

RECLAMATION

Managing Water in the West

Wildland Fire Management Guidelines



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Chapter 1. Introduction

The Bureau of Reclamation is providing the Wildland Fire Management Handbook (Handbook) to help regions and area offices implement viable Wildland Fire Management (WFM) programs appropriate to their resource, geographic, social, and economic environments.

Succeeding Handbook chapters suggest steps for development of regional and local WFM programs. The guidance provided herein is discretionary, and the attachments are to be considered as reference materials; however, following the guidance provided will result in WFM programs that are consistent throughout Reclamation and meet Department of the Interior standards for the development of Fire Management Plans (FMP) for all Reclamation lands with burnable vegetation. Development of FMPs will effectively assist Reclamation in planning, decision making, and implementing actions and activities affecting the resources under its jurisdiction. Because wildland fire occurrence, fuel loading situations, and issues differ greatly among Reclamation regions and among locations, creativity and flexibility are encouraged in creating regional and area office level interagency agreements, cooperative agreements, and contracts with Federal and non-Federal managing partners for WFM activities.

Chapter 2. Fire Management Plan Development

FMPs are decisional documents which address how a regional office or area office will plan and prepare for WFM. This includes provision for wildfire suppression coverage, fire prevention and education, hazard fuels reduction, prescribed fire, burned area emergency response (BAER), and personnel qualifications for all persons engaging in WFM activities on Reclamation lands or lands managed by a non-Federal partner for Reclamation. (See Chapter 9 for definitions of WFM terms).

Preparing FMP documents so they can address specific issues that meet local public expectations and address specific resource conditions is to be encouraged. However, all FMP documents developed by Reclamation should follow the Interagency FMP template outlined in Appendix A.

Demonstration Projects

In fiscal year 2006, proposals for regional WFM related demonstration projects were solicited by Policy and Program Services (now Policy and Administration). Funding was offered by Policy and Program Services to cover start-up and implementation costs of the demonstration projects. Of the five regions solicited, the Mid-Pacific (MP), Lower Colorado (LC), and Pacific Northwest (PN) regions submitted proposals. The purpose of these “demo” projects was to explore ways in which Reclamation could cost-effectively implement Departmental requirements for certain WFM activities such as the development of fire management plans for all areas with burnable vegetation. Projects could also include ideas for interagency agreements for WFM activities such as wildfire suppression or prescribed fire assistance.

A summary of the demonstration projects follows:

MP Region

Fire History Recovery Project – a project to determine fire occurrence history in the MP region. The form Federal agencies have used for recording and archiving fire history, the Individual Fire Report (DI-1202), does not include a way to show Reclamation jurisdiction of lands. Reclamation itself does not have a system for recording and archiving fire history. As a result, a documented fire occurrence history for Reclamation was non-existent. The recovery of fire occurrence history (e.g., location and frequency of wildland fires on Reclamation lands) is important

in the development of FMPs by Reclamation. It allows planners a means of determining the long-term needs for wildfire suppression assistance. This information can be used to justify future WFM budgets for wildfire suppression agreements, hazard fuels reduction, and fire prevention and education efforts.

- **Results:** Fire occurrence history from 1980 through 2003 was recovered from archived DI-1202 information and overlaid on GIS ownership data for the MP region. Although the DI-1202 data did not show Reclamation jurisdiction, the point of origin locations in degrees, minutes, and seconds were superimposed over recently updated land ownership information in Reclamation's GIS database. The results showed 316 wildland fires occurring on Reclamation lands in the MP Region during this time period. This did not include fires responded to by non-Federal entities, such as the California Department of Forestry and Fire Protection (CAL FIRE), who do not report into the Federal system.
- **Lessons Learned:** Not reporting wildland fire occurrence in the national database may have cost Reclamation opportunities in the past to be included in the Department's appropriation for wildfire suppression. By documenting a fire history, Reclamation will be in a better position to justify WFM budgets for wildfire suppression, fuels management, and fire prevention and education activities.

East Park FMP – This was an in-house production of an FMP for a low complexity land management unit. East Park Reservoir, part of the Orland Project, is a reservoir with surrounding lands of approximately 2,468 acres that are managed by Reclamation as a recreation area. An FMP was produced by the Northern California Area Office (NCAO) and regional office staff.

- **Results:** A concise and inclusive FMP was produced for a fraction of the cost of hiring an outside contractor because the issues were simple. A resource management plan (RMP) exists for East Park which mentions WFM, including prescribed burning and fuels reduction. The current Department interagency template for FMPs was used to obtain consistency with Department standardization efforts for interagency WFM activities.
- **Lessons Learned:** Reclamation staff, with proper guidance and training, can produce high quality FMPs, especially in areas with simple resource, fuels, and fire occurrence issues. It is easier to produce an FMP from an existing RMP, if the RMP is recent and has analyzed the current resource conditions such as fire regime, condition class, hazard fuel loading, and desired future conditions. In areas with more complex resource, cultural, political, and social

issues, such as the Wildland Urban Interface (WUI), it may be more practical to hire an outside consultant with the expertise and experience to do the information gathering and analysis to produce an FMP. A copy of the East Park FMP can be obtained by contacting:

Bureau of Reclamation
Red Bluff Field Office
22500 Altube Road
Red Bluff, CA 96080

LC Region

LC Region Fire Management Plan and Interagency Agreement – This was a project to produce an FMP with a neighboring Federal agency, the Bureau of Land Management (BLM), and establish an interagency agreement (IA) for WFM activities on Reclamation lands in the Las Vegas and Lake Mead areas not covered by management agreements with the National Park Service (NPS).

- **Results:** An FMP was produced cooperatively by Reclamation and the BLM, Las Vegas Field Office. A five-year IA for wildfire suppression and fuels management was also coordinated with this FMP. The resulting IA for wildfire suppression and fuels management effectively provides insurance for wildfire suppression coverage of Reclamation lands in Southern Nevada not covered under agreement with the NPS.
- **Lessons Learned:** The resulting high-quality FMP shows the value of using the WFM knowledge and experience of a Department sister agency, such as BLM, which has been in the fire management business for a long time. A copy of this FMP can be obtained by contacting:

Bureau of Reclamation
Lower Colorado Regional Office
PO Box 61470
Boulder City, NV 89006

PN Region

Lake Cascade FMP – This was a project to produce a relatively complex in-house FMP using Reclamation staff. Lake Cascade was selected because it provided a variety of influences including nearby large land areas managed by other agencies (U.S. Forest Service and the State of Idaho), large undeveloped private land holdings, small tracts, and high-density subdivisions. It is in a location which has recently been influenced by a new year-round destination resort. It also provided a location with various vegetative covers, including grasslands, brush areas, and various timber types.

- **Results:** The resulting FMP included a Risk Assessment and Mitigation Strategies (RAMS) assessment. This is a complex software program designed to assess an area's fire risks, delineate management strategies, and incorporate the most efficient and effective wildfire suppression coverage based on the closest forces concept. It was completed following the current Department interagency FMP template (Appendix A). Like the East Park FMP, it was completed for a fraction of the cost of hiring an outside contractor. Because Lake Cascade is a complex land base unit, a contractor would have required a relatively high number of work hours to research and complete this FMP. Using the knowledge of an in-house employee with past fire experience, PN Region completed a RAMS assessment without such costs.
- **Lessons Learned:** Reclamation personnel are capable of producing even complex FMPs such as the Lake Cascade FMP by drawing on the experience of staff with WFM experience in other agencies. It is advisable, whenever practical, to increase Reclamation's corporate knowledge base in WFM by encouraging and allowing attendance at interagency training courses in WFM. Many of these courses are available without tuition for personnel from other Federal agencies.

Demonstration Projects Summary

These projects illustrate both the abilities and shortcomings of Reclamation's corporate knowledge in the WFM area. Without staff that happens to be knowledgeable on WFM issues from some previous employment, the in-house efforts at producing FMPs would probably not have been as successful. Yet, the ability of Reclamation staff to engage sister Department agencies, the U.S. Forest Service, or state agencies in WFM assistance proved very successful. This interagency communication and cooperation will be crucial to development of Reclamation's WFM program. Raising the consciousness of Reclamation staff and management in the future will be critical to establishing a successful WFM program in Reclamation and complying with Department policy.

How to Do FMPs

There are basically three ways for a regional office or area office to initiate FMPs:

1. *The initiating office can produce an FMP in-house.* As learned from the demonstration projects, an in-house production can be cost-effective if the initiating regional or area office has the knowledgeable resource staff and time

to be efficient. If production of the FMP requires a significant amount of research, a contractor may be a better solution. One advantage to researching the subject is it will educate Reclamation staff on WFM.

2. *The Reclamation office can ask a neighboring Federal agency to incorporate Reclamation lands into their unit FMP.* When Reclamation lands are near other Federal lands, it may be efficient to get the neighboring agency to incorporate the lands into its unit FMP. This is especially true if the agency provides or is willing to provide wildland wildfire suppression service for the area, or is contracting or cooperating with other agencies to provide such services.

Reclamation staff should obtain a copy of any existing FMP and applicable resource management plan for adjacent lands. If the management goals and strategies are compatible with those of Reclamation, the cooperating agency may be able to incorporate Reclamation lands into an existing fire management planning unit. When the management goals are dissimilar to those of Reclamation, the other agency may be able to include Reclamation lands in the FMP as a separate unit with different management goals and objectives.

When it is impractical or undesirable for Reclamation lands to be tied to the FMP of another agency, it may still be possible to use the expertise of the other Federal agency to develop an FMP for Reclamation lands.

Reclamation staff may need to enter into an IA to pay for its share of the labor involved in modifying or preparing an FMP. The IA may include provisions for other services (for example, wildfire suppression and/or prescribed fire applications). The IA may also identify Reclamation staff that may provide assistance during the FMP development process.

First obtain a copy of the other Federal agency's unit FMP to see if its WFM strategies and tactics are consistent with what you would want to do on Reclamation lands. If you can arrange an IA with the neighboring agency to incorporate your lands into its FMP, you will be promoting a consistent approach to WFM. This is a fundamental goal of the Federal Wildland Fire Policy. During this interagency planning process, it is vital that Reclamation get input from resource staff on the FMP. Strategies and goals for such things as wildfire suppression tactics, hazard fuels reduction, and BAER may vary from what the partner agency has identified for its lands. The cost of partnering with a neighboring agency is often less than hiring a contractor to produce an FMP.

3. *Reclamation can hire a consultant or contractor.* If the regional or area office needs a relatively complex unit FMP, but lacks the staff time and/or subject matter expertise to produce it in-house and can find no willing Federal partner

agency, the best (and only) option may be to hire an outside consultant. There are many good private firms or individuals who can do this. Many are retired wildland fire management officers (FMO) or other managers from wildland fire agencies. The National Fire Plan website provides a state-by-state listing of contractors who perform this work (<http://www.nifc.gov/fuelsreductionidiq/>).

Chapter 3. Agreements

Most local emergency response organizations have mutual aid agreements with neighboring jurisdictions. Many also have arrangements with other levels of government or with private organizations such as The Nature Conservancy to provide assistance. Such agreements can offer significant practical and legal advantages.

Advantages to Having Emergency Response Agreements

A certain degree of effort is required to initiate, negotiate, and maintain emergency response agreements with other organizations. However, there are advantages to entering into such agreements.

Promote Effective Emergency Response by Wildfire Suppression Agencies. The primary reason to have agreements between wildfire suppression agencies is to improve the quality of wildland fire preparedness and response. Effective emergency response often requires a coordinated effort among local, state, and Federal agencies. In some cases private organizations may be involved as well. Agreements among these organizations can help build bridges between their response plans and ensure that response efforts are coordinated and timely. For example, a cooperative agreement between a Federal agency and a state agency (such as CAL FIRE in California) may ensure the most effective wildfire suppression coverage for vast tracts of public and private land, regardless of ownership, by the closest available wildfire suppression forces.

The use of the closest available wildfire suppression forces to respond to a fire is known in the fire community as the “closest forces concept.” The application of the closest forces concept through agreement means an agency such as the U.S. Forest Service or BLM may respond to fires on lands under the jurisdiction of a state land management agency or another Federal agency if its wildfire suppression forces are closer and vice versa. Agreements can also serve as the basis for participation in training and exercises to fine-tune response capabilities and maintain proficiency. When setting up agreements for wildfire suppression coverage and/or for prescribed fire assistance for Reclamation, it is important to keep the closest forces concept in mind.

Minimize Litigation. By promoting a clear understanding of roles, responsibilities, and financial commitments ahead of time, an agreement can help prevent conflict and resulting litigation in the wake of an emergency. For

example, parties to a mutual aid agreement typically waive all claims against each other for costs, damage, or injury resulting from joint response actions.

Types of Agreements

WFM agreements (including emergency management agreements) go by many names, for example: intergovernmental agreement, interagency agreement, memorandum of agreement, memorandum of understanding, cooperative agreement, or mutual aid agreement. The name for an agreement is not as important as its purpose and what it contains. Often an organization will have a recurring format that it uses for different instances of a specific type of agreement. For example, Appendix B is a sample of an interagency agreement from the MP Region.

The following are common agreement formats used for WFM purposes:

Intergovernmental or Interagency Agreement (IA). Intergovernmental agreements or interagency agreements are common agreements with Federal agencies which provide wildfire suppression and/or prescribed fire services for Reclamation. For example, see the interagency agreement for prescribed fire (Appendix B) between Reclamation and the Fish and Wildlife Service (FWS).

Cooperative Agreement (CA). A CA is an agreement with a nonfederal agency to meet needs for wildfire suppression and/or prescribed fire services. However, please note that the “principal purpose” of a cooperative agreement must be “to transfer a thing of value” to the nonfederal agency “to carry out a public purpose,” and not to acquire “property or services for the direct benefit or use of the United States Government” (31 USC § 6305). Refer to Reclamation Manual (RM) Directive and Standard (D&S), *Financial Assistance Management (Grants and Cooperative Agreements)*, ACM 01-01, for more information.

Memorandum of Understanding (MOU). MOUs are memoranda that define general areas of understanding between two or more agencies. They explain what each agency plans or is supposed to do with respect to identified activities or actions. Generally, an MOU is used where the actions of one party do not depend upon the actions of the other party, but rather both are pursuing independent paths to the same end.

Memorandum of Agreement (MOA). MOAs are generally used when the actions of the agencies are interdependent. For example, one agency may agree to provide personnel and equipment to operate a fire station while another agency provides the land and the station house.

Mutual Aid Agreement (MAA). In MAAs, each signing agency agrees to provide mutual support of a specified type (e.g., fire-fighting) when requested. In many states, a standard form for state or local MAAs is included in the emergency

response statute or in administrative regulations issued by a state's emergency management agency. In addition, states may form mutual aid agreements (commonly called “compacts”) with one another and indeed some emergency management compacts are already in place. For example, virtually all states are signatories to the Interstate Civil Defense Compact of 1950, which contains a broad range of mutual aid emergency management provisions. Since Reclamation has very little, if any, in-house wildfire suppression capability, a mutual aid agreement would likely not be appropriate for Reclamation. However, an agency providing wildfire suppression services to Reclamation might find a mutual aid agreement with other agencies advantageous. Such an association with other wildfire suppression service providers may have to be addressed in the agreement between Reclamation and its service provider.

Cooperative Assistance Agreement, Standby Contract, or Contingency Contract. These are agreements that involve a commitment for a response when certain agreed-upon conditions exist. The agreement may address cost reimbursement.

Agreement Development Process

To create a useful agreement that will enhance preparedness, sometimes the process is as important as the product. At the beginning of the development process, the parties should be clear on what they hope to achieve via the agreement. These questions should be posed and answered: What is the problem that will be solved or prevented? What parties must be included in order for that to happen? This may seem obvious, but sometimes negotiations can drift away from the original purpose of the agreement. The points below should be considered during the development process in order to avoid unnecessary conflict or delay in getting the agreement finalized.

Existing Agreements and Legal Review. As part of the drafting process, Reclamation should identify existing agreements which may be used as a template or basis for a new agreement. For example, you might be able to modify the IA for Prescribed Fire Assistance between the MP Region and the FWS, Sacramento National Wildlife Refuge (Appendix B) to suit your needs. Appropriate Reclamation contracting or grants officials should review draft agreements to ensure they are clear and within legal limits on authority. As needed, Reclamation should submit draft documents to the Solicitor’s Office for review. Legal review may identify content and restrictions which should be altered or may influence execution of the agreement.

Strategies for Addressing Technical Considerations. Some agreements cover subjects that are complex, or that involve the use of unique equipment, or that require exact compliance with procedures for optimal results when lives are at stake. When such technical considerations are involved, they should be incorporated into the agreement with a technical supplement to the agreement, in a section defining technical terms, or via citations to specific technical

publications. The body of an agreement on prescribed fire assistance could address what supplies and equipment will be provided, shared or exchanged; who will provide the supplies and equipment; what special storage or maintenance is required; and who will store and maintain the supplies and equipment.

A supplement to an agreement, such as an operations plan, can address specific technical details, such as communications equipment and protocols, to support the implementation of the specific or general projects covered by the agreement. This would include specific or programmatic prescribed fire burn plans (burn plans) for the covered area which describe in detail who will take tactical command and who from Reclamation will act as the agency representative or project manager.

Bargaining Chips. Reclamation possesses many assets which can be useful when negotiating agreements. For example, Reclamation lands are often adjoining or interspersed with lands administered by other agencies. This gives Reclamation an advantage when negotiating agreements. Frequently, a neighboring wildland agency may want to locate a fire station, base camp or other facility on Reclamation lands for convenience or efficiency of operations. In exchange for allowing such locations by the other agency, Reclamation can suggest that the other wildland agency offer full wildfire suppression and fire prevention services to Reclamation lands and facilities located within their geographic response area.

The other wildland agencies, who draw wildfire suppression funds under the “Department of the Interior, Environment, and Related Agencies Appropriations Act,” can almost always justify extinguishing a wildland fire on adjacent lands because such a fire is a threat to their lands. When they do this, they can charge a fire code for wildfire suppression costs and not affect their local operating budgets. It may be to their advantage to negotiate an agreement for use of Reclamation lands in exchange for their help with wildfire suppression, fire prevention, and possibly fuels management projects.

Another bargaining chip that can be used is fire equipment, tools, and clothing. These items usually come out of fixed presuppression fire budgets for a local unit. Unless they damage or lose such equipment on a fire, they cannot replace it against a fire code. Often, these fixed budgets are strained and partner agencies will be happy to exchange services for tools and equipment. Reclamation can purchase such equipment for the partner agency from our WFM budgets, when established.

Negotiation. The negotiating process and the level of formality required is a matter of organizational policy. In some cases there may be a long process of negotiation in which one side then the other proposes modifications. At the end of negotiations the written agreement will comprise the entire agreement unless the parties supplement or modify the agreement in writing as allowed under agreement provisions. Any oral side agreements, understandings, clarifications,

or interpretations are probably unenforceable and may be lost when personnel change.

Approval. Any agreement will ultimately have to be signed by an appropriate manager or official of each agency. The manager/official must have actual legal or line authority to sign for the agency. The agreement itself should specify the required approvals as well as procedures for renewal, modification, and termination. To expedite approval, it is best to keep the appropriate managers and/or officials fully involved and informed during the negotiation process so that there are no surprises or questions at the end.

Typical Components of an Agreement

In drafting an agreement, the following components should be considered for inclusion. Note: for some agreements there may be other format requirements that apply as a result of state or local regulation.

Purpose. At the beginning, the agreement should have a simple, concise statement of purpose. The purpose statement should answer the following question: Why is this agreement being made? A statement of purpose will aid in interpreting the rest of the text.

Scope. The agreement also should state its scope. In what situations is it applicable? What types of emergencies trigger implementation? What personnel and resources are included?

Authorities and References. The agreement should reference relevant legal authority such as Federal and state statutes and regulations. Aside from the importance for the state agency, listing state authorities may be helpful to Reclamation to understand a state agency's position when issues arise. Each state has an emergency management statute, which will generally contain language that specifically authorizes local governments to form agreements to cooperate on emergency responses. Examples of Federal authorities appropriate for Reclamation and FWS can be found in the prescribed fire assistance agreement (see Appendix B).

In some cases, it may be appropriate to reference a separate planning document or procedure that contains details on implementing the agreement. For example, the Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide (Prescribed Fire Guide) (see Appendix C) would be an important document to reference in a prescribed fire assistance agreement. Referencing the Prescribed Fire Guide would be important since it details Federal standards regarding burn plan preparation and approval, personnel qualifications, and contingency requirements.

Definitions. Depending on the nature of the agreement, it may be essential to include definitions of key terms. For example, if one party will provide assistance to another party in event of an emergency, it may be appropriate to define what exactly is meant by “emergency.”

Roles and Responsibilities. The agreement should summarize the roles and responsibilities of each agency. This section should describe the services or resources to be provided in enough detail to ensure that the purpose of the agreement will be fulfilled.

Logistical Considerations. Time is usually of the essence in emergency response. To ensure that agreed-upon actions will be quick and sure, it is often essential to plan out and agree upon specific logistics and support actions in advance. The following should be considered during drafting and negotiation:

Protocol and procedures for notification. In most cases, a wildfire suppression agreement will include fire detection and automatic response by the contracting agency. The agreement should spell out procedures for activation, such as points of contact, content of messages, and so on. A special protocol such as a code word may be necessary to ensure the authenticity of an emergency response call so that, for example, sirens are not activated based on a hoax. A provision addressing the proper content for messages requesting assistance can be the basis for associated staff procedures; for example, a wildfire suppression agreement can provide that any request for assistance will include at least the number and type of personnel and equipment needed; include any special protective equipment needed; and specify a location and Reclamation agency representative (AREP). This in turn can be built into a procedure for the persons (such as dispatchers) who actually transmit such requests to ensure that they include all the required information.

Limitations of the agreement. Agencies may place limits on the assistance provided under an agreement. For example, the agreement might provide that assistance will only be given if doing so will not jeopardize fire protection in the assisting agency’s jurisdiction (i.e. they have units to spare), or only if there is a local or state-declared emergency.

Command and communications in the field. If the agreement covers field response such as wildfire suppression, it should make clear how lines of authority will run for each organization and who will be the incident commander. It may also be useful to specify communications systems and protocols to be used, including interoperability of communications between the various jurisdictions and agencies (e.g. can a Reclamation AREP talk to the Incident Commander on a Reclamation radio?). Addressing this issue in an agreement will focus attention on whether the organizations have appropriate communications equipment to accomplish this goal.

Exercises and drills. Agreements regarding provision of assistance in an emergency should also include participation in exercises and drills. This is particularly true for organizations that supply specialized resources (e.g. bull dozers or other equipment) that do not regularly engage in emergency response actions.

Consistent planning. Agreements should specify that the parties will incorporate appropriate elements into their emergency plans and procedures, to ensure planning is consistent with the agreement.

Training. Parties to an agreement should consider whether the contemplated actions will require any specialized training that their personnel are not already receiving; for example, training on use of specialized personal protective equipment or wildland firefighter training. One party may agree to provide training for another, or the parties may agree to conduct joint training programs.

Qualifications. Agreements for wildfire suppression or prescribed fire assistance should contain qualification clauses for personnel provided by the cooperator or contractor. Such personnel should be Federally qualified or qualified through agency standards recognized as equivalent to Federal standards. Most Federal wildland fire agencies have agreements with state wildland firefighting agencies within their regions which specify recognition of personnel qualifications.

Legal and Financial Considerations. Legal and financial considerations are key to avoiding misunderstandings and possible litigation after the agreement has been signed. Legal review by appropriate counsel is essential to determine the legal context of the agreement and what points must be covered in the agreement itself. The particular considerations detailed below may or may not apply to a given situation.

- **Preparation costs.** Implementing an agreement may involve expenditures to set up a facility, purchase equipment, or train personnel. It may be appropriate for the agreement to address allocation of such costs.
- **Response costs.** In some cases it may be appropriate to address cost issues such as compensation for equipment damage or injuries that may be sustained while carrying out the agreement. For example, mutual aid agreements often provide that each organization is responsible for its own personnel and equipment. However, note that the appropriations law at the Federal level and in at least some states prohibits entering open-ended cost reimbursement agreements.
- **Liability.** Situations may arise in which one party to an agreement is injured as a result of alleged negligence by another party; or else a third person may allege injury as a result of negligence in emergency response

efforts. For example, an error in fire fighting judgment can cause injury to civilians or to other fire fighters. An agreement provision may be used to forestall or settle issues of liability between parties.

Additional Required Information. The agreement should specify what approvals are necessary to make it valid, the duration of the agreement (fixed term or indefinite), and procedures for changing, withdrawing from, or ending the agreement. The agreement also should include a periodic review process; for example, annual reviews. Agreements should ensure that points of contact provide Reclamation with the fire occurrence information needed to complete reporting requirements into the Wildland Fire Management Information System-Fire Reporting Module and the National Fire Plan Operations and Reporting System (NFORS) within 30 days of the fire occurrence (see Chapter 7).

Past Agreements. If the implementation of a new agreement, or modification of an existing agreement, makes portions of an existing agreement obsolete, it is appropriate to include a section superseding the existing agreement or applicable sections. When only sections of an existing agreement are superseded, it is also recommended that those sections still in effect be identified. If the entire document is made obsolete, it is appropriate to terminate the prior document as of the date of implementation of the new agreement.

Signature Blocks. The agreement should provide signature blocks for the officials who have authority to execute the agreement. For Reclamation, in most cases, this will be an area manager or regional director.

Attachments. One or more attachments may be needed to specify the following: technical details of assistance, available resources, or protocols and/or procedures to be used. Such attachments should be incorporated by reference into the final agreement and made a binding part thereof.

Legal Context: Appropriations Law and Immunity Provisions

All agreements are set against the background of applicable Federal, state, and local statutes and ordinances. Sometimes this legal context will have a significant impact on how certain aspects of the agreement should be worded. Two areas of law that are particularly important are appropriations law and governmental immunity provisions.

Appropriations Law. Appropriations law restricts the types of financial obligations that can be undertaken by government officials. Federal officials are bound by the Antideficiency Act. Any promise to pay must be limited to amounts that are available under current appropriations. The U.S. Government Accountability Office (GAO) guidebook states the following:

The fiscal principles inherent in the Antideficiency Act are really quite simple. The idea is to “pay as you go.” Government officials are warned not to make payments or to commit the United States to make payments at some future time - for goods or services unless there is enough money in the “bank” to cover the cost in full. The “bank,” of course, is the available appropriation.¹

This general rule means that open-ended agreements to indemnify or compensate another agency for possible future response costs are prohibited. Any type of agreement that goes beyond the current fiscal year, or is not for a specific dollar amount will require special authorization.

Governmental Immunity. The law provides certain protections from liability for emergency responders. This protection may affect how liability should be treated in an agreement. For example, a state statute may provide immunity for emergency responders including the state, political subdivisions of the state, state and local government agencies, individuals, partnerships, corporations, and “emergency management workers” engaged in emergency response. A state immunity statute may apply also to those who voluntarily provide shelter for evacuees. Such a statute may affect indemnity or waiver clauses in an agreement.

Conclusion

The benefits of drafting and negotiating agreements prior to an emergency include loss reduction, ability to secure response resources, and cost savings. In order to be effective, the agreements must be comprehensive and coordinated, and legal review is essential. All of the affected parties must buy into the concept of an agreement to ensure that a useful document is created.

¹ Principles of Federal Appropriations Law, Second Edition, Volume II, GAO/OGC-92-13, December 1992, page 6-11.

Chapter 4. Prescribed Fire

The National Wildfire Coordinating Group (NWCG) Glossary of Wildland Fire Terminology (see NWCG website) defines prescribed fire as:

Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met, prior to ignition.

For many years Reclamation has had programs for operations and maintenance at the facilities which have included vegetation management or reduction of hazard fuels around pumping stations, penstocks, canals, electrical switch yards, etc. Often the vegetative by-products of this activity have been piled and burned, sometimes by Reclamation staff, other times by contractors or other agency personnel (see figure 1).

Evolving Federal standards regarding the planning and implementation of prescribed burning will influence use of prescribed fires on Reclamation lands. Personnel engaged in the implementation of prescribed burning must meet rigorous training and experience standards—standards which, Reclamation employees, contractors, or cooperating agency personnel may not have met in the past. Personnel must also be trained in the proper use and care of specialized equipment for prescribed burning such as drip torches, and specialized pumps such as the backpack portable Mark III (see figure 2).²

Failure to adhere to personnel qualification and safety standards while implementing prescribed fire projects on Reclamation lands may result in liability exposure to Reclamation which is unacceptable. This is true whether implementation of projects is carried out by Reclamation employees, managing partners, or contractors unqualified to conduct burning operations. Failure to mitigate hazard fuels on Reclamation lands can result in a danger to Reclamation facilities and/or to the public at large. This, too, is unacceptable liability exposure for the agency.

As stated in RM D&S, *Wildland Fire Management (WFM)*, LND 14-01, Paragraph 11.B., Reclamation has adopted Department standards regarding prescribed fire planning and implementation as described in the *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide* (Prescribed Fire Guide) (Appendix C).

2. See the “Fire Use Positions Qualifications” promulgated by the NWCG’s Fire Use Working Team. Here is a link that was current when this was written:
<http://www.nwcg.gov/teams/fuwt/Quals/fire%20use%20position%20quals%202004.pdf>.



Figure 1. Reclamation firefighter on a prescribed pile burn in Trinity County, California.

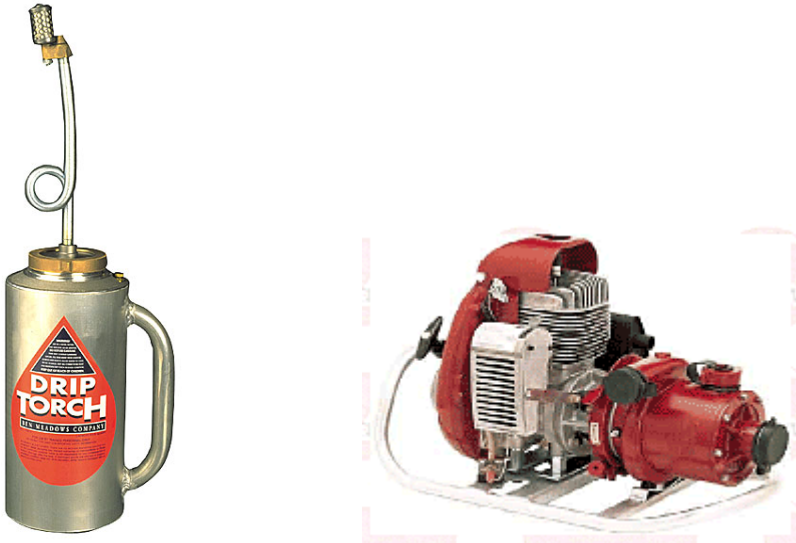


Figure 2. Drip Torch and backpack portable Mark III pump used for igniting and controlling prescribed fires.

A new area of endeavor for Reclamation is prescribed burning for resource management and habitat improvement. As a part of Reclamation's mission, we manage many lands adjacent to large and small bodies of water. This results in a necessity to manage riparian areas for the benefit of wildlife as well as for more human centered issues such as recreation. Marsh areas support large and varied populations of both plant and animal species. Many of these ecosystems evolved in a fire dependent environment. Fire exclusion over the past 150 years or so has greatly altered these and many other fire adapted ecosystems. Many of the plants (tules, cattails, bulrushes, and grasses) depend upon the cyclical occurrence of wildland fire for rejuvenation and propagation of their species. This also has an effect on the animal species dependent upon this vegetation for food and/or cover. For example; marsh burning on Reclamation managed lands in California is used to rejuvenate the habitat of the Tricolored Blackbird (*Agelaius tricolor*). Natural resource specialists have determined burning of the tules on a 2 or 3-year cycle disposes of dead, decadent vegetation and stimulates new growth in the tules. This results in a net gain in habitat for the Tricolored Blackbird as well as other wildlife species.

Reclamation can benefit by consulting with another agency based upon the type of prescribed burning to be conducted. Prescribed burning for refuge management is a practice long in use by the FWS. FWS is the most experienced and knowledgeable agency with respect to prescribed burning in marshes. The NPS, BLM, and the U.S. Forest Service are very experienced in pile burning.

Prescribed Fire Complexity. All prescribed fire projects fall into one of three basic complexity categories:

- High Complexity (Type 1)
- Moderate Complexity (Type 2)
- Low Complexity (Type 3)

The level of complexity, for any given project, is determined by a complexity analysis summary prepared during the planning process (see page 36 of the Prescribed Fire Guide [Appendix C]). Most of the prescribed burn projects which Reclamation conducts fall into the low complexity category (e.g., pile burning, or small scale under-story burning of downed slash and/or forest litter). Most burns on marsh lands fall into the moderate complexity category. Some burns may be in the high complexity category, if a special firing method is used, such as aerial ignition, or if implemented on a large scale in a wildland urban interface area.

Prescribed Fire Burn Boss, Type 3 (RXB3) Qualifications. The experience and training prerequisites needed to attain the NWCG qualification of Prescribed Fire Burn Boss, Type 1 (RXB1) and Prescribed Fire Burn Boss, Type 2 (RXB2) are so rigorous they will almost always necessitate the use of a cooperator agency or

private contractor. However, there is a new NWCG recognized position created to command low complexity burns. This is the Prescribed Burn Boss, Type 3 (RXB3).

Because the requirements for RXB3 are within the reach of most employees with some prior firefighting experience, Reclamation encourages, where feasible, employee development and training programs to attain the RXB3 qualification. Managers of programs which regularly apply low complexity prescribed burns should decide if it would be cost and time effective to qualify an employee as RXB3. It makes sense to train and qualify some Reclamation employees to command low complexity prescribed burns because this is the type of prescribed burning most commonly implemented by the agency, and it can often be performed more cost effectively if done with in-house resources.

On more complex burns (Type 1 or 2), or larger scale Type 3 burns (e.g. many piles), it makes sense to employ a cooperating agency or contractor as the number of qualified Reclamation employees with the needed experience is very small.

Prescribed Fire Burn Plans. All prescribed burns must have an approved burn plan before implementation. It is suggested that staff familiarize themselves with the format and content requirements of the Interagency Burn Plan Template outlined in Appendix B of the Prescribed Fire Guide (Appendix C). In Reclamation, final approval of the burn plan should be at a management level no lower than area manager. To increase efficiency and cost effectiveness, it is suggested that area managers approve *programmatic* burn plans for projects having similar individual burn units containing the same types of fuels and terrain and employing the same types of firing and holding tactics (e.g. pile burning).

Burn Plan Preparation. Burn plans can be prepared by qualified contractors or other agency personnel holding the necessary qualifications. According to the Prescribed Fire Guide, burn plans must be prepared by individuals rated as RXB2 or RXB1. Because Reclamation has few, if any, personnel qualified at this level, the use of a contractor or cooperating agency fire staff will almost always be required.

Technical Review. According to the Prescribed Fire Guide, each individual or programmatic burn plan must have a technical review (see paragraph 11.C. of LND-14-01). This review should address all aspects of the burn plan for technical soundness and safety. Per the Prescribed Fire Guide, the technical review is done by an individual holding at least RXB2 qualifications and may not be done by the burn plan preparer. There are many contractors who are qualified to prepare burn plans and the use of interagency agreements with nearby agencies such as the BLM, FWS, or NPS can provide technical review services. If technical review or burn plan preparation services are desired in an assistance agreement, this should be clearly stated in the agreement.

Prescribed Fire Burn Implementation. It is vital that every prescribed fire burn project be commanded and implemented by qualified personnel. This consists of at least a burn boss qualified at the level of complexity of the project (e.g. RXB3, RXB2) and NWCG qualified and red-carded firefighters. On Type 2 complexity burns other prescribed fire overhead positions may be needed. These positions may include a firing boss, holding boss, and ignition specialists. The determination as to whether or not these positions are needed is addressed in the burn plan. When using contractor or non-Federal personnel to implement prescribed burns, it is important to verify they meet the Federal standards for the positions they are assuming on the project. In most cases, having a Federal burn boss commanding the implementation will solve this. Most state or contract firefighters are recognized as Federally equivalent. However, there are currently few non-Federal personnel holding *burn boss* qualifications meeting NWCG standards. In California and some other western states there are some contractors who do meet the Federal standards. It is important to ascertain qualifications before employing any non-Federal or contractor personnel in any burn boss or other prescribed fire overhead positions.

Prescribed Fire and Wildfire Suppression Equipment. A variety of equipment and tools can be purchased and stored for use on prescribed burn implementation. Tools and equipment such as pumps, hose, and hand tools will be very useful during burn preparation and implementation. These tools can be used by Reclamation employees, if qualified, or by cooperator or contractor personnel. They can also be used as bargaining chips when negotiating fire management planning and prescribed burn implementation. Most firefighters working for the other wildland agencies are very happy to receive extra tools and equipment, etc., as their presuppression budgets used to purchase such equipment are often limited. Property transfers in lieu of payment can be utilized for this purpose, if authorized.

An excellent source of wildland firefighting equipment is the GSA Wildland Fire Equipment Catalog. This catalog is online and updated every year. (Search GSA's website for a current link.)

Chapter 5. Fuels Management

Due to fire exclusion policies of Federal, state, and local governments over the past 150 years or so, there has been a vast increase in dead and downed vegetative material buildup in forested areas and brush lands. The number of catastrophic wildfires in the U.S. has been steadily rising. This, combined with the unpredictable effects of climate change, is an indication that the next 50 years of WFM will not be like the past. U.S. residents can expect more frequent and severe fire seasons throughout the nation. This is why Federal agencies managing wildlands can and must do more in the way of reducing the buildup of hazard wildland fuels.

Many Reclamation facilities are situated in pristine and remote wildlands as well as increasingly in the wildland urban interface (WUI). Reclamation lands and facilities will not be immune in the future from the effects of wildland fire. Reclamation should manage wildland fuels in a responsible manner by mitigating the danger posed by the increasing build up of fuels.

Components of Fuels. Reclamation can more effectively manage the fuels in a given area with a basic understanding of fuels make up and the relationship to fire behavior. Fuels come in many different sizes and shapes and react differently to fire depending on their composition and upon their moisture content. For example, small fuels with a relatively large surface to mass ratio, such as grass, will burn much faster and produce more heat for a shorter period of time. Larger fuels, such as branches or logs, take much longer to burn and produce heat for longer periods of time (heat duration).

Time-lag Concept. The more moisture a given piece of fuel holds, the longer it takes to reach a given temperature and the longer it will take to burn. Fuels gain and lose moisture constantly depending on conditions. In the case of live plants this moisture content is a result of plant morphology and how much moisture the plant has available to it from the soil. In the case of dead fuels, moisture content is gained or lost from exposure to the ambient moisture content of the atmosphere. In *dead* fuels, the relationship between size, moisture content, and fire behavior is known as the time-lag concept.

In the time-lag concept, *dead* fuels are divided into sizes based upon how long they take to gain or lose moisture from the atmosphere relative to their size or mass. They are categorized as:

- 1 hour time-lag (0.1 to 0.5 inches in diameter)
- 10 hour time-lag (0.5 to 1 inch in diameter)
- 100 hour time-lag (1 to 3 inches in diameter)
- 1000 hour time-lag (3 to 6 inches in diameter)

The term “time-lag” refers to the time necessary for a given piece of fuel to reach 63% of its equilibrium moisture content. For example, a blade of dry grass will pick-up moisture or dry out relatively quickly compared to a log. A blade of grass is a 1 hour time-lag fuel; a 5 inch diameter log is a 1000 hour time-lag fuel. In comparison, the blade of grass will take one hour to gain or lose 63% of its equilibrium moisture content when an ambient atmospheric change takes place, the log will take at least 1000 hours for the same relative change in moisture content. Equilibrium moisture content is a state of stability in which a given piece of fuel is neither losing nor gaining moisture content. The wide variety of fuel components and changes in the weather make it virtually impossible for an entire fuels complex to be at equilibrium moisture content at the same time.

Live Fuel Moisture. Another important concept in fuels is the *live* fuel moisture content of living fuels. This is largely a function of season, plant morphology, moisture content of the soil, and current weather or draught conditions. *Live* fuel moisture is important since it is a controller of fire intensity and is a key component of fire behavior prediction models. *Live* fuel moisture is measured by weighing fuel samples before and after kiln drying. Samples of plant foliage or twigs are freshly picked from live plants and packaged and transported in airtight containers to a processing lab. The lab can be as simple as a desktop with an accurate digital scale and a specially designed kiln or oven. Most BLM or U.S. Forest Service units measure *live* and *dead* fuel moisture on at least a bi-weekly basis.

Fuel loading and Arrangement. Loading and arrangement are also important fuel properties that affect the way a fire behaves. The quantity of combustible fuel in a given area is known as fuel loading, which is usually measured in tons per acre. Fuels are classified according to their continuity and arrangement as follows:

- **Ground Fuels** are the combustible materials found below the ground surface, and include tree roots, duff, and organic material.
- **Surface Fuels** are found at the ground level, including twigs, grasses, leaves, needles, wood, and other vegetation.
- **Aerial Fuels** are standing vegetation including tree crowns, branches, leaves, snags, and hanging moss. The vertical arrangement of fuels is an

important factor in wildland fire behavior. Fuels may be arranged in a uniform pattern and distributed continuously across a forest, allowing a wildland fire to travel uninterrupted, or fuels may be distributed unevenly in a patchy network, slowing or even stopping the fire's rate of spread.

- **Ladder Fuels**, such as branches that extend to the ground, are fuels that provide vertical continuity between ground and aerial fuels, thereby allowing fire to carry from surface fuels into the crowns of trees or shrubs with relative ease. They help initiate and assure the continuation of a torching or crowning fire, the latter occurring when the fire moves through the forest treetops.

Fuels Management Programs. Designing a fuels management program for a given unit, such as an area office, begins during the fire management planning process. As a major component of the FMP, fuels management planning needs to be addressed on the programmatic level. Decide where your problem fuels areas are, what the values at risk are, and what the costs to mitigate the danger would be. Create a priority list of these hazard areas and decide on a strategy for implementation of a program to address the need. An inventory of hazard fuels areas should be mapped in the geographic information system (GIS) and updated as conditions change. Priority fuels reduction projects should be delineated on the map and maps should be attached as appendices to any FMP and any specific fuels reduction project plan.

There is a software program called Risk Assessment and Mitigation Strategies (RAMS), which factors in areas of fuels, wildfire suppression resources, fire prevention patrols, and WUI and produces a mitigation strategy. RAMS is a useful tool for units containing high complexity WFM concerns such as WUI and/or high use recreation. Many good contractors exist who can assist you with a RAMS assessment.

Once you prioritize your general areas of concern, decide the best method of reducing the fuels hazard. Methods can be prescribed fire, mechanical (e.g. chipping or mastication), or a combination of actions. Work agents can be in-house, contractor, or a cooperating state or Federal agency. If you are using in-house, contractor, or other Federal or non-Federal resources to conduct prescribed fire implementation, it is important to ensure that they are qualified to conduct such activities. (See Chapter 4)

Where applicable, it is suggested that shaded fuel breaks be employed strategically around areas or facilities with high values at risk. Shaded fuel breaks employ selective thinning and/or pruning of forest fuels as opposed to clear cutting. Clear cutting should be avoided whenever possible because this can increase erosion potential, accelerate loss of fuel moisture, destroy animal and plant habitats, and expose areas to invasion by exotic or invasive plant species.

Some clearing of areas adjacent to facilities such as buildings, switch yards, pumping stations, and penstocks may be required and should be maintained to provide what is known as “defensible space.” In areas of high fuels concentration, a minimum of 100 feet should be maintained between buildings, structures, etc. and the surrounding vegetation. For facilities surrounded by very large forest fuels, such as conifers 100 feet high or greater, a minimum of 300 feet of defensible space should be maintained. More information on defensible space is available on various internet sites, such as the CAL FIRE website. (Do an online search using Google or other search engine to find the information on the CAL FIRE website and other websites.)

Mechanical methods of clearing or thinning are generally more practical when maintaining defensible space than prescribed burning because of proximity to buildings and other structures. Many contractors are available on the national Indefinite Delivery Indefinite Quantity (IDIQ) contract for fuels reduction that have access to specialized equipment for mechanical methods of hazard fuels reduction. See the following link to the national IDIQ contract for fuels reduction: <http://www.nifc.gov/fuelsreductionidiq/>.

Some of the different types of equipment used for mechanical fuels reduction are shown in figures 3 through 7:



Figure 3. Excavator with Fecon head clearing dog-hair thicket.



Figure 4. Excavator with Fecon head clearing roadside slope.



Figure 5. Wheeled bull-hog with Fecon head.



Figure 6. Tracked bull-hog with Fecon head.



Figure 7. 15 inch diameter, hand fed chipper.

Mechanical chipping and masticating equipment can be rented, purchased, or provided by a contractor or cooperating agency hired to do the work. A cost-to-benefit analysis should be done before purchasing any equipment. If you have a fuels situation that requires long-term attention, such as routine operations and maintenance activities, it may pay to purchase a machine in the long run.

Fuel Models. Much research has been done into the different vegetative communities and dead fuel types (e.g. slash). A fuel model is a general representation of a vegetative community or fuel type which will produce fire behavior of a similar nature under given environmental conditions such as weather and topography. There are two generally recognized systems for categorizing fuel types:

1. The National Fire Danger Rating System (NFDRS). See the following link for descriptions:
http://www.tamu.edu/ticc/fuel_model_descriptions.pdf.
2. The National Forest Fire Laboratory (NFFL), which is sometimes referred to as the Fire Behavior Prediction System (FBPS). This system is generally in wider use than NFDRS and is described in the U.S. Forest Service publication: "Aids to Determining Fuel Models for Estimating Fire Behavior," Hal E. Anderson, April 1982. See the following link:
http://www.fs.fed.us/rm/pubs_int/int_gtr122.pdf.

Fuels Project Reporting. Under LND 14-01, paragraph 10.C, Reclamation will use the National Fire Plan Operations and Reporting System for reporting hazard fuels reduction and BAER program accomplishments. For more information on NFPORS see the following link: <http://www.nifc.gov/fuels/reporting/nfpors.html>

Chapter 6. National Fire Program Support

Reclamation's responsibility as a bureau of the Department of the Interior is to support the national fire program by making available for training, certification, and deployment personnel having specialized skills which are in high demand during local, regional, and national emergencies. Nationally, there are five planning or preparedness levels (PL). One (PL 1) is the least busy and five (PL 5) is so busy as to stress the national firefighting agencies' ability to meet wildfire suppression demands. It is a requirement under LND 14-01; paragraph 13.A, that at PL 5 qualified employees will be made available for the national effort when requested through a resource order from the Geographic Area Coordination Center (GACC) having jurisdiction over the area. See the following link for descriptions of the five preparedness/planning levels:

http://www.nifc.gov/nicc/administrative/nmac/strategy/NMAC_Apx_2.pdf.

You may find out which GACC you fall under by following this link for the 11 GACCs in the country: <http://gacc.nifc.gov/>.

Reclamation has personnel with skill sets which are in high demand for national wildland fire or other incident support and which would be greatly needed in support of incidents or rehabilitation efforts on Reclamation lands. Examples of these are:

- GIS Specialists
- Burned Area Emergency Response Specialists
- Hazardous Materials (haz-mat) Specialists (HAZM)
- Agency Representatives (AREP)
- Resource Advisors (READ)
- Support Specialists in: Logistics, Timekeeping, or Finance

In the case of GIS specialists, their work is extremely valuable on wildland fires or other incidents. They can produce maps and compile data which show accurate fire/incident perimeters, hazard areas, and areas of critical environmental concern. Such accurate information, updated frequently, can save lives and property, and reduce total incident costs by providing accurate information upon which to base tactical decisions by Incident Commanders. GIS is becoming an ever more important tool in the arsenal for wildfire suppression.

Haz-mat is another area in which Reclamation can support the national fire effort while maintaining our interests. Fire camps and other emergency facilities are often temporarily located on public and private lands during incidents. This can

result in material and fluid containment issues from wildfire suppression-related activities and sources, such as porta-potties, caterer/contractor kitchens, and portable fuel storage facilities for aviation operations. On large incidents these operations and facilities are rarely removed without lingering effect upon the land. It is advisable that a Reclamation haz-mat specialist be assigned to such incidents on Reclamation lands to look out for the United States' interests.

Qualification of Employees. Reclamation employees attempting to communicate with Incident Command personnel should be aware that they cannot enter an active fire area without a red card and personal protective equipment (See Chapter 9, Definitions). To qualify in the fire/incident response system, Reclamation employees should be trained and have completed the prerequisites described in the Publications Management System (PMS), 310-1 (PMS 310-1). ([Search](#) the NWCG website for a link.) These standards are established by the NWCG. After employees are trained and meet the prerequisites in the PMS 310-1, they should be entered into two key national fire/incident response data systems. These are:

- **Incident Qualifications and Certification System (IQCS).** IQCS is a system which stores and rates individual responders according to their training and experience histories entered into the system. This is the system that prints out the Incident Qualification Card (Red Card). IQCS keeps track of all relevant training courses taken, all trainee assignments, and all qualified assignments. It also keeps track of position qualification currency. For example; currency requirements for general fire operations are five years and for aviation positions, three years. This means an individual must have performed the job for which qualified within the past five or three years respectively.
- **Resource Ordering and Status System (ROSS)** ROSS is a database which maintains contact information on all qualified fire/incident responders. It maintains agency, home unit, supervisor, and individual telephone number contact information of qualified responders. This is the system from which the GACC or the National Interagency Coordination Center (NICC) acquires resources (people, equipment, and aircraft) to fill Resource Orders for wildland fire or other emergency response incidents. Recently, the ROSS Project Team created an interface to allow the use of IQCS data within ROSS. Now, ROSS will keep track of your responder's training, experience, and currency through the IQCS interface with ROSS.

For now, it is recommended that any interagency assistance agreements with a Federal wildland agency include requirements for the partner agency to enter, maintain, and store in IQCS and ROSS the qualifications, training, and experience of your fire/incident responders, and/or prescribed fire qualified personnel. The data entry, training, and maintenance requirements of IQCS and ROSS are too cumbersome for Reclamation to complete without a dedicated data entry position. However, Reclamation has too few qualified responders compared to the other

wildland agencies to justify a data entry position. If this changes, system access by Reclamation may be considered in the future. See the following links to the IQCS and ROSS websites: <http://iqcs.nwcg.gov/> and <https://ross.nwcg.gov/>, respectively.

Chapter 7. Wildland Fire Reporting

Background. In the past, Reclamation has not used a common or standard procedure for reporting wildland fire occurrence. Fire reports, if done at all, remained at the local or unit level such as an area office. This has hampered Reclamation in establishing a WFM program and in making funding requests based upon fire occurrence.

A common Federal database for wildland fire occurrence reporting and archiving has existed for several years in the Shared Applications Computer System (SACS). Information from the paper form, DI-1202, was input to the SACS and archived. This allowed the wildland agencies to collect, store, and query information on wildland fire occurrence on their lands. This information includes point of origin, total size in acres, determined cause, number and kind of responding units, and total cost. Those agencies were thus able to establish and maintain a fire history for their lands upon which to base fire management planning strategies and to request budgets for WFM activities.

In February 2004, technological issues caused an imminent decommission of the SACS for fire occurrence reporting. The Bureau of Indian Affairs (BIA) and the NPS looked at options for replacing SACS as their corporate database, evaluating the options against several criteria. They ultimately chose to incorporate their fire reporting activities into the BLM's Wildland Fire Management Information System-Fire Reporting Module (WFMI-FR). This is a data storage and retrieval system designed and maintained by the BLM's Information Technology Group at the National Interagency Fire Center (NIFC). In early 2007, the BIA and the NPS signed a memorandum of understanding (MOU WFMI-FR) with BLM for use of the WFMI-FR. In March 2007, the MP Region initiated discussions with BLM on setting up a template for Reclamation in the WFMI-FR. In June 2007, an interagency agreement was executed between the MP Region and BLM for set-up of a Reclamation template in WFMI-FR (\$9,000) and an annual maintenance fee of \$1,200 per year for one user (MP Region).

While this agreement was strictly between the MP Region and BLM, the template set up in WFMI-FR is good for all of Reclamation. Additional users, estimated at one (or more) per region, could be added by separate agreements for the sum of approximately \$1,200 per year, per user.

At this time, Reclamation has no agency-wide system for wildland fire reporting. Reclamation intends to become a partner with BLM and the other Federal wildland agencies using the WFMI-FR by signing the MOU WFMI-FR. Reclamation will report fires into the WFMI-FR and begin to build a history of wildland fire occurrence. This history would be archived in a secure and

accessible database. The MOU WFMI-FR does not commit Reclamation (or the other agencies) to any exchange of funds. This is left to specific agreements for additional users and support, at the regional level. For more information on Reclamation adoption of WFMI-FR contact Policy and Administration.

Certain information is needed in order to complete reports in WFMI (see Appendix D). Since Reclamation relies on managing partners and IAs for wildfire suppression, the required information must be provided by these partners. Agreements should include the requirement for managing partners to provide the fire occurrence information to complete reports in the WFMI system and the National Fire Plan Operations and Reporting System (NFPORS) within 30 days of the fire occurrence.

In addition to the need for wildland fire reporting there is also a need for prescribed fire reporting. The National Fire Plan Operations and Reporting System (NFPORS) is an interagency system designed to assist field personnel in managing and reporting accomplishments for work conducted under the National Fire Plan. It provides a consistent framework between land management agencies for tracking hazard fuels and restoration and rehabilitation projects, and allows for improved reporting of accomplishments at field, regional, and national levels. For more information about the National Fire Plan go to <http://www.forestsandrangelands.gov>. The information that is required for NFPORS includes the direct cost of the project, accomplishment goals, and the fire regime.

Chapter 8. Fire Prevention and Education

The U. S. Forest Service and Department agencies' WFM fire prevention and education programs have long been in place. These fire prevention programs are intended to inform and persuade the public to act in a responsible manner while conducting recreational or other activities on Federal lands, such as national parks, refuges, and national forests. In the past, the emphasis of these programs has been on fire prevention. Perhaps the most famous icon of this effort was the "Smokey Bear" poster and cartoon publicity program dating from the early 1950's. These early efforts concentrated on such things as dousing your campfire and not throwing burning cigarettes onto the brush or grass. Later versions of the fire prevention message were expanded to include the concept of defensible space around private homes and properties. This concept encourages the public living in WUI areas to take some responsibility for the safety and well being of their property by maintaining clear areas around homes and other buildings.

Prescribed Burning Awareness.

Recent fire prevention and education efforts include increasing public awareness of prescribed burning and the ecosystem changes due to wildfire suppression over the past 150 years. The effort has been to increase the understanding of the public about the interaction of fire in the ecosystem and how prescribed burning and other forms of fuels reduction relate to healthy ecosystems. Outreach programs of the major wildland agencies have been instigated in communities which are likely to be affected by prescribed burning projects in the future.

As Reclamation conducts programs of prescribed burning with more frequency, it may be desirable to develop outreach program for educating the public about anticipated prescribed burning projects. Major concerns of the public are prescribed fire safety and smoke management. You can address these and the more traditional fire prevention concerns in advance of project activity through an outreach program which includes:

- Public meetings to inform communities of intended prescribed fire or other fuels projects and the need for them.
- Creating brochures on ecosystem sustainability with regard to fire ecology. Much of the public is unaware that wildfire suppression has created a fuels problem which has made wildfire suppression all the more difficult as hazard fuels continue to buildup.

- Creating brochures on fire prevention in recreation areas. These can include traditional messages such as campfire safety, smoking, fireworks, etc. An excellent resource for this is the NWCG publication “Recreation Area Fire Prevention” (PMS 457).
<http://www.nwcg.gov/pms/pubs/recreati.pdf>.
- Creating a website with fire prevention and education, prescribed fire, and fire ecology information.
- Working with wildland fire agencies to participate in traditional outreach fire prevention and education programs such as school visits, attendance at public meetings, special events, and local county fairs, etc.
- Sharing information about fire prevention and education via resource management plans and recreation management reviews.

Each U.S. Forest Service ranger district, BLM field office, NPS unit, FWS wildlife refuge, or BIA regional office has a Fire Prevention Officer. It is suggested you find out who this person is in your area and contact them. Coordination of fire prevention and education activities with these agencies will have a positive benefit for Reclamation, partner agencies, and the public at large.

Visual Identity.

Visual identity of Reclamation to the public and other agencies is important. Benefits of visual identity include:

- Identification to the public at large of Reclamation employees, facilities, fire prevention, and fuels management programs and projects.
- Identification of Reclamation employees to other agency fire response personnel during initial attack incidents. It is important that the responding agency’s Incident Commander (IC) be able to quickly identify Reclamation employees from the general public during initial attack. The public will usually be asked to leave. A Reclamation employee with a uniform or with personal protective equipment will quickly be identified by the IC as an agency representative or resource advisor who may be critical in providing input to the IC during the tactical decision making process.
- Identification of Reclamation employees in large incident camp or Incident Command Post (ICP) situations. During large incidents, literally thousands of incident response and support personnel may be gathered and living in what amounts to a small city. Identification of agency personnel is important in facilitating command, control, and security functions in

camp. This is similar to the utility and purpose of uniforms in the military. It's nice to know who's who during small and large incidents.

Accordingly, it is suggested, for example, that Reclamation shoulder patches be sewn onto the arms of nomex shirts that will be worn in an incident environment. A name tag can also be attached to the right breast above the right pocket on the nomex shirt. A Reclamation emblem sticker can also be placed on the front of hardhats, and magnetic visual identity stickers can be placed on the doors or sides of Reclamation or GSA vehicles used on incidents or prescribed fire projects. Such magnetic stickers or signs can be produced to Reclamation visual identity standards by local sign shops if they are provided visual identity specifications. It is suggested you work with your local or regional visual identity point of contact and review, for Reclamation-wide requirements, the Reclamation visual identity website at: <http://intra.usbr.gov/vip/index.html>. The visual identity website contains a link to all D&S applicable to visual identity, including [RM D&S, Uniforms and Authorized Apparel, ADM 05-06](#).

Chapter 9. Definitions and Acronyms

Most of the following definitions are contained in LND 14-01. They are reproduced here for convenience. Also, definitions used solely in this handbook have been added to those reproduced from LND 14-01. Some acronyms are included, too.

Agency Administrator. Agency Administrator is the person in Reclamation, such as a regional director, a contracting officer, or an area manager, who is delegated a specific responsibility under the WFM program. Examples of WFM administrative responsibilities are: signing interagency agreements (IAs), contracts, and cooperative agreements; and approving FMPs and prescribed fire burn plans (burn plans).

AREP. Reclamation agency representative.

Burned Area Emergency Response (BAER). BAER consists of planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair, replace, and/or construct physical improvements necessary to prevent degradation of land or resources.

Contract. Contract means a mutually binding legal relationship obligating the seller (e.g., a non-Federal agency) to furnish the supplies or services (including construction) and the buyer (Reclamation) to pay for them. In contrast to “cooperative agreements” the principal purpose of a contract is to acquire “property or services for the direct benefit or use of the United States Government.”

Cooperative Agreements (CA). Cooperative agreements are financial assistance agreements with non-Federal agencies to meet needs for wildfire suppression and/or prescribed fire services. The “principal purpose” of a cooperative agreement must be “to transfer a thing of value” to the non-Federal agency “to carry out a public purpose,” and not to acquire “property or services for the direct benefit or use of the United States Government.” Refer to ACM 01-01 for more information. (Please note that “cooperative agreement” is also used informally to describe any collaborative agreement between wildfire suppression agencies.)

Fire Management Plan. A FMP is a plan which identifies and integrates all WFM and related activities within the context of approved land, resource, and facility operation and management plans. An FMP defines a program to manage wildland fires (wildfire, prescribed fire, and wildland fire use). The FMP is supplemented by operational plans, including but not limited to preparedness plans, preplanned dispatch plans (annual interagency operating plans), burn plans, and fire prevention plans. FMPs assure that WFM goals and components are coordinated and approved by line management.

FMO. Fire management officer.

FMP. Fire management plan.

Hazard Fuel. A fuel complex defined by kind, arrangement, volume, condition, and location that presents a threat of ignition and resistance to control.

Interagency Agreements (IA). Interagency Agreements are agreements with Federal agencies to acquire wildfire suppression and/or prescribed fire services for Reclamation.

Managing Partner. A managing partner is an entity with whom Reclamation has entered into an agreement or contract to manage lands and/or facilities under Reclamation's jurisdiction. Examples of WFM managing partners include, but are not limited to, water user organizations and state parks agencies.

MAA. Mutual Aid Agreement.

MOA. Memorandum of Agreement.

MOU. Memorandum of Understanding.

National Wildfire Coordinating Group (NWCG). NWCG is a group formed under the direction of the Secretaries of the Departments of the Interior and Agriculture to improve the coordination and effectiveness of wildland fire activities and to coordinate programs of the participating wildfire management agencies so as to avoid wasteful duplication and to provide a means of constructively working together. The group provides a formalized system to agree upon standards of training, equipment, qualifications, and other operational functions.

Personal Protective Equipment. Personal protective equipment is safety equipment that fire fighters wear or use to prevent injury. Personal protective equipment includes eight inch high leather lace-up boots with

fire resistant lug soles, fire shirts and pants made of flame resistant material (Nomex brand), hard hats with shroud, leather gloves, fire shelters, earplugs, goggles or safety glasses, headlamps, and portable communication devices.

Prescribed Fire. A prescribed fire is any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and requirements of the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) must be met prior to ignition.

Prescribed Fire Burn Plan. A plan required for each fire application ignited by management. Burn plans are documents prepared by qualified personnel, approved by the agency administrator, and include criteria for the conditions under which the fire will be conducted (a prescription).

RAMS. Risk Assessment and Mitigation Strategies.

Red Card. The Red Card is an illustration of the current wildland fire qualifications of an individual. It is part of the fire qualifications management system used by many state and all Federal WFM agencies. All firefighters assigned to a fire being managed by a Federal agency, such as the US Forest Service, Bureau of Land Management, National Park Service, Bureau of Indian Affairs, or US Fish and Wildlife Service, and many state agencies are required to have a Red Card. The Red Card shows that the holder of the card has completed all the course work and training required for a particular position.

WFM. Wildland Fire Management.

Wildfire. An unplanned, unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildfire Suppression. An appropriate management response to wildfire (including escaped wildland fire use or escaped prescribed fire) that results in curtailment of fire spread and eliminates all identified threats from the particular fire.

Wildland. An area in which development is essentially non-existent, except for roads, railroads, dams, canals, pipelines, powerlines, and similar facilities. Structures, if any, are widely scattered.

Wildland Fire. Any non-structure fire that occurs in the wildland. Three distinct types of wildland fire have been defined: wildfire; wildland fire use; and prescribed fire.

Wildland Fire Management Activities (WFM Activities). WFM activities include, but are not limited to, fire management planning, fire management strategies, wildfire suppression tactics and alternatives, fire prevention and education programs, fire preparedness, hazard fuels reduction, post-fire rehabilitation and restoration activities, and fire training.

Wildland Fire Use. The application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in FMPs.

Wildland Urban Interface (WUI). The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

APPENDIX A 

**Interagency Fire Management Plan Template and
Instructions**

Department of the Interior

May 2002

Interagency Fire Management Plan Template

Fire Management Plans identify and integrate all wildland fire management and related activities within the context of approved land management plans. Wildland fire management goals and components must be coordinated across administrative boundaries on a landscape basis. Bureau or agency fire management decisions must be consistent or compatible across administrative lines.

I Introduction

The Introduction states the needs and reasons for developing the Fire Management Plan (Plan), that the Plan will help achieve the administrative unit's - Forest, Park, Refuge, Reservation, District, etc. (unit) - land and resource management objectives. It states how the Plan meets environmental and cultural compliances (e.g., NEPA, NHPA, ESA, etc.) and briefly describes compliance actions. It summarizes the collaborative processes used to develop the underlying land management plan direction and the fire management plan, as well as additional collaborative opportunities that will be available as the fire management plan is implemented. It also identifies the authority(ies) under which the Plan is developed.

II Relationship to Land Management Planning/Fire Policy

The Land Management Planning/Fire Policy section references and cites agency management policies concerning fire management and relates the Plan to the enabling legislation and the purpose of the unit including a summary of the significant resources and values of the unit. It identifies in broad programmatic terms, the direction found in the land and resource management plans, such as goals, objectives, standards, guidelines, and/or desired future condition(s) as they pertain to fire management

III Wildland Fire Management Strategies

A. General Management Considerations

This is a brief description to determine how wildland fire will be managed and identifies any area-wide considerations, such as interagency partnerships, regional strategies, collaborators, and collaborative processes to be incorporated in fire management strategies. The core principles of the 10 Year Comprehensive Strategy should be considered including collaboration, priority setting, and accountability.

B. Wildland Fire Management Goals

This is a list of the wildland fire management goals. These goals provide the programmatic direction for the wildland fire program. These goals should be stated in broad, programmatic terms, within the context of approved land management plan direction. Ideally these are found in approved land management plans. This section

describes how the Fire Management Plan will safely and effectively contribute to achieving the goals in the unit's approved land and resource management plan.

It is identified here how these goals contribute to accomplishing regional or national strategic plans such as the 10 Year Comprehensive Strategy, National Fire Plan, or Cohesive Strategies, as well as wildland fire policy. Fire program goals reflect the core principles and goals of the Comprehensive Strategy and the Cohesive Strategy where supported by land and resource management plans.

C. Wildland Fire Management Options

This section briefly addresses the scope of wildland fire management program options that will be implemented within the administrative unit and further developed through the Fire Management Plan. It should include a brief and defensible rationale for all wildland fire management strategies that managers intend to apply in each FMU/FMZ. It may include the full range of options authorized under current policy, or a more limited range consistent with approved land management planning and resources to be protected.

D. Description of Wildland Fire Management Strategies by Fire Management Unit (Zone) (FMU/FMZ)

Identification of fire management units/zones and strategies within the units/zones is the cornerstone for planning the management of the wildland fire program. This section must tie directly to the decisions made in the land and resource management planning process by management area, aggregated into FMUs/FMZs. This section identifies objectives, standards, guidelines and/or future desired conditions within the FMU/FMZ and the wildland fire management strategies that will be used to accomplish them.

An FMU/FMZ is any land management area definable by objectives, management constraints, topographic features, access, values to be protected, political boundaries, fuel types, major fire regime groups, and so on, that set it apart from the management characteristics of an adjacent FMU/FMZ. The FMUs/FMZs may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives. The development of FMUs/FMZs should avoid redundancy. Each FMU/FMZ should be unique as evidenced by management strategies, objectives and attributes.

IV. Wildland Fire Management Program Components

Each Fire Management Plan is composed of the following wildland fire management components that define and document the unit's wildland fire program. Each of these components should be addressed in detail as it relates to the wildland fire management program described above in Section III. Although individual sub-elements of each of these components may differ from organization to organization, they should be addressed as needed either in this section, or a reference should be cited as to where this type of information can be found.

E Wildland Fire Suppression

This section includes program direction for suppression actions taken on fires for which suppression is the appropriate management response (i.e., the fire is not being managed for resource benefits). A full range of suppression response is available consistent with objectives, constraints, or other direction for a Fire Management Unit. It would include program areas such as preparedness (including prevention and community education programs, community grant programs and assistance, training, qualifications, readiness, detection and aviation), initial attack, extended attack, and other management considerations (e.g. air quality).

F Wildland Fire Use

This section includes direction for managing wildland fires for resource benefits. It includes direction for such things as decision criteria, implementation procedures, identifying objectives, constraints (air quality, etc.), required personnel, public interaction, and documentation and reporting requirements (e.g., costs).

G Prescribed Fire

This section describes planning and implementation for prescribed fire. It includes direction for; annual activities for implementation, long term prescribed fire program, required qualified personnel, prescription requirements, prescribed fire plan requirements, air quality and smoke management, treatment maps, and documentation and reporting requirements, etc.

H Non-Fire Fuel Applications

This section describes planning and implementation for non-fire fuel treatments. It includes direction for; annual activities for implementation, equipment and seasonal use restrictions, effects monitoring requirements, and reporting, documentation, etc.

E. Emergency Rehabilitation and Restoration

This section references post-fire emergency rehabilitation (stabilization) and restoration planning and implementation. Refer to the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook.

V. Organization and Budget

This section contains information pertaining to the wildland fire management organization and budget. It identifies the fire organization and budget needed to achieve the goals and objectives outlined in land and resource management plans and the fire management plan. It includes such things as the number, timing and location of the workforce and necessary equipment. The wildland fire management organization is normally based on analytical tools such as the Interagency Initial Attack Assessment (IIAA). This section identifies the budget level to support

the fire management organization. It identifies both the desired and current fiscal year organization and budget levels if they are different. Contract resources, and supplemental and cooperative agreements should be identified and referenced here.

VI. Monitoring and Evaluation

This section outlines monitoring and evaluation requirements. It identifies components, procedures, time frames, responsibilities and reporting requirements for monitoring and evaluating whether the FMP is being implemented as planned and whether fire-related goal and objectives are being achieved. Information obtained from monitoring and evaluations is used to update the FMP as well as land use plans.

Monitoring and reporting of national wildland fire performance measures will also be addressed.

Glossary

Appendix

APPENDIX B 

Interagency Agreement
Between
Bureau of Reclamation
And
U.S. Fish and Wildlife Service
Sacramento National Wildlife Complex
For
Prescribed Fire Implementation Activities.

INTERAGENCY AGREEMENT NO. __
BETWEEN
BUREAU OF RECLAMATION
AND
U.S. FISH AND WILDLIFE SERVICE
SACRAMENTO NATIONAL WILDLIFE COMPLEX

1. AUTHORITY AND BACKGROUND.

1.1. Authority. This Interagency Agreement (Agreement) is entered into under the authority of the Economy Act, 31 U.S.C. 1535 which permits a federal agency to order supplies and services from another federal agency when the conditions described at Section 1535 of the Act apply.

1.2. Definitions.

1.2.1 “Requesting agency” means the Bureau of Reclamation (Reclamation).

1.2.2. “Servicing agency” means: U.S. Fish and Wildlife Service
(FWS) Sacramento National Wildlife Complex

1.3. Project Title: **PRESCRIBED FIRE IMPLEMENTATION ACTIVITIES**

1.4. Background: This assistance agreement is needed because Reclamation has no fire suppression or prescribed fire resources of its own and lacks individuals qualified to command other Federal or non-Federal prescribed fire personnel on Reclamation lands. Recognizing that the FWS has individuals, equipment, and crews experienced in prescribed fire operations and that this experience is particularly suited to the types of riparian area or marsh burning Reclamation intends to undertake, Reclamation is entering into this agreement with the FWS, Sacramento National Wildlife Refuge.

In addition to this agreement Reclamation has and continues to use the California Department of Forestry and Fire Protection (CDF) to assist and provide a source of crews and equipment in support of prescribed fires. Recognizing that Federal prescribed fire plan requirements are different from CDF and other non-Federal entities, Reclamation desires a source of federally trained and qualified prescribed fire overhead personnel to take tactical command of the implementation of Reclamation prescribed fires.

This agreement does not preclude the use of CDF personnel or crews to assist Reclamation in support of prescribed fire projects. It is anticipated CDF or other non-Federal personnel would be placed under the supervision of a FWS or other Federal prescribed fire Burn Boss on Reclamation projects involving broadcast burning of grass or riparian vegetation. On low complexity prescribed fire projects such as pile burns, CDF overhead personnel and crews may be used exclusively if qualified.

2. OBJECTIVE.

This agreement, entered into between the Bureau of Reclamation (Reclamation), Mid-Pacific Regional Office and the FWS, Sacramento National Wildlife Refuge is for the purpose of providing Reclamation with prescribed (Rx) fire implementation assistance on an as-needed basis within Reclamation's Mid-Pacific Region. The agreement will include Reclamation lands, under the jurisdiction of the Mid-Pacific Region, within the area of responsibility of the FWS Sacramento Fire Management Zone. Specific maps of the project areas will be provided as a part of any official burn plan document.

3. STATEMENT OF WORK.

Reclamation is requesting this agreement for the purposes of prescribed fire implementation on Reclamation lands, specifically broadcast type burning. The vegetation type that needs to be treated varies between marshlands to uplands. The specific project locations needing treatment have not been identified at this time, nor have the estimated funding needs.

The approximate locations of the Reclamation projects are in the general vicinity of the Sacramento National Wildlife Complex headquarters. Also, the FWS has NWCG qualified fire crews and burn bosses at that location.

As Reclamation funds become available, Reclamation personnel will contact the Sacramento Zone FMO and negotiate an agreed upon timeframe and budget for the implementation of the project. This negotiation must occur at a minimum of 60 days prior to requested implementation.

3.1 FWS agrees to:

- 1) Assume the lead in the implementation of the identified prescribed fire project and accepts the primary responsibility for coordinating the implementing the prescribed fire. This will be done by providing necessary FWS equipment, supplies, services, communications, and qualified personnel including a Burn Boss, for each prescribed fire project executed on Reclamation lands. If, in the event, the FWS does not have specialized equipment or additional resources are needed to implement the burn, Reclamation will be billed directly from the various vendors.
- 2) Abide by all directions, prescribed fire plan prescriptions, and any burn area restrictions or mitigations as described in the individual project burn plans provided to FWS by Reclamation.
- 3) Provide a schedule of annual costs by February 1st to reflect the current prescribed fire assistance rates for equipment and personnel.
- 4) Provide a FWS Burn Boss who will have the authority to:
 - a. Prior to implementation, review the burn plan and to recommend changes to Reclamation as necessary.

- b. In conjunction with the Reclamation, determine that the fuel and weather parameters are suitable.
 - c. Determine that all crews and equipment are ready and qualified.
 - d. Direct all work assignments of personnel until the burning is completed and the fire is declared out.
 - e. Implement the burn as stated in the burn plan.
 - f. Decline the assignment if deemed necessary.
- 5) Within 30 days of project completion, provide actual costs of the prescribed fire project, the fire regime used, as well as other needed information to complete a report into the Wildland Fire Management Information System (WFMI) and the National Fire Plan Operations and Reporting System (NFPORS).

3.2 Reclamation Agrees to:

- 1) Discuss the proposed project timeframe and estimated budget with the zone Fire Management Officer (FMO) at least 60 days prior to the estimated time of implementation. Regarding workload concerns, the FMO can at that time accept to take on the project, suggest a different timeframe or deny implementing the project. The FMO can also determine at that time whether it would be feasible to stay within the estimated budget.
- 2) Provide funds for each prescribed burn project according to the annual schedule of costs provided by the FWS to reflect the current prescribed fire assistance rates for equipment and personnel. This funding will include compensation for all expenses incurred in the implementation of identified prescribed fires including but not limited to: travel, per diem, equipment, supplies, personnel time and equipment time. Funding will be made available through the IPAC system prior to any implementation activities.
- 3) Provide personnel who will assist FWS with management direction and public information support for prescribed fire projects on Reclamation lands to the fullest extent possible.
- 4) Provide Resource Advisors as requested by FWS on a project specific basis.
- 5) Provide FWS fire personnel with access to areas secured behind locked gates prior to implementation for site visits and during implementation.
- 6) Provide FWS with current and accurate land ownership maps of the project vicinity. Reclamation will also make resource information such as GIS and mapping data available to the FWS and provide project and vicinity maps of each prescribed fire area 30 days prior to the burn implementation. These maps will be available via hard copy and filed with the burn plan. The information on these maps will include at a minimum the information outlined in the September 2006 *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide page 20*.

- 7) Provide funding for prescribed fire and/or hazardous fuels management projects as mutually agreed upon by Reclamation and FWS.
- 8) Prepare a site-specific burn plan for each prescribed burn project which meets current interagency standards and is approved by qualified personnel and Reclamation managers. Documentation will need to be within the burn plan file showing the NEPA, NHPA, and ESA laws are complied with. If a current Fire Management Plan is in place for the burn area, a copy of this document will be provided. The burn plan will include a notification list of personnel available to act as Reclamation Resource Advisors, telephone numbers for contacts, and maps delineating the various project locations and boundaries of associated Reclamation lands as well as potential hazards to prescribed fire personnel. All elements of this burn plan will meet the minimum standards outlined in the September 2006 *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide*. This information will be provided to the FWS Burn Boss no later than 30 days prior to the planned burn implementation.
- 9) Provide the FWS Burn Boss with an opportunity to review project specific burn plans and receive a site visit. Each burn plan will be approved by the designated FWS Burn Boss at a minimum of 30 days prior to agreeing to the implementation of each prescribed fire.
- 10) Provide the FWS with a delegation of authority to conduct the prescribed fire on Reclamation lands according to the stipulations in the burn plan. This will be given by a Reclamation manager where the burn is being implemented.
- 11) Complete/facilitate all required pre-burn, on-the-ground work prior to the implementation of the prescribed fire.
- 12) Obtain the necessary air quality permits per local regulations prior to the implementation of the prescribed fire. A copy of any permits will be provided to the Burn Boss prior to the implementation of the prescribed fire. Reclamation will be responsible for payment of any air district smoke fees.
- 13) Pay for personnel or equipment needed for the prescribed fire implementation which is in addition to or more than the capability of the FWS equipment or personnel. This includes any CDF, Federal, or contract resources.
- 14) Provide all monitoring or post-burn activities.
- 15) Report all prescribed fire projects in the Fire Reporting Module of the Wildland Fire Management Information System (WFMI).

4. PERIOD OF PERFORMANCE

The duration of this Agreement shall be from April 1, 2007 through April 1, 2008. This

Agreement may be extended for an additional specific time period by issuance of a bilateral modification.

5. RESERVATION OF FUNDS.

Funds in the amount of \$5,000.00 have been reserved to cover payment of supplies/services furnished under this agreement. It is expressly understood that the Bureau of Reclamation has no obligation to make payments for amounts in excess of those reserved.

6. PAYMENT.

The Servicing Agency will be reimbursed by Reclamation using the On-line Payment and Collection (OPAC) method. The Servicing Agency shall bill via OPAC to Reclamation's Agency Location Code (ALC) **XXXXXX**. Bill on a monthly/quarterly (*C.O. complete with terms specific to agreement*), basis for costs incurred as authorized by the agreement. Include the agreement number, account numbers from Block 6 of the first page, the billing time period, and your agency's point of contact and the telephone number for billing information. Billing may not begin until April 1, 2007.

For assistance with OPAC billings, contact the Reclamation's Finance and Accounting Services, Review and Analysis Team, P.O. Box 25508, D-7733, Denver CO 80225-0508, at telephone number 303-445-3450.

However, it is still necessary to **send support documentation** for the billings to the Interagency Agreement Technical Representative (IATR), James McCray, to facilitate verification of work performed and approval prior to the completion of the fund transfer. Each fund transfer request shall include a cost breakdown for the increment of work covered by the OPAC document.

The Servicing Agency shall furnish **support documentation and a copy of each OPAC billing**, for this purpose, to the following address:

Bureau of Reclamation
Attention: James McCray, IATR
2800 Cottage Way, MP-450
Sacramento, CA 95825

7. MODIFICATIONS. Authority to modify an interagency agreement on behalf of Reclamation is expressly limited to the Contracting Officer. Authority of the Interagency Agreement Technical Representative is subject to limitations that do not include the authority to modify an interagency agreement.

This Agreement may be modified through bilateral agreement between the parties. Any modification made to this Agreement shall be confirmed in writing prior to performance of the change. The Servicing Agency assumes all risks, liabilities, and consequences of performing additional work outside the specified scope of work without prior written approval from the Contracting Officer.

8. PROPERTY. Title to all property acquired with interagency agreement funds shall be vested in Reclamation and is subject to the condition that the property shall be used for the authorized purposes of the project. Should the Servicing Agency wish to take unrestricted title to any property acquired or to change the use of the facilities or real property so acquired, such transactions shall be governed by Federal Property Management Regulations.

Disposition of equipment with a unit acquisition cost of \$1,000 or more may be arranged for by contacting Reclamation's Property Management Group, Attention: D-7913, at telephone number 303-445-3657. The Servicing Agency shall not make disposition of any property except as directed in writing by Reclamation.

Unless otherwise specified in this Agreement, all procurements of property using interagency acquisition funds shall be approved in writing by Reclamation prior to the transaction being initiated. In addition, a physical inventory of all property acquired with acquisition funds must be taken and the results provided to Reclamation by September 1 of every year.

9. TERMINATION. Either party may terminate this Agreement upon 30 days advance written notice to the other party. Reclamation shall pay for all work which, in the exercise of due diligence, the Servicing Agency is unable to cancel prior to the effective date of termination. Payments made under this Agreement, including payments under this clause, shall not exceed the reservation of funds stated in the basic agreement and any authorized modifications.

10. RESOLUTION OF DISAGREEMENTS. Any dispute under this Agreement, which is not disposed of by agreement of the parties, shall be submitted jointly to the signatories of this Agreement. A joint decision of the signatories or their designees shall be the disposition of such dispute.

If the signatories are unable to jointly resolve a dispute within a reasonable period of time after submission of the dispute for resolution, the matter shall be submitted to the Reclamation Headquarters and the Servicing Agency Headquarters (or their appointed designees) for resolution.

Pending the resolution of any dispute or claim pursuant to this article, the parties agree that performance of all obligations shall be pursued diligently in accordance with the direction of the Reclamation signatory.

11. DATE OF INCURRENCE OF COSTS. The Servicing Agency shall be entitled to reimbursement of costs incurred in an amount not to exceed \$5,000.00 on or before the effective date of this agreement, which costs, if incurred after this Agreement had been entered into, would have been reimbursable under the provisions of the Agreement.

APPENDIX C 

Interagency Prescribed Fire

Planning and Implementation Procedures

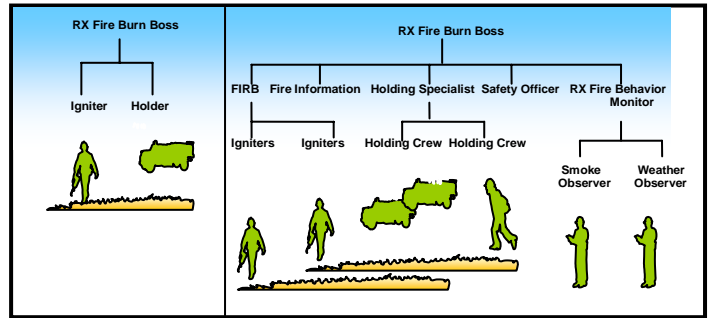
Reference Guide

Department of the Interior

September 2006

Interagency Prescribed Fire

Planning and Implementation Procedures Reference Guide



PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT(S): _____

PRESCRIBED FIRE NAME: _____

PREPARED BY: _____ DATE: _____
Name & Qualification

TECHNICAL REVIEW BY: _____ DATE: _____
Name & Qualification

COMPLEXITY RATING: _____

APPROVED BY: _____ DATE: _____
Agency Administrator



September 2006

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To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 1400 Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TTY). Or write to the Director, Office for Equal Opportunity, U. S. Department of the Interior, 1849 C Street, NW, MS-5221, Washington, DC 20240.

USDA and USDO I are equal opportunity providers and employers.

Foreword

"Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide" (2006 Guide) provides standardized procedures, specifically associated with the planning and implementation of prescribed fire. These procedures meet all policy requirements described in the 2003 **Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy**. The 2006 guide provides unified direction and guidance for prescribed fire planning and implementation for the Department of the Interior's Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), the National Park Service (NPS), the United States Fish and Wildlife Service (USFWS)

and the United States Department of Agriculture Forest Service (USDA FS).

Prior to implementing Prescribed Fire under the standards in the 2006 Guide, local units must have ensured compliance with National Environmental Policy Act (NEPA), National Historical Preservation Act (NHPA) and Endangered Species Act (ESA) requirements.

This Implementation Procedures Reference Guide (2006 Guide) meets requirements of National Fire and Aviation Executive Board (NFAEB) task to develop common language and unified direction or guidance for agency/bureau manuals, directive handbooks, and guidelines to complete final implementation of this policy.



Marc Rounsaville
USDA-Forest Service
Fire & Aviation Management
Deputy Director




Brian McManus
US Fish & Wildlife Service
Branch of Fire Management
Chief



Lyle Carlile
Bureau of Indian Affairs
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Chief



Timothy M. Murphy
Bureau of Land Management
Office of Fire and Aviation
Deputy Director



Mike Wallace (Acting)
National Park Service
Division of Fire & Aviation Management
Chief

Executive Summary

Fire is an essential ecological process in many fire dependent ecosystems. In large areas of the country, fire exclusion from these ecosystems has led to unhealthy forest, woodland and rangeland conditions. These areas are at risk of intense, severe wildfires that threaten communities and cause significant damage to key ecological components.

As one component of fire management, prescribed fire is used to alter, maintain, or restore vegetative communities; achieve desired resource conditions; and to protect life, property, and values that would be degraded and/or destroyed by wildfire.

Federal Prescribed Fire Programs are guided by the principles of the 1995 Federal Wildland Fire Management Policy and Program Review and the 2001 update. Collectively these principles establish that wildfire suppression, wildland fire use, and prescribed fire programs be implemented equally, consistently and concurrently, as a means to avoid fire risks. The policy emphasizes firefighter safety as a consideration in planning and a priority in operations (Wildland Fire Management Policy, June, 2003).

This guide supports the Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy. It provides unified direction and guidance for prescribed fire planning and implementation for the Department of the Interior's Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), the National Park Service (NPS), the United States Fish and Wildlife Service (USFWS) and the United States Department of Agriculture Forest Service (USDA FS).

This guide partially replaces the original Wildland and Prescribed Fire Management Policy Implementation Procedures and Reference Guide (USDI/ USDA 1998)¹ which established consistent agreement between agencies regarding federal policy direction related to prescribed fire planning and implementation.

¹ Other documents that replace this 1998 document are the *Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy*, June 20, 2003 and *Wildland Fire Use Implementation Procedures Reference Guide*, May 2005

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Introduction

Purpose

The purpose of this guide is to provide consistent interagency policy, establish common terms and definitions and identify planning and implementation processes for prescribed fire.

The guide describes what is **minimally** acceptable for prescribed fire planning and implementation. Agencies may choose to provide more restrictive standards and policy direction, but must adhere to these **minimums**.

Scope

This guide provides policy and direction to implement existing federal policy and has been developed with tribal, state, county, and local cooperators in mind. While some of these guidelines will not fit all non-federal cooperators, the intent is to include everyone by establishing a planning and implementation guide that might result in that outcome.

Prescribed Fire Program Goals

Interagency Prescribed Fire Program goals are to:

- Provide for firefighter and public safety as the first priority.
- Ensure that risk management is incorporated into all prescribed fire planning and implementation.
- Use prescribed fire in a safe, carefully planned, and cost-efficient manner.
- Reduce wildfire risk to communities, municipal watersheds and other values and to benefit, protect, maintain, sustain, and enhance natural and cultural resources.
- Utilize prescribed fire to restore natural ecological processes and functions, and to achieve land management objectives.

Authorities

All use of prescribed fire will be supported by a Land/Resource Management Plan (L/RMP) and/or Fire Management Plans (FMP). Prescribed fire projects can only be implemented through an approved Prescribed Fire Plan. Specific authorities exist for each agency to utilize prescribed fire (See Appendix A). All

project decisions to use prescribed fire are subject to the agency's analysis, documentation, and disclosure requirements for complying with the National Environmental Policy Act (NEPA).

During prescribed fire planning and operations, all federal agencies will accept each other's standards for qualifications. The minimum qualifications standard is National Wildland Fire Coordinating Group (NWCG) Wildland and Prescribed Fire Qualifications System Guide, 2000 (PMS 310-1). State, local cooperators and contractors working on federal agency prescribed fires must meet the NWCG PMS 310-1 standards unless local agreements specify otherwise.

The main reference glossary for this guide is the NWCG glossary, which is updated periodically: <http://www.nwcg.gov/>.

This guide is not intended to address interagency business rules. Reference individual agency's business rules for direction.

Prescribed Fire Planning Process

Common planning documents to ensure quality prescribed fire plans include:

Land/Resource Management Plan (L/RMP)

Overall direction is provided to the Wildland Fire Management Program by Land/Resource Management Plans (L/RMP). These plans serve as the document to initiate, analyze, and provide the basis for using prescribed fire to meet resource management objectives.

Fire Management Plan (FMP)

All burnable acres will be covered by a Fire Management Plan (FMP). The FMP is the cornerstone plan for managing a Wildland Fire Management Program and should flow directly from the L/RMP. FMPs may be developed for a Fire Planning Unit (FPU) that crosses jurisdictional boundaries. Where the Wildland Fire Management Program crosses jurisdictional boundaries, or where

program coordination is essential, the FMP will require interagency coordination. Most FMPs are anticipated to fall into this category.

National Environmental Policy Act (NEPA)

Resource and prescribed fire objectives for specific prescribed fire projects are derived from the NEPA analysis. **The entire prescribed fire project area must be analyzed under NEPA.** NEPA documents that identify and analyze the effects of using or not using prescribed fire treatment projects may include

Environmental Impact Statements (EIS), Environmental Assessments (EA), and Categorical Exclusion (CE).

Other authorities that may be utilized to guide analysis and determination of NEPA compliance are Healthy Forest Restoration Act (HFRA), Healthy Forest Initiative (HFI), and the Tribal Forest Protection Act (TFPA).

Prescribed fire planning and related NEPA analysis should always occur at the largest possible spatial and temporal scales.

Implementation Organization and Qualifications

During prescribed fire planning and operations, all federal agencies will accept each other's standards for qualifications. The minimum qualifications standard is National Wildland Fire Coordinating Group (NWCG) Wildland and Prescribed Fire Qualifications System Guide, 2000 (PMS 310-1). State, local cooperators and contractors working on federal agency prescribed fires must meet the NWCG PMS 310-1 standards unless local agreements specify

otherwise. No less than the organization described in the approved Prescribed Fire Plan may be used for implementation. The complexity of each prescribed fire or phase of fire(s) determines the organization(s) needed to safely achieve the objectives specified in the Prescribed Fire Plan.

Minimum Supervisory Qualifications determined by prescribed fire complexity:

Table 1. Qualifications requirements related to Prescribed Fire Complexity.

Position	Complexity		
	High	Moderate-Low	Low
RXM1	Optional	Optional	Optional
RXM2	Not Allowed	Optional	Optional
RXB1	Required	Optional	Optional
RXB2	Not Allowed	Required	Optional
RXB3	Not Allowed	Not Allowed	Required
FIRB	Optional	Optional	Optional
<p>Holding Specialist: Holding functions will be managed by personnel qualified at the appropriate ICS wildland fire operations position as required by complexity, assigned resources and operational span of control. For some projects, there may be no holding requirements or the holding duties are assumed by the Burn Boss.</p>			

High, Moderate, and Low complexity prescribed fires are determined through the required NWCG Prescribed Fire Complexity Rating System Guide.

Prescribed Fire Burn Boss Type 3 (RXB3):

Adoption of the RXB3 position is up to each agency. Non-federal RXB3s must meet the qualifications as listed in the table below unless local agreements specify otherwise.

An RXB3 will only be allowed to implement low complexity prescribed fires where the possibility of spread or spotting outside the project area is negligible to non-existent; multiple fuel models are not involved and aerial operations are not involved;

The requirements for Prescribed Fire Burn Boss Type 3 are:

Table 2. Requirements for Prescribed Fire Burn Boss Type 3

Training:	Required: S-290 Intermediate Wildland Fire Behavior Suggested: S-234 Ignition Operations
Prerequisite Experience:	Incident Commander, Type 5 OR Advanced Firefighter/Squad Boss AND Satisfactory position performance as a Prescribed Fire Burn Boss Type 3
Physical Fitness:	Moderate
Other Position Assignments that will Maintain Currency:	Prescribed Fire Burn Boss Type 2 Prescribed Fire Burn Boss Type 1 Fire Use Manager Prescribed Fire Manager Type 1 Prescribed Fire Manager Type 2

Responsibilities

Prior to prescribed fire implementation, thorough planning and review processes must be conducted. All prescribed fire actions must be developed from resource/fire management objectives carried forward from FMP's and L/RMP's. A specific implementation plan for each prescribed fire must be completed, reviewed, and approved before ignition can begin.

The Agency Administrator has final approval authority for all Prescribed Fire Plans, unless special circumstances warrant higher review and concurrence (such as may occur during higher Preparedness Levels or for extremely large, complex projects). Although the Agency Administrator has final approval authority for the Prescribed Fire Plan and the Agency Administrator Pre-Ignition Approval checklist, the Prescribed Fire Burn Boss has the responsibility to make the on-site tactical "GO/NO-GO" decision. The Prescribed Fire Burn Boss ensures that all prescription, staffing, equipment, and other plan specifications are met before, during, and after the prescribed fire.

Every Prescribed Fire Plan must receive a technical review. The Technical Reviewer and Prescribed Fire Plan Preparer must be qualified or have been previously qualified as a Prescribed Fire Burn Boss at an experience level equal to or higher than the complexity being reviewed. **Either the Prescribed Fire Plan Preparer or Technical Reviewer must be currently qualified.**

Only a RXB1 can review plans at high complexity. An RXB2 can review plans of moderate to low complexity. An RXB3 is not allowed to function as a Prescribed Fire Plan Preparer (see Chapter 3, section C.) or Technical Reviewer.

Agency or individual unit policy may dictate additional reviews. Interagency Prescribed Fire Plans require approval from all appropriate Agency Administrators and a technical review. Listed below are the prescribed fire and implementation position roles and responsibilities:

Agency Administrator

For the purposes of this document, the Agency Administrator is defined as the Line Officer (or designee) of the agency or jurisdiction that has responsibility for the prescribed fire. These usually include the: NPS Park Superintendent, BIA Agency Superintendent, USFS Forest Supervisor, BLM District/Field Office Manager, FWS Project Leader, State Forest Officer, and/or Fire Chief.

The Agency Administrator is responsible to:

1. Approve Prescribed Fire Plans. When approving a plan, understand the risks associated with it. Ensure that the plan has been reviewed and recommended for approval by the Technical Reviewer who was not the primary preparer of the plan.
2. Ensure that only trained and qualified personnel participate in the implementation portion of the prescribed fire.
3. Ensure that projects are monitored, evaluated, and documented in the project file.
4. Sign, date, and provide an expiration date for the approval to burn on the Agency Administrator Pre-Ignition Approval Checklist (Reference Burn Plan Template, Appendix B).
5. Understand and approve the Complexity Analysis (PMS 424 January 2004).
6. Ensure that all prescribed fires are conducted in accordance with the approved implementation plan and established standards and guidelines.
7. Ensure that periodic reviews and inspections of the Prescribed Fire Program are completed.
8. Determine if and when the Agency Administrator is to be notified that contingency actions are being taken.
9. Report all wildfires resulting from prescribed fires through the chain of command.

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10. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
 11. Ensure that escaped prescribed fires are reviewed according to established guidelines.

Technical Reviewer

The Technical Reviewer is responsible for reviewing each Prescribed Fire Plan element for content as well as evaluating the risk and Complexity Analysis to ensure that the stated goals and objectives can be safely and successfully achieved when properly implemented. The Technical Reviewer shall be qualified or previously qualified as a Burn Boss at or above the level of project complexity. At a minimum, NWCG qualifications will be accepted. The Technical Reviewer should have local knowledge of the area, experience burning in similar fuel types, and/or conduct an on-site review. **The Technical Reviewer must be someone other than the primary preparer of the plan.** An off-unit technical review is encouraged to provide an additional independent perspective. It is acceptable for other specialists to review certain portions of the plan however; a primary Technical Reviewer must be designated as technical review signatory. For example, a fire behavior analyst may review the fire behavior calculations; the aviation manager may review the air operations plan; and/or a resource specialist may review impacts to their resource of interests. It is recommended that at least once every year, each unit should send a moderate or high complexity Prescribed Fire Plan off-unit for technical review.

The Technical Reviewer is responsible to:

1. Ensure that Prescribed Fire Plans meet agency policy and direction.
2. Ensure that the Complexity Analysis accurately represents the project, so the Agency Administrator understands the identified risks and the mitigating measures enacted. This may require on-site review in Wildland Urban Interface (WUI) or high complexity situations by the Technical Reviewer.
3. Check the prescription parameters against the fuel types to ensure that the project as planned has a reasonable chance of

meeting the resource management objectives.

4. Ensure that the fire behavior calculations and/or prescription parameters are appropriate and within the acceptable range.
5. Ensure that the ignition, holding and contingency plans are consistent with the predicted fire behavior.
6. Complete and sign the Technical Review Checklist (See Burn Plan Template, Appendix B) and the Prescribed Fire Plan signature page.

Prescribed Fire Plan Preparer

For the purpose of this document, the Prescribed Fire Plan Preparer is defined as the individual responsible for the preparation of the Prescribed Fire Plan. Several people may be involved in the preparation of the Prescribed Fire Plan, but the Prescribed Fire Plan Preparer is responsible for the final plan content. The primary preparer of the Prescribed Fire Plan will sign the signature page.

The preparer is responsible to:

1. Prepare the Prescribed Fire Plan in accordance with this guide's policy and direction.
2. Coordinate with the resource management and/or technical specialists to ensure that the plan meets management and operational objectives.
3. Interact with the Technical Reviewer to ensure that all plan elements are adequately addressed.
4. Complete and sign the Complexity Analysis.

Prescribed Fire Burn Boss (RXB1/RXB2/RXB3)

The Prescribed Fire Burn Boss is responsible to the Agency Administrator, Prescribed Fire Manager, or FMO/local fire management organization for implementing the Prescribed Fire Plan.

The Prescribed Fire Burn Boss is responsible to:

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1. Review the Prescribed Fire Plan prior to implementation and ensure all required elements and objectives are addressed.
 2. Inspect the burn unit to validate Prescribed Fire Plan elements including areas of special concern as well ensuring that holding/contingency plans adequately address expected fire behavior outside the unit(s).
 3. Obtain current weather and smoke management forecasts, updates, and special advisories from a meteorologist.
 4. Maintain communication with the Agency Administrator, Prescribed Fire Manager, or FMO/local fire management organization.
 5. Ensure that the Agency Administrator Pre-Ignition Approval Checklist is valid (See Burn Plan Template, Appendix B)
 6. Take to the field those portions of the Prescribed Fire Plan necessary for completing the briefing and safe project implementation.
 7. Complete and sign the Prescribed Fire GO/NO-GO Checklist (See Burn Plan Template, Appendix B).
 8. Ensure availability of any contingency resources and management of those resources if deployed.
 9. Ensure that all operations are conducted in a safe manner and in accordance with the approved plan and established standards and guidelines.
 10. Verify qualifications of all assigned personnel. Conduct the personnel/safety briefing to ensure a safe operation.
 11. Conduct the test fire and document the results.
 12. Supervise assigned personnel and direct the ignition, holding and monitoring operations. The Prescribed Fire Burn Boss will be responsible for implementation including mop-up and patrol unless otherwise assigned to other qualified personnel.
 13. Declare the prescribed fire out unless the responsibility for it is formally passed to another Prescribed Fire Burn Boss, Prescribed Fire Manager or the local fire management organization.
 14. Determine when the prescribed fire is not within prescription parameters (both short and long term) or is not meeting objectives.
 15. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
 16. Manage the incident or oversee the transition to another Incident Commander if an escape occurs.
 17. Ensure that reports are completed.
 18. Coordinate with adjacent landowners, cooperators and permittees as designated in the Prescribed Fire Plan.

Fire Management Officer (FMO)/ Fire Program Manager

The Fire Management Officer (FMO)/Fire Program Manager is responsible to the Agency Administrator for planning, implementing and monitoring of the Prescribed Fire Program in accordance with policy and direction.

The FMO/Fire Program Manager is responsible to:

1. Ensure compliance with National, Regional, tribal and local fire policy and direction, as well as applicable state and local laws.
2. Ensure that Preparedness Level Restrictions are adhered to. At National Preparedness Levels Four and Five, prescribed fire implementation is restricted. See the National Interagency Mobilization Guide for details.
3. Ensure that both the Prescribed Fire Plan Preparer and the Technical Reviewer are qualified or qualified less currency at the level of complexity or higher.
4. Ensure that trained and qualified personnel are available to participate in the Prescribed Fire Program.
5. Assign the Prescribed Fire Burn Boss.
6. Ensure a Prescribed Fire Plan with written approval exists for each prescribed fire project.
7. Review the Prescribed Fire Plan to assess the impact of the project on the unit's workload; include the project in the unit's Annual Work Plan; assess the unit's

- ability to implement the project; and assess the need for additional implementation resources.
8. Ensure that all prescribed fires are conducted in accordance with the approved Prescribed Fire Plan and established standards and guidelines.
 9. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
 10. Act as liaison/coordinator to the Agency Administrator, Prescribed Fire Manager and/or Prescribed Fire Burn Boss, local dispatch office, other units, other agencies, air quality authorities, news media, transportation agencies, and safety officials.
 11. Ensure that projects are reported through the local office and comply with national reporting guidelines.
 12. Ensure that fuels management projects and interagency support actions are reported through the proper reporting systems.
 13. Ensure that periodic reviews and inspections of the Prescribed Fire Program are completed.
 14. Update Agency Administrator on the progress of the prescribed fire (as necessary).
 15. Ensure that projects are monitored, evaluated and documented as a part of the project file.

Prescribed Fire Manager (RXM1/RXM2)

The Prescribed Fire Manager is responsible for implementing and coordinating assigned prescribed fire activities. A Prescribed Fire Manager may be assigned during periods when multiple simultaneous prescribed fires are being conducted; when multiple prescribed fires will be conducted within a short time frame; or where there is complex interagency involvement.

The Prescribed Fire Manager is responsible to:

1. Review Prescribed Fire Plans prior to implementation.
2. Monitor all prescribed fire operations.

3. Ensure that all operations are conducted in a safe manner and in accordance with the approved plan(s) and established standards and guidelines.
4. Act as coordinator/liaison between the burn organization(s) and other offices, agencies, air quality authorities, news media, transportation agencies, safety officials, and interested public.
5. Declare an escaped prescribed fire a wildfire (if responsibility is assigned in the plan).
6. Obtain and interpret long-term weather information.
7. Brief the Burn Bosses and direct operational assignments according to policies, priorities and standards.
8. Set priorities for allocation of resources.
9. Ensure the completion of all required documentation including the evaluation and documentation of accomplishments, fire behavior and fire effects, operation procedures, and cost summaries.

Firing Boss (FIRB)

The Firing Boss reports to the Prescribed Fire Burn Boss and is responsible for supervising and directing ground and/or aerial ignition operations according to established standards in the Prescribed Fire Plan.

The Firing Boss is responsible to:

1. Review the Prescribed Fire Plan and the burn unit prior to implementation.
2. Brief personnel on project objectives and ignition operations.
3. Complete the test fire according to the ignition plan at the direction of the Prescribed Fire Burn Boss.
4. Conduct ignition operations in a safe manner according to the ignition plan.
5. Identify the impacts of ignition on the control and desired fire effects.
6. Coordinate ignition operations with the Holding Specialist.

Holding Specialist

The supervisory position in charge of the holding forces reports to the Prescribed Fire Burn Boss. There is no specific NWCG approved prescribed fire position for this function. This position is assigned by name and title using PMS 310-1 mnemonics. Holding functions will be managed by personnel qualified at the appropriate Incident Command System (ICS) wildland fire operations standard and as required by the prescribed fire complexity, assigned resources, and operational span of control.

The Holding Specialist is responsible to:

1. Review the Prescribed Fire Plan and the burn unit prior to implementation.
2. Brief holding personnel on project objectives and holding operations.
3. Conduct holding operations in a safe manner according to the holding plan.
4. Coordinate holding operations with the Firing Boss.
5. Confine the fire to a predetermined area, mop up, and patrol.
6. Maintain communication with Burn Boss on holding progress and/or problems.

For some prescribed fires, there may be no holding requirements or the holding duties are assumed by the Prescribed Fire Burn Boss.

Fire Effects Monitor (FEMO)

The Fire Effects Monitor (FEMO) is responsible for collecting the onsite weather, fire behavior, and fire effects information needed to assess whether the fire is achieving established resource management objectives.

The FEMO is responsible to:

1. Review the monitoring plan prior to implementation.
2. Monitor, obtain, and record weather data.
3. Monitor and record fire behavior data throughout the burn operations.
4. Recon the burn unit/area assigned.
5. Plot the burn area and perimeter on a map.
6. Monitor and record smoke management information.
7. Monitor first order fire effects.

8. Provide monitoring summary of the fire.
9. Provide fire behavior and weather information to burn personnel as appropriate.

Helitorch Manager (HTMG)

The Helitorch Manager is responsible to manage the helitorch operation, supervise the mixing operation, and provide technical assistance to the Prescribed Fire Burn Boss/Ignition Specialist. The HTMG may also serve as Helicopter Manager and Helitorch Manager or Helicopter Parking Tender (but not both).

Plastic Sphere Dispenser Operator (PLDO)

The Plastic Sphere Dispenser Operator (PLDO) is responsible for the preparation, operation, maintenance, and care of the dispenser. The PLDO reports to the Ignition Specialist.

Helitorch Mixmaster (HTMM)

The Helitorch Mixmaster (HTMM) is responsible for supervising the mixing/filling operations. The HTMM may also serve as Helitorch Manager or Helicopter Manager.

Resource Specialist or Resource Advisor (READ)

The Resource Specialist/READ is responsible for ensuring the prescribed fire project is planned and implemented in a manner supporting the unit's resource management goals and objectives. The Resource Specialist/READ is responsible to the Agency Administrator.

The Resource Specialist/READ is responsible to:

1. Ensure resource management representation in the preparation of the Prescribed Fire Plan.
2. Ensure a review of Prescribed Fire Plans is conducted before each plan is submitted for approval.
3. Evaluate the prescribed fire project in terms of meeting objectives..
4. Provide resource information and direction to the Prescribed Fire Burn Boss.

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5. Present information at briefings on resources, priorities, and issues of concern.
 6. Coordinate with adjacent landowners, cooperators and permittees as designated in Prescribed Fire plan or by Burn Boss.

Amendments

There may be a need to make amendments to the Prescribed Fire Plan. These are changes to the Prescribed Fire Plan that require Agency Administrator signature. When changes are necessary, plans must be amended to identify the affected sections; the reason for the change(s); and have the changes clearly identified. For amendments, the same standards for Prescribed Fire Plan preparation, review, and approval apply.

Common reasons for amending the Prescribed Fire Plan may include:

- Changes to objectives.
- Changes to complexity.
- Changes to fire behavior prescription parameters.
- Changes to project area boundaries resulting in either an increase or decrease in area.
- Reduction in resource capabilities identified as required in the plan.
- Major changes to ignition methods including ground ignition to aerial ignition; aerial ignition to hand ignition; hand drip torch ignition to use of terra torch ignition (includes ATV mounted ignition devices); and/or hand ignition from roadways to hand ignition from boats or other watercraft.

To avoid having to amend the Prescribed Fire Plan, flexibility should be built into the plan that will allow for a range of adjustments during the prescribed fire. When building flexibility, the

range of identified options must remain within the scope of the Complexity Analysis.

Examples of flexibility that can be built into a prescribed fire plan:

- The Prescribed Fire Plan may state that on burn day and subsequent days of the prescribed fire, a mix of the number and kinds of hand crews and engines may be modified as long as stated production capabilities are not compromised.
- As the prescribed fire progresses from ignition to holding to mop up and patrol, specified capabilities and/or types of resources may be adjusted. If these flexibilities are built into the Prescribed Fire Plan, there must be a clear statement as to the work capability requirements of the resources at the various stages of the prescribed fire.
- Minor changes in burn unit boundaries to facilitate holding and/or ignition, as long as the area in question has been in the NEPA document, requires no change in holding or ignition resources and is within the project boundaries.
- Additional resources may be assigned to the project without amending the burn plan if the addition of these resources does not change the complexity of the burn or require additional supervisory positions. These changes must be documented in the daily briefing.

Safety

The Federal Wildland Fire Policy states that firefighter and public safety is first priority. Prescribed Fire Plans and activities must reflect this commitment. Every person involved in a prescribed fire is responsible for identifying safety issues and concerns. It is the responsibility of each individual participating in prescribed fire activities to notify immediate supervisor of any possible misunderstanding of assigned tasks or safety concerns related to the assignment.

NWCG established Work/Rest Guidelines and span of control apply equally to wildland and prescribed fire operations. The management of crew, overhead, and support personnel rest to assure safe, productive fire operations is the responsibility of all supervisory fire management personnel (refer to *NWCG Interagency Incident Business Management Handbook*, PMS 902, NFES 3139).

Exposure to smoke during prescribed fire operations can be a significant safety concern. Research has shown that exposure to smoke on prescribed fires, especially in holding and ignition positions, often exceeds that on wildfire. At a minimum, smoke exposure must be addressed in the Job Hazard Analysis (JHA) and smoke management element. Public safety impacts from smoke should be addressed in the Smoke Management and Air Quality Element as well as the Public, Personnel Safety, Medical Element.

Transportation and use of any product containing chemicals (drip torch fuel, aviation gas, sphere dispensers, fusees, fuel thickener, etc.) must be in compliance with the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and Department of Transportation Regulations (49 CFR Part 171), and agency specific guidance. Material Safety Data Sheets (MSDS) for hazardous materials used on projects should be consulted in developing the JHA.

The SAFENET form and process is designed for reporting and correcting unsafe situations and is applicable to prescribed fire applications.

The risk management process identified in the NWCG Incident Response Pocket Guide (IRPG, PMS 410-1) helps ensure that critical factors and risks associated with prescribed fire operations are considered during decision making. This process should be applied to all prescribed fire planning and operations.

Consider using a Safety Officer on high complexity prescribed fires and others where the complexity analysis shows the need or indicates a higher than normal hazard.

A qualified Safety Officer is defined as a currently qualified Safety Officer, at any Type level (Types 1, 2 or 3), as defined by the NWCG, *Wildland and Prescribed Fire Qualification System Guide* (PMS 310-1).

Prescribed Fire Plan

The Prescribed Fire Plan is the site-specific implementation document. It is a legal document that provides the Agency Administrator the information needed to approve the plan and the Prescribed Fire Burn Boss with all the information needed to implement the prescribed fire. Prescribed fire projects must be implemented in compliance with the written plan.

Prescribed Fire Plans will vary in their degree of detail. The size and complexity of the prescribed fire project will determine the level of detail required. The Prescribed Fire Plan Template (Appendix B) must be utilized. Each element must be addressed and then assembled in the sequence identified in the template. Should an element not apply to a specific prescribed fire plan, not applicable (N/A) may be utilized. Programmatic plans for multiple units under like conditions may be appropriate. Additional information may be added as appendices.

If an interagency mixed ownership Prescribed Fire Plan is being prepared, the development of all appropriate elements within the plan will be conducted in an interagency setting. Interagency agreements and Memorandums of Understanding (MOU) and/or private land owner agreements are required to implement prescribed fire on multiple ownerships.

Listed below are the planning explanations of each individual element required as part of a complete Prescribed Fire Plan and implementation policy related to the element.

Element 1. Signature Page

The following information must be included on the signature page:

1. Administrative unit name.
2. Prescribed Fire Unit (burn unit)/Project name.
3. At a minimum, three dated signatures are required: a Prescribed Fire Plan Preparer, a Technical Reviewer, and an Agency Administrator. Additional signatures may be included as required by the individual unit.

4. Final determined complexity rating(s).
5. If the plan needs to be amended, the signed and dated amendments must be attached to the Prescribed Fire Plan (see Chapter 4).

Element 2. GO/NO-GO Checklists

Agency Administrator Pre-Ignition Approval Checklist

The Agency Administrator's Pre-Ignition Approval Checklist (Burn Plan Template, Appendix B) is required to be completed. The Agency Administrator's Pre-Ignition Approval Checklist evaluates whether compliance requirements, Prescribed Fire Plan's elements, and internal and external notification(s) have been completed and expresses the Agency Administrator's intent to implement the Prescribed Fire Plan. The checklist establishes the expiration date for the implementation of the Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior to expiration date determined by the Agency Administrator, a new approval is required. An 'acting' Agency Administrator may sign the Agency Administrator Pre-Ignition Approval Checklist if authority to do so has been delegated. If the Prescribed Fire Plan is amended, a review and re-validation of the Agency Administrator Pre-Ignition Approval Checklist would be required and included in the Project File.

Prescribed Fire GO/NO-GO Checklist

Prior to all ignition operations, the assigned Prescribed Fire Burn Boss will complete and sign the Prescribed Fire GO/NO-GO Checklist (Burn Plan Template, Appendix B). This checklist is a minimum standard and agencies may elect to add questions and/or approval signatures. For each day of active ignition on a prescribed fire, a separate daily GO/NO-GO Checklist is required.

Element 3. Complexity Analysis

Risk management is a foundation for all prescribed fire activities. Risks and uncertainties

relating to prescribed fire activities must be understood, analyzed, communicated, and managed as they relate to the cost of either doing or not doing an activity. At a minimum, those risks from the Complexity Analysis that are rated high and can not be mitigated will be identified with a discussion of the risks associated in the Summary Complexity Rating Rationale. This discussion will also be included in the Complexity Analysis Summary page (Burn Plan Template, Appendix B).

The Prescribed Fire Complexity Rating must be completed utilizing the Prescribed Fire Complexity Rating System Guide, NWCG, January, 2004 (or current version).

The purpose of the complexity rating process is to provide:

- Assignment of a complexity rating of high, moderate, or low to the prescribed fire.
- Management and implementation personnel a relative ranking as to the overall complexity of a specific prescribed fire project.
- A process that can be used to identify Prescribed Fire Plan elements or characteristics that may pose special problems or concerns.
- A process that identifies mitigation activities needed to reduce the risk/hazard to the implementation personnel and public as well as mitigating potential resource damage.

A preliminary rating will be completed early in the Prescribed Fire Plan development stage. This will identify potential concerns that may be mitigated during the plan preparation process. Once the Prescribed Fire Plan is near completion, the final complexity rating is made. The final complexity rating will be used as a basis for determining prescribed fire organization, Prescribed Fire Burn Boss level, and mitigation measures.

The Summary Complexity Rating Rationale will clearly justify the summary rating for prescribed fire organization and Prescribed Fire Burn Boss level. It must also identify those risks from the Complexity Analysis that are rated high and can not be mitigated and will provide a discussion of

the risks associated. The Complexity Analysis must be signed by the Prescribed Fire Plan Preparer and the Agency Administrator and attached as an appendix to the Prescribed Fire Plan. The Complexity Analysis Summary will be attached to the Prescribed Fire Plan following the GO/NO-GO Checklists.

Separate prescriptions and/or burn organizations for different stages of implementation may result in multiple Complexity Analyses and ratings. For example, a plan may have separate prescriptions for spring and fall burning which may require different organizations and constitute the need for additional complexity analyses.

If a prescribed fire complexity changes which results in different Prescribed Fire Burn Boss qualifications, a separate complexity analysis is required. For example, for certain prescribed fires conducted over time, progressive or sequential actions may reduce complexity, organization and Prescribed Fire Burn Boss qualifications. (e.g. a large scale, high complexity prescribed fire has been black-lined, portions burned and operations suspended for a period of time then resumed to continue or finish the prescribed fire). In this case, a separate Complexity Analysis will be developed to reflect the reduced complexity rating and will be included in the appendix of the Prescribed Fire Plan.

Element 4. Description of the Prescribed Fire Area

A. Physical Description

This section of the plan will describe the physical features of the prescribed fire area.

- **Location:** Narrative description of the location of the prescribed fire project including a legal description, UTM and/or latitude/longitude (decimal degrees; NAD83 preferred), county, and state.
- **Size:** Area, in acres, of the prescribed fire project with a breakdown by prescribed fire unit and/or ownership if applicable.

- **Topography:** Identify the upper and lower range of elevation, slope(s) –maximum/minimum and average, and aspect(s) of the prescribed fire project.
- **Project Boundary:** **The project boundary defines that area where fire will be ignited and may be allowed to burn (some agencies previously called this Maximum Management Area or Allowable Area).** Describe the physical, natural and/or human made boundaries (including multiple units) of the prescribed fire project. This will be done through maps and may include narratives. The entire prescribed fire project area must be analyzed under NEPA.

B. Vegetation/Fuels Description

This is a description of current vegetation and fuels in the project area and should discuss history including past environmental effects or land management practices and how they have impacted the fuel characteristics. Identify any reference material used.

- Describe the structure and composition of the vegetation type(s) and fuel characteristics. This description may include natural or activity fuels, total fuel load (both live and dead) in tons/acre, dead fuel load by time-lag size classes, live fuel load (woody/herbaceous), fuel bed depth, and vertical and horizontal arrangement within the project boundary.
- Describe the percent of the unit composed of each vegetative type and the corresponding fuel model(s).
- Identify conditions (fuels, slope, and aspect) in and adjacent to boundaries that may be a potential threat for escaped fire.

- Identify any abiotic conditions like airshed, climate, soils, etc. as appropriate.

C. Description of Unique Features and Resources:

List and discuss special features, hazards, regulations, issues, constraints, etc. Examples may include: fences to protect, power poles, historical/cultural sites, threatened and endangered species or habitat, etc.

D. Maps:

Maps will be developed and included in the Prescribed Fire Plan. At a minimum, the plan will include a vicinity and project map. The number of maps, map size and scale, legend and level of detail should be appropriate for the complexity of the project. All maps will include the standard mapping elements: title, name of preparer(s), date, north arrow, scale, and legend.

- **Vicinity Map:** Shows prominent features including roads, streams, water sources, towns, structures, and the proximity of the burn unit(s) to these features. Transportation route(s) will be identified. Map scale will be such that the burn units can be located on the ground and in sufficient detail to guide implementation.
- **Project Map(s):** The project map(s) identify features in sufficient detail to guide and assist in operational implementation of the prescribed fire. Topographic, vegetative, or aerial photo maps should be used as the base map. ICS map display symbols, identified in the Fireline Handbook PMS 410-1 will be used as appropriate. Examples of features that should be included on the project map(s) are: project boundary, individual unit boundaries, ownership, fireline locations, natural barriers, fuel model locations, proposed ignition patterns and sequence, critical holding points, hazards, safety

zones, escape routes, helispots, areas of special concern, smoke management issues (predicted plume dispersion, sensitive receptors, etc), escaped fire contingency actions (primary and secondary control lines, trigger points, etc), water sources, location of treatment monitoring plots, etc. if these are significant in communicating project implementation.

Parameters are quantitative variables expressed as a range that result in acceptable fire behavior and smoke management.

The range of prescribed fire behavior characteristics (outputs such as: flame lengths, rates of spread, scorch heights, mortality, spotting, etc.) identified in the plan will help determine the acceptable combination of environmental parameters (inputs such as: weather, topography and fuels) under which the prescribed fire can be conducted. In many cases, burning under the extremes of all prescriptive parameters would not meet or possibly exceed the desired prescribed fire behavior characteristics and are therefore out of prescription. The Prescribed Fire Burn Boss must ensure that the prescriptive parameters and fire behavior characteristics as identified in the Prescribed Fire Plan are not exceeded. Empirical evidence (historical evidence or researched data) and judgment may be utilized to identify or calibrate prescriptions. Weaknesses in modeling can be overridden, but must be justified with empirical evidence and/or verified actual fire behavior.

Element 5. Goals and Objectives

A short summary description will be developed that identifies the purpose of the prescribed fire and the resource management goals from the supporting L/RMPs and/or NEPA documents. The summary will identify desired future conditions of the prescribed fire project. This should be consistent with the appropriate land management goals. Include a discussion of future Fire Regime Condition Class (FRCC) post-treatment conditions if applicable.

Describe in clear, concise statements the specific measurable resource and fire objectives for this prescribed fire. Objectives will be measurable and quantifiable so prescription elements can be developed to meet those objectives and the success of the project can be determined following implementation.

Element 6. Funding

Identify the funding source(s) and estimated cost(s) of the prescribed fire. Itemize by phase if desired.

Element 7. Prescription

Prescription is defined as the measurable criteria that define a range of conditions during which a prescribed fire may be ignited and held as a prescribed fire.

The plan prescription will describe a range of low to high limits for the environmental (weather, topography, fuels, etc.) and fire behavior (flame lengths, rate of spread, spotting distance, etc.) parameters required to meet Prescribed Fire Plan objectives while meeting smoke management and control objectives.

Separate prescriptions may be needed for multiple fuel model conditions to address seasonal differences and/or types of ignition (black lining, aerial ignition, etc). Separate prescriptions may result in multiple complexity ratings and burn organizations. For example, a separate prescription is needed for black-lining operations if conditions will be significantly different from the primary prescription or if the holding resources differ from those identified for ignition and holding phases. Separate prescriptions may result in the need to identify multiple levels of management, organizational structures, implementation measures, and pre-burn considerations.

Holding and contingency plans must be developed with the consideration of the predicted fire behavior outside the project boundary(s). Fire behavior characteristics for fuel models within the maximum spotting distance and/or adjacent to the project boundaries must be considered and modeled using worst-case fire behavior predictions. These predictions will be identified from fire behavior model runs or empirical evidence of the hottest, driest, and windiest prescription limits identified in the Prescribed Fire Plan, along with the most

extreme environmental conditions (slope, aspect) identified.

A short fire behavior narrative that summarizes the fire behavior identified in the prescription and discusses how it will achieve the desired treatment objectives may be included.

When used, fire behavior calculations must be developed using an appropriate fire behavior modeling program. Include modeling and/or empirical evidence documentation as an appendix or in the fire behavior narrative.

Element 8. Scheduling

Identify the general ignition time frame(s) (i.e. time of day, duration of ignition) or season(s) and note any dates when the project may not be conducted. For prescribed fires with multiple ignitions or burn days, list projected duration.

At National Preparedness Levels Four and Five, prescribed fire implementation is restricted. See National Interagency Mobilization Guide for details.

Element 9. Pre-burn Considerations

Describe on and off-site actions and considerations that need to be conducted prior to implementation. Examples include clearances; line to be built; preparation of critical holding points; snags to be felled or protected; equipment to be pre-positioned; special features to be protected; warning signs to be placed; weather recording; fuels condition sampling; monitoring needs; responsibility; and timeframes.

Describe any fuel sampling and weather data that may need to be obtained (See Element 14: Test Fire). This data should be taken at the project site. If this is not possible, use the closest representative site.

The plan will include a list of organizations (including media) and individuals that are to be notified prior to ignition, with information necessary to make the contacts. Reasonable efforts will be made to notify adjacent land owners (or their agents) and other potentially impacted publics. Attempts and/or actual notifications will be documented with date and method and placed in the Project File.

Identify in the burn plan the method and frequency for obtaining weather and smoke management forecast(s).

Spot weather or local area forecasts are required prior to ignition, on all ignition days and any days the fire is actively spreading. A copy of the forecast will be included in the Project File. The Prescribed Fire Burn Boss or other person in charge of mop-up and patrol will also obtain and review the spot weather or area forecast to determine if mop up and patrol resources are adequate.

Element 10. Briefing

All assigned personnel must be briefed at the beginning of each operational period to ensure personnel safety considerations (including the JHA) and prescribed fire objectives and operations are clearly defined and understood. Briefing checklists are required to be included in the Prescribed Fire Plan and will include the following elements:

- Burn Organization and Assignments
- Burn Objectives and Prescription
- Description of the Prescribed Fire Area
- Expected Weather & Fire Behavior
- Communications
- Ignition Plan
- Holding Plan
- Contingency Plan and Assignments
- Wildfire Conversion
- Safety and Medical Plan

The briefing checklist should list briefing topics only, not re-state what is listed in the Prescribed Fire Plan for that element.

The Prescribed Fire Burn Boss will ensure that any new personnel arriving to the prescribed fire receives a briefing prior to assignment.

An Incident Action Plan (IAP) is optional, it is recommended for large multi-day or high complexity prescribed fires.

If aerial ignition devices will be used, include an Aerial Ignition briefing.

Element 11. Organization & Equipment

The complexity of each prescribed fire determines the organization capabilities needed to safely achieve the objectives specified in the Prescribed Fire Plan. Specify the minimum required implementation organization to meet the capabilities (line production rates, etc.) by position, equipment, and the supplies needed for all phases of the prescribed fire until declared out. At a minimum, a Prescribed Fire Burn Boss will be assigned to every prescribed fire. Positions that may not be filled as collateral duty will be identified in the organization chart of the Prescribed Fire Plan.

Standard ICS fire management principles for span of control and length of assignments will be adhered to when developing burn implementation organization(s) and used in managing prescribed fires. On prescribed fires with large organizations, use the ICS organization and staffing commensurate with the level of complexity. Consider the use of a Prescribed Fire Manager in conducting multiple prescribed fires.

Before implementation (all phases) of the prescribed fire, documentation in the form of an organization chart must be completed. Any changes to the organization during implementation must be documented. Any changes that reflect modification of the capabilities, equipment or supplies will require an amendment. Different organizations may be identified for different phases of implementation (i.e. holding v. mop-up and patrol, different ignition operations, different prescriptions).

Multiple prescriptions for one Prescribed Fire Plan are permissible and in some cases required (Element 7). Multiple prescriptions may require identifying and developing multiple organizations.

The Prescribed Fire Burn Boss is responsible for implementation including mop-up and patrol until the responsibility is formally passed to a Prescribed Fire Burn Boss, Prescribed Fire Manager or the local fire management organization.

Element 12. Communication

Develop communications plan specific to the project's implementation to address safety and tactical resource management needs. Identify and assign command, tactical, and air operations frequencies as needed. Also include any required telephone numbers. Cover under an Incident Action Plan, if utilized.

Element 13. Public & Personnel Safety, Medical

Describe provisions to be made for public and personnel safety. All personnel who are within the active burn area are required to wear personal protective equipment. Identify and analyze the safety hazards unique to the individual prescribed fire project and specify personnel safety and emergency procedures. Include safety hazards (including smoke exposure and impacts) and measures taken to reduce those hazards. Specify emergency medical procedures, evacuation methods, and emergency facilities to be used. A Job Hazard Analysis (JHA) is required for each prescribed fire project and will be attached to the Prescribed Fire Plan as an appendix.

Element 14. Test Fire

Provisions for a test fire are required and results must be recorded. The test fire must be ignited in a representative location and in an area that can be easily controlled. The purpose of the test fire is to verify that the prescribed fire behavior characteristics will meet management objectives and to verify predicted smoke dispersion. In many applications, analysis of the initial ignitions may provide adequate test fire results. On multiple-day projects, evaluation of current active fire behavior, in lieu of a test fire, may provide a comparative basis for continuing and must be documented. If in doubt however, initiate a separate test fire and evaluate results.

Prior to ignition of both the test fire and ignition operations, compare the Prescribed Fire Plan prescription elements, both individually and collectively, against local area or spot weather forecasts, other predicted conditions, and the actual conditions onsite (See element 9: Pre-Burn Considerations) to ensure that predicted

fire behavior will take place and/or weather parameters will not change to the point of the burn going out of prescription.

Element 15. Ignition Plan

Describe planned ignition operations including firing methods, devices, techniques, sequences, patterns, and ignition staffing for single or multiple unit operations. Maps showing proposed firing patterns may be included. If aerial ignition (or other aerial operations) is planned, cover aviation operations, organization, and safety within the Prescribed Fire Plan, Aerial Ignition Plan, or in an agency specific Aviation Operating Plan (Refer to the Interagency Helicopter Operations Guide, {NFES #1885} and the Interagency Aerial Ignition Guide {NFES #1080} for more detailed information on this topic). Multiple prescriptions and ignition operations (blackline, primary, aerial, etc.) may require identifying and developing multiple ignition organizations.

Element 16. Holding Plan

Describe general procedures to be used for operations to maintain the fire within the project area and meet project objectives until the fire is declared out. This may include mop-up and/or patrol procedures. Describe critical holding points (if any) and mitigation actions. Critical holding points will be identified on the project map. Describe minimum capabilities needed for all phases of implementation (see Element 11: Organization and Equipment). If used, attach or reference modeling outputs or worksheets (i.e. Fireline Handbook production rates, BEHAVE, etc.) and/or documented empirical evidence to justify minimum holding resources required.

Different organizations may be identified for different phases of implementation (i.e. holding v. mop-up and patrol, different ignition operations, different prescriptions). Multiple prescriptions may require identifying multiple complexity ratings and developing multiple holding organizations.

If onsite resources are insufficient to meet the prescribed fire plan objectives, then the Burn Boss should implement the Contingency Plan or Wildfire Conversion.

Element 17. Contingency Plan

“...If the objectives are not being met the Contingency Plan, a required component of the Prescribed Fire Burn Plan, is implemented. If the Contingency Plan is successful at bringing the project back within the scope of the Prescribed Fire Burn Plan the project continues. If contingency objectives are not met the prescribed fire is converted to a wildfire and Extended Attack is undertaken.”

Interagency Strategy for the Implementation of Federal Wildland Fire Management Policy, June 20, 2003, page 12.

Contingency planning is intended for more than just a response to an escaped fire. The contingency plan is the portion of the Prescribed Fire Plan that considers possible but unlikely events and the contingency resources and actions needed to mitigate those events.

Contingency planning is the determination of initial actions and additional resources needed if the prescribed fire is not meeting, exceeds, or threatens to exceed:

- Project or unit boundary
- Objectives
- Prescription parameters
- Minimum implementation organization
- Smoke impacts
- Other Prescribed Fire Plan elements

The contingency plan will establish trigger points or limits that indicate when additional holding resources and actions are needed.

Contingency planning includes the additional resources required, and the maximum acceptable response time for those resources. Resource needs should be based on fire behavior outputs tied to the worst case fire behavior scenario (as modeled in Element 7: Prescription). Separate contingency plans may be necessary and appropriate to address seasonal differences, types of ignitions or phases of the burn implementation as described in the prescriptions and ignition and holding plans developed for the burn.

Verify and document availability of identified contingency resources and response time on day of implementation. If contingency resources availability falls below plan levels, actions must be taken to secure operations until identified contingency resources are replaced.

The same contingency resource can be identified for multiple prescribed fire projects. When specific contingency resources are identified for more than one prescribed fire, the local fire management organization(s) must evaluate and document adequacy of all contingency resources within the area. This evaluation must consider:

- Local, current, and predicted fire danger
- Local and regional wildland fire activities.

Once a contingency resource is committed to a specific wildland fire action (wildfire, wildland fire use or prescribed fire), it can no longer be considered a contingency resource for another prescribed fire project and a suitable replacement contingency resource must be identified or the ignition halted.

The Agency Administrator will determine if and when they are to be notified that contingency actions are being taken.

If the contingency actions are successful at bringing the project back within the scope of the Prescribed Fire Plan, the project may continue. If contingency actions are not successful by the end of the next burning period, then the prescribed fire will be converted to a wildfire.

Element 18. Wildfire Conversion

The Prescribed Fire Plan will specify who has the authority to declare a wildfire. A prescribed fire must be declared a wildfire by those identified in the plan when that person(s) determines that the contingency actions have failed or are likely to fail and cannot be mitigated by the end of the next burning period by on-site holding forces and any listed contingency resources. In addition, an escaped prescribed fire must be declared a wildfire when the fire has spread outside the project boundary, or is likely to do so, and cannot be contained by the end of the next burning period. A prescribed fire can be converted to a wildfire for reasons other than an escape.

Describe the actions to be taken when a prescribed fire is declared a wildfire (refer to Wildland Fire and Aviation Program Management and Operations Guide {BIA--Blue Book} and Interagency Standards for Fire and Aviation {Red Book}). Description will include:

- Wildfire declaration (by whom)
- IC assignment
- Notifications: dispatch, Agency Administrator, adjacent land owners, etc.
- Extended attack actions and opportunities to aid in suppression efforts.

After a wildfire declaration, an escaped prescribed fire cannot be returned to prescribed fire status. A WFSA will define appropriate future management actions.

Element 19. Smoke Management & Air Quality

Describe how the project will comply with local community, County, State, Tribal, and Federal air quality regulations. Identify what permits, if any, need to be obtained. Identify smoke sensitive areas including population centers, recreation areas, hospitals, airports, transportation corridors, schools, non-attainment areas, Class I air sheds, and restricted areas that may be impacted. Include modeling outputs and mitigation strategies and techniques to reduce the impacts of smoke production, if required by State Implementation Plans (SIPs) and/or State or local regulations. Reference the Smoke Management Guide for Prescribed and Wildland Fire 2001 Edition for other smoke management planning suggestions and smoke management techniques for reducing or redistributing emissions.

Special considerations must be taken to address smoke when the project is in a non-attainment area for a National Ambient Air Quality Standards including insuring compliance with SIP/TIP provisions and addressing Conformity. Projects which will potentially impact Class I areas should address any efforts to minimize smoke impacts on visibility. Comply with all local, State, Tribal and Federal pre-burn and post-burn data reporting requirements.

Element 20. Monitoring

Prescribed fire monitoring is defined as the collection and analysis of repeated observations or measurements to evaluate changes in condition and progress toward meeting a management objective. Describe the monitoring that will be required to ensure that Prescribed Fire Plan objectives are met. For the prescribed fire, at a minimum specify the weather, fire behavior and fuels information (forecast and observed) and smoke dispersal monitoring required during all phases of the project and the procedures for acquiring it, including who and when.

Element 21. Post-burn Activities

Describe the post-burn activities that must be completed. This may include post-burn report, safety mitigation measures, and rehabilitation needs including those as a result of pre-burn activities undertaken.

Appendices.

Include all the required appendices.

- A. Maps
- B. Technical Review Checklist
- C. Complexity Analysis
- D. Job Hazard Analysis
- E. Fire Behavior Modeling Documentation or Empirical Documentation

Project File

All prescribed fire Project Files will contain the following information. Agencies and/or administrative units may require additional information.

1. Prescribed Fire Plan
2. Monitoring data including weather, fire behavior, fire effects and smoke dispersal observations
3. Weather forecasts
4. Notifications
5. Documented prescribed fire organization(s)
6. Any agreements related to implementation
7. Multiple day GO/NO-GO checklist(s), if applicable
8. Re-validation of the Agency Administrator Pre-Ignition Approval checklist

Depending on the scope and complexity of the prescribed fire, optional information and/or further documentation that may be included in the Project File include:

1. After Action Review (see Chapter 8)
2. Incident Action Plans, Unit Logs
3. Press releases, etc
4. Implementation costs
5. Actual ignition patterns and sequences used
6. Smoke management information
7. Agency individual fire occurrence form
8. Detailed Post Burn Report
9. NEPA documentation
10. Permits

Reviews

After Action Review (AAR)

Each operational shift on a prescribed fire should have an informal After Action Review (AAR). Certain events or a culmination of events that may affect future prescribed fire implementation and/or policy should be submitted via the Roll-up documentation (Found at <http://www.wildfirelessons.net>). The questions to answer in conducting an AAR are:

1. What did we set out to do (what was planned)?
2. What actually happened?
3. Why did it happen that way?
4. What should be sustained? What can be improved?

Escaped Fire Reviews

The Agency Administrator will be notified of an escaped fire. The Agency Administrator is required to make the proper notifications. All prescribed fires declared a wildfire will have an investigative review initiated by the Agency Administrator. The level and scope of the review will be determined by policy and procedures in Wildland Fire and Aviation Program Management and Operations Guide (BIA--Blue Book) or Interagency Standards for Fire and Aviation (Red Book).

The goal of the escaped prescribed fire review process is to guide future program actions by minimizing future resource damage and/or preventing future escapes from occurring by gathering knowledge and insight for incorporation into future resource management and prescribed fire planning. The objectives of the review are to:

- Determine if the Prescribed Fire Plan was adequate for the project and complied with policy and guidance related to prescribe fire planning and implementation.
- Determine if the prescription, actions, and procedures set forth in the Prescribed Fire Plan were followed.
- Describe and document factual information pertaining to the review.
- Determine if overall policy, guidance, and procedures relating to prescribed fire operations are adequate.

- Determine the level of awareness and the understanding of the personnel involved, in regard to procedures and guidance.

At a minimum, the escaped fire review report will include the following elements:

1. An analysis of seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration.
2. An analysis of the actions taken leading up to the wildfire declaration for consistency with the Prescribed Fire Plan.
3. An analysis of the Prescribed Fire Plan for consistency with policy.
4. An analysis of the prescribed fire prescription and associated environmental parameters.
5. A review of the approving line officer's qualifications, experience, and involvement.
6. A review of the qualifications and experience of key personnel involved.
7. A summary of causal agents contributing to the wildfire declaration.

Document the incident, including all actions prior to and after the escape. Set up a file that includes all pertinent information, i.e., the Prescribed Fire Plan; a chronology of events including the prescribed fire report; unit logs and individual statements; weather forecasts including any spot forecasts; weather information taken on site and Remote Automated Weather Station (RAWS) and National Fire Danger Rating System (NFDRS) data for the day of the escape from the nearest station(s); photos; and all other pertinent information. Since all prescribed fires are planned management actions, an escape may lead to a Tort Claim and liability issues. Special attention to documentation is critical.

An independent review team is recommended for conducting escaped fire reviews. The number of individuals assigned to the team and their functional expertise should be commensurate with the scope and focus of the review. Interagency participation is highly recommended for all prescribed fire reviews.

References

NWCG Glossary of Wildland Fire Terminology PMS 205

Additional definitions found in the NWCG glossary of Project Management Terms
(<http://www.nwcg.gov/teams/pmo/products/glossaries.htm>)

National Fire & Aviation Executive Board, Federal Fire Policy Directives Task Group – Common Policy Language, November 19, 2004

Interagency Strategy for the Implementation of Federal Wildland Fire Management policy, September 7, 2004

Smoke Management Guide for Prescribed and Wildland Fire 2001 Edition, December 2001

Restoring Fire Adapted Ecosystems on federal Lands - A Cohesive Fuel Treatment Strategy for Protecting People and Sustaining Natural resources. August 2, 2002

10-Year Comprehensive Strategy Implementation Plan, May 2002

Prescribed Fire Complexity Rating System Guide PMS 424, January 2002

Review and Update of the 1995 Federal Wildland Fire Management Policy, January 2001.

Cerro Grande Prescribed Fire Investigative Report - National Park Service, May 18, 2000

Sawtooth Mountain Prescribed Fire Burnover Fatality - Bureau of Indian Affairs Fort Apache Agency, Arizona May 14, 2003

Lowden Ranch Prescribed Fire Review Final Report - Bureau of Land Management, July 22, 1999

Wildland and Prescribed Fire Qualifications System Guide PMS 310-1
January 2002

Appendix A: Laws and Authorities

Organic Administration Act of June 4, 1897 (16 U. S. C. 551)

Weeks Law, Act of March 1, 1911 (16 U. S. C. 563)

National Park Service Act of 1916 as amended (67 Stat. 495; 16 U.S.C. 1 et seq.)

Protection Act of September 20, 1922 (42 Stat. 857; 16 U.S.C. 594)

Clark-McNary Act of 1928 (45 Stat. 221; 16 U. S. C. 487)

McSweeney-McNary Act of 1928 (45 Stat. 221; 16 U.S.C. 487)

Economy Act of June 30, 1932 (47 Stat. 417; 31 U.S.C. 1535)

Taylor Grazing Act of June 28, 1934 (48 Stat. 1269; 43 U.S.C. 315)

Oregon and California Act of August 28, 1937 (50 Stat. 875; 43 U.S.C. 1181e)

Bankhead-Jones Farm Tenant Act of July 22, 1937 (7 U. S. C. 1010 - 1011)

Federal Property and Administrative Service Act of 1949 (40 U.S.C. 471; et seq.)

Reciprocal Fire Protection Act of May 27, 1955 (69 Stat. 66; 42 U.S.C. 1856a)

Clean Air Act of July 14, 1955, as amended (42 U. S. C. 7401 et seq.)

Multiple-Use Sustained Yield Act of 1960 (16 U. S. C. 528)

Wilderness Act of 1964 (16 U. S. C. 1131 - 1132)

National Wildlife Refuge System Administration Act of 1966 as amended (80 Stat. 927; 16 U.S.C. 668dd through 668ee)

National Environmental Policy Act of 1969 (42 U. S. C. 4321)

Alaska Native Claims Settlement Act of 1971 (85 Stat. 688; 43 U.S.C. 1601)

Endangered Species Act of 1973 (16 U. S. C. 1531 - 1544)

Disaster Relief Act of May 22, 1974 (88 Stat. 143; 42 U.S.C. 5121)

Federal Fire Prevention and Control Act of 1974 (88 Stat. 1535; 15 U.S.C. 2201)

National Forest Management Act of 1976 (16 U. S. C. 1600 et seq.)

Federal Land Policy and Management Act of 1976 (90 Stat. 2743)

Federal Grant and Cooperative Agreement Act of 1977 (P.L. 950224, as amended by P.L. 97-258, September 13, 1982 (96 Stat. 1003; 31 U.S.C. 6301 thru 6308)

Alaska National Interest Lands Conservation Act of 1980 (94 Stat. 2371)

Supplemental Appropriation Act of September 10, 1982 (96 Stat. 837)

Wildfire Suppression Assistance Act of 1989 (P.L. 100-428, as amended by P.L. 101-11, April 7, 1989), 42 U. S. C. 1856

Indian Self-Determination and Education Assistance Act (PL 93-638) as amended

National Indian Forest Resources Management Act (P. L. 101-630 November 28, 1990)

Tribal Self-Governance Act of 1994 (P.L. 103-413)

Department of the Interior and Related Agencies Appropriations Act, Fiscal Year 1995 (P.L. 103-332)

National Wildlife Refuge System Improvement Act of 1997 (P.L. 105-57)

Federal Financial Assistance Management Act of 1999 (P.L. 106-107)

Healthy Forest Restoration Act of 2003 (P.L. 108-18, 117 Stat. 1887)

Tribal Forest Protection Act of 2004 (P.L. 108-287)

Department of the Interior, Departmental Manual; Part 620: Wildland Fire Management;
Chapter 4: Fuels Management and Wildland-Urban Interface Community Assistance

Department of Agriculture, US Forest Service Manual; FSM 5100: Fire Management; Chapter 5140:
Fire Use

National Historic Preservation Act (1966 as amended)

Appendix B: Prescribed Fire Plan Template

A standardized, reproducible template form for the Prescribed Fire Plan development process is included in this appendix. A standardized format is provided for the Prescribed Fire Plan in PDF. An electronic version editable in Word is also available. Users should prepare the plan using the electronic version.

In the electronic Word version, the Project Name and/or Unit Name should be entered in the document's header which will automatically appear on each following page of the plan.

To insert information into the document's header:

1. Double-click in the header region (upper region of each page displayed on the screen).
2. Type Project and/or Unit information.
3. Double-click *outside* the header region in the body of the document.

You may also access the header under **View > Headers and Footers**. This will open the header region for edits automatically. After entering the information, go again to **View > Headers and Footers** which will return you to being able to enter information into the body of the document.

PRESCRIBED FIRE PLAN

ADMINISTRATIVE UNIT(S): _____

PRESCRIBED FIRE NAME: _____

PREPARED BY: _____ **DATE:** _____

Name & Qualification

TECHNICAL REVIEW BY: _____ **DATE:** _____

Name & Qualification

COMPLEXITY RATING: _____

APPROVED BY: _____ **DATE:** _____

Agency Administrator

Project Name: _____

Unit Name: _____

ELEMENT 2: AGENCY ADMINISTRATOR PRE-IGNITION APPROVAL CHECKLIST

Instructions: The Agency Administrator’s Pre-Ignition Approval is the intermediate planning review process (i.e. between the Prescribed Fire Complexity Rating System Guide and Go/No-Go Checklist) that should be completed before a prescribed fire can be implemented. The Agency Administrator’s Pre-Ignition Approval evaluates whether compliance requirements, Prescribed Fire Plan elements, and internal and external notifications have been or will be completed and expresses the Agency Administrator’s intent to implement the Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior to expiration date determined by the Agency Administrator, a new approval will be required.

YES	NO	KEY ELEMENT QUESTIONS
		Is the Prescribed Fire Plan up to date? <i>Hints: amendments, seasonality.</i>
		Will all compliance requirements be completed? <i>Hints: cultural, threatened and endangered species, smoke management, NEPA.</i>
		Is risk management in place and the residual risk acceptable? <i>Hints: Prescribed Fire Complexity Rating Guide completed with rational and mitigation measures identified and documented?</i>
		Will all elements of the Prescribed Fire Plan be met? <i>Hints: Preparation work, mitigation, weather, organization, prescription, contingency resources</i>
		Will all internal and external notifications and media releases be completed? <i>Hints: Preparedness level restrictions</i>
		Will key agency staff be fully briefed and understand prescribed fire implementation?
		Are there any other extenuating circumstances that would preclude the successful implementation of the plan?
		Have you determined if and when you are to be notified that contingency actions are being taken? Will this be communicated to the Burn Boss?
		Other:

Recommended by: _____ Date: _____
FMO/Prescribed Fire Burn Boss

Approved by: _____ Date: _____
Agency Administrator

Approval expires (date): _____

Project Name: _____

Unit Name: _____

ELEMENT 2: PRESCRIBED FIRE GO/NO-GO CHECKLIST

<p>A. Has the burn unit experienced unusual drought conditions or contain above normal fuel loadings which were not considered in the prescription development? If <u>NO</u> proceed with checklist., if <u>YES</u> go to item B.</p>	YES	NO
<p>B. If <u>YES</u> have appropriate changes been made to the Ignition and Holding plan and the Mop Up and Patrol Plans? If <u>YES</u> proceed with checklist below, if <u>NO</u> STOP.</p>		

YES	NO	QUESTIONS
		Are ALL fire prescription elements met?
		Are ALL smoke management specifications met?
		Has ALL required current and projected fire weather forecast been obtained and are they favorable?
		Are ALL planned operations personnel and equipment on-site, available, and operational?
		Has the availability of ALL contingency resources been checked, and are they available?
		Have ALL personnel been briefed on the project objectives, their assignment, safety hazards, escape routes, and safety zones?
		Have all the pre-burn considerations identified in the Prescribed Fire Plan been completed or addressed?
		Have ALL the required notifications been made?
		Are ALL permits and clearances obtained?
		In your opinion, can the burn be carried out according to the Prescribed Fire Plan and will it meet the planned objective?

If all the questions were answered "YES" proceed with a test fire. Document the current conditions, location, and results

Burn Boss

Date

Project Name: _____

Unit Name: _____

ELEMENT 3 COMPLEXITY ANALYSIS SUMMARY

PRESCRIBED FIRE NAME			
ELEMENT	RISK	POTENTIAL CONSEQUENCE	TECHNICAL DIFFICULTY
1. Potential for escape			
2. The number and dependence of activities			
3. Off-site Values			
4 On-Site Values			
5. Fire Behavior			
6. Management organization			
7. Public and political interest			
8. Fire Treatment objectives			
9 Constraints			
10 Safety			
11. Ignition procedures/ methods			
12. Interagency coordination			
13. Project logistics			
14 Smoke management			

COMPLEXITY RATING SUMMARY	
	OVERALL RATING
RISK	
CONSEQUENCES	
TECHNICAL DIFFICULTY	
SUMMARY COMPLEXITY DETERMINATION	
RATIONALE:	

Project Name: _____

Unit Name: _____

ELEMENT 4: DESCRIPTION OF PRESCRIBED FIRE AREA

A. Physical Description

1. Location:
2. Size:
3. Topography:
4. Project Boundary:

B. Vegetation/Fuels Description:

1. On-site fuels data
2. Adjacent fuels data

C. Description of Unique Features:

ELEMENT 5: GOALS AND OBJECTIVES

A. Goals:

B. Objectives:

1. Resource objectives:
2. Prescribed fire objectives:

ELEMENT 6: FUNDING:

A. Cost:

B. Funding source:

Project Name: _____

Unit Name: _____

ELEMENT 7: PRESCRIPTION

A. Environmental Prescription:

B. Fire Behavior Prescription:

ELEMENT 8: SCHEDULING

A. Ignition Time Frames/Season(s):

B. Projected Duration:

C. Constraints:

ELEMENT 9: PRE-BURN CONSIDERATIONS

A. Considerations:

1. On Site:
2. Off Site

B. Method and Frequency for Obtaining Weather and Smoke Management Forecast(s):

C. Notifications:

ELEMENT 10: BRIEFING

Briefing Checklist:

- Burn Organization
- Burn Objectives
- Description of Burn Area

Project Name: _____

Unit Name: _____

- Expected Weather & Fire Behavior
- Communications
- Ignition plan
- Holding Plan
- Contingency Plan
- Wildfire Conversion
- Safety

ELEMENT 11: ORGANIZATION AND EQUIPMENT

A. Positions:

B. Equipment:

C. Supplies:

ELEMENT 12: COMMUNICATION

A. Radio Frequencies

1. Command Frequency(s):
2. Tactical Frequency(s):
3. Air Operations Frequency(s):

B. Telephone Numbers:

ELEMENT 13: PUBLIC AND PERSONNEL SAFETY, MEDICAL

A. Safety Hazards:

Project Name: _____

Unit Name: _____

B. Measures Taken to Reduce the Hazards:

C. Emergency Medical Procedures:

D. Emergency Evacuation Methods:

E. Emergency facilities:

ELEMENT 14 TEST FIRE

A. Planned location:

B. Test Fire Documentation:

1. Weather conditions On-Site:
2. Test Fire Results:

ELEMENT 15: IGNITION PLAN

A. Firing Methods:

B. Devices:

C. Techniques:

D. Sequences:

E. Patterns:

F. Ignition Staffing:

Project Name: _____

Unit Name: _____

ELEMENT 16: HOLDING PLAN

- A. General Procedures for Holding:**

- B. Critical Holding Points and Actions:**

- C. Minimum Organization or Capabilities Needed:**

ELEMENT 17: CONTINGENCY PLAN

- A. Trigger Points:**

- B. Actions Needed:**

- C. Additional Resources and Maximum Response Time(s):**

ELEMENT 18: WILDFIRE CONVERSION

- A. Wildfire Declared By:**

- B. IC Assignment:**

- C. Notifications:**

- D. Extended Attack Actions and Opportunities to Aid in Fire Suppression:**

ELEMENT 19: SMOKE MANAGEMENT AND AIR QUALITY

- A. Compliance:**

Project Name: _____

Unit Name: _____

B. Permits to be Obtained:

C. Smoke Sensitive Areas:

D. Impacted Areas:

E. Mitigation Strategies and Techniques to Reduce Smoke Impacts:

ELEMENT 20: MONITORING

A. Fuels Information (forecast and observed) Required and Procedures:

B. Weather Monitoring Required and Procedures:

C. Fire Behavior Monitoring Required and Procedures:

D. Monitoring Required To Ensure That Prescribed Fire Plan Objectives Are Met:

E. Smoke Dispersion Monitoring Required and Procedures:

ELEMENT 21: POST-BURN ACTIVITIES

Post-burn Activities That Must be Completed:

Project Name: _____

Unit Name: _____

APPENDICES

- A. Maps: Vicinity and Project**
- B. Technical Review Checklist**
- C. Complexity Analysis**
- D. Job Hazard Analysis**
- E. Fire Behavior Modeling Documentation or Empirical Documentation (unless it is included in the fire behavior narrative in Element 7; Prescription)**

Project Name: _____

Unit Name: _____

A: MAPS

1. Vicinity Map:

Project Name: _____

Unit Name: _____

2. Project Map:

Project Name: _____

Unit Name: _____

C. TECHNICAL REVIEWER CHECKLIST

PRESCRIBED FIRE PLAN ELEMENTS:	S/U	COMMENTS
1. Signature page		
2. GO/NO-GO Checklists		
3. Complexity Analysis Summary		
4. Description of the Prescribed Fire Area		
5. Goals and Objectives		
6. Funding		
7. Prescription		
8. Scheduling		
9. Pre-burn Considerations		
10. Briefing		
11. Organization and Equipment		
12. Communication		
13. Public and Personnel Safety, Medical		
14. Test Fire		
15. Ignition Plan		
16. Holding Plan		
17. Contingency Plan		
18. Wildfire Conversion		
19. Smoke Management and Air Quality		
20. Monitoring		
21. Post-burn Activities		
Appendix A: Maps		
Appendix B: Complexity Analysis		
Appendix C: JHA		
Appendix D: Fire Prediction Modeling Runs		
Other		

S = Satisfactory U = Unsatisfactory

Recommended for Approval:

Not Recommended for Approval:

Technical Reviewer Qualification and currency (Y/N) Date

Approval is recommended subject to the completion of all requirements listed in the comments section, or on the Prescribed Fire Plan.

Project Name: _____

Unit Name: _____

C: COMPLEXITY ANALYSIS

Project Name: _____

Unit Name: _____

D. JOB HAZARD ANALYSIS

Project Name: _____

Unit Name: _____

**E. FIRE BEHAVIOR MODELING DOCUMENTATION OR EMPIRICAL
DOCUMENTATION**

APPENDIX D

Information Needed for Fire Reporting into the Wildland Fire Management Information (WFMI) System

Information Item	Item Description
Area Office	
Fire Name	Official name given by agency initiating attack or treatment.
Discovery Date	Month, day, year.
Discovery Time	Hour, minute.
Fire Type	12- Fire suppressed on Bureau of Reclamation land protected by another Federal agency under interagency agreement. 13- Fire suppressed on Reclamation land by a non-Federal agency under cooperative agreement or contract. 22- Natural out on Reclamation land protected by another Federal agency under interagency agreement. 23- Natural out on Reclamation land by a non-Federal agency under cooperative agreement or contract. 37- Support actions by Reclamation on wildland fire. 47- Prescribed fire support by Reclamation on prescribed fire. 48- Prescribed fire, management-ignited.
Cause of Fire	Natural-lightning; natural-volcanic; natural, other, known; natural, other, unknown; human (see Remarks).
Reimbursable?	Yes or no; part or all of the cost of the fire suppression can be reimbursed to agency treating the fire.
State and County	
Owner of land	Reclamation, BLM, state, private, tribal, etc. If more than one, acres of each.
Vegetation	Commercial forest; non-commercial forest; non-forest watershed.
Acres burned	Total area within perimeter of fire
Total project acres	Total acreage of the project, including areas that are left untreated (for prescribed fires only).
Facility/feature	E.g., for CCAO: Monticello, Sly Park, Sugar Pine, Nimbus, New Melones, Folsom, etc.
Location and datum	Coordinates in lat/long with minutes, degrees, seconds and datum (NAD 83, NAD 27, WGS84, WGS 72).
Accuracy of location	Accurate, general, uncertain.
Location method	Quad map, area map, raw GPS, corrected GPS, other.
Discovery acres	How many acres were initially burning?
Who discovered	Reclamation employee, permittee, visitor, etc.

APPENDIX D

Information Needed for Fire Reporting into the Wildland Fire Management Information System

Information Item	Item Description
Initial attack/acres	Month, day, year, hour, minute; how many acres burning when attacked?
Resources	Hand crew, engine, aircraft, etc.; what kind and how many?
Controlled/ acres	Month, day, year, hour, minute; how many acres had burned?
Declared out	Month, day, year.
Topography	Ridge top, saddle, valley bottom, flat, etc.
Aspect	Flat, north, northeast, ridge top, etc.
Slope	0-25%, 26-40%, 41-55%, 56-75%, >75%.
Elevation	0-500 ft., 501-1500 ft. etc.
Fuel model	1:short grass; 2:timber (grass understory); 3:tall grass; 4:chaparral; 5:brush; 6:hardwood slash; 7:southern rough; 8:closed timber litter; 9:hardwood litter; 10:timber (litter understory); 11:light logging slash; 12:med. logging slash; 13:heavy logging slash; 14:debris pile; 15:custom.
Special area type	Recreation area, wetlands, wildland urban interface, etc.
Wildland/urban interface?	Yes or no; areas where structures or other human developments intermingle with wildland or vegetative fuels
Structures destroyed?	0, 1, 2, etc.
Remarks	If the fire was "human-caused," what was the cause of the fire: equipment, campfire, fireworks, prescribed fire? Was the incident investigated? Was the suspect known? Who was the suspect (employee, tourist, contractor etc.)? Was the suspect a resident, transient or unknown?
Data provided by	Name, title, date.