides additional details on regulatory requirements.

3. Include in the cultural resource management plan (CRMP) for each DOE site the information identified in element 2 above, and include emergency procedures referred to in the fire management plan.
4. Include in the CRMP compliance measures with the various cultural resources-related statutes including the National Historic Preservation Act (NHPA), the Archaeological Resources Protection (ARPA), the American Indian Religious Freedom Act (AIRFA), and the Native American Graves Protection and Repatriation Act (NAGPRA).
5. Develop avoidance measures and promote the use of existing roads or trails for access to emergency locations.
6. Develop an NHPA Section 106 Programmatic Agreement (PA) to identify measures that should be taken during a fire emergency. These should include identifying responsible personnel, pre-incident planning (mechanical hazard fuel reduction and prescribed fire), emergency response, emergency NHPA exemptions, and post-fire rehabilitation. Participants in this process should include DOE, the Advisory Council on Historic Preservation, State Historic Preservation Officer (SHPO), tribal government representatives, and interested parties (as appropriate).

The following post-fire activities (for prescribed, operational and wildland fires) should be accomplished at the earliest opportunity.

1. All treatments should be evaluated to assess their potential effect on cultural resources. Treatment may or may not have an effect. Treatments have critical time frames for implementation to minimize threats and losses. Efforts should be made to design treatments to have no effect or to undertake Section 106 consultation (NHPA). No adverse effect treatments should be undertaken until a cultural resources team and DOE representatives have completed appropriate consultation with the SHPO and tribal officials.
2. Known historic properties damaged by fire or fire suppression activities should be stabilized by specific treatments if such treatments will result in mitigation of further damage.
3. Areas of fire-induced sediment instability should be evaluated and treatments should be taken that will reduce the potential for loss of historic properties.
4. Studies that provide effective post-fire protection should be supported and incorporated into fire management policy as appropriate, and these measures should be included in the formal Section 106 PA regarding fire emergency procedures.

### **Endangered and Threatened Species**

DOE is the steward of more than 30 of North America's vanishing species. To ensure the survival of these endangered and threatened wildlife and plant species on DOE sites, certain safeguards should be implemented to reduce or eliminate the potentially adverse impacts of

prescribed fires and wildland fires to the species and their associated critical habitats. A program of prescribed burning need not have a detrimental effect on endangered and threatened species. On the contrary, if properly planned and executed it can actually produce beneficial effects for these species.

A determination as to what if any endangered or threatened species or critical habitat exists on site and their precise locations should be identified for planning purposes. This information may already be available in previously conducted biological surveys, land use planning documents or site-wide EA's or EIS's. Once a determination has been made identifying endangered and/or threatened species and associated critical habitat, a variety of measures can be used to mitigate the adverse effects of fires.

The following elements should be addressed during the planning stages for prescribed or operational fires and should be addressed in site wildland fire management planning documents.

1. Assess areas of proposed prescribed fire projects utilizing land use planning documents, biological surveys, and existing EAs and EISs to determine whether they contain any endangered or threatened species or critical habitat.
2. Consider breeding, nesting, and migration periods as well as over-wintering habits and habitats of protected animal species when scheduling prescribed fires.
3. Consider fire tolerance/intolerance of protected plant species.
4. Consider seed-bearing and seed dispersal stages of protected plant species.
5. Coordinate with the U.S. Fish and Wildlife Service, and institute Endangered Species Act Section 7 Consultation as necessary.
6. Consider posting warning signs (e.g., "Endangered Species Site," "Restricted Activity") for listed species and their associated critical habitat to avoid detrimental impacts from prescribed fires.
7. Coordinate with state authorities when developing prescribed fire plans as State listed species may not be protected under the ESA.
8. Consider land use plans and listed species protection in prescribed burning for control of undesirable plant growth (noxious and/or invasive plants).

Post-fire activities (for prescribed, operational and wildland fires) should be accomplished at the earliest opportunity to determine the effect upon endangered and threatened species and their associated critical habitat. Habitat restoration and/or reintroduction of species, if warranted, should be coordinated with U.S. Fish & Wildlife Service and state personnel.



## Groundwater Protection

Groundwater can be found at depths ranging from a few inches to more than a thousand feet below the surface of the earth. Groundwater will replenish surface water through springs and wells, and during droughts it plays a critical role in maintaining the health of ecosystems, including fish and wildlife populations. In the United States, groundwater is the primary source of drinking water for 50 percent of the general population and 97 percent of the rural population. The importance of protecting groundwater at DOE sites cannot be overemphasized. A variety of precautionary measures (identified below) should be implemented to mitigate the potential adverse effects of prescribed fire and wildland fires on groundwater supplies.

The following elements should be addressed during the planning stages for prescribed or operational fires and should be addressed in site wildland fire management planning documents.

1. Before the fire event, identify any groundwater monitoring well locations (active, inactive, closed, or abandoned) and any groundwater remediation facilities or equipment that may be affected by the fire. Determine if any part of the well, the facility, or the equipment may be damaged as a result of the fire. For example, identify any plastic, rubber, wooden, or other non-metallic materials (wires, seals, tubing, signs, location or identification markers, etc.) that could be destroyed in a fire and either remove these materials temporarily, replace them with non-flammable materials, or provide some type of protective covering to prevent damage.
2. Identify all groundwater wells and remedial action equipment, facilities, power sources, and similar items that are located in areas susceptible to wildland fires.

The following post-fire activities (for prescribed, operational, and wild fires) should be accomplished at the earliest opportunity.

1. Remove or replace all materials that may be damaged in a fire with new materials that are fire-resistant or non-flammable.
2. After a wildland fire has been brought under control, review the affected area to determine if any facilities or equipment related to groundwater protection could have been affected by the fire. If so, conduct a physical inspection to determine if any damage has occurred. If there is any indication that the fire may have caused contaminants to be released to the subsurface, conduct appropriate measures, as described above.
3. Where there is indication that any materials consumed in the fire (prescribed, operational, or wildland fire) may have caused contaminants to be released to the subsurface and may have potentially affected groundwater, initiate a sampling event at potentially affected wells, and analyze it for indicators of contamination related to the fire-consumed materials. If contaminants are mobilized into the vadose zone, but are not likely to impact the groundwater, perform an appropriate analysis of the fate of such contaminants to document the conclusion that no specific monitoring is considered necessary.

4. Where modeling analyses have been performed to support a regulatory decision (e.g., a low-level radioactive waste disposal authorization statement) or the implementation of a remedial action, (e.g., pump and treat remediation or monitored natural attenuation), determine if the hydrologic assumptions made in the model regarding groundwater flow rate and direction should be revised as a result of the fire. Examples of where this effect may occur are as follows:
  - a) Groundwater flow rate and direction are influenced by the natural rate of recharge from precipitation, and the assumed rate of evapo-transpiration, among other factors. Removal of native vegetation as a result of a fire could alter the rate of evapo-transpiration, which would affect recharge and groundwater hydrology. Hydrologic assumptions may need to be reviewed and revised, as warranted, after the effects of the fire are known.
  - b) Where modeling analyses of the rate of erosion of native soils or man-made cover systems, which are integral to the integrity of buried waste contaminant systems, are affected by a fire, it may be necessary to determine the impact on long-term projections of the performance of the waste disposal unit and potential dose to the general public, as well as the potential impact on groundwater.

### **Hazardous and Radioactive Waste**

Stored or buried hazardous and radioactive waste is an issue that should be addressed when planning prescribed or operational burns and in the event of a wildland fire. Through proper planning the probability of releases and adverse impacts on human health and the environment from prescribed or operational fires can be minimized. However, should a wildland fire event occur onsite, the scenario may change. In this situation it is imperative that the site has up-to-date hazardous and radioactive waste information available on demand by emergency responders. This information should at a minimum include the types of wastes, their human health and environmental hazards, amounts, concentrations, specific locations and emergency points-of-contact. Emergency response personnel, especially those responders that are non-DOE, expressed concerns during and after the Cerro Grande wildland fire in New Mexico about the possibility of radiation exposure. DOE has both a responsibility and an opportunity through this fire management policy to allay those concerns. Distributing radiation information to emergency responders can eliminate or greatly reduce anxiety and thus have a direct effect on fire control operations. It can also enhance public trust and promote good relations with local communities and organizations.

The following elements should be addressed in the planning stages for prescribed or operational fires and should be addressed in site wildland fire management planning documents.

1. Identify types, amounts, and locations of stored or buried hazardous and radioactive waste materials, and develop a contamination profile of the entire site that includes all hazardous and radioactive contaminants and their actual (based on chemical and radiochemical analyses) or potential (based on past use of the area) concentrations.

2. Develop safeguards to protect the environment from hazardous and radioactive substance releases that may occur as a result of a wildland or prescribed fire event.
3. Have hazardous and radioactive substance information, including emergency points-of-contact, readily available to emergency responders.
4. Prepare a radioactive fact sheet or wallet-size pocket card of basic and site-specific radiation information to be issued to all emergency responders, including helicopter and tanker aircrews.

Sites should use existing environmental surveillance programs or develop programs as needed and monitor the environment during and after a prescribed, operational or wild fire event for releases of hazardous or radioactive substances.

### **Migratory Bird Protection**

The DOE has a responsibility to protect migratory birds and their associated habitat as described in the Migratory Bird Treaty Act of 1918 and Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds." Pre-fire planning efforts can help to mitigate adverse impacts on migratory birds and their associated habitat.

The following elements should be addressed in the planning stages for prescribed or operational fires and should be addressed in site wildland fire management planning documents.

1. Assess areas of proposed prescribed fire projects utilizing land use planning documents, visual surveys, and existing EAs or EISs to determine whether they contain any migratory birds and associated habitat.
2. Consider breeding, nesting and migration periods of migratory birds as well as over-wintering habits and habitats used when scheduling prescribed or operational fires.
3. Coordinate prescribed fire efforts with the U.S. Fish and Wildlife Service and state regulators as appropriate.

The following post-fire activities (for prescribed, operational or wildland fires) should be accomplished at the earliest opportunity.

1. Post fire surveys should be conducted to determine the effect upon migratory birds and their associated habitat.
2. Habitat restoration and/or reintroduction of species, if warranted, should be coordinated with U.S. Fish & Wildlife Service and State personnel.

## Watershed Protection

Soils, vegetation and leaf-litter are key components for the proper functioning of the hydrologic processes in a watershed. Fire destroys vegetation, exposing soils. If a fire is sufficiently severe, it can literally bake the surface soils to a point where precipitation permeability is severely affected. When a site is disturbed, for example by fire, surface runoff increases. If a fire is severe enough, surface runoff can increase over 70 percent, with corresponding erosion increasing by three orders of magnitude. Treatment timeliness is imperative since erosion rates are highest the first year after a fire. When planning prescribed and operational fires, consideration should be given to the potential impacts these fires may have to the entire watershed not just the area immediately surrounding the areas to be burned.

The following elements should be addressed during the planning stages for prescribed or operational fires and should be addressed in site wildland fire management planning documents.

1. Sites should monitor meteorological conditions before, during and after planned prescribed fires.
2. Sites should address the following issues and provide assurances that prescribed fires will not cause adverse impacts to:
  - potable water sources;
  - NPDES permitted discharges;
  - wetlands;
  - sensitive environmental areas (including protected species critical habitat);
  - fish populations and essential habitat;
  - roads; and
  - bird populations and essential habitat

The following post-fire activities (for prescribed, operational and wild fires) should be accomplished at the earliest opportunity.

1. Sites should conduct an immediate assessment of watershed conditions following the fire.
2. Sites should determine if emergency watershed rehabilitation efforts are required to restore watershed functions and minimize damage to soil resources.
3. Sites should initiate post-fire rehabilitation treatments as necessary (e.g., sediment reduction, channel treatments, check dams) to stabilize biotic communities, address safety concerns, and to prevent degradation of critical known natural and cultural resources.
4. Sites should monitor the effectiveness of rehabilitation treatments to determine if additional treatments are required.

## Appendix D Secretarial Memoranda



The Secretary of Energy  
Washington, DC 20585

2002-019296

February 24, 2003

MEMORANDUM FOR THE DEPUTY SECRETARY

UNDER SECRETARY FOR ENERGY, SCIENCE  
AND ENVIRONMENT

LINTON F. BROOKS, ADMINISTRATOR  
NATIONAL NUCLEAR SECURITY  
ADMINISTRATION

FROM:

SPENCER ABRAHAM

A handwritten signature in black ink that reads "Spencer Abraham".

SUBJECT:

Department of Energy (DOE) Wildland Fire  
Management Policy

I am approving the adoption of the *2001 Federal Wildland Fire Management Policy and Implementing Actions* as Department of Energy (DOE) policy. This action is needed to better plan for and respond to wildland fires at DOE sites and is responsive to one of the recommendations of DOE's independent Commission on Fire Safety and Preparedness issued on May 28, 2002. The attachment to this memorandum provides more information on the Federal Wildland Fire Management Policy and what further implementation actions are needed.

I believe that a strong wildland fire management policy is an essential part of our continuing vigilance to protect the natural resources for which we have responsibility as well as those that may be impacted by DOE operations. I am gratified to see that DOE has already taken effective actions to plan for and respond to wildland fires. I believe that these actions are both supported and enhanced by DOE adopting the interagency *2001 Federal Wildland Fire Management Policy and Implementing Actions*.

Each Program Secretarial Officer must provide to me by June 2, 2003, the status of planning under this policy for sites under their cognizance.

cc: Heads of Departmental Elements



Printed on recycled paper

## Attachment

## DOE WILDLAND FIRE MANAGEMENT POLICY

The *2001 Federal Wildland Fire Management Policy and Implementing Actions* is a clarification and revision of the 1995 Federal policy. This revision was initiated by a Federal interagency working group review of the lessons learned from the Cerro Grande fire and resulting recommendations. In addition to the traditional Federal fire management agencies<sup>1</sup>, DOE and the Department of Defense participated in that review because of our ownership and management of significant Federal lands that might be subject to wildland fires and the need for better integration of Federal wildland fire planning and response actions. The Federal policy itself is found in Chapter 3 of the report entitled, *Review and Update of the 1995 Federal Wildland Fire Management Policy*, which is available through the National Interagency Fire Center at: [www.nifc.gov/fire\\_policy/](http://www.nifc.gov/fire_policy/).

To formalize this action in the DOE Directives System, the Office of Environment, Safety and Health will complete its development of proposed DOE O 450.1, *Environmental Management Systems*, and associated guidance. This directive will require contractors to implement a program, as appropriate, to protect site resources from wildland and operational fires as part of their Integrated Safety Management System. The associated guidance will provide additional information on the Federal Wildland Fire Management Policy.

In addition to adopting this Federal Wildland Fire Management Policy, each Program Secretarial Officer must ensure that sites have a wildland fire management plan in place that is consistent with the Federal policy and any DOE requirements. When plans are approved by DOE, the DOE-wide moratorium on prescribed fires currently in place is rescinded for those sites.

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<sup>1</sup>The traditional Federal fire management agencies are: the Department of Agriculture (Forest Service) and the Department of the Interior (Bureau of Land Management, National Park Service, Fish and Wildlife Service, and Bureau of Indian Affairs).



The Secretary of Energy  
Washington, DC 20585

May 11, 2001

MEMORANDUM FOR SECRETARIAL OFFICERS  
AND FIELD OFFICE MANAGERS

FROM: SPENCER ABRAHAM   
SUBJECT: Fire Management Program Direction

Following the Cerro Grande fire in New Mexico, the Deputy Secretary of Energy issued a memorandum on June 5, 2000, "Moratorium on Prescribed Fires," suspending all Department of Energy (DOE) prescribed fires. The purpose of this memorandum is to inform you that the prescribed fire moratorium is still in force and will remain so until such time as the Department's wildland and fire management policy and implementing guidance are issued. DOE recognizes that certain sites have to address wildland fires, prescribed fires and other fires during the upcoming fire season. In the interim and effective immediately, authority for approving a prescribed fire waiver request to the moratorium shall reside with Field Office Managers or their direct report in charge of a specific site.

To support the development of a DOE-wide wildland and fire management policy and implementing guidance, the office of Environment, Safety and Health (EH), in coordination with the DOE Fire Safety Committee, has been reviewing relevant documents, including the 2001 Federal Wildland Fire Management Policy, Wildland and Prescribed Fire Management Policy Implementation and Procedures Reference Guide, Initial Joint Review of Wildland Fire Safety at DOE sites, Comprehensive Fire Safety Review, and lessons learned from the Cerro Grande fire. Field sites have also provided responses to the Wildland and Prescribed Fire Questionnaire developed by EH, the results of which have supported the development of baseline information pertaining to existing fire policies, procedures and practices across the DOE complex. These data were helpful in the development of this Program Direction memorandum and will assist us as we develop the Department's wildland and fire management policy and implementing guidance.

"Prescribed fires/controlled burns" are planned management actions for fuels reduction and for ecosystem management. They are considered part of a site's land and resource management planning and are generally included in a site's wildland fire management planning documents. This contrasts with "operational fires," which are defined as planned management actions to safely and cost effectively remove debris from operational or construction activities. They are conducted in cleared or designated areas. Operational fires are more limited in complexity and duration than prescribed fires. They include, for example, fires in incinerators or open pits; or fires to burn debris from land clearing/grubbing for structures, mining activities, timber harvesting, power line or pipeline construction, and road construction.

DOE Field Office Managers, or their direct report in charge of a specific site, may grant waivers for prescribed fires based on a documented review of relevant criteria set forth in the attachment to this memorandum. These criteria shall be considered and addressed, as appropriate, in each site's DOE approved wildland fire management planning documents. Site fire management planning documents shall address the full range of fires, including planning for and response to wildfires, prescribed fires, and operational fires. Site fire management planning documents shall also include procedures for the notification of the DOE Headquarters Emergency Operations Center and Lead Program Secretarial Officer as appropriate. The fire management planning documents discussed above refer to existing plans currently in place at sites that routinely conduct prescribed and operational fires. The appropriate managers (e.g., Nuclear Safety, Radiological Control Manager and Fire Protection Manager) should concur, as appropriate, with fire management planning documents prior to Field Office Manager approval of waiver requests. Operational fires conducted at DOE sites are not considered prescribed fires and therefore are not subject to the moratorium. However, operational fires shall be approved by DOE Field Office Managers, or their designee, based on plans that document the consideration of relevant criteria, using a graded approach.

Attachment: FIELD MANAGER CHECKLIST FOR APPROVING INDIVIDUAL  
PRESCRIBED AND OPERATIONAL FIRES



## FIELD MANAGER CHECKLIST FOR APPROVING INDIVIDUAL PRESCRIBED AND OPERATIONAL FIRES

The decision to proceed with a planned fire, both prescribed and operational fires, is based on many site-specific factors and complexities that influence the determination. Fire management planning documents, specific waivers to the moratorium on prescribed fires and requests for approval of operational fires submitted to DOE Field Office Managers, or their direct report in charge of a specific site, for approval shall consider and address, in a documented review, the relevant criteria set forth below. A burn plan shall be developed and locally approved by DOE Field Office Managers, or their designee, to address the objectives and potential impacts of a fire. A planned fire always has a risk. Burn plans shall assess the factors that can adversely impact a planned fire and carefully and rationally address needed controls to prevent or mitigate the hazards. Burn plans shall be developed using the integrated safety management system approach and be fully consistent with existing land and resource management plans. Coordination and planning with other federal, State and local agencies and organizations is essential for fire management planning and response. Burn plans shall also include procedures for the notification of the DOE Headquarters Emergency Operations Center and Lead Program Secretarial Officer as appropriate. The U. S. Forest Service Manual on Fire Management (Title 5100) is a good reference for models and tools for making "go/no-go" decisions for planned fires.

In approving individual prescribed burns and operational fires, Field Office Managers, or their direct report in charge of a specific site, shall consider as appropriate the following:

### NEED

1. Have alternatives to the proposed fire been considered?
2. What is the justification for this proposed fire?
3. What are the objectives of this fire?
4. Are there any controversial site property, personnel, firefighter or public issues that may affect decisions or plans regarding this fire?

### SITE BACKGROUND

5. Location of proposed fire?
6. Description of area?
7. Time frame and schedule of proposed fire?

ADMINISTRATIVE AND MANAGEMENT

8. Who will conduct the fire?
9. Are clear lines of authority established?
10. Are individual responsibilities clearly identified for all aspects of the fire?
11. Is proposed fire consistent with the site's fire management plan?
12. Have all necessary approvals and permits been obtained?
13. Is hazard information readily available to emergency responders upon dispatch to the area?
14. What personnel and organizations (on and off site) will be notified prior to the fire?
15. Are there adequate fire response personnel available onsite?
16. Are emergency response contingency plans in place in the event the fire escapes its controls?
17. Have arrangements been made with offsite emergency response organizations in the event their assistance is needed?
18. Has the plan for the proposed fire been reviewed by a qualified fire safety, forest management and emergency services (fire department) subject matter expert?

MONITORING, ANALYSIS AND TECHNICAL ISSUES

19. Have all relevant hazards been assessed and addressed, including:
  - weather conditions (forecasted wind, heat, precipitation, etc.), including establishment of bounding weather conditions
  - fire conditions (combustibility of materials and undergrowth, etc.)
  - ignition options (torch, fuel oil, etc.)
  - terrain slope and conditions
  - accessibility of personnel or equipment to fire area
  - nearby hazardous or combustible materials
  - radiological contamination
  - nearby facilities, including defensible space around facilities in accordance with NFPA Code 299
  - proper personnel protective equipment
20. Have all controls been addressed, including:
  - fire watch
  - monitoring equipment
  - firefighting/suppression equipment and supplies
  - qualified fire/burn technicians and other trained personnel

21. Has a fuels assessment been conducted to determine vulnerability of a wildfire?
22. Does the plan for the proposed fire address impacts to the environment from potential firefighting efforts?
23. Have the potential impacts of the proposed fire on the following been considered and addressed:
  - habitat (wildlife, fish, plants)
  - watersheds
  - endangered species
  - air quality (including prevention of significant-deterioration air quality impacts that might be required by State regulations)
  - soil erosion
  - other ecosystems
  - cultural resource areas
  - hazardous or radioactive waste storage or burial areas that may be vulnerable to this fire event
24. Does the proposed fire comply with applicable Federal clean air or State General Conformity regulations that apply to federal agencies, if the fire will occur in a nonattainment or maintenance area?
25. Are safeguards identified in the fire management plan to protect storage/burial areas and the environment from fire or an environmental release that could result from this fire event?
26. Is there a contamination profile of the site available that identifies the possible contaminants and their actual or potential concentrations and location?
27. Does the site's environmental surveillance program allow monitoring of the environment during and after a fire event for releases of radioactive and hazardous substances?
28. Has the need for ecosystem restoration after the fire event been assessed and planned?
29. Has safety of site personnel and property, firefighters or the public been considered and addressed?



**The Deputy Secretary of Energy**  
Washington, DC 20585

June 5, 2000

MEMORANDUM FOR: ACTING DEPUTY ADMINISTRATOR FOR  
DEFENSE PROGRAMS  
ASSISTANT SECRETARY FOR  
ENVIRONMENTAL MANAGEMENT  
ASSISTANT SECRETARY FOR FOSSIL ENERGY  
ASSISTANT SECRETARY FOR ENERGY  
EFFICIENCY AND RENEWABLE ENERGY  
GENERAL COUNSEL  
DIRECTOR, OFFICE OF SCIENCE  
DIRECTOR, OFFICE OF NUCLEAR ENERGY,  
SCIENCE, AND TECHNOLOGY  
OPERATIONS OFFICE MANAGERS  
FIELD OFFICE MANAGERS

FROM:  T. J. GLAUTHIER

SUBJECT: MORATORIUM ON PRESCRIBED FIRES

As you know, we suspended all Department of Energy (DOE) prescribed fire (i.e., "controlled burn") actions due to the recent wildfire that swept through Los Alamos. We are now extending the DOE moratorium until an ongoing review of policies and practices led by the Office of Environment, Safety and Health is completed. This moratorium is effective immediately and will remain in effect pending further notification.

It is understood that a number of DOE sites maintain their own protocols for prescribed burns and that several are planned in the coming months. The Office of Environment, Safety and Health will be working with the existing Department of Energy Fire Safety Committee consisting of program and field representatives in order to review these existing policies, processes and criteria and to develop, as necessary, Department-wide policy and guidance. The Department will also be looking to the ongoing federal interagency effort examining the policies of other agencies and lessons learned from the Los Alamos fire for guidance.

If a prescribed fire is still considered essential during this time, a waiver from this moratorium must be requested from me. Such a request will be reviewed by the

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Office of Environment, Safety and Health who will recommend whether a waiver should be granted.

Further details on this policy review will be forthcoming as it proceeds; in the interim, additional background information is attached. Questions regarding this moratorium can be directed to Steve Cary, Office of Environment, Safety and Health, at 202-586-4693.

Attachment

### PREScribed BURNS -- PATH FORWARD

- Currently, there are no Department of Energy (DOE)-wide policies or guidelines regarding the conduct of prescribed burns as a tool in forest management and fire protection. Individual sites maintain their own protocols in this regard.
- As a result of the Cerro Grande fire at Los Alamos, the Department has decided to impose a moratorium on such prescribed burns pending a review of its existing policies, processes and criteria for such fires at DOE sites and to develop, as necessary, DOE-wide policy and guidelines.
- This effort will be coordinated with the Department of the Interior (DOI), the Forest Service, and other appropriate agencies as they review the lessons learned from the Los Alamos fire. It is anticipated that DOE will follow their lead in terms of revisiting existing prescribed burn policies while examining those implications and needs unique to DOE (e.g., security and environmental radiological contamination).

The following activities will be completed during this review:

- DOE's standing Fire Safety Committee (chaired by the Office of Environment, Safety and Health (EH)) is reviewing existing prescribed fire policies and criteria provided by DOE field offices to determine sufficiency for ensuring facility and life safety, ecosystem management, or resource preservation.
- DOE Fire Safety Committee will coordinate its review of existing policies and criteria with DOE Program and Field Offices, National Fire Protection Association, and appropriate federal, state, and tribal agencies.
- EH will coordinate with the interagency team on Los Alamos lessons learned and any resulting revised DOI prescribed burn policies and criteria.
- EH will coordinate with DOE Fire Safety Committee, Program and Field Offices to develop a DOE policy and guidelines for prescribed burns, as necessary.

From the standpoint of policy and guidelines development, EH will begin interactions with DOI and other agencies by June 15, will compile its survey of existing site policies and Los Alamos lessons learned by August 1, and will convene an internal DOE policy review committee by the same date. It is expected that a draft policy and guidelines will be proposed for internal review by October 1, 2000, with Secretarial issuance by December 1, 2000 (i.e., within 6 months). The latter milestone is scheduled to accommodate whatever policy or guidance is forthcoming from the ongoing interagency deliberations.