

Chapter 18 Prescribed Fire

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Introduction

The *Interagency Prescribed Fire Planning and Implementation Procedures Reference Guide (IA RX Fire Guide)* was signed by the National Fire and Aviation Executive Board (NFAEB) on September 1, 2006. The IA RX Fire guide provides consistent interagency policy, establishes common terms and definitions, and identifies planning and implementation processes for 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).

The guide can be obtained electronically at the National Fire and Aviation Executive Boards (NFAEB) website: http://www.nifc.gov/fire_policy/ and at the National Interagency Fuels Management Website: <http://www.nifc.gov/fuels/index.html>. Access the 'Direction and Guidance' link.

The IA RX Fire Guide describes what is minimally acceptable for prescribed fire planning and implementation. All personnel involved in the prescribed fire planning and implementation process must ensure that specific agency additional standards and or supplemental guidance are followed.

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.

1 Prescribed Fire Program Goals

2 Interagency Prescribed Fire Program goals are to:

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

13 Authorities

14 All use of prescribed fire will be supported by a Land/Resource Management
15 Plan (L/RMP) and/or Fire Management Plan (FMP). Prescribed fire projects
16 can only be implemented through an approved Prescribed Fire Plan. Specific
17 authorities exist for each agency to utilize prescribed fire (See Appendix A of
18 the *Interagency Prescribed Fire Planning and Implementation Procedures*
19 *Reference Guide*). All project decisions to use prescribed fire are subject to the
20 agency's analysis, documentation, and disclosure requirements for complying
21 with the National Environmental Policy Act (NEPA).

22
23 During prescribed fire planning and operations, all federal agencies will accept
24 each other's standards for qualifications. The minimum qualifications standard
25 is the National Wildland Fire Coordinating Group (NWCG) *Wildland and*
26 *Prescribed Fire Qualifications System Guide, 2000* (PMS 310-1). State, local
27 cooperators and contractors working on federal agency prescribed fires must
28 meet the NWCG PMS 310-1 standards unless local agreements specify
29 otherwise.

30
31 The main reference glossary for this guide is the NWCG glossary, which is
32 updated periodically: <http://www.nwcg.gov/>.

33
34 This guide is not intended to address interagency business rules. Reference
35 individual agency's business rules for direction.

37 Prescribed Fire Planning Process

38 Common planning documents to ensure quality prescribed fire plans include:

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

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1 **Fire Management Plan (FMP)**

2 All burnable acres will be covered by a Fire Management Plan (FMP). The FMP
 3 is the cornerstone plan for managing a Wildland Fire Management Program and
 4 should flow directly from the L/RMP. FMPs may be developed for a Fire
 5 Planning Unit (FPU) that crosses jurisdictional boundaries. Where the Wildland
 6 Fire Management Program crosses jurisdictional boundaries, or where program
 7 coordination is essential, the FMP will require interagency coordination. Most
 8 FMPs are anticipated to fall into this category.

9
 10 **National Environmental Policy Act (NEPA)**

11 Resource and prescribed fire objectives for specific prescribed fire projects are
 12 derived from the NEPA analysis. The entire prescribed fire project area must be
 13 analyzed under NEPA. NEPA documents that identify and analyze the effects
 14 of using or not using prescribed fire treatment projects may include
 15 Environmental Impact Statements (EIS), Environmental Assessments (EA), and
 16 Categorical Exclusion (CE).

17
 18 Other authorities that may be utilized to guide analysis and determination of
 19 NEPA compliance are the Healthy Forest Restoration Act (HFRA), the Healthy
 20 Forest Initiative (HFI), and the Tribal Forest Protection Act (TFPA).

21
 22 Prescribed fire planning and related NEPA analysis should always occur at the
 23 largest possible spatial and temporal scales.

24
 25 **Implementation Organization and Qualifications**

26 During prescribed fire planning and operations, all federal agencies will accept
 27 each other's standards for qualifications. The minimum qualifications standard
 28 is the National Wildland Fire Coordinating Group (NWCG) *Wildland and*
 29 *Prescribed Fire Qualifications System Guide, 2000 (PMS 310-1)*. State, local
 30 cooperators, and contractors working on federal agency prescribed fires must
 31 meet the NWCG PMS 310-1 standards unless local agreements specify
 32 otherwise. No less than the organization described in the approved Prescribed
 33 Fire Plan may be used for implementation. The complexity of each prescribed
 34 fire or phase of fire(s) determines the organization(s) needed to safely achieve
 35 the objectives specified in the Prescribed Fire Plan.

36
 37 **Minimum Supervisory Qualifications Determined By Prescribed Fire**
 38 **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

1 **Holding Specialist**

2 Holding functions will be managed by personnel qualified at the appropriate ICS
 3 wildland fire operations position as required by complexity, assigned resources
 4 and operational span of control. For some projects, there may be no holding
 5 requirements or the holding duties are assumed by the Burn Boss.

6
 7 High, Moderate, and Low complexity prescribed fires are determined through
 8 the required NWCG *Prescribed Fire Complexity Rating System Guide*.

9
 10 **Prescribed Fire Burn Boss Type 3 (RXB3)**

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

14
 15 An RXB3 will only be allowed to implement low complexity prescribed fires
 16 where the possibility of spread or spotting outside the project area is negligible
 17 to non-existent; multiple fuel models are not involved; and aerial operations are
 18 not involved.

19
 20 **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

21
 22 **Responsibilities**

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

28
 29 The agency administrator has final approval authority for all Prescribed Fire
 30 Plans, unless special circumstances warrant higher review and concurrence
 31 (such as may occur during higher Preparedness Levels or for extremely large,

1 complex projects). Although the agency administrator has final approval
2 authority for the Prescribed Fire Plan and the agency administrator Pre-Ignition
3 Approval Checklist, the Prescribed Fire Burn Boss has the responsibility to
4 make the on-site tactical "GO/NO-GO" decision. The Prescribed Fire Burn
5 Boss ensures that all prescription, staffing, equipment, and other plan
6 specifications are met before, during, and after the prescribed fire.

7
8 Every Prescribed Fire Plan must receive a technical review. The Technical
9 Reviewer and Prescribed Fire Plan Preparer must be qualified or have been
10 previously qualified as a Prescribed Fire Burn Boss at an experience level equal
11 to or higher than the complexity being reviewed. Either the Prescribed Fire Plan
12 Preparer or Technical Reviewer must be currently qualified.

13
14 Only a RXB1 can review plans at high complexity. An RXB2 can review plans
15 of moderate to low complexity. An RXB3 is not allowed to function as a
16 Prescribed Fire Plan Preparer (see Chapter 3, section C of the *Interagency
17 Prescribed Fire Planning and Implementation Procedures Reference Guide*) or
18 Technical Reviewer.

19
20 Agency or individual unit policy may dictate additional reviews. Interagency
21 Prescribed Fire Plans require approval from all appropriate agency
22 administrators and a technical review. Listed below are the prescribed fire and
23 implementation position roles and responsibilities.

24 25 **Agency Administrator**

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

31
32 The agency administrator is responsible to:

- 33 • Approve Prescribed Fire Plans. When approving a plan, understand the
34 risks associated with it. Ensure that the plan has been reviewed and
35 recommended for approval by the Technical Reviewer who was not the
36 primary preparer of the plan.
- 37 • Ensure that only trained and qualified personnel participate in the
38 implementation portion of the prescribed fire.
- 39 • Ensure that projects are monitored, evaluated, and documented in the
40 project file.
- 41 • Sign, date, and provide an expiration date for the approval to burn on the
42 agency administrator Pre-Ignition Approval Checklist (Reference Burn
43 Plan Template, Appendix B of the *Interagency Prescribed Fire Planning
44 and Implementation Procedures Reference Guide*).
- 45 • Understand and approve the Complexity Analysis (PMS 424 January
46 2004).

- 1 • Ensure that all prescribed fires are conducted in accordance with the
- 2 approved implementation plan and established standards and guidelines.
- 3 • Ensure that periodic reviews and inspections of the Prescribed Fire
- 4 Program are completed.
- 5 • Determine if and when the agency administrator is to be notified that
- 6 contingency actions are being taken.
- 7 • Report all wildfires resulting from prescribed fires through the chain of
- 8 command.
- 9 • Declare an escaped prescribed fire a wildfire (if responsibility is assigned
- 10 in the plan).
- 11 • Ensure that escaped prescribed fires are reviewed according to established
- 12 guidelines.

13

14 Technical Reviewer

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

- 33 • Ensure that Prescribed Fire Plans meet agency policy and direction.
- 34 • Ensure that the Complexity Analysis accurately represents the project, so
- 35 the agency administrator understands the identified risks and the mitigating
- 36 measures enacted. This may require on-site review in Wildland Urban
- 37 Interface (WUI) or high complexity situations by the Technical Reviewer.
- 38 • Check the prescription parameters against the fuel types to ensure that the
- 39 project as planned has a reasonable chance of meeting the resource
- 40 management objectives.
- 41 • Ensure that the fire behavior calculations and/or prescription parameters
- 42 are appropriate and within the acceptable range.
- 43 • Ensure that the ignition, holding and contingency plans are consistent with
- 44 the predicted fire behavior.

- 1 • Complete and sign the Technical Review Checklist (See Burn Plan
2 Template, Appendix B of the *Interagency Prescribed Fire Planning and*
3 *Implementation Procedures Reference Guide*) and the Prescribed Fire Plan
4 signature page.
5

6 **Prescribed Fire Plan Preparer**

7 For the purpose of this document, the Prescribed Fire Plan Preparer is defined as
8 the individual responsible for the preparation of the Prescribed Fire Plan.

9 Several people may be involved in the preparation of the Prescribed Fire Plan,
10 but the Prescribed Fire Plan Preparer is responsible for the final plan content.

11 The primary preparer of the Prescribed Fire Plan will sign the signature page.

12 The preparer is responsible to:

- 13 • Prepare the Prescribed Fire Plan in accordance with this guide's policy and
14 direction.
15 • Coordinate with the resource management and/or technical specialists to
16 ensure that the plan meets management and operational objectives.
17 • Interact with the Technical Reviewer to ensure that all plan elements are
18 adequately addressed.
19 • Complete and sign the Complexity Analysis.
20

21 **Prescribed Fire Burn Boss (RXB1/RXB2/RXB3)**

22 The Prescribed Fire Burn Boss is responsible to the agency administrator,
23 Prescribed Fire Manager, or FMO/local fire management organization for
24 implementing the Prescribed Fire Plan. The Prescribed Fire Burn Boss is
25 responsible to:

- 26 • Review the Prescribed Fire Plan prior to implementation and ensure all
27 required elements and objectives are addressed.
28 • Inspect the burn unit to validate Prescribed Fire Plan elements including
29 areas of special concern as well ensuring that holding/contingency plans
30 adequately address expected fire behavior outside the unit(s).
31 • Obtain current weather and smoke management forecasts, updates, and
32 special advisories from a meteorologist.
33 • Maintain communication with the agency administrator, Prescribed Fire
34 Manager, or FMO/local fire management organization.
35 • Ensure that the agency administrator Pre-Ignition Approval Checklist is
36 valid (See Burn Plan Template, Appendix B of the *Interagency Prescribed*
37 *Fire Planning and Implementation Procedures Reference Guide*)
38 • Take to the field those portions of the Prescribed Fire Plan necessary for
39 completing the briefing and safe project implementation.
40 • Complete and sign the Prescribed Fire GO/NO-GO Checklist (See Burn
41 Plan Template, Appendix B of the *Interagency Prescribed Fire Planning*
42 *and Implementation Procedures Reference Guide*).
43 • Ensure availability of any contingency resources and management of those
44 resources if deployed.

- 1 • Ensure that all operations are conducted in a safe manner and in
2 accordance with the approved plan and established standards and
3 guidelines.
- 4 • Verify qualifications of all assigned personnel. Conduct the personnel
5 /safety briefing to ensure a safe operation.
- 6 • Conduct the test fire and document the results.
- 7 • Supervise assigned personnel and direct the ignition, holding and
8 monitoring operations. The Prescribed Fire Burn Boss will be responsible
9 for implementation including mop-up and patrol unless otherwise assigned
10 to other qualified personnel.
- 11 • Declare the prescribed fire out unless the responsibility for it is formally
12 passed to another Prescribed Fire Burn Boss, Prescribed Fire Manager or
13 the local fire management organization.
- 14 • Determine when the prescribed fire is not within prescription parameters
15 (both short and long term) or is not meeting objectives.
- 16 • Declare an escaped prescribed fire a wildfire (if responsibility is assigned
17 in the plan).
- 18 • Manage the incident or oversee the transition to another Incident
19 Commander if an escape occurs.
- 20 • Ensure that reports are completed.
- 21 • Coordinate with adjacent landowners, cooperators and permittees as
22 designated in the Prescribed Fire Plan.

23 **Fire Management Officer (FMO)/ Fire Program Manager**

24 The Fire Management Officer (FMO)/Fire Program Manager is responsible to
25 the agency administrator for planning, implementing and monitoring of the
26 Prescribed Fire Program in accordance with policy and direction. The
27 FMO/Fire Program Manager is responsible to:

- 28 • Ensure compliance with national, regional, tribal and local fire policy and
29 direction, as well as applicable state and local laws.
- 30 • Ensure that Preparedness Level Restrictions are adhered to. At National
31 Preparedness Levels Four and Five, prescribed fire implementation is
32 restricted. See the *National Interagency Mobilization Guide* for details.
- 33 • Ensure that both the Prescribed Fire Plan Preparer and the Technical
34 Reviewer are qualified or qualified less currency at the level of complexity
35 or higher.
- 36 • Ensure that trained and qualified personnel are available to participate in
37 the Prescribed Fire Program.
- 38 • Assign the Prescribed Fire Burn Boss.
- 39 • Ensure a Prescribed Fire Plan with written approval exists for each
40 prescribed fire project.
- 41 • Review the Prescribed Fire Plan to assess the impact of the project on the
42 unit's workload; include the project in the unit's Annual Work Plan; assess
43 the unit's ability to implement the project; and assess the need for
44 additional implementation resources.
- 45

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

19

20 **Prescribed Fire Manager (RXM1/RXM2)**

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

- 27 • Review Prescribed Fire Plans prior to implementation.
- 28 • Monitor all prescribed fire operations.
- 29 • Ensure that all operations are conducted in a safe manner and in
- 30 accordance with the approved plan(s) and established standards and
- 31 guidelines.
- 32 • Act as coordinator/liaison between the burn organization(s) and other
- 33 offices, agencies, air quality authorities, news media, transportation
- 34 agencies, safety officials, and interested public.
- 35 • Declare an escaped prescribed fire a wildfire (if responsibility is assigned
- 36 in the plan).
- 37 • Obtain and interpret long-term weather information.
- 38 • Brief the Burn Bosses and direct operational assignments according to
- 39 policies, priorities, and standards.
- 40 • Set priorities for allocation of resources.
- 41 • Ensure the completion of all required documentation including the
- 42 evaluation and documentation of accomplishments, fire behavior and fire
- 43 effects, operation procedures, and cost summaries.

44

45

1 Firing Boss (FIRB)

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

- 6 • Review the Prescribed Fire Plan and the burn unit prior to implementation.
- 7 • Brief personnel on project objectives and ignition operations.
- 8 • Complete the test fire according to the ignition plan at the direction of the
9 Prescribed Fire Burn Boss.
- 10 • Conduct ignition operations in a safe manner according to the ignition
11 plan.
- 12 • Identify the impacts of ignition on the control and desired fire effects.
- 13 • Coordinate ignition operations with the Holding Specialist.

15 Holding Specialist

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

- 24 • Review the Prescribed Fire Plan and the burn unit prior to implementation.
- 25 • Brief holding personnel on project objectives and holding operations.
- 26 • Conduct holding operations in a safe manner according to the holding plan.
- 27 • Coordinate holding operations with the Firing Boss.
- 28 • Confine the fire to a predetermined area, mop up, and patrol.
- 29 • Maintain communication with Burn Boss on holding progress and/or
30 problems.
- 31 • For some prescribed fires, there may be no holding requirements or the
32 holding duties are assumed by the Prescribed Fire Burn Boss.

34 Fire Effects Monitor (FEMO)

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

- 39 • Review the monitoring plan prior to implementation.
- 40 • Monitor, obtain, and record weather data.
- 41 • Monitor and record fire behavior data throughout the burn operations.
- 42 • Recon the burn unit/area assigned.
- 43 • Plot the burn area and perimeter on a map.
- 44 • Monitor and record smoke management information.
- 45 • Monitor first order fire effects.

- 1 • Provide monitoring summary of the fire.
2 • Provide fire behavior and weather information to burn personnel as
3 appropriate.
4

5 **Helitorch Manager (HTMG)**

6 The Helitorch Manager is responsible to manage the helitorch operation,
7 supervise the mixing operation, and provide technical assistance to the
8 Prescribed Fire Burn Boss/Ignition Specialist. The HTMG may also serve as
9 Helicopter Manager and Helitorch Manager or Helicopter Parking Tender (but
10 not both).
11

12 **Plastic Sphere Dispenser Operator (PLDO)**

13 The Plastic Sphere Dispenser Operator (PLDO) is responsible for the
14 preparation, operation, maintenance, and care of the dispenser. The PLDO
15 reports to the Ignition Specialist.
16

17 **Helitorch Mixmaster (HTMM)**

18 The Helitorch Mixmaster (HTMM) is responsible for supervising the
19 mixing/filling operations. The HTMM may also serve as Helitorch Manager or
20 Helicopter Manager.
21

22 **Resource Specialist or Resource Advisor (READ)**

23 The Resource Specialist/READ is responsible for ensuring the prescribed fire
24 project is planned and implemented in a manner supporting the unit's resource
25 management goals and objectives. The Resource Specialist/READ is
26 responsible to the agency administrator. The Resource Specialist/READ is
27 responsible to:

- 28 • Ensure resource management representation in the preparation of the
29 Prescribed Fire Plan.
30 • Ensure a review of Prescribed Fire Plans is conducted before each plan is
31 submitted for approval.
32 • Evaluate the prescribed fire project in terms of meeting objectives.
33 • Provide resource information and direction to the Prescribed Fire Burn
34 Boss.
35 • Present information at briefings on resources, priorities, and issues of
36 concern.
37 • Coordinate with adjacent landowners, cooperators and permittees as
38 designated in the Prescribed Fire plan or by the Burn Boss.
39
40

41 **Amendments**

42 There may be a need to make amendments to the Prescribed Fire Plan. These
43 are changes to the Prescribed Fire Plan that require an agency administrator
44 signature. When changes are necessary, plans must be amended to identify the
45 affected sections; the reason for the change(s); and have the changes clearly

1 identified. For amendments, the same standards for Prescribed Fire Plan
2 preparation, review, and approval apply.

3 Common reasons for amending the Prescribed Fire Plan may include:

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

14
15 To avoid having to amend the Prescribed Fire Plan, flexibility should be built
16 into the plan that will allow for a range of adjustments during the prescribed fire.
17 When building flexibility, the range of identified options must remain within the
18 scope of the Complexity Analysis. Examples of flexibility that can be built into
19 a prescribed fire plan:

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

37 38 **Safety**

39 The Federal Wildland Fire Policy states that firefighter and public safety is first
40 priority. Prescribed Fire Plans and activities must reflect this commitment.
41 Every person involved in a prescribed fire is responsible for identifying safety
42 issues and concerns. It is the responsibility of each individual participating in
43 prescribed fire activities to notify immediate supervisor of any possible
44 misunderstanding of assigned tasks or safety concerns related to the assignment.
45

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

6
7 Exposure to smoke during prescribed fire operations can be a significant safety
8 concern. Research has shown that exposure to smoke on prescribed fires,
9 especially in holding and ignition positions, often exceeds that on wildfire. At a
10 minimum, smoke exposure must be addressed in the Job Hazard Analysis (JHA)
11 and smoke management element. Public safety impacts from smoke should be
12 addressed in the Smoke Management and Air Quality Element as well as the
13 Public, Personnel Safety, and Medical Element.

14
15 Transportation and use of any product containing chemicals (drip torch fuel,
16 aviation gas, sphere dispensers, fusees, fuel thickener, etc.) must be in
17 compliance with the *Occupational Safety and Health Administration's (OSHA)*
18 *Hazard Communication Standard (29 CFR 1910.1200)* and *Department of*
19 *Transportation Regulations (49 CFR Part 171)*, and agency specific guidance.
20 Material Safety Data Sheets (MSDS) for hazardous materials used on projects
21 should be consulted in developing the JHA.

22
23 The SAFENET form and process is designed for reporting and correcting unsafe
24 situations and is applicable to prescribed fire applications.

25
26 The risk management process identified in the *NWCG Incident Response Pocket*
27 *Guide (IRPG, PMS 410-1)* helps ensure that critical factors and risks associated
28 with prescribed fire operations are considered during decision making. This
29 process should be applied to all prescribed fire planning and operations.

30
31 Consider using a Safety Officer on high complexity prescribed fires and others
32 where the complexity analysis shows the need or indicates a higher than normal
33 hazard.

34
35 A qualified Safety Officer is defined as a currently qualified Safety Officer, at
36 any Type level (Types 1, 2 or 3), as defined by the NWCG, *Wildland and*
37 *Prescribed Fire Qualification System Guide (PMS 310-1)*.

38 **Prescribed Fire Plan**

39 The Prescribed Fire Plan is the site-specific implementation document. It is a
40 legal document that provides the agency administrator the information needed to
41 approve the plan and the Prescribed Fire Burn Boss with all the information
42 needed to implement the prescribed fire. Prescribed fire projects must be
43 implemented in compliance with the written plan.
44
45

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

10
11 If an interagency mixed ownership Prescribed Fire Plan is being prepared, the
12 development of all appropriate elements within the plan will be conducted in an
13 interagency setting. Interagency agreements and Memorandums of
14 Understanding (MOU) and/or private land owner agreements are required to
15 implement prescribed fire on multiple ownerships.

16
17 Listed below are the planning explanations of each individual element required
18 as part of a complete Prescribed Fire Plan and implementation policy related to
19 the element.

20 21 **Prescribed Fire Plan Elements**

22 23 **1. Signature Page**

24 The following information must be included on the signature page:

- 25 • Administrative unit name.
- 26 • Prescribed Fire Unit (burn unit)/Project name.
- 27 • At a minimum, three dated signatures are required: a Prescribed Fire Plan
28 Preparer, a Technical Reviewer, and an agency administrator. Additional
29 signatures may be included as required by the individual unit.
- 30 • Final determined complexity rating(s).
- 31 • If the plan needs to be amended, the signed and dated amendments must be
32 attached to the Prescribed Fire Plan (see Chapter 4 of the *Interagency*
33 *Prescribed Fire Planning and Implementation Procedures Reference*
34 *Guide*).

35 36 **2. GO/NO-GO Checklists**

- 37 • **Agency Administrator Pre-Ignition Approval Checklist**
38 The Agency Administrator's Pre-Ignition Approval Checklist (Burn Plan
39 Template, Appendix B of the *Interagency Prescribed Fire Planning and*
40 *Implementation Procedures Reference Guide*) is required to be completed.
41 The Agency Administrator's Pre-Ignition Approval Checklist evaluates
42 whether compliance requirements, Prescribed Fire Plan's elements, and
43 internal and external notification(s) have been completed and expresses the
44 agency administrator's intent to implement the Prescribed Fire Plan. The
45 checklist establishes the expiration date for the implementation of the
46 Prescribed Fire Plan. If ignition of the prescribed fire is not initiated prior

1 to expiration date determined by the agency administrator, a new approval
2 is required. An 'acting' agency administrator may sign the Agency
3 Administrator Pre-Ignition Approval Checklist if authority to do so has
4 been delegated. If the Prescribed Fire Plan is amended, a review and re-
5 validation of the Agency Administrator Pre-Ignition Approval Checklist
6 would be required and included in the Project File.

7 • **Prescribed Fire GO/NO-GO Checklist**

8 Prior to all ignition operations, the assigned Prescribed Fire Burn Boss will
9 complete and sign the Prescribed Fire GO/NO-GO Checklist (Burn Plan
10 Template, Appendix B of the *Interagency Prescribed Fire Planning and*
11 *Implementation Procedures Reference Guide*). This checklist is a
12 minimum standard and agencies may elect to add questions and/or
13 approval signatures. For each day of active ignition on a prescribed fire, a
14 separate daily GO/NO-GO Checklist is required.

15
16 **3. Complexity Analysis**

17 Risk management is a foundation for all prescribed fire activities. Risks and
18 uncertainties relating to prescribed fire activities must be understood, analyzed,
19 communicated, and managed as they relate to the cost of either doing or not
20 doing an activity. At a minimum, those risks from the Complexity Analysis that
21 are rated high and can not be mitigated will be identified with a discussion of the
22 risks associated in the Summary Complexity Rating Rationale. This discussion
23 will also be included in the Complexity Analysis Summary page (Burn Plan
24 Template, Appendix B of the *Interagency Prescribed Fire Planning and*
25 *Implementation Procedures Reference Guide*).

26
27 The Prescribed Fire Complexity Rating must be completed utilizing the
28 *Prescribed Fire Complexity Rating System Guide, NWCG, January, 2004* (or
29 current version). The purpose of the complexity rating process is to provide:

- 30 • Assignment of a complexity rating of high, moderate, or low to the
31 prescribed fire.
- 32 • Management and implementation personnel a relative ranking as to the
33 overall complexity of a specific prescribed fire project.
- 34 • A process that can be used to identify Prescribed Fire Plan elements or
35 characteristics that may pose special problems or concerns.
- 36 • A process that identifies mitigation activities needed to reduce the
37 risk/hazard to the implementation personnel and public as well as
38 mitigating potential resource damage.
- 39 • A preliminary rating will be completed early in the Prescribed Fire Plan
40 development stage. This will identify potential concerns that may be
41 mitigated during the plan preparation process. Once the Prescribed Fire
42 Plan is near completion, the final complexity rating is made. The final
43 complexity rating will be used as a basis for determining prescribed fire
44 organization, Prescribed Fire Burn Boss level, and mitigation measures.
- 45

1 The Summary Complexity Rating Rationale will clearly justify the summary
2 rating for prescribed fire organization and Prescribed Fire Burn Boss level. It
3 must also identify those risks from the Complexity Analysis that are rated high
4 and can not be mitigated and will provide a discussion of the risks associated.
5 The Complexity Analysis must be signed by the Prescribed Fire Plan Preparer
6 and the agency administrator and attached as an appendix to the Prescribed Fire
7 Plan. The Complexity Analysis Summary will be attached to the Prescribed Fire
8 Plan following the GO/NO-GO Checklists.

9
10 Separate prescriptions and/or burn organizations for different stages of
11 implementation may result in multiple Complexity Analyses and ratings. For
12 example, a plan may have separate prescriptions for spring and fall burning
13 which may require different organizations and constitute the need for additional
14 complexity analyses.

15
16 If a prescribed fire complexity changes which results in different Prescribed Fire
17 Burn Boss qualifications, a separate complexity analysis is required. For
18 example, for certain prescribed fires conducted over time, progressive or
19 sequential actions may reduce complexity, organization, and Prescribed Fire
20 Burn Boss qualifications (e.g. a large scale, high complexity prescribed fire has
21 been black-lined, portions burned and operations suspended for a period of time
22 then resumed to continue or finish the prescribed fire). In this case, a separate
23 Complexity Analysis will be developed to reflect the reduced complexity rating
24 and will be included in the appendix of the Prescribed Fire Plan.

25 **4. Description of the Prescribed Fire Area**

26 **Physical Description**

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

- 29 • Location - Narrative description of the location of the prescribed fire
30 project including a legal description, UTM and/or latitude/longitude
31 (decimal degrees; NAD83 preferred), county, and state.
- 32 • Size - Area, in acres, of the prescribed fire project with a breakdown by
33 prescribed fire unit and/or ownership if applicable.
- 34 • Topography - Identify the upper and lower range of elevation, slope(s) –
35 maximum/minimum and average, and aspect(s) of the prescribed fire
36 project.
- 37 • Project Boundary - The project boundary defines that area where fire will
38 be ignited and may be allowed to burn (some agencies previously called
39 this Maximum Management Area or Allowable Area). Describe the
40 physical, natural and/or human made boundaries (including multiple units)
41 of the prescribed fire project. This will be done through maps and may
42 include narratives. The entire prescribed fire project area must be analyzed
43 under NEPA.
- 44
- 45
- 46

1 Vegetation/Fuels Description

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

- 6 • Describe the structure and composition of the vegetation type(s) and fuel
7 characteristics. This description may include natural or activity fuels, total
8 fuel load (both live and dead) in tons/acre, dead fuel load by time-lag size
9 classes, live fuel load (woody/herbaceous), fuel bed depth, and vertical and
10 horizontal arrangement within the project boundary.
- 11 • Describe the percent of the unit composed of each vegetative type and the
12 corresponding fuel model(s).
- 13 • Identify conditions (fuels, slope, and aspect) in and adjacent to boundaries
14 that may be a potential threat for escaped fire.
- 15 • Identify any abiotic conditions like airshed, climate, soils, etc. as
16 appropriate.

17 Description of Unique Features and Resources

18 List and discuss special features, hazards, regulations, issues, constraints, etc.
19 Examples may include: fences to protect, power poles, historical/cultural sites,
20 threatened and endangered species or habitat, etc.
21
22

23 Maps

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

- 29 • Vicinity Map - Shows prominent features including roads, streams, water
30 sources, towns, structures, and the proximity of the burn unit(s) to these
31 features. Transportation route(s) will be identified. Map scale will be such
32 that the burn units can be located on the ground and in sufficient detail to
33 guide implementation.
- 34 • Project Map(s) - The project map(s) identify features in sufficient detail to
35 guide and assist in operational implementation of the prescribed fire.
36 Topographic, vegetative, or aerial photo maps should be used as the base
37 map. ICS map display symbols, identified in the *Fireline Handbook PMS*
38 *410-1* will be used as appropriate. Examples of features that should be
39 included on the project map(s) are: project boundary, individual unit
40 boundaries, ownership, fireline locations, natural barriers, fuel model
41 locations, proposed ignition patterns and sequence, critical holding points,
42 hazards, safety zones, escape routes, helispots, areas of special concern,
43 smoke management issues (predicted plume dispersion, sensitive receptors,
44 etc), escaped fire contingency actions (primary and secondary control lines,
45 trigger points, etc), water sources, location of treatment monitoring plots,
46 etc., if these are significant in communicating project implementation.

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.

6. Funding

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

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. 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.

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

1 and burn organizations. For example, a separate prescription is needed for
2 black-lining operations if conditions will be significantly different from the
3 primary prescription or if the holding resources differ from those identified for
4 ignition and holding phases. Separate prescriptions may result in the need to
5 identify multiple levels of management, organizational structures,
6 implementation measures, and pre-burn considerations.

7
8 Holding and contingency plans must be developed with the consideration of the
9 predicted fire behavior outside the project boundary(s). Fire behavior
10 characteristics for fuel models within the maximum spotting distance and/or
11 adjacent to the project boundaries must be considered and modeled using worst-
12 case fire behavior predictions. These predictions will be identified from fire
13 behavior model runs or empirical evidence of the hottest, driest, and windiest
14 prescription limits identified in the Prescribed Fire Plan, along with the most
15 extreme environmental conditions (slope, aspect) identified.

16
17 A short fire behavior narrative that summarizes the fire behavior identified in the
18 prescription and discusses how it will achieve the desired treatment objectives
19 may be included.

20
21 When used, fire behavior calculations must be developed using an appropriate
22 fire behavior modeling program. Include modeling and/or empirical evidence
23 documentation as an appendix or in the fire behavior narrative.

24 **8. Scheduling**

25 Identify the general ignition time frame(s) (i.e. time of day, duration of ignition)
26 or season(s) and note any dates when the project may not be conducted. For
27 prescribed fires with multiple ignitions or burn days, list projected duration.
28
29

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

32 **9. Pre-burn Considerations**

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

39
40 Describe any fuel sampling and weather data that may need to be obtained (See
41 Element 14: Test Fire). This data should be taken at the project site. If this is
42 not possible, use the closest representative site.

43
44 The plan will include a list of organizations (including media) and individuals
45 that are to be notified prior to ignition, with information necessary to make the
46

1 contacts. Reasonable efforts will be made to notify adjacent land owners (or
2 their agents) and other potentially impacted publics. Attempts and/or actual
3 notifications will be documented with date and method and placed in the Project
4 File.

5
6 Identify in the burn plan the method and frequency for obtaining weather and
7 smoke management forecast(s).

8
9 Spot weather or local area forecasts are required prior to ignition, on all ignition
10 days and any days the fire is actively spreading. A copy of the forecast will be
11 included in the Project File. The Prescribed Fire Burn Boss or other person in
12 charge of mop-up and patrol will also obtain and review the spot weather or area
13 forecast to determine if mop up and patrol resources are adequate.

14

15 **10. Briefing**

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

- 21 • Burn Organization and Assignments
- 22 • Burn Objectives and Prescription
- 23 • Description of the Prescribed Fire Area
- 24 • Expected Weather & Fire Behavior
- 25 • Communications
- 26 • Ignition Plan
- 27 • Holding Plan
- 28 • Contingency Plan and Assignments
- 29 • Wildfire Conversion
- 30 • Safety and Medical Plan

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

33

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

36

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

39

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

41

42 **11. Organization & Equipment**

43 The complexity of each prescribed fire determines the organization capabilities
44 needed to safely achieve the objectives specified in the Prescribed Fire Plan.

45 Specify the minimum required implementation organization to meet the

1 capabilities (line production rates, etc.) by position, equipment, and the supplies
2 needed for all phases of the prescribed fire until declared out. At a minimum, a
3 Prescribed Fire Burn Boss will be assigned to every prescribed fire. Positions
4 that may not be filled as collateral duty will be identified in the organization
5 chart of the Prescribed Fire Plan.

6
7 Standard ICS fire management principles for span of control and length of
8 assignments will be adhered to when developing burn implementation
9 organization(s) and used in managing prescribed fires. On prescribed fires with
10 large organizations, use the ICS organization and staffing commensurate with
11 the level of complexity. Consider the use of a Prescribed Fire Manager in
12 conducting multiple prescribed fires.

13
14 Before implementation (all phases) of the prescribed fire, documentation in the
15 form of an organization chart must be completed. Any changes to the
16 organization during implementation must be documented. Any changes that
17 reflect modification of the capabilities, equipment or supplies will require an
18 amendment. Different organizations may be identified for different phases of
19 implementation (i.e. holding v. mop-up and patrol, different ignition operations,
20 different prescriptions).

21
22 Multiple prescriptions for one Prescribed Fire Plan are permissible and in some
23 cases required (Element 7). Multiple prescriptions may require identifying and
24 developing multiple organizations.

25
26 The Prescribed Fire Burn Boss is responsible for implementation including mop-
27 up and patrol until the responsibility is formally passed to a Prescribed Fire Burn
28 Boss, Prescribed Fire Manager or the local fire management organization.

29

30 **12. Communication**

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

35

36 **13. Public & Personnel Safety, Medical**

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

46

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.

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.

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, mop-up and patrol, different ignition operations, different prescriptions). Multiple prescriptions may require identifying multiple complexity ratings and developing multiple holding organizations.

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

5 **17. Contingency Plan**

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

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

15
16 Contingency planning is intended for more than just a response to an escaped
17 fire. The contingency plan is the portion of the Prescribed Fire Plan that
18 considers possible but unlikely events and the contingency resources and actions
19 needed to mitigate those events.

20
21 Contingency planning is the determination of initial actions and additional
22 resources needed if the prescribed fire is not meeting, exceeds, or threatens to
23 exceed:

- 24 • Project or unit boundary
- 25 • Objectives
- 26 • Prescription parameters
- 27 • Minimum implementation organization
- 28 • Smoke impacts
- 29 • Other Prescribed Fire Plan elements

30
31 The contingency plan will establish trigger points or limits that indicate when
32 additional holding resources and actions are needed.

33
34 Contingency planning includes the additional resources required, and the
35 maximum acceptable response time for those resources. Resource needs should
36 be based on fire behavior outputs tied to the worst case fire behavior scenario (as
37 modeled in Element 7: Prescription). Separate contingency plans may be
38 necessary and appropriate to address seasonal differences, types of ignitions or
39 phases of the burn implementation as described in the prescriptions and ignition
40 and holding plans developed for the burn.

41
42 Verify and document availability of identified contingency resources and
43 response time on day of implementation. If contingency resources availability
44 falls below plan levels, actions must be taken to secure operations until
45 identified contingency resources are replaced.

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

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

8
9 Once a contingency resource is committed to a specific wildland fire action
10 (wildfire, wildland fire use or prescribed fire), it can no longer be considered a
11 contingency resource for another prescribed fire project and a suitable
12 replacement contingency resource must be identified or the ignition halted.

13
14 The agency administrator will determine if and when they are to be notified that
15 contingency actions are being taken.

16
17 If the contingency actions are successful at bringing the project back within the
18 scope of the Prescribed Fire Plan, the project may continue. If contingency
19 actions are not successful by the end of the next burning period, then the
20 prescribed fire will be converted to a wildfire.

21 **18. Wildfire Conversion**

22 The Prescribed Fire Plan will specify who has the authority to declare a wildfire.

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

31
32 Describe the actions to be taken when a prescribed fire is declared a wildfire
33 (*refer to Wildland Fire and Aviation Program Management and Operations*
34 *Guide {BIA--Blue Book} and Interagency Standards for Fire and Aviation {Red*
35 *Book}*). Description will include:

- 36 • Wildfire declaration (by whom)
- 37 • IC assignment
- 38 • Notifications: dispatch, agency administrator, adjacent land owners, etc.
- 39 • Extended attack actions and opportunities to aid in suppression efforts.
- 40 • After a wildfire declaration, an escaped prescribed fire cannot be returned
41 to prescribed fire status. A WFSA will define appropriate future
42 management actions.

43
44
45
46

1 **19. Smoke Management & Air Quality**

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

13

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

20

21 **20. Monitoring**

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

30

31 **21. Post-burn Activities**

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

35

36 **Appendices**

37 Include all the required appendices.

- 38 • Maps
- 39 • Technical Review Checklist
- 40 • Complexity Analysis
- 41 • Job Hazard Analysis
- 42 • Fire Behavior Modeling Documentation or Empirical Documentation

43

44

45

46

1 Project file

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

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

14
15 Depending on the scope and complexity of the prescribed fire, optional
16 information and/or further documentation that may be included in the Project
17 File include:

- 18 • After Action Review (see Chapter 8 of the *Interagency Prescribed Fire
19 Planning and Implementation Procedures Reference Guide*)
- 20 • Incident Action Plans, Unit Logs
- 21 • Press releases, etc
- 22 • Implementation costs
- 23 • Actual ignition patterns and sequences used
- 24 • Smoke management information
- 25 • Agency individual fire occurrence form
- 26 • Detailed Post Burn Report
- 27 • NEPA documentation
- 28 • Permits

**29
30 After Action Review (AAR)**

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

- 36 • What did we set out to do (what was planned)?
- 37 • What actually happened?
- 38 • Why did it happen that way?
- 39 • What should be sustained? What can be improved?

**40
41 Escaped Fire Reviews**

42 The agency administrator will be notified of an escaped fire. The agency
43 administrator is required to make the proper notifications. All prescribed fires
44 declared a wildfire will have an investigative review initiated by the agency
45 administrator. The level and scope of the review will be determined by policy

1 and procedures in *Wildland Fire and Aviation Program Management and*
2 *Operations Guide (BIA--Blue Book) or Interagency Standards for Fire and*
3 *Aviation (Red Book).*

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

- 9 • Determine if the Prescribed Fire Plan was adequate for the project and
10 complied with policy and guidance related to prescribe fire planning and
11 implementation.
- 12 • Determine if the prescription, actions, and procedures set forth in the
13 Prescribed Fire Plan were followed.
- 14 • Describe and document factual information pertaining to the review.
- 15 • Determine if overall policy, guidance, and procedures relating to
16 prescribed fire operations are adequate.
- 17 • Determine the level of awareness and the understanding of the personnel
18 involved, in regard to procedures and guidance.

19
20 At a minimum, the escaped fire review report will include the following
21 elements:

- 22 • An analysis of seasonal severity, weather events, and on-site conditions
23 leading up to the wildfire declaration.
- 24 • An analysis of the actions taken leading up to the wildfire declaration for
25 consistency with the Prescribed Fire Plan.
- 26 • An analysis of the Prescribed Fire Plan for consistency with policy.
- 27 • An analysis of the prescribed fire prescription and associated
28 environmental parameters.
- 29 • A review of the approving line officer's qualifications, experience, and
30 involvement.
- 31 • A review of the qualifications and experience of key personnel involved.
- 32 • A summary of causal agents contributing to the wildfire declaration.

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

42
43 An independent review team is recommended for conducting escaped fire
44 reviews. The number of individuals assigned to the team and their functional

- 1 expertise should be commensurate with the scope and focus of the review.
- 2 Interagency participation is highly recommended for all prescribed fire reviews.