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## APPENDICES

- A. Forest Plan (RLRMP) Guidance, AMR Map, FMU Map, Fire Doctrine, National Leader's Intent, R2 Structure Protection Memo, R2 Fire Management Efficiency Summary, 2009 Federal Fire Policy Guidance
- B. Current Funding (5100-2) and Organization Charts
- C. Specific Staffing and Action Guide/Preparedness Guide/Drawdown
- D. Bighorn NF Logistical Support Team/Expanded Dispatch
- E. Incident Qualification Card (Red Card) Committee Guidelines and Notes
- F. Cooperative Agreements (CDC/Counties/BLM/NPS/Ft. Washakie Helicopter/NOAA/MiniMob)
- G. Accelerated Watershed and Vegetation Restoration Plan 5 Year Strategy and FRCC Guidance
- H. Wildland Fire Situation Analysis References (Current WFSA Prep/Cost File – electronic version only) and WFSA/Cost Authority Limits (2009 Only – To Be Replaced with WFDSS in 2010)
- I. Bighorn Incident Management Log and Form FS-5100-29, National Fire Management Event Report w/ Instructions
- J. 2009 Bighorn NF qualified personnel for Rx Fire and Wildland Fire. For CDC Zone list, refer to Chapter 60 of CDC Mobilization Guide. Local Delegations of Authority (IC 3,4,5), RX Burn Plan Signing, Duty Officer Policy.
- K. Bighorn NF Fire Danger Operating Plan (NFDRS) and Bighorn NF Pocket Card
- L. Regional and Forest Aviation Plan
- M. Restriction Closure Orders
- N. Bighorn NF IMT Delegation of Authority and Line Officer Briefing and IMT Checklist/Cost Share Agreement Guidelines/Resource Status/Rehab Guidelines
- O. Minimum Impact Management Action Guidelines (Wilderness)/ Wilderness Resource Advisors/ Medicine Wheel HPP/ T&E Consultation
- P. NFMAS Fire Management Zones/Dispatch Cards
- Q. Incident Sign Guide (Electronic Only – Look in Cover of FMP for Hardcopy)
- R. Public and Media Info/News Release Form/SUP and Permittee Contacts
- S. Communication/Frequency Plans
- T. Mobilization/Demobilization
- U. Fireline Safety (30 Mile, Missionary Ridge, Driving, Work/Rest, After Action Review, Critical Incident Agency Admin. Guide, Emergency Safety Contacts, Administrator Site Visit Questions, Burn Protocol)
- V. Wildland Fire Use

## ACRONYMS USED IN THE FIRE MANAGEMENT PLAN

FMO – Fire Management Officer	NAAQS – National Ambient Air Quality Standard
FMU – Fire Management Unit	NFMAS – National Fire Management Analysis System
FMZ – Fire Management Zone	MMA – Maximum Manageable Area
FPA – Fire Program Analysis (to replace NFMAS)	T&E – Threatened and Endangered Species
FSH – Forest Service Handbook	WFIP – Wildland Fire Implementation Plan
FSM – Forest Service Manual	WFSA – Wildland Fire Situation Analysis
RLRMP – Land and Resource Management Plan (2005 Revised Plan)	

## **Web Links**

Fire Policy - [http://www.nifc.gov/fire\\_policy/](http://www.nifc.gov/fire_policy/)

Business Management Handbook - <http://www.nwccg.gov/teams/ibpwtnew/ibpwtnew.htm>

Wildland Fire Use Guidebook -

[http://www.nifc.gov/fire\\_policy/pdf/wildland\\_fire\\_use\\_guide.pdf](http://www.nifc.gov/fire_policy/pdf/wildland_fire_use_guide.pdf)

10 Year Comprehensive Strategy -

<http://www.fireplan.gov/content/reports/?ReportID=11&LanguageID=1>

FS Manual – 5100 - <http://fsweb.wo.fs.fed.us/directives/html/fsm5000.html>

FS Handbooks:

- Fire Report - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.14/>
- Fire Qualifications - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.17/>
- Wildfire Prevention guide - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.18/>
- Fire Planning - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.19/>
- Fire Cause Determination - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.31/>
- Fireline Handbook - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.32a/>
- Fire Business HB supplements - <http://fsweb.wo.fs.fed.us/directives/fsh/5109.34/>

FS Health and Safety Code Handbook - <http://fsweb.wo.fs.fed.us/directives/fsh/6709.11/>

RMAC – Fire Weather AOP - [http://www.blm.gov/colorado/rmafwx/2005\\_AOP.pdf](http://www.blm.gov/colorado/rmafwx/2005_AOP.pdf)

Mobilization Guides:

- Cody Dispatch - [http://www.fs.fed.us/r2/fire/cdc/CDC\\_Mobilization\\_Guide.htm](http://www.fs.fed.us/r2/fire/cdc/CDC_Mobilization_Guide.htm)
- Rocky Mtn - <http://www.fs.fed.us/r2/fire/rmacc.html> - under publications
- National - <http://www.nifc.gov/news/mobguide/index.html>

PMS 310-1 Wildland & Prescribed Fire Quals guide <http://164.159.185.38/pms/docs/docs.htm>

Taskbooks - <http://164.159.185.38/pms/taskbook/taskbook.htm>

Weather:

Billings - <http://www.wrh.noaa.gov/byz/pdf/BYZfwxops.pdf>

Riverton – <http://www.crh.noaa.gov/riw/>

RMAC – Fire Weather AOP - [http://www.blm.gov/colorado/rmafwx/2005\\_AOP.pdf](http://www.blm.gov/colorado/rmafwx/2005_AOP.pdf)

Readiness Checklists:

WO FS Fire and Aviation Website <http://www.fs.fed.us/fire/>

## SECTION I – INTRODUCTION/PURPOSE

- A. This Fire Management Plan formally documents the fire management program for the approved Forest plan alternative. It provides specific details of the fire program that most efficiently meets fire management direction for the planning period, including organization, facilities, equipment, activities, timing, locations, and related costs. Each year adjustments are made in the plan to reflect changes in the annual planning process. This document is meant to be a working reference for fire program information, but is not a decision document.

This plan was developed for all areas subject to wildland fires on the Bighorn National Forest in compliance with the Federal Wildland Fire Management Policy and Program Review, the Wildland and Prescribed Fire Management Policy and Implementation Procedures Reference Guide (FSM 5101, 5103, 5108) and to meet the requirements of FSM 5121.2 and FSH 5109.19, 50.3.

- B. The Bighorn National Forest collaborates with adjacent federal land management agencies, county governments, communities within and adjacent to the Forest, private landowners, and other landowners such as The Nature Conservancy in planning and implementation efforts under the key points of the National Fire Plan. The goals of these efforts are to provide for the safety of firefighters and to increase the safety of people and homes within and adjacent to the Forest, maintain healthy watersheds, restore the ecological role of fire to fire-adapted ecosystems when conditions are appropriate, and increase cost efficiency of fire suppression. As a result of the collaborative process, these improved conditions will occur across jurisdictional boundaries. The interagency cooperation is being further advanced through the initiation of Fire Program Analysis (FPA).
- C. This plan is a detailed program of action to carry out fire management policies and achieve resource management objectives as defined in the Revised Land and Resource Management Plan, Bighorn National Forest, 2005 (RLRMP).
- D. This plan meets National Environmental Policy Act (NEPA) requirements and other State and Federal regulatory requirements by implementing approved fire management direction outlined in the RLRMP and analyzed in the Final Environmental Impact Statement (FEIS) Bighorn National Forest, 2005.
- E. FSM 5101 describes the authority for fire management activities on National Forest System Lands.

FSM 5108 lists pertinent references for guidance on the minimum standards and procedures for wildland fire management.

## SECTION II – RELATIONSHIP TO LAND MANAGEMENT PLANNING AND FIRE POLICY

### A. Management Plan and Policy Documents Concerning Fire Management (See Web links above).

- Wildland and Prescribed Fire Management Policy, Implementation Procedures and Reference Guide, August 1998
- Review and Update of the 1995 Federal Wildland Fire Management Policy, January 2001
- 2009 Guidance for Implementation of Federal Fire Policy
- Revised Land and Resource Management Plan, Bighorn National Forest, 2005
- Final Environmental Impact Statement, 2005, Bighorn National Forest
- Forest Service Manual (FSM) 5100
- Forest Service Handbook (FSH) 5109

## **B. Management Policies Concerning Fire Management**

The 2009 Guidance for Implementing Federal Fire Policy (See Appendix A), 2001 Federal Wildland Fire Management Policy (updated from 1995 Policy) and the RLRMP, 2005 are the guiding policy documents for fire management on the Bighorn National Forest.

The 2001 Federal Wildland Fire Management Policy directs Federal agencies to achieve a balance between suppression to protect life, property, and resources, and fire use to regulate fuels and maintain healthy ecosystems. The policy provides nine guiding principles that are fundamental to the success of the Federal wildland fire management program:

1. Firefighter and public safety is the first priority in every fire management activity.
2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
3. Fire Management Plans, programs, and activities support land and resource management plans and their implementation.
4. Sound risk management is a foundation for all fire management activities.
5. Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
6. Fire Management Plans and activities are based upon the best available science.
7. Fire Management Plans and activities incorporate public health and environmental quality considerations.
8. Federal, State, tribal, local, interagency, and international coordination and cooperation are essential.
9. Standardization of policies and procedures among federal agencies is an ongoing objective.

### 2001 Federal Wildland Fire Management Policy:

1. **Safety**  
Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.
2. **Fire Management and Ecosystem Sustainability**  
The full range of fire management activities will be used to help achieve ecosystem sustainability, including its interrelated ecological, economic, and social components.
3. **Response to Wildland Fire**  
Fire, as a critical natural process, will be integrated into resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fire is based on ecological, social, and legal consequences of the fire. The circumstances under which fires occur, and the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected dictate the appropriate management response to the fire.
4. **Use of Wildland Fire**  
Wildland fire will be used to protect, maintain, and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans in conjunction with wildland fire use implementation plans.
5. **Rehabilitation and Restoration**  
Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, and safety, and to help communities protect infrastructure.
6. **Protection Priorities**  
The protection of human life is the single, overriding priority. Setting priorities among protecting human communities and community infrastructure, other property and

improvements, and natural and cultural resources will be based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.

7. Wildland Urban Interface

The operational roles of federal agencies as partners in the Wildland Urban Interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, State, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection Agreements that specify the mutual responsibilities of the partners, including funding.

8. Planning

Every area with burnable vegetation will receive an appropriate management response consistent with designations within the Revised Land and Resource Management Plan (RLRMP). Fire Management Plans are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved land management plan. Fire Management Plans must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and be consistent with resource management objectives, activities of the area, and environmental laws and regulations.

9. Science

Fire Management Plans and programs will be based on a foundation of sound science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, Fire Management Plans, and implementation plans.

10. Preparedness

Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight. The Bighorn NF will staff with suppression resources capable of meeting the firefighter production capability commensurate with funding levels.

11. Suppression

Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives.

12. Prevention

Agencies will work together and with their partners and other affected groups and individuals to prevent unauthorized ignition of wildland fires.

13. Standardization

Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, value-to-be-protected methodologies, and public education programs for all fire management activities. The FPA Preparedness Module (PM) promotes this type of standardization.

14. Interagency Cooperation and Coordination

Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.

15. Communication and Education

Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These

programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.

#### 16. Agency Administrators and Employee Roles

Agency administrators will ensure that their employees are trained, certified, and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire program as necessary. Agency administrators are responsible and will be held accountable for making employees available to support emergency efforts.

#### 17. Evaluation

Agencies will develop and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Fire Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

### C. Forest-Wide Desired Condition, Goals, and Objectives

The goals, objectives, and desired future condition for the Bighorn NF are found in Chapter 1 of the RLRMP (2005). The broad Forest Goals are to ensure sustainable ecosystems, provide multiple benefits to people, provide scientific and technical assistance, and provide effective public service.

Under the goal of ensuring sustainable ecosystems is Objective 1.c., which is to increase the amount of forests and rangelands restored to or maintained in a healthy condition with reduced risk and damage from fires, insects and diseases, and invasive species. There are 4 strategies within this objective which are specific to fire management:

- Implement vegetation management practices that will move affected landscapes toward desired vegetation composition and structure. Practices may include prescribed fire, wildland fire use, mechanical, etc. Design treatments that emulate natural processes, patterns, scale, effect and structure. (#1)
- Continue to strengthen interagency relationships to increase wildland fire protection capabilities to provide for firefighter and public safety. (#5)
- Place high priority on fuel reduction activities in Fire Regimes I, II, and III (ponderosa pine, sagebrush/grass, mixed conifer) and other strategic areas where high fire hazards exist, such as communities identified in the Healthy Forest Restoration Act (Federal Register, Vol. 166, No. 160, Aug. 17, 2001) or as identified in community wildfire protection plans. Treatments should emphasize condition classes with one or more missed fire cycles and wildland/urban interface areas. (#6)
- Within 15 years, complete wildland fire use implementation guidance supplements to the Fire Management Plan for all areas where wildland fire use is permitted, to allow the natural role of fire to be restored in the ecosystem. (#7)

Under the goal of providing scientific and technical assistance, Objective 3.a. is to provide assistance in building the capacity of Tribal governments, rural communities, landowners, and private citizens to adapt to economic, environmental, and social change related to natural resources. One of the strategies within this goal is as follows:

- Provide support and assistance to communities to reduce wildfire risk, to communicate grant programs, and to enhance efforts to improve/protect watersheds. (#2)

The forest-wide guidelines for fire are found in Chapter 1, pages 48 and 49 of the RLRMP (errata). Refer to Appendix A of this plan. Summarized, the guidelines are as follows:

- Apply the Appropriate Management Response (AMR) according to the AMR map (See Appendix A in this Fire Management Plan). Restrictions to motorized equipment are listed in the AMR table, also included in Appendix A to this plan.
- In areas where wildland fire use (prescription) is the AMR, use natural ignitions to accomplish resource management objectives.

- Reduce the threat of wildfire to public and private developments by following guidelines in the National Fire Protection Association Publication 1144, Standards for Protection of Life and Property from Wildfire.
- Reduce activity fuels resulting from all projects/activities to acceptable levels in a cost effective manner.
- Avoid aerial application of retardant in wetlands and riparian areas unless necessitated by human safety or property loss considerations.

Each Management Area description in Chapter 2 of the RLRMP has descriptions of desired conditions, including vegetation and fire considerations. These have been summarized into the management objectives portion of the WFSA software for the Bighorn NF. There are no management area standards or guidelines specific to fire management within these descriptions.

Geographic Areas (9 large watersheds on Forest) described in Chapter 3 of the RLRMP also provide desired future conditions of vegetative diversity (structural stages) to be considered when developing wildland fire use implementation plans.

Chapter 4 of the RLRMP contains the monitoring strategy for the Forest. Items 1, 2, 4, 11 as listed relate to fire management activities, primarily reporting acres treated and cooperative efforts accomplished with regard to the objectives and strategies listed in Chapter 1 of the RLRMP.

## SECTION III – WILDLAND FIRE MANAGEMENT STRATEGIES

### A. General Management Considerations

**Firefighter and public safety shall remain our first priority in every fire management**

**decision:** This concept must be established beginning with the planning phase of programs and projects. We will not adopt a program or pursue a project that leaves a question about unmitigated risk to either. We will describe responsibilities and consequences of all decisions. We will embrace the Foundational Doctrine guiding Fire Suppression activities (See Appendix A).

Employees and cooperators engaged in fire management activities will follow all safety standards and guidelines in the Forest Service Health and Safety Code Handbook (FSH 6709.11). In addition, all employees and cooperators engaged in fire suppression activities will carry the "Incident Response Pocket Guide" PMS #461, NFES#1077 (IRPG), and will adhere to standards, consider guidelines, and mitigate risks defined in the IRPG.

Core principles of the strategy entitled "A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment", August 2001, are collaboration, priority setting, and accountability. Collaboration occurs in our interagency approach to fire management on the local, regional, and national levels. **The priority will be to protect human life, protect communities and private property, municipal and other high-value watersheds, and other resource values. We will be accountable to conduct cost-effective suppression actions based on the values at risk.**

The Forest Supervisor is responsible for establishing priorities and coordinating all fire suppression activities. Management of the forest fire program is delegated to the Resource Staff Officer (Forest Fire Staff).

The District Ranger is directly responsible for all fire management activities within the District protection boundaries, i.e., safety, training, prevention, pre-suppression, and suppression unless relieved by the Forest Supervisor or his acting. The Forest is comprised of three districts, each administered by a District Ranger. A District FMO reports directly to each Ranger, and the MWPR District also has an AFMO due to the added complexity of Park Service land and fielding the Hotshots. The Resource Staff Officer provides support and service to the Rangers and Districts, primarily through the Forest FMO and the Forest AFMO. The Forest FMO reports to the Resource Staff Officer and coordinates fire activity on the Forest and between Districts. All Rangers will be notified of actions that occur on their District. Within the wilderness the Ranger and wilderness coordinator (Craig Cope) will be notified that suppression actions are being taken.

Line Officers ensure there is adequate direction in the fire management plan to identify fire danger awareness with escalating fire potential. They will ensure that items identified in the

Thirty Mile Accident Prevention Action Plan and Missionary Ridge Action Plan items are reviewed to ensure full compliance within their fire management organization.

Suppression of ongoing fires will take priority over all other work. However, it may be necessary at times for certain individuals or groups to be exempt from fire suppression activities in order to meet targets, critical deadlines, or accomplish other high priority jobs. Once individuals are committed to a fire, they will not self demobilize or be removed from the fire by their supervisor except through the fire organization.

The Forest's "regular" fire season has been identified in NFMAS to be from June 15 to September 30; however, it can begin earlier and can extend through late October depending on weather conditions. The normal fire season covers the period during which most (90%) fires occur. Occasionally, fires occur before June 15, but are usually insignificant due to early season high fuel moistures and green up. Historically, some of the Forest's larger fires have occurred after September 30. These fires typically occur during dry, windy periods, making one or more large runs and are usually contained by the typical late season conditions of short burning periods, cool and humid nights, and rain or snow.

Dispatching of initial attack resources and filling of resource orders for extended attack will be done through Cody Dispatch Center (CDC). CDC is a zone interagency dispatch center serving several federal agencies, the state of Wyoming, and several counties. When forces are needed above what are available on the Bighorn National Forest, the resources are generally filled through our interagency partners in the CDC Zone.

## **B. Wildland Fire Management Goals**

These goals contribute to accomplishing regional and national strategic plans such as the 10-Year Comprehensive Strategy, National Fire Plan, Cohesive Strategy, and Forest Service Strategic Plan, as well as wildland fire policy. Fire program goals reflect Federal fire policy, the core principles and goals of the Comprehensive Strategy, and Cohesive Strategy as supported by the RLRMP.

- Initiate the appropriate management response for all wildland fires on the Bighorn National Forest, utilizing the direction found on page 1-48, Disturbance Processes, Fire, of the RLRMP.
- Maintain a program where firefighter and public safety are the highest priority in every fire management activity.
- Maintain an efficient and effective organization for the suppression of wildfires at a cost commensurate with the values at risk.
- Emphasize utilization of fire suppression resources in an interagency setting with focus on safely reducing operational costs and increasing efficiency for all cooperators.
- Implement management practices, including prescribed fire and wildland fire use that will move all affected landscapes toward an improved condition class in all fire regimes where the absence of fire has created unnatural fuel structure and hazards.

## **C. Wildland Fire Management Options**

The RLRMP describes the Appropriate Management Responses available across the Forest. All wildland fires will receive an appropriate management response found on designations in the map in Appendix A of the RLRMP (and Appendix A of this plan) and based on values at risk and the conditions under which the fires occur. The AMR map was developed by interdisciplinary input considering the Management Area designations described in Chapter 2 of the RLRMP and the Final Alternative D map, and considering existing developments and values at risk. *Although the RLRMP allows for wildland fire use (including NEPA analysis), and the Fire Management Plan has Appendix V guiding this type of fire, the 2009 Guidance for Federal Fire Policy Implementation document has negated the use of Wildland Fire Use, though fires can be managed for multiple objectives.* Areas to be considered for more strong ecological benefit of fire (less values at risk) are identified by the "prescription" strategy on the AMR map. Wildland Fire Use planning and implementation documents are found in Appendix V.

## D. Description of Wildland Fire Management Strategies by Fire Management Unit

The following three Fire Management Units (FMUs) have been identified as required in the new Fire Program Analysis (FPA), and were based on common landscape traits (including access), the response of suppression forces tied to historic fire occurrence, and the layout of Management Area Prescriptions from the RLRMP. The FMU map is displayed in Appendix A of this plan.

### 1. Wilderness FMU

#### a. Identifier – Bighorn Wilderness FMU

The Wilderness FMU consists of the area included within the Cloud Peak Wilderness Area (Mgmt. Areas 1.11 and 1.13), the Rock Creek recommended wilderness (1.2), and roadless/backcountry recreation areas adjacent to the Wilderness (1.32, 1.33, 3.31). These areas are identified on the Final Plan Alternative Map – Alternative D, that accompanies the RLRMP. The Fire Management Zone in terms of WFSA that is primarily related to this FMU is the “Cloud Peak Wilderness Contiguous”. For strategy specific information relative to the Cloud Peak Wilderness, refer to the following **definition:**

From Section 2(c) of the Wilderness Act it states “A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this chapter an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation.”

#### b. Description

This area is managed for a range of wilderness opportunities from pristine wilderness through transition wilderness and backcountry recreation. A considerable amount of this FMU is above timberline and is composed of bare soil and rock. The fuels in the area below timberline consist primarily of stands of Lodgepole pine, Engelmann spruce, Subalpine fir, and some aspen.

#### c. Strategic and Measurable Management Objectives

- 1) Suppression action will be taken for all wildfires within this FMU, until specific Wildland Fire Use plans are developed.
- 2) Suppression strategy and tactics employed shall contain strong consideration for impacts on the wilderness and backcountry values. Suppression should emphasize use of natural control features such as ridges, rock outcrops, rivers, etc. and recognize the need for cost effectiveness.

#### d. Fire Management Policy **specific to Cloud Peak Wilderness** (majority portion of Bighorn Wilderness FMU):

The fire suppression policy for the Cloud Peak Wilderness is to conduct all fire management activities in a manner compatible with overall wilderness management objectives. The fire management objectives in wilderness, as stated in the Forest Service Manual (FSM2324.21) are:

Permit lightning caused fires to play, as nearly as possible, their ecological role within the wilderness.

Reduce to an acceptable level the risks and consequences of wildfire within wilderness or of wildfire escaping from wilderness.

The goal of fire management in the Wilderness is best achieved when the effects of fire as a natural agent are observed, and the affects of fire management activities are not.

Fire managers shall give preference to using methods and equipment that cause the least:

1. Alteration of the wilderness landscape
2. Disturbance of the land surface
3. Disturbance to visitor solitude
4. Adverse effect on other air quality related values

If suppression of wildfire in Wilderness is necessary, preference must be given to those suppression methods and strategies that provide for firefighter and public safety first and that have the least physical impact on the land consistent with other management considerations. Minimum Impact Management Action Guidelines (Refer to Appendix O) should also be recognized. Preference will be given to use of natural fuel breaks. In some cases direct attack with a minimum width hand line, or wet line using power driven pumps and hose may be most cost-effective and cause the least overall damage to Wilderness values. Desired conditions for use of natural fire in designated wilderness will be described in the Fire Management Use section of the FMP to be developed in a future year.

A Wilderness Resource Advisor will be assigned to all fires within or expected to enter the Cloud Peak Wilderness. Refer to Appendix O for the list of qualified wilderness resource advisors. Wilderness resource advisors will be listed in the Delegation of Authority letter for any fire requiring suppression in the wilderness.

The following chart shows the delegated authorities for approving motorized and mechanical equipment within Wilderness on the Bighorn National Forest. The same approvals also occur (per 7/1/2005 R2 Memo) for Wildland Fire Use situations.

<b>Motorized/Mechanical Request</b>	<b>Authorized for Non-Emergency</b>	<b>Authorized for Emergency</b>
Chainsaws, Pumps	Regional Forester	Forest Supervisor
Helicopters-Fixed Wing <ul style="list-style-type: none"> <li>▪ Retardant Delivery</li> <li>▪ Bucket Work</li> <li>▪ Personnel Shuttle</li> </ul>	Regional Forester	Forest Supervisor
Transport and Supply by aircraft, air drop and mechanical transport	Regional Forester (2326.1)	Forest Supervisor
Helispot construction	Regional Forester	Forest Supervisor
Motor Vehicle	Regional Forester	Forest Supervisor
Tractors (Heavy Equipment)	Regional Forester	Regional Forester
Management Ignited Fire in Wilderness	Regional Forester	N/A
Wildland Fire Use in Wilderness	N/A	Forest Supervisor (where WFU plan is established)
Burned Area Emergency Rehabilitation (BAER) projects in Wilderness	Regional Forester	Forest Supervisor

**When considering mechanical transport or motorized equipment use for fire suppression in wilderness, the following criteria should be used to evaluate whether or not Approval or Disapproval is appropriate for the recommended actions.**

APPROVE use of Motorized Equipment (chainsaws, portable pumps, etc.) when:

- There is a threat to life, property, public or firefighter safety that can only be mitigated with the use of motorized equipment.
- Potential effects to cultural and natural resources will be outside the range of acceptable effects, unless motorized equipment is used.
- Rate of spread is 10 chains per hour or greater in timber fuel models.
- Fuel loading is greater than 30 tons per acre.

- Technically difficult trees (usually "C" level of difficulty) must be felled for firefighter safety, and where using a crosscut saw substantially increases risk to the sawyer.
- Use of motorized equipment will result in substantially less impact to the wilderness resource (i.e. using pump to establish a "wet line", versus using hand tools to dig line).
- Weather patterns, potential fire behavior, and limited resource availability (e.g. National Planning Level V) indicate a long term fire suppression effort is not feasible to manage.

APPROVE use of Mechanized Transport (off-highway vehicles, wagons, carts, helicopters, etc.) when:

- There is threat to life, property, public or firefighter safety that can only be mitigated with the use of mechanized transport.
- Potential effects to cultural or natural resources will be outside the range of acceptable effects, unless mechanized transport is used.
- Use of mechanized transport will result in substantially less impact to the Wilderness resource (i.e. Using helicopters to ferry crews to / from an off site base camp, versus establishing a camp in a sensitive environment).

DO NOT APPROVE use of Mechanized Transport to retrieve firefighters or their equipment from Wilderness unless:

- On going fire situation dictates prompt retrieval of specialized personnel or equipment, and there is no other practical means of retrieval.

APPROVE the use of fire retardant chemicals in wilderness when:

- There is threat to life, property, public or firefighter safety that can only be mitigated with the use of fire retardant chemicals.
- Potential effects to cultural or natural resources will be outside the range of acceptable effects, unless fire retardant chemicals are used.
- Use of fire retardant chemicals will result in substantially less impact to the Wilderness resource (i.e. using fire retardant to substantially extinguish a fire, versus using handcrews and motorized equipment). Remember retardant dyes can last for years on rocks and logs, dependent on weather an exposure.

Construction of Helispots within Wilderness:

Per FSM 2326.04c. "The Forest Supervisor approves the use of motorized equipment or mechanical transport under condition described in section 2326.1".

If permission is granted, consider the following:

- Consider using helispots outside the Wilderness whenever feasible.
- Provide for risk assessments and safety.
- Use natural openings where possible, or areas that minimize needed tree felling.
- Consider the visual impacts of potential locations; when possible, locate helispots away from main trails and popular attractions.
- Where possible, select locations that can be easily restored to their natural appearance.

DO NOT APPROVE Burned Area Emergency Rehabilitation (BAER) projects within Wilderness unless:

- Necessary to prevent an unnatural loss of the Wilderness resource.
- To protect life, property, and other resources values outside of wilderness.

The Forest will make provisions for fighting fires in wilderness when motorized or mechanized equipment cannot be used. This would include having alternate suppression equipment available, special training for fire suppression crews, and using MIMA tactics.

e. Management Constraints or Criteria Affecting Implementation in non-wilderness:

Constraints associated with other Management Areas (besides wilderness) are listed in the RLRMP (See Appendix A of this plan). In general, as with wilderness, similar approvals for motorized equipment use exist for other Management Areas within this FMU.

f. Historic Fire Occurrence

The historic fire return interval for Lodgepole pine on the Bighorn NF ranges from 70 to over 100 years with the fires generally being stand replacement fires. Historic fire return interval for Engelmann spruce/Subalpine fir/aspen stands was in excess of 100 years and these also were stand replacement type fires. After 1900, aggressive fire suppression began which has undoubtedly altered fire return intervals to some extent. Records show that on the Bighorn, relatively few fires account for the majority of the acres burned which indicates little correlation between the number of fires in a given year and the acres burned. Severe fire years have historically been the result of prolonged periods of drought, which created fuel conditions ripe for large fires. Statistically, about 50% of the fires occurring on the Forest are human caused which is unusually high compared to other forests in the west.

g. The Fire Management Situation

1) Weather patterns influencing fire behavior and historical weather analysis.

The weather on the Bighorn National Forest is generally characterized by cold winters, warm summers, low to moderate precipitation, low relative humidity, rapid evaporation, and abundant days of sunshine. Average precipitation amounts vary from approximately 20 inches in lower elevations to over 35 inches at elevations above 9,000 feet. Large fires on the Bighorn are frequently associated with wind events. The prevailing winds in the Bighorn Mountains are westerly to southwesterly

2) Fire Season Determination

The fire season on the Bighorn begins when the winter snows melt and when green-up occurs at the lower elevations. The Seasonal Analysis of Fires utility in the Personal Computer Historical Analysis (PCHA) was used to determine the dates for initial attack planning and calculation of the Fire Fighting Production Capability (FFPC) target. The fire season start and stop dates are June 15 through September 30. These dates are used as guidance for staffing initial attack resources on the Forest, however, it must be noted that large fires can and occasionally do occur outside these dates in which case permanent employees and local cooperators with proper line qualifications will be used to fight these early/late season fires. Because this FMU is predominantly high elevation, the fire season is shorter than the remainder of the Forest due to late snowmelt in the spring/summer and early arrival of snow cover in the fall.

3) Fuel conditions in the FMU likely to influence fire behavior.

The fuel types within this FMU typically have long fire return intervals and when fires do occur, they tend to be high intensity, stand replacing fires. Aggressive fire suppression over the past century has likely altered the fire return interval in some of the timber stands within this area, which has added some degree of increased fuel loading.

4) Fire regime alteration

The timber stands within this FMU fall within Fire Regimes 4 and 5 with a condition class of 1 or 2 indicating some have missed a fire return interval. This is not as significant in these fire regimes since fires tend to be stand replacing even when they are within regular return intervals.

5) Control problems and dominant topographic features

The dominant topographic and fuel feature in this FMU is the large amount of bare soil and rock, which will not carry fire. The timbered terrain varies from relatively flat to very steep and rugged. Some of the area has very continuous fuels with few natural barriers to stop fire spread. The high intensity fires typical of large fires in these fuel types would present a high resistance to control. Restrictions on use of motorized equipment and air resources could present challenges in suppression actions.

6) Other elements of the fire environment affecting management

There are wildland urban interface issues on the perimeter of FMU that need considered in any suppression or wildland fire use response.

## 2. Bighorn Forest North and Bighorn Forest South

a. Identifier – Bighorn North and Bighorn South

These FMUs are comprised of all areas within the boundaries of the Bighorn National Forest, excluding the Bighorn Wilderness FMU. They are split according to road accessibility from suppression force locations (north to south). The Fire Management Zones (FMZ's) associated with these FMUs in terms of the WFS process include the "Face of the Bighorns" and "Short Needle Conifers and Meadows".

b. Description

These areas are managed for a full range of multiple uses (except wilderness). These FMUs include stands of Lodgepole pine, Engelmann spruce, Subalpine fir, and aspen in the higher elevations. Limber pine, Douglas fir, Rocky Mountain juniper, Sagebrush/Grass, and Ponderosa pine are the predominant cover types in the remainder of the area.

c. Strategic and Measurable Management Objectives

Suppression action will be taken for all wildfires within this FMU, until specific wildland fire use plans are developed for areas such as Little Bighorn River where fire use may be appropriate.

d. Management Constraints or Criteria Affecting Implementation

Refer to Appendix A of this document for management constraints applicable to the Management Areas represented in these FMUs. Cost effectiveness will be a consideration in suppression actions.

e. Historic Fire Occurrence

Because this FMU includes all fuel types found on the Bighorn, historic fire return intervals vary from 10 to over 100 years, depending on fuel type. After 1900, aggressive fire suppression began which has undoubtedly altered fire return intervals to varying extents. Records show that on the Bighorn, relatively few fires account for the majority of the acres burned which indicates little correlation between the number of fires in a given year and the acres burned. Severe fire years have historically been the result of prolonged periods of drought, which created fuel conditions ripe for large fires. Statistically, about 50% of the fires occurring on the Forest are human caused which is unusually high compared to other forests in the west.

f. The Fire Management Situation

1) Weather patterns influencing fire behavior and historical weather analysis.

The weather on the Bighorn NF is generally characterized by cold winters, warm summers, low to moderate precipitation, low relative humidity, rapid evaporation, and abundant days of sunshine. Average precipitation amounts vary from approximately 15 inches in lower elevations to over 25 inches at elevations above 9,000 feet. Large

fires on the Bighorn are frequently associated with wind events. The prevailing winds in the Big Horn Mountains are westerly to southwesterly.

2) Fire Season Determination

The fire season on the Bighorn begins when the winter snows melt and when green-up occurs at the lower elevations. The Seasonal Analysis of Fires utility in the Personal Computer Historical Analysis (PCHA) was used to determine the dates for initial attack planning and calculation of the Fire Fighting Production Capability (FFPC) target. The fire season start and stop dates are June 15 through September 30. These dates are used as guidance for staffing initial attack resources on the Forest, however, it must be noted that fires can and occasionally do occur outside these dates in which case permanent employees and off Forest resources will be used to fight these early/late season fires.

3) Fuel conditions in the FMU likely to influence fire behavior.

Aggressive fire suppression over the past century has resulted in altered fire return intervals which range from very significant in fuel types such as ponderosa pine and sagebrush/grass which historically have short fire return intervals to less significant in Lodgepole pine, Engelmann spruce, and Subalpine fir which have a much longer fire return interval. Thus, fire suppression has added varying degrees of fuel loading through missed fire return intervals, which will increase the intensity and severity of fires.

4) Fire regime alteration

Fire regimes 1-5 are all represented within this FMU. Fire suppression has had the effect of increasing fuel loading in all fire regimes, but to varying extents.

Fire regime 1, is represented by the ponderosa pine cover type. Since most of the ponderosa stands have missed 2-3 fire return intervals they are in Condition Class 2 or 3. Fires may be uncharacteristically intense, and likely stand replacing instead of understory burns.

Fire regime 2 (sagebrush/grass) and fire regime 3 (Limber pine, Douglas fir, and juniper) may have missed 1-2 fire return intervals putting them into Condition Class 2, which will cause fires to be more intense than historic fires.

Fire regime 4 (lodgepole pine) and fire regime 5 (Engelmann spruce, Subalpine fir) have either missed one fire return interval or are near missing one return interval, putting them into Condition Class 1 or 2. Because the historic fires in these fuel types are stand replacement, the effects of fire suppression on expected fire intensity is not as evident.

5) Control problems and dominant topographic features

Since these FMUs cover the majority of the Forest, they encompass a wide range of topography, from relatively flat to very steep, rugged terrain incised by deep canyons. Topography and lack of road access can both contribute to control problems. In addition, there are vast areas of fuels, especially in the lodgepole pine zones that provide expanses of unbroken fuels that would contribute to fire spread and would be quite resistant to control under severe burning conditions.

6) Other elements of the fire environment affecting management

Although the Bighorn is not heavily impacted by wildland urban interface, there are interface issues that must be recognized. The wildland urban interface on the Bighorn ranges from the community of Story to ski resorts to scattered cabins and summer home groups. Considerable private residential development is occurring adjacent to the southeast corner of the Forest. All these represent significant values at risk, which increases the complexity of suppression efforts when fires threaten those areas.

- 7) Recent (2005) analysis indicates that 80% of fires on the Forest occur on single fire days, 13.5% on two fire days, 4% on 3 fire days, and less than 2% on 4 or more fire days which indicates that there is not a strong likelihood of multiple fire days.

## SECTION IV – WILDLAND FIRE MANAGEMENT PROGRAM COMPONENTS

### A. General Implementation Procedures

Implementation of wildland fire management components will be consistent with fire management capabilities and will consider the current and predicted conditions affecting fire behavior.

*Decisions* based on historical fire behavior indices should be considered to most efficiently aid in appropriate management responses for suppression.

Direction for wildland fire use (fires managed to meet resource objectives) implementation is included as Appendix V. However, this type of fire will now be managed in accordance with the 2009 Federal Fire Policy Guidance document.

### B. Wildland Fire Suppression

Fires will be suppressed at a minimum cost considering firefighter and public safety, benefits, and values to be protected, consistent with resource objectives as stated in the Revised Bighorn National Forest Land and Resource Management Plan, 2005.

#### 1. Safety

**THE BIGHORN NATIONAL FOREST IS COMMITTED TO SAFE OPERATIONS IN ALL ACTIVITIES REGARDLESS OF THE RESOURCE FUNCTIONAL AREA. FOR THIS REASON, SAFETY IS THE PRIMARY OBJECTIVE OF ALL PERSONNEL AT ALL TIMES ON ALL FIRE ACTIVITIES ON THE BIGHORN NF OR WHILE ON OFF-FOREST ASSIGNMENTS. BIGHORN NF EMPLOYEES WILL NOT COMPROMISE SAFETY DURING ANY WORK ACTIVITIES.**

Fire management work is one of the most hazardous jobs encountered by Forest Service personnel. The Forest will embrace the Foundational Doctrine for Fire Suppression Activities to help ensure that our safety culture in the fire arena is paramount. Refer to Appendix A for a copy of this doctrine. The doctrine will be communicated to crews and their supervisors as part of annual refresher training. The Incident Commander and all supervisors will always put the safety of his/her personnel first. **There is no fire situation so serious that the life of anyone should be risked in order to get to the fire sooner, get the fire out quicker, protect improvements, or to keep the burned areas smaller.**

All employees will abide by the 'Safety First' policy. Each employee has a responsibility for his/her personal safety and that of fellow employees. It is also everyone's responsibility to call attention to any unsafe practice that is observed. Appendix U to this Plan contains additional fireline safety related material.

- a. All fire personnel shall understand and follow the '10 Standard Fire Fighting Orders' and the '18 Watch-Out Situations' and shall practice the principles of "Lookouts, Communications, Escape Routes, Safety Zones (LCES)." These basics of fire fighting survival will be utilized as a checklist for supervisory personnel on the fire, and as a source for other fire line personnel to pose questions to supervisory personnel whenever they have concerns about their personal safety. The Bighorn National Forest Supervisor will not tolerate any deviation from the above basics.
- b. Seat belts shall be used at all times while traveling in any vehicle.
- c. Hardhats, protective clothing, gloves and other personal protection equipment as appropriate, (e.g. eye protection, hearing protection, etc. as dictated by specific situations) shall be worn by all firefighters at all times while on the fire line.
- d. Fire shelters will be worn by all firefighters at all times on all fires or until the fire is controlled and shelters are deemed unnecessary by the IC.

- e. Speed limits and other traffic laws will be obeyed at all times. Speeds will also be reduced for hazardous conditions such as dust, smoke, fog, etc. Signing will be conducted as necessary considering Incident Sign Installation Guide (MTDC 2005). See Appendix Q (or front pocket of FMP).
- f. Safety rules and standards will be emphasized in all fire training.
- g. Every fire line supervisor will be issued appropriate "Fire Danger Pocket Cards" for the Bighorn NF to display and heighten awareness of burning conditions. Current conditions and threshold should be considered when making fire management decisions. The pocket cards are posted on the CDC web page. Refer to Appendix K.
- h. Work/rest guidelines will be emphasized, followed, and monitored throughout the season (2/1 work/rest). During initial attack, this may be exceeded as approved by the Incident Commander in accordance with the Interagency Standards for Fire Operations (Red Book).
- i. The line officer, fire program manager, and/or the health and safety program manager will inspect a minimum of 10% of the Type 3, 4, and 5 incidents and document the inspections (sample inspection form found in Appendix I as part of Bighorn NF Incident Management Log). After Action Reviews will be conducted on every incident (See Appendix U).

## **2. Range of Potential Fire Behavior**

Based on historic fire occurrence, the Forest averages 21 fires per year. Even though this occurrence is quite low, average burned acreage is approximately 1200 acres per year. Approximately 40-50% of Bighorn fires are human-caused with the remainder being natural ignitions. Most of the human-caused fires are the result of abandoned campfires and equipment use. Most fires burn at a Fire Intensity Level 1 (FIL) corresponding to flame lengths of 0-2 feet. Large fires in the Bighorn are typically crown fires in timber at a FIL 6 with corresponding flame lengths over 12 feet. In the past, the Forest has experienced large fast moving fires (often crown fires) that consume large acreages in a single burning period. These types of fires are not a common occurrence and are usually wind driven events. Although these are not a common occurrence, the behavior exhibited is typical of the lodgepole and spruce/fir fire regimes which are the predominant timber types on the Bighorn.

### 3. Preparedness Actions

#### a. Fire Prevention, Community Education, Community Risk Assessment, and Other Community Assistance Activities (Firewise)

The objective of wildfire prevention is to be cost-efficient in the expenditure of fire suppression funds and to keep damages from human-caused fires to levels commensurate with resource management objectives and fire management direction.

Human-caused wildfires are a difficult problem to resolve. Abandoned campfires are the primary source of human-caused wildfires on the Forest and are difficult to prevent because of the large number of dispersed recreation sites. Prevention patrols are used to try to reduce the number of escaped fires through education of Forest visitors and through detection. These patrols will be conducted using fire crews, recreation personnel, and law enforcement personnel. Use of patrols will be emphasized when periods of very high fire danger persist on the Forest.

Other prevention priorities are coordination with adjacent landowners and homeowner groups, coordination with local entities in the development of Community Wildfire Protection Plans, and educational programs within the schools and local communities.

#### i. Annual Prevention Program

The Forest has a Fire Prevention Technician position identified on the organizational chart although funding has not allowed for filling of the position. As a result, most prevention activities are conducted by engine and hand crew module personnel.

Fire prevention activities conducted by the Forest Supervisor's Office consist of:

- A. Providing funds to local units to purchase Cooperative Forest Fire Prevention (CFFP) materials.
- B. Prevention messages, closure notices, and related press releases, etc.
- C. Program oversight and support.

Following are some of the contacts for distribution of CFFP materials:

- Forest User Contacts
- Public Contacts at Meeting
- School Presentations
- Wildland/Urban Interface Contacts
- Forest Permittee Contacts
- Media Contacts and Special Prevention Messages
- Special Use Permits

The Forest participates in the Smokey Bear Program to maintain public awareness of the need to prevent wildfires. The Forest FMO coordinates the program with the districts and the State Forest Service. It is the responsibility of the districts/zones to develop a program to promote fire prevention within their local communities.

The Forest has three Smokey Bear Costumes that are available for checkout from the Supervisor's Office. Any use of this costume must be in strict compliance of Guidelines for Smokey Bear Appearances and Policy for Use of Smokey Bear Costume in the Wildfire Prevention Handbook (FSH 5109.18)

Direct Contacts---Contact with forest visitors at the Supervisor's Office will be through the Front Desk. Fire danger information should be given to all forest

visitors. Information should include current and expected fire danger and any restrictions and/or closures.

Indirect Contacts---These contacts are made through the media. The contacts should be made with the help of the Forest Planning Staff Officer. The contact media may include radio, television, and newspapers. Press releases, informal contacts, and feature articles should be used as necessary to get fire prevention and fire danger messages to the public. These messages should be coordinated with cooperating agencies and Cody Interagency Dispatch Center (CDC). A major avenue to disseminate fire danger information will be through use of the forest web site.

Funding for the prevention program is to be used for a variety of programs on the forest and in surrounding areas averages \$6,000 per year depending on the funding level for the Forest. Materials for the CFFP programs will be available at the information desks of all units and the visitor centers.

The Forest has structures and improvements within the forest. All federal structures and improvements should meet county building codes. If county codes do not address wildfire conditions then it is the Forest's responsibility to address and correct these conditions on and around forest service structures. Proper measures should be taken to prevent the loss of these structures and improvements due to wildfire. The Forest FMO, District FMO, or appointed representatives in conjunction with Facility Managers will conduct routine inspections of all sites to identify potential risks and hazards. If sites are found to be unacceptable, corrective actions should be taken immediately to reduce or mitigate the risks and hazards. Sites will be maintained to prevent fires.

It is the Forest's responsibility to set an example for the public and to educate them on protecting their properties in conjunction with state and local agencies.

An aggressive advisement and inspection program has been initiated to work with special use permittees on protecting their summer homes from wildfire. This program is in conjunction with the Forest's demonstration program performed by fire management and special use administrators to protect its own structures and improvements from wildland fire.

The Forest has many developed and dispersed recreation areas. The developed sites will have approved fire prevention plans. These sites should be inspected not only for fire risk and hazard issues within the recreation area, but also for potential risk and hazard from fire in adjacent areas. Dispersed sites should also be inspected for hazard and risk. The Forest FMO or AFMO, District FMOs, or District Recreation Staff should conduct these inspections.

Right-of ways are numerous on the Forest and many require inspections. During drier than normal years particular attention should be given to high hazard and risk areas should fire occurrence increase.

Public roads are numerous and offer many opportunities for dispersed recreation, increasing the need for public contact regarding fire prevention during the camping season.

Power lines run through all of the districts. They should be inspected periodically for vegetation that could fall across the lines. (Power Line Fire Prevention Handbook FSH 5109.21)

## ii. **Special Orders and Closures**

Authority – The Regional Forester and Forest Supervisor can issue restrictions and closures of National Forest Lands. Fire restrictions or closures will normally be coordinated with and communicated with adjacent jurisdictions.

The purpose of fire restrictions and closures is to reduce the risk of human-caused fire during periods of extended extreme fire danger.

Guidelines Applicable to all fire restriction areas:

Restrictions should be implemented only after all other reasonable prevention measures have been taken. These measures may include increased signing, public contacts, media campaigns, etc. Fire restrictions should be considered only when very high or extreme fire danger is predicted to persist. Other considerations are the level of human-caused fire occurrences being experienced, potential high-risk occasions (holidays) and large fire activity occurring on the Forest or a District. Emergency closures have an extreme impact on the public and fire agencies and are discouraged except under the most severe conditions. They cannot be justified by fire danger alone and should be driven by high potential for human-caused fires, severe shortages of resources, numerous large fires, etc.

Implementation – the following guidelines will be used to determine when restriction will be placed into effect:

No restriction – Operational all times of the year, except when superceded by a restriction. Fire Danger index is low to moderate.

Partial restrictions – The Forest is responsible for implementation (Stage 1 and Stage 2). The Forest and Districts are responsible for enforcement of the restrictions. *Consideration* will be given to implementing partial restrictions if four or more of the criteria are present.

1. Fire Danger index level rating is very high or greater.
2. 1000 Hour Fuel Moistures are above 90<sup>th</sup> percentile.
3. ERC (energy release component) above 90<sup>th</sup> percentile.
4. Fires are affecting available suppression resources making adequate initial attack difficult.
5. Area is receiving a high occurrence of human caused fires.
6. Adverse fire weather conditions and risks are predicted to continue.
7. Forest Preparedness Plan level three or greater
8. Regional Preparedness Plan level four or greater.
9. National Preparedness Plan level four or greater.

Full restrictions - Area closures will be considered for isolated incidences when fire danger is very high to extreme and five or more of the above criteria are met and expected to continue for a week or more. A communication/enforcement plan is needed. Area closures should only be considered when Stage 1 and 2 (partial) restrictions are not effective and human-caused fires are still occurring.

Rescinding - any restrictions or closures should be rescinded when the criteria that implemented the action have lessened. These criteria should be reviewed carefully and frequently. Procedures for initiating and/or rescinding fire restrictions are as follows:

When the factors identified above approach critical levels for an area, begin considering the initiation of a fire restriction. Agency dispatchers and lead fire management personnel will be responsible for monitoring these conditions.

When conditions are identified as critical, the lead fire management personnel within the fire restriction area will confer, review conditions, recommend that a fire restriction is necessary for their area of responsibility and include a start date. When the Forest applies a restriction, they will coordinate with other agencies. The Planning Staff Officer is responsible for

the media notification that a fire restriction is in effect and for developing a schedule and plan for public notification.

Examples of Closure Orders are found in Appendix M.

### **iii. Industrial Operations and Fire Precautions**

The Timber Sale Administrator is responsible for the fire prevention inspection of the Timber Sale Contractor equipment and sale area. Inspection of equipment is in accordance with the timber sale contract and the spark arrester handbook. The inspector should be trained to conduct equipment inspections.

Special Use Operations should be inspected by a trained individual with knowledge of the specific operation methods, equipment and spark arresters.

Spark arresters should be checked on all internal combustion engines that operate on the forest. Prevention technicians, sale administrators and any other operation inspectors of equipment should carry a spark arrester guide. Before any operation begins all equipment should be inspected.

Inspection of motorized equipment and/or woodstoves should be performed during visitor contacts with individuals who are using these items. The inspector should follow procedures listed in the spark arrester guide. (Spark Arrester Guide-General Purpose and Locomotion, NFES NO. 1363 and Spark Arrester Guide Multi-position Small Engine, NFES NO.2363)

### **b. Annual Fire Training Activities**

A yearly fireline refresher is required for all fireline positions as required by the FSM 5135.5 - Annual Refresher Training to include Entrapment Avoidance, Fire Shelter Deployment, 10 Standard Fire Orders, 18 Watch Out Situations, LCES, Risk Refusal, fatigue awareness, etc. All fireline qualified personnel will be expected to have a working knowledge of fire behavior and fire fighting tactics.

Fire suppression training sessions for minimum fire fighter qualifications will consist of S130, S190, L180, I-100, Standards for Survival and the subjects described above. As time permits, these sessions will be held prior to June 15 for all new Forest personnel. Fire training will continue throughout the season for Forest personnel, both in formal sessions and on-the-fire experience.

Personnel who have specific training needs should advise their FMO of their interests. Funding for training will be granted based on Forest needs and available dollars.

#### **i. Qualifications and Needs Assessment**

1. The Bighorn Incident Qualification (Red) Card Committee will meet annually to review Bighorn NF employee fire training/experience records and validate qualifications. See Committee Guidelines in Appendix E.
2. Develop and maintain a Fire Suppression Organization to suppress 97% of all wildfires in the initial attack phase.
3. Develop and maintain a cadre of qualified personnel for Type III Incident Management Teams within the dispatch zone to manage fires exceeding the Forest's capabilities, and/or until the arrival of a Type I/II Incident Management Team.
4. Develop and organize a cadre of qualified personnel to provide Forest level support (Logistical Support Team, LST) to all suppression efforts.
5. In conjunction with CDC and interagency zone partners, develop and maintain qualified personnel to conduct the Forest's routine aviation program.
6. Annually assist with and provide support for the organization of a 20 person Type II Bighorn Basin Interagency Crew.

7. Develop and maintain a cadre of qualified personnel in support of the Forest prescribed fire program.
8. Certain positions on the Forest require IFPM qualifications before 2009. Therefore, training and experience will be given priority to meet these needs. Additional funding will be needed to meet IFPM requirements above the traditional \$1,500 base level per person.

Develop and maintain a cadre to fill the following positions:

Command	#	Operations	#	Planning	#	Logistical	#	Finance	#
Initial Attack I. C. - Type 4	*8/6	Firefighter	45/50	Fire Behavior Analysts	1/1	Tool and Equipment Specialist	0/2	Personnel Time Recorder	2/8
Initial Attack I. C. - Type 3	4/4	Squad Boss	10/10	Situation Unit Leader	1/2	Ground Support Unit Leader	1/2	Time Unit Leader	0/2
Information Officer	0/1	Crew Boss	8/6	Resource Unit Leader	3/3	Facilities Unit Leader	0/1	Equipment Time Recorder	2/5
Aerial Detection Observer	5/5	Strike Team Leader/Crew	5/6			Radio Operator	4/8		
Fire Investigator	1/2	Divis/Group Supervisor	6/5			Dispatcher Recorder	2/4		
		Dozer Boss	1/2			Support Dispatcher	1/2		
		Engine Boss	5/6			Supervisor Dispatcher	1/2		
		Firing Boss	4/5						
		Falling Boss	2/1						
		Helispot MGR	1/3						
		Helibase MGR	0/2						
		Helicopter MGR	0/2						

- *Note: positions are described by the number available, followed by the # estimated needed.*
- *Some higher lever positions may be represented by a single individual, and thus may not be indicative of actual number of people able to fill all indicated slots.*

### c. Fire Season Readiness

Fire crew, personnel, and equipment readiness checks will be performed following regional guidance (See Appendix C) annually. A completed version of this readiness checklist is maintained in the Sheridan Office in the 5120 files.

Each Zone will maintain fire caches sufficient to support initial attack and first reinforcement resources. Equipment and supplies not stocked in these caches should be ordered through CDC by regular dispatch channels or purchased locally. All requests will be recorded on a Resource Order Form.

The CDC Zone Incident Service and Supply Plan is a separate document completed and available by approximately April 15<sup>th</sup> annually. This Plan includes purchasing agreements for local food suppliers and caterers, contracts for equipment and supplies and listing of key personnel and duties, local sources, and 24-hour contacts. This plan is located at CDC, at the Sheridan office dispatch desk, and at the Lovell and Greybull offices.

The Preparedness Guide, located in Appendix C contains the Forest's preparedness levels with management actions and considerations for each level. Each action specified under a level is in addition to all actions taken in preceding levels. This guide interacts with the Initial Action Dispatch Guide, which displays resources available for dispatch for different fire danger classes for different response areas on the Forest.

The Initial Action Dispatch Guide is located in Appendix P. The Initial Action Dispatch Guide provides direction for dispatching under the five fire danger classes.

### Planning Levels:

The District FMOs, CDC and the Forest FMO or Assistant or Acting will recommend the level. In declaring levels, the following will be considered:

- Current and predicated weather
- Fire danger indicators (ERC, 1000 Hr. fuels moisture, Keetch-Byrum Drought Index, and Haines Index.)
- Resources committed to wildfire (locally and nationally).
- Resources committed to prescribed fire.
- Potential for future needs.

Use the above criteria per the description in the guide for each of the five levels. The actual and predicated preparedness levels will be determined by the Duty Officer for that day. Predicated weather and fire danger levels along with descriptions should be the guide to determining the appropriate level.

These levels are used at the National, Regional and Forest level to determine preparedness. Actual preparedness levels may be changed to adjust to changing conditions.

#### **d. Detection**

The primary detection method on the Bighorn National Forest will be through visitor reports or agency personnel. Aerial reconnaissance flights may be used, but have not proved very worthwhile. Rental agreement aircraft are available for detection flights. Detection flights must be requested through the CDC dispatcher and the Forest Aviation Officer and/or the Zone or Forest FMO.

#### **e. Fire Weather and Fire Danger**

The Forest's normal fire weather pattern is characterized by the following: cool and showery conditions in early to mid-June; warm with a general drying trend and occasional afternoon thunderstorms in late June, July, and August; dry conditions (usually) with cooler nights and high humidity recovery in early September; after mid-September, a snowstorm may be expected at any time, which is usually followed by an "Indian Summer" weather pattern. Lightning normally occurs in the months of June, July, and August, with most lightning subsiding by the end of August. The peak of the fire season is the end of July thru August.

The National Fire Danger Rating System will be used to determine Action classes used with the Forest Preparedness Guide (Appendix C) and Initial Action Guides (Appendix P). Stepped up staffing may be initiated on the authority of the Zone or Forest Fire Management Officer or his/her acting. A decision to step down staffing will be approved by the District Ranger(s).

Appendix K contains the NFDRS operating plan, including a summary of weather station locations and association to Fire Management Zones.

#### **i. Weather Stations**

The Forest maintains and operates five Remote Automatic Weather Stations (RAWS) for fire weather data collection and to provide a basis for forecasting.

The **Burgess Station** is most representative of the coniferous - open park type fuels on the northern end of the Forest in FMZ 2. Fire weather data from this station should be used as a basis for preparedness and staffing for portions of the Medicine Wheel and Tongue Districts.

The **Schoolhouse Park Station** is most representative of the coniferous - open park type fuels on the southeastern end of the Forest. Fire weather data from this station

should be used as a basis for preparedness and staffing for the FMZ 2 areas of the east side of the Powder River District.

The **Mill Creek Station** is most representative of the coniferous - open park type fuels on the west side of the Forest. Fire weather data from this station should be used as a basis for preparedness and staffing for the northern portion of the Tensleep District and all of the Paintrock District.

The **Boyd Ridge Station** is a new station (1998) on the northern edge of the forest. Though it is FMZ 2, it represents the coniferous and grass/sage openings on the northeast end of the forest of FMZ 1 and 2. It rides just above FMZ 1. Fire weather data from this station should be used as a basis for preparedness and staffing for portions of the Medicine Wheel and Tongue Districts.

The **Leigh Creek Station** (1998) is most representative of the coniferous - open park type fuels on the southern and western end of the Forest. Fire weather data from this station should be used as a basis for preparedness and staffing for the FMZ 1 areas of the Southwest side of the Powder River District.

Fire Family Plus software is used to calculate Energy Release Component (ERC) for determining Staffing Guides (90<sup>th</sup> and 97<sup>th</sup> percentile thresholds) based on data from both the new automated RAWS and the older manually operated stations (replaced by RAWS). These thresholds should be calculated/verified annually.

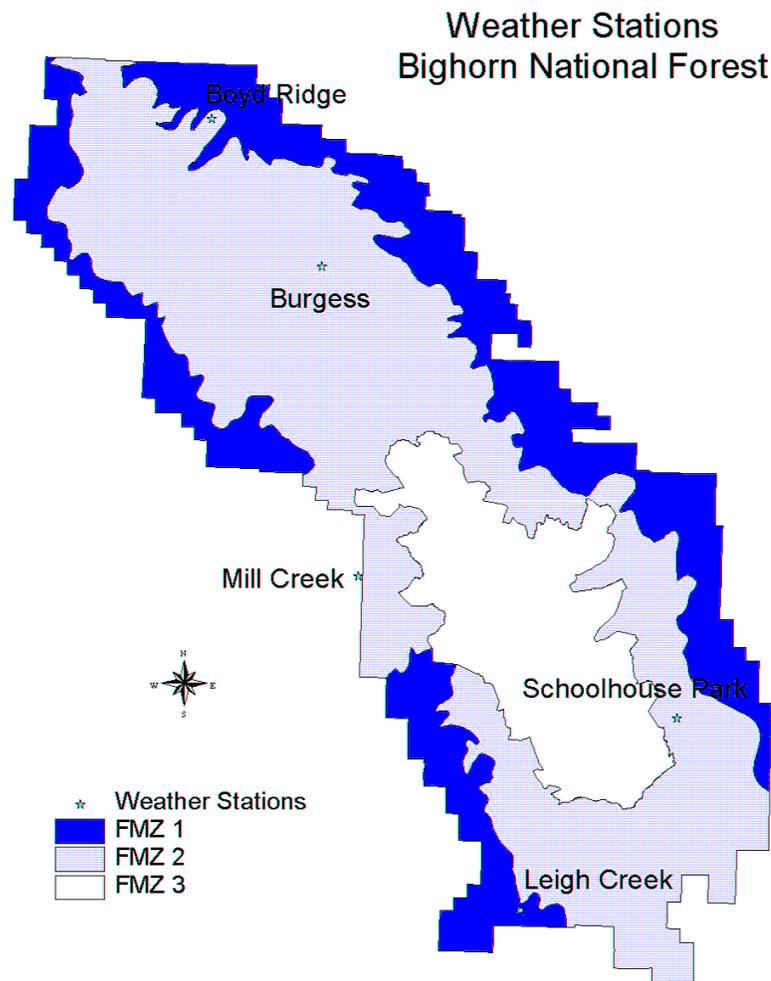
Bighorn National Forest Weather Stations					
Station Name:	School House Park	Mill Creek	Burgess Junction	Boyd Ridge	Leigh Creek
Station Abbr:	SCHLPK	MILLCR	BURGES	BOYDRIDG	LEIGH
Station Nbr	481002	480306	480403	480404	480906
Latitude:	44 18 23	44 27 21	44 47 10	44 56 29	44 06 24
Longitude:	106 58 55	107 26 58	107 32 09	107 42 32	107 13 26
Fire WX Zone	284	284	284	284	284
Elevation (FT.)	8069	8898	7975	7510	8202
Aspect	S	S	SW	SE	S
Site	Ridgetop	Ridgetop	Flat	Ridgetop	Mid-Slope
Slope Class	3	3	3	3	2
Fuel, Climate, & Plant	G3PEY	G3PEY	G3PEY	G3PEY	G3PEY
Fire Danger Indicator	ERC	ERC	ERC	ERC	ERC
90-97%	63/72	66/75	60/68	68/73	70/78
*Normal Green-up	6/01	6/10	6/10	6/01	6/10
County	Johnson	Bighorn	Sheridan	Sheridan	Washakie
Drainage	Mid Clear Crk	Mill Crk	Tongue River	Little Big Horn	Leigh Creek
District	Powder River	Paintrock/ Med Wheel	Tongue	Paintrock/ Med Wheel	Powder River
Raws I.D.	3239F5B2	323A0238	32304060	3249760A	32829234
1 <sup>st</sup> Yr. Open.	1989	1989	1992	1998	1998

Fire weather data from all RAWS stations will be collected and reported into the NFDRS system throughout the fire season. Therefore, the stations must be operational every year between May 1 and October 30 and a permanent fire weather record should be maintained for the Forest's "normal" fire season. Cody Dispatch Center must be notified of green-up dates for each station.

During years where weather conditions result in fire weather conditions earlier or later than the normal season, data will be collected and reported into NFDRS during the early and/or late season as necessary. The need for pre- and post-season operation of the fire weather system will be determined on a year to year basis.

The Forest FMO is assigned responsibility for maintenance of the stations, with District FMOs being delegated stations within their respective zones. This normally involves annual replacement of sensors (on a scheduled basis) and repair for any structural deficiencies such as fences, painting, fuel beds, etc.

Fire weather services for the Bighorn NF (Zone 284) are provided by the National Weather Service (NWS) in Billings, Montana. In addition to the Zone Fire Weather Forecasts the NWS will issue spot weather forecasts, fire weather watches/warnings, and red flag watches/warnings. An annual operating plan guides these services.



**FIRE WEATHER WATCH** - Issued to alert land management agencies to the high potential for development of a Red Flag Event in the next 12-72 hours.

**RED FLAG** - This is issued when critical weather patterns develop that could lead to large and dangerous fires. Conditions that warrant a Red Flag Warning are very high or extreme NFDRS adjective fire danger rating, in combination with the following weather criteria:

- Sustained wind or frequent gusts of 25 mph or greater – and – relative humidity of 15% or lower for three or more hours in a 12 hour period.
- Dry thunderstorm activity (15% coverage or more, constituting a LAL of 6).

- In addition to the basic criteria above, a combination of other elements may result in Red Flag Conditions. Haines Index of 5 or 6, wind shifts associated with cold frontal passage, first significant lightning event after an extended hot and dry period, and poor relative humidity recovery.

A CDC Dispatcher will notify District FMO's, fire crews, and the appropriate County Fire Wardens when the Billings Weather Service forecasts a Weather Warning or Watch. Forest fire preparedness, public information/notification, and staffing will be in accordance with the Preparedness Guide.

**ii. NFDRS and Severity Planning**

See Appendix K for Bighorn NF Fire Danger Operating Plan.

The Fire Danger Index (NFDRS) uses energy release component, 1000-hour fuel moistures, Keetch-Byrum Drought Index, the Haines Index and the Greenness information. This Index is an indicator for severity planning.

Severity planning is for short and long duration. Short duration is the period of one day to a couple of weeks. These conditions are expected to decrease within a short time period. Long duration severity plan is for extended time periods. PREPAREDNESS PLANNING Levels contain information that need to be considered with contingencies.

The Forest and Districts conduct short duration severity planning to prepare for conditions that are in the high fire behavior complexity range or higher. This may be accomplished by increased staffing, repositioning of local forces, contacting other Forests, and increased prevention efforts.

The Forest prepares for long duration severity by requesting severity funding. The funding request is made on an "as needed" basis generally for periods of fourteen days. If the fire severity decreases, these funds should decrease or not be used. The Forest and Districts must anticipate their needs on the following conditions:

1. Fire Danger Index
2. Long Range Weather Forecasts
3. Actual fire behavior and fuel conditions
4. Resource availability both locally and nationally

Severity funding requests are for the amount needed above what is funded in the Forest base program. The Regional Guidelines for severity requests in 2007 are as follows:

1. Request must be approved the Forest Supervisor and submitted to the RO Fire Operations Coordinator by the second Tuesday of the Pay Period for implementation and activation of resources for the following Pay Period. Severity funding is granted on a pay period basis.
2. Request must be submitted using FSM 5190 format responding item by item. Regional Emphasis items are: a) Departure of normals in precipitation, temperatures, and humidities both annual and last 30 days, b) Live Fuel Moisture content, c) Fire activity in last 7 days, d) Fire Restrictions.
3. WIMS-NFDRS station cataloging, green-up factors quality control of data and system management must be in order.
4. Forest must submit resource spreadsheet identifying specific requested resources and basic location by District or Zone. If costs of resource are out of the ordinary, justification needs to occur.

Refer to Appendix B for sample severity request forms.

## f. Policy and Forest Service Manual and Handbook Direction

### Responsibilities

#### Supervisor's Office:

1. Develop and maintain, with the assistance of the Districts, a Forest Fire Management Plan.
2. Develop and maintain provisions for an Initial Management Group (IMG) as part of preparedness planning in support of developing Extended Attack planning.
3. Develop and maintain provisions for a Logistical Support Team (LST) as part of preparedness planning.
4. Manage and implement the various fire related computer programs
5. The Hazmat Coordinator is located in the Forest Supervisor's Office. This person will be the point of contact for all Hazmat issues. All FS vehicles will have a copy of the *Emergency Response Guidebook* that first responders will use as a reference.

#### Districts:

The District Ranger is directly responsible for all fire management activities within the District's protection boundaries; i.e., safety, training, prevention, preparedness, and suppression unless relieved by the Forest Supervisor. Authority to act may be delegated but responsibility will remain with the Ranger.

The following tasks will be handled at the District level:

1. Implement the Forest FMP
2. Review Forest FMP yearly (at least), making recommendations for modifications as necessary.
3. Designate a District Fire Management Officer.

## Fire Management Summary

### 1. Personnel

All employees have a responsibility to be available for assignments during emergencies such as wildland fires. The kind of position filled depends on many criteria including experience, qualifications, and physical abilities and may be a support role to the emergency situation such as filling in for personnel directly assigned to the suppression effort.

Cody Interagency Dispatch Center (CDC) keeps a list of fire personnel and their qualifications (see Appendix J). The listing includes information on qualified and trainee cadre for all available positions. Forest employees maintain availability in the Resource Ordering and Status System (ROSS) either themselves or by indicating their availability to CDC for input to ROSS.

### 2. Staffing

Staffing for 7-day-a-week coverage will be provided by the use of staggered work schedules during the fire season. 24-hour availability will be accomplished through the use of cell phones, radio, and home phone number call lists.

During fire season, each zone **will at all times** have a Duty Officer identified and available who will serve as the initial zone contact for fire/incident coordination. Unless otherwise designated, the District duty officer will be the FMO or the AFMO who is on duty. Prior to fire season, FMO's will provide CDC and the Forest FMO with work schedules indicating duty officer assignments, in addition to crew schedules. Duty officers must be available by telephone (and/or radio) 24 hours a day. Should the assigned duty officer become unavailable (such as accepting fire assignments), they are

responsible to designate a qualified back-up in advance. Qualifications for duty officers will adhere to regional policy as described in Appendix J.

### 3. Positions and Responsibilities

The **Resource Staff Officer** is responsible for the overall management of the fire program at the Forest level.

The **Forest Fire Management Officer** (Forest FMO) is the Forest Fire Management Program Group Leader. This position serves as the Forest staff specialist providing technical and professional oversight of the Forest fire, fuels, air quality, and aviation programs. He/she is responsible for budget administration, program coordination and accomplishment, and monitoring of the above program areas. The Forest FMO acts as the principal fire liaison with all cooperating agencies, the public, and the media in fire related matters. The Forest FMO also serves as the resource coordinator when multiple fires are occurring and provides direction to the Interagency Lead Dispatcher at CDC. This person is assisted as necessary by the Forest AFMO.

The **District Fire Management Officer** and Assistant (MWPR) is responsible for fire management work on the Zone (or District) within the guidelines set by the District Ranger(s) and within Forest direction as provided by the RLRMP and the Fire Management Plan. Duties include: all aspects of District personnel and equipment preparedness, coordination with other Districts and cooperators, District level fire training, suppression, prevention and fire reports.

**District Duty Officers** (as described in part 2 above) are responsible to be the first point of contact for CDC, 24 hours/day. In the event a fire incident occurs that is beyond the comfort level of the duty officer, they will immediately request assistance from the Forest FMO. District Duty Officers assign resources to fires and prioritize fire suppression actions among multiple fires.

A **Unit Duty Officer** may be identified in the event of multiple wildfires occurring. This individual will meet qualifications as outlined in FSM 5126.4 and found in Appendix J.

The **Interagency Lead Dispatcher** is responsible for the following:

- a. Accomplishing daily WIMS inputs and providing outputs to Ranger Districts during the fire season.
- b. Coordination of Resource Orders.
- c. Dissemination of fire information to/from the Fire Management Officers, Incident Commanders, Rangers, and the Rocky Mountain Area Interagency Coordination Center.
- d. Maintaining records of the availability of fire resources and tracking those resources that are committed.
- e. Obtaining priorities from fire staff for resource allocation in multiple fire situations.
- f. Annually reviewing and maintaining the fire qualification record for fire qualified employees.
- g. Auditing and submitting fire reports for each fire.
- h. Taking daily fire weather observations.
- i. Ensuring daily fire weather forecasts are transmitted to fire crews via radio.

The **Incident Commander** (IC) will be the person with the highest operational fire qualifications of the first arriving fire suppression personnel. The initial attack IC, if not qualified for the predicted level of complexity, will be replaced by a qualified IC at the first opportunity.

The primary responsibility of the Incident Commander is to organize and direct all fire resources assigned to an incident toward safe and efficient implementation of the Appropriate Management Response (AMR) in accordance with Line Officer direction and

any approved Wildland Fire Situation Analysis (WFSA), if available. IC's will utilize the Bighorn Incident Management Log (Appendix I) to ensure compliance with agency safety requirements and to document actions taken on the incident.

**g. Aviation Management**

Aviation information, operations and procedures are in the Regional and Forest Aviation Plan located in Appendix L. Starting in 2009, the Forest has delegated Kurt Kleiner (Wyoming BLM) as its Forest Aviation Officer in conjunction with other National Forests in Wyoming.

**h. Communications**

**RADIO PROCEDURES**

Fire messages will have priority over any other use of the radio, except for emergency calls pertaining to serious injuries or potential loss of human life.

During an on-going fire, the District Ranger, District FMO, or Forest FMO/AFMO may establish radio frequency controls based on the plan located in Appendix S.

**FOREST DISPATCHING**

The Forest has no established dispatcher positions on-forest, but funds one fulltime dispatcher at CDC.

Initial Attack

CDC conducts initial attach dispatching for the Forest. Each morning, CDC will be notified by each of the fire crew units of the number of personnel on the crew, work location for the day, and availability of the unit. CDC determines incident resource needs based on location, current and expected fire danger and weather in accordance with the Initial Action Dispatch Guide (Dispatch Cards), Appendix P. Fire resources are dispatched using the 'closest forces' concept based on the Incident Commander's estimate of the resources needed to suppress the fire. Initial dispatches may be made without FMO approval. CDC will inform the FMO and/or duty officer of the incident as soon as possible. Aviation resources should be considered on all days with a fire danger rating of very high or above. Due to the Forest's small workforce, moving resources across District/Zone boundaries for initial attack is commonplace.

Sheridan Office Dispatch

Sheridan Office Dispatch has the following roles:

1. May be used for logistical support during initial attack.
2. May be used for expanded dispatch support to CDC and the fire. Normally, coordination and movement of resources, equipment and supplies for all extended initial attack will be provided by CDC.
3. May be used in a backup dispatch function during periods of equipment (radios) failures or utility outages.

**Daily Operations (Outside of Fire Season)**

Prescribed burning outside of the fire season will be coordinated with the CDC. Arrangements will be made for dispatch operations to occur through CDC or Sheridan Dispatch outside of normal CDC work schedules in support of the prescribed fire activity.

**Daily Operations (During Fire Season)**

The following table displays the operational procedures to be conducted daily during the fire season.

<b>DAILY FIRE OPERATIONS PROCEDURES</b>		
TIME	TASK/PROCEDURES	RESPONSIBILITY

0900-1000	<ol style="list-style-type: none"> <li>1. Fire crews report to CDC on availability and location(s) for the day.</li> <li>2. A copy of the Morning Situation Report will be available via the internet, Rocky Mountain Fire and Aviation Management web site. Updated weather forecast will be available electronically via the internet Billings NWS web site.</li> </ol>	Fire crew Duty Officer
0900-0930	<ol style="list-style-type: none"> <li>1. District FMOs report to CDC the size, cause, and control time of any wildfires occurring during the previous 24 hours. Negative reports are not required.</li> <li>2. Burning Boss and/or prescribed fire manager reports to CDC the acreage, legal location, fuel type, and project name of any prescribed burns (planned or continuing) for the current day. Negative reports are not required.</li> </ol>	District FMOs  District FMOs
1000-1100	<ol style="list-style-type: none"> <li>1. CDC Dispatcher reports the wildfire and prescribed burning activity to Rocky Mountain Area Coordination Center (RMACC) by including the forest information on the Wyoming Situation Report. <ol style="list-style-type: none"> <li>a. Size, cause and status of any wildfires occurring in the previous 24 hours.</li> <li>b. Acreage, legal location, and fuel type of any prescribed burns planned for the current day.</li> </ol> </li> <li>2. Broadcast of morning weather. The weather narrative, applicable zone forecast, extended forecast, predicted staffing classes, and fire danger ratings will be read over the Forest radio by the Dispatcher.</li> </ol>	CDC    CDC
1300-1400	<ol style="list-style-type: none"> <li>1. RAWs stations report the current state of the weather to the CDC Dispatcher by 1345.</li> <li>2. CDC Dispatcher will input weather observation data into the WIMS system no later than 1415.</li> </ol>	CDC
1600-1700	<ol style="list-style-type: none"> <li>1. Broadcast of afternoon weather. The weather narrative, applicable zone forecast, extended forecast, predicted staffing classes, and fire danger ratings will be read over the Forest radio by the Dispatcher.</li> <li>2. Copy of the weather narrative will be available via the internet, Billings NWS web site. Zone forecasts, observed fire danger indices, and predicted fire danger indices will be available via the internet, Rocky Mountain Fire and Aviation Management web site.</li> </ol>	CDC
1700-1800	<ol style="list-style-type: none"> <li>1. Any fire activity will be reported to RMACC by 1730. Negative reports are not required.</li> </ol>	CDC

\*Updated 4/16/03 to reflect current operating procedures (gr).

**i. Lights, Sirens, and Vehicle Marking (Identifiers)**

Pursuant to agency policy and direction, and regional guidance, the Forest will use NFPA approved light and siren packages for engines, hotshot vehicles, hand crew vehicles, and FMO vehicles. The lights and sirens are **not to be used** for running “hot” (to use through evading traffic or stop signs, red lights). This equipment is intended for use in smoke or low visibility situations to prevent collision accidents. Thus, there is no need to document or certify drivers for use of the lights, as allowed for in agency policy (FSM 5126.5 and 5127.1).

Vehicle markings for Forest fire vehicles will be tiered to regional guidance (R2 Resource Identifiers May 2007), which allows for Forest discretion in marking vehicles. Fire engines and hotshot vehicles will be marked according to the guidance in terms of unique identifiers. All other fire vehicles (crew, FMO) will only have baseline markings (FIRE, reflective stripes, WYBHF) without unique identifiers.

This Forest policy was approved by the Forest Leadership Team on 3/5/08.

## **Initial Attack**

In all initial attack actions firefighter and public safety are the number one priority. Incident Commanders on all initial attacks will utilize the Cody Dispatch Zone Incident Management Log (See Appendix I) to ensure safety and hazard abatement issues are addressed.

Initial attack is an aggressive suppression action consistent with firefighter and public safety and with values to be protected.

Initial attack forces are made up of the first suppression personnel to arrive at a fire plus reinforcements arriving during the first burning period. A qualified IC will be designated for all fires.

All on-duty District engine modules and hand crews will be available to respond as initial attack resources, and non-fire funded field personnel who are red carded should have their firefighting gear with them to assist with initial attack.

### **a. Information Used to Set Initial Attack Priorities**

The Forest Supervisor has delegated the management of the Forest fire program to the Forest Resource Staff Officer who will establish priorities and coordinate fire suppression activities on the Forest through the Forest FMO.

The District Ranger is directly responsible for suppression activities within the District protection boundaries, unless relieved by the Forest Supervisor. Authority to act may be delegated, but responsibility will remain with the Ranger. Refer to Appendix J for pre-assigned delegations of authority for Bighorn NF employees qualified as IC Type 3 thru 5.

The Bighorn NF also has initial attack responsibility on BLM lands north of Highway 14A, east of Bighorn Reservoir, by agreement with the BLM (amendment to Statewide Interagency Agreement). Similarly, the Bighorn NF has fire management/initial attack responsibilities on the Bighorn Canyon NRA. Refer to Appendix F.

Even though fire responsibility remains with the District, the closest resources will handle initial attack without regard to District or agency boundaries.

### **Procedures**

- a. The IC will size up the fire using the Bighorn Incident Management Log (Appendix I) which includes the Complexity Analysis and other elements that must be addressed during initial attack of all fires.
- b. The fire should be named after a geographic feature in non-discriminating language.
- c. The Initial Attack IC must notify CDC and clearly state on the radio that they are the Incident Commander for the benefit of on-site resources and incoming resources.
- d. The IC is responsible to ensure that all firefighters receive a briefing that addresses the operations plan, LCES (Lookouts, Communications, Escape Routes, and Safety Zones), fuels, weather, topography, hazards and safety concerns. A briefing checklist is found in Bighorn Incident Management Log.
- e. IC responsibility for other responding resources: all resources must be tracked (i.e., knowing who and what is on the incident, federal or non-federal) and this needs communicated to CDC. The IC will negotiate with non-federal resources to determine demobilization timeframes.
- f. Ensure that the directions to the incident are clear and the route is marked (with flagging if possible).

- g. The IC will ensure that all safety concerns are addressed/mitigated prior to engagement of the fire.

The appropriate management response (AMR) will be based on the current and predicted weather and fire behavior in conjunction with the AMR designation in the RLRMP. Human caused ignitions will be suppressed in accordance with the 2009 Federal Fire Policy Guidance document.

Use the following information as a guideline for determining initial attack priorities in the case of multiple ignitions:

- Threats to human life (firefighter and public)
- Values at risk
- Location of Timber Management Activities
- Special wildlife habitat areas
- Archaeological, paleontology and heritage sites
- Safety hazards

**b. Criteria for the Appropriate Initial Attack Response**

All suppression actions will be based on appropriate management response designations within the RLRMP utilizing tactical direction for RLRMP Management Areas found in Appendix A and Chapter 1-48 of the RLRMP. Determination of appropriate response should also be based on the following criteria:

- Safety
- Threat to life or property
- Suppression costs
- Resource damage or loss (from fire and suppression actions)
- Environmental impacts (of fire and suppression actions)
- Current and predicted fire behavior
- Current and predicted weather
- Smoke management considerations
- Suppression resource availability
- Political considerations

Suppression of going fires will take priority over all other work. However, it may be necessary at times for certain individuals or groups to be exempt from fire suppression activities in order to meet targets, critical deadlines, or accomplish other high priority missions.

All fires will remain staffed until declared controlled or out. The IC will determine continued staffing procedures. At a minimum, regular burning period checks will be made until the IC declares the fire out.

Night travel and work may occasionally occur, but will not be conducted where deemed unsafe because of conditions such as weather, fire behavior, difficult or unfamiliar terrain, or lack of adequate radio contact. IA resources will not engage a fire after dark unless all safety concerns are fully mitigated. In most cases, response to fires after dark will be to gather intelligence in preparation for engaging the fire at first light in the morning.

Firefighters will maintain radio contact with CDC or their district office (if unable to communicate with CDC) while suppressing fires, and will check in at regular intervals. If the fire is in a location with poor or no radio communications (a 'dead spot'), a relay

will be set up and maintained while firefighters are in that area. The Forest also has satellite phones and 2 portable repeaters available to ensure communications with incidents.

**c. Response Times**

Due to the lack of road access over much of the Bighorn National Forest, response times for ground resources will vary from less than 1 hour to over 3 hours. Dependent on availability, air tankers are generally available within 2 hours. The Fort Washakie helicopter can provide IA response within 90 minutes depending on the incident location on the Forest and present location of the helicopter. In addition, subject to availability, it may be possible to get helicopter support from the Bureau of Indian Affairs at Crow Agency or Lame Deer.

**d. Restrictions and Special Concerns**

See Appendix A for the RLRMP Fire Management Direction. Suppression activities at the Medicine Wheel must comply with the Medicine Wheel Historic Preservation Plan (1996) which is found in Appendix O. Suppression activities within wilderness must use the Minimum Impact Guidelines, also in Appendix O. Suppression actions taken within lynx habitat (Lynx Analysis Units) on the Forest, should have emergency consultation with the USFWS, through the Forest or Zone Wildlife Biologist, though no suppression activities are limited through this currently due to the Forest being unoccupied with lynx. Refer to the letter in Appendix O and RLRMP direction for lynx.

With regard to the use of **dozers**, the Forest has two operators qualified in 2009 as Dozer IA, and a Forest Service dozer. *However, to ensure those operators' safety, they will not be assigned without a lookout/radio relay (preferably FFT1), and a Dozer Boss will be ordered immediately to work with them.* In terms of restrictions on use of Dozers, refer to Appendix A for Forest Plan direction, and always consider watershed and cultural resource concerns.

**e. Social and Political Concerns**

The District Ranger will keep local governments informed of significant fire activity or fire issues of local concern. During fire events effort within legal authority should be made to hire local people and use local vendors for fire support.

**f. Cultural Resources/Tribes**

There are specific locations on the Bighorn National Forest that are of interest to Native Americans. Should major suppression actions be necessary in sensitive areas (i.e. Medicine Wheel) efforts should be made to keep tribal leaders informed as deemed necessary by the District Ranger. Archaeologists will also be kept informed and used on an advisory basis as necessary in choosing suppression tactics and to provide advice on culturally sensitive areas.

**4. Extended Attack and Large Fire Suppression**

**a. Determine Extended Attack Needs**

Because transition from initial attack to extended attack can be especially dangerous, fires during the transfer of command or transition phase will be managed as potentially life-threatening events. Good references for ensuring safe operations during transition are in the Incident Response Pocket Guide pages 1 and 16.

If the Initial actions on a fire will not meet the objectives and/or the fire exceeds or is expected to exceed the capabilities of the initial actions, the Forest will initiate a Wildland Fire Situation Analysis (WFSa) including a Complexity Analysis. These analyses are used to assist the responsible line officer to promptly organize and implement the appropriate suppression response for wildland fires. **Note that in 2009 the WFDSS program will be used per national direction. In the event of system failure however, the Forest will use the WFSa program.**

WFSA Plus evaluates the appropriate management response for an uncontrolled wildfire following the first burning period. A WFSA is required when it is evident that a fire will go beyond the initial actions (will not be contained or controlled prior to the second burning period with the initial resources assigned). The Complexity Analysis is a tool to determine the appropriate level (or type) of incident management.

The current version of WFSA Plus being used on Forest is 5.1. The cost file (.fcd) was updated in 2006 to reflect the new RLRMP guidance. This cost file is contained in Appendix H (electronic only). For software download, go to <http://www.fs.fed.us/fire/wfsa/index.htm>. The software was loaded in 2006 on to Staff (Resources, Rec/Engineering, Planning), Rangers, and FMO (Zone and Forest) computers. Limits of authority with regard to costs associated with extended attack fire are also contained in Appendix H.

A Line Officer's Briefing and Delegation of Authority to the IC will be presented to incoming Incident Management Teams when assigned to incidents (examples are located in Appendix N).

**b. Implementation Plan Requirements – WFSA Development (FSM 5131.11)**

A WFSA must be completed when:

- Wildfire escapes initial action or is expected to exceed initial action.
- Wildfire being managed for resource benefits exceeds prescription parameters.
- Prescribed fire exceeds its prescription and is declared a wildfire.

**c. Complexity Decision Process for Incident Management Transition**

The purpose of the Complexity Analysis is two-fold. It is to be used to review incidents to identify elements or characteristics that pose special problems or concerns. The second purpose of the complexity analysis is to assist the manager in determining the level of management required to safely and effectively manage the incident. Noting certain factors that are highly complex offers the opportunity to mitigate the situation through the selection of a different strategy, tactic, or higher qualification of incident management.

Appraising The Situation

A Complexity Analysis will be used as a guide for IC's and/or Line Officers in establishing the complexity of a fire and type of incident management organization necessary to manage the fire. The complexity analysis is part of the Bighorn Incident Management Log for initial attack IC use and is included in the WFSA Plus program. In developing this guide, certain assumptions are made:

1. As an incident becomes more complex, the need for an incident management organization increases.
2. To facilitate an efficient and effective organization, key incident management positions should be involved during the early stages of complexity development.
3. The guide should not be used independently for the decision process; knowledge of local fire behavior and history along with management requirements must also be considered.

Prior to each shift (until containment), the Line Officer and/or Manager must review the WFSA to determine if it is still valid. If not valid, a new WFSA should be completed. All completed WFSAs shall become a part of the final incident package. The Incident Complexity Analysis will be reviewed along with the WFSA to determine the continuing level of management required on the incident.

**5. Exceeding Existing Wildland Fire Implementation Plan (WFIP) – Selecting a New Strategy**

An existing WFIP may be exceeded when wildland fires cannot be controlled during the initial suppression response action or where the appropriate management response has not been successful. These may also be prescribed fires where the implemented prescribed fire is unsuccessful. The Wildland Fire Situation Analysis (WFSA) is initiated at this stage.

#### **6. Minimum Impact Management Action Guidelines**

Sensitive areas, such as wilderness areas, paleontological and heritage resources, streams, stream banks, shorelines, lakes and associated vegetation, and habitat for threatened, endangered, proposed, and sensitive species, roadless areas, etc. may require the use of MIMA (formerly MIST) to minimize impacts from wildland fire suppression efforts in the following ways:

- Prohibit the use of earth-moving equipment on known paleontological or heritage sites.
- Discourage the application of fire-retardant chemicals over riparian areas, wetlands and open water.
- Prior to using earth-moving equipment, consult appropriate specialists for guidance.

Refer to Appendix O for these guidelines.

#### **C. Wildland Fire Use (WFU)**

The Forest updated its Fire Management Plan to allow for Wildland Fire Use in 2008. However, with the change in fire policy in 2009 (See Appendix A), fires now can be managed for resource benefits. Appendix V contains the Fire Use planning documents added in 2008, which could now be used to help manage a longer term fire being managed for resource benefits.

#### **D. Fuels Management**

The priority for fuels projects is to treat areas in Fire Regimes 1, 2, and 3 condition class 2 or 3 (have missed 2 or more historic fire return cycles). Fire Regime 1 (Ponderosa pine) is a very small component on the Bighorn with less than 40,000 acres. Due to heavy fuel accumulations, many of these stands would require some mechanical fuel reduction prior to application of prescribed fire to avoid unacceptable mortality within the stands. Many of the Fire Regime 1 stands are also unavailable because the only access is through adjacent private property. The Fire Regime 2 areas on the Bighorn are primarily sagebrush/grass and quite prevalent across the Forest. Fire Regime 3 consists of mixed conifer stands of Douglas fir, juniper, and ponderosa pine.

In addition to the priority by fire regime, priorities for fuels treatments will be established based on the Bighorn NF Accelerated Watershed Restoration Plan (AWRP) in conjunction with approved Community Wildfire Protection Plans. Refer to Appendix G for the AWRP plan and FRCC guidance documents. Community Wildfire Protection Plans (one for each county) are on file in the Forest FMO's office and at District offices.

#### **Prescribed Fire**

All prescribed fire projects on the Bighorn NF will be developed and implemented in accordance with National Environmental Policy Act (NEPA) procedures, policy established in FSM 5140 including applicable Regional and Forest supplements, and the Interagency Prescribed Fire Planning Procedures Reference Guide. Further, prescribed fire projects will be consistent with the RLRMP (2005). See Appendix A of FMP and RLRMP page 1-48. Forest Service personnel participating in prescribed burns will meet requirements per FSH 5109.17 and non-Forest Service personnel participating in burns on the Bighorn NF will meet requirements of PMS 310-1.

All prescribed burning will be conducted under conditions that will minimize the effect on air quality and Wyoming Department of Environmental Quality, Division of Air Quality, smoke management regulations will be followed for all prescribed fires. The Bighorn NF has no Class 1 airsheds (the Cloud Peak Wilderness is a Class 2 airshed). The city of Sheridan (within the corporate municipal boundary) is a non-attainment area which needs to be a special

consideration to ensure smoke from prescribed fire projects does not adversely affect the city of Sheridan.

### **Mechanical Treatment and Other Applications**

Mechanical treatment of fuels is desirable in certain areas due to conditions such as values at risk, value of timber products, fire regimes, etc. and specifically in wildland urban interface areas where concerns for escape and smoke issues make prescribed burns less viable. The cost of larger scale mechanical treatments makes them prohibitive at the average fuels budget level for the Bighorn. For this reason, the Forest must rely on commercial timber sales and stewardship contracts for large scale mechanical fuels treatment.

The Forest has an active program of thinning, hand piling, and burning of hand piles of fuels adjacent to residences, summer home groups, campgrounds, administrative sites, etc., to reduce the risk of wildfire to these locations. These projects are predominantly geared at creating defensible space. Work is primarily accomplished by Forest fire crews.

### **E. Emergency Rehabilitation and Restoration**

In the event of a large fire situation, the Forest will follow procedures in the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook. BAER teams will be requested as needed to provide expertise in rehabilitation and restoration.

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

### **A. Current fiscal year budget and the ability to support planned and unplanned actions**

The Forest will staff initial attack crews commensurate with preparedness funding received. See Appendix B.

### **B. Organization chart supported by the current fiscal year budget**

See Appendix B.

### **C. Cooperative agreements and interagency contacts**

Federal Agencies:

The Forest has specific agreements for the following:

C.D.C. - The Cody Interagency Dispatch Center (CDC) is located in Cody, Wyoming and is the support dispatch center for the Forest. Fire and aviation resource needs that the Forest cannot meet internally are coordinated and ordered through CDC. This interagency center is funded by the Bighorn NF, Shoshone NF, Worland and Cody Field Offices of the BLM, and the BIA, Wind River Agency.

Ft. Washakie Helitack - the Ft. Washakie Helitack Crew is an interagency crew located on the Wind River Indian Reservation.

Worland BLM – the Forest provides initial attack response on all BLM lands north of Highway 14A and east of Bighorn Canyon NRA.

Bighorn Canyon NRA - the Forest provides leadership for the fire management program on the NRA.

State Agencies:

The Forest Service is a party to the Interagency Cooperative Fire Management Agreement which also includes the National Park Service, Bureau of Indian Affairs, Fish and Wildlife Service, Bureau of Land Management, and the State of Wyoming.

County Agreements:

The Bighorn National Forest and the following counties develop an Annual Operating Plan tiered to the above referenced cooperative agreement to address fire management activities:

Sheridan County

Johnson County  
Big Horn County  
Washakie County

The Forest FMO/AFMO and/or District FMO is assigned the responsibility for representing the Forest in the updating of the annual operating plans. Copies of the plans are located in Appendix F.

With regard to any incident cost share agreements that may be necessary, refer to Appendix N for guidelines, and involve the Forest Administrative Officer or Budget Officer in the development of these agreements.

**D. Equipment rental agreements**

Refer to the CDC Zone Incident Service and Supply Plan located at the Forest (Sheridan SO) fire desk and at CDC.

**E. Contract suppression and prescribed fire resources**

Refer to the CDC Zone Incident Service and Supply Plan located at the Forest (Sheridan SO) fire desk and at CDC.

**SECTION VI – MONITORING AND EVALUATION**

**A. Annual Monitoring Requirements**

Monitoring of the overall fire program on the Forest in relation to the RLRMP has been on-going as part of the annual Forest Plan monitoring effort. See RLRMP 2005, Chapter 4, Monitoring and Evaluation for monitoring that will be required under the revised forest plan. Refer to Section II above for specific monitoring items related to fire management.

**Implementation Monitoring**

Individual projects, such as prescribed burns, require monitoring before, during, and after the burn, which is documented in the project folder. This documents the effectiveness in meeting objectives of the project, compliance with burn plan, and compliance with the RLRMP. The prescribed burn plan for each project sets specific monitoring requirements for the project.

Readiness/preparedness reviews are conducted in all aspects of the fire program. These are documented and provide assurance of fire readiness/preparedness with emphasis on safety.

Peer reviews (specifically for the Wyoming IHC) provide a valuable method of monitoring the Hotshot Crew program.

**Effectiveness Monitoring**

Monitoring of the effectiveness of plans and projects in meeting objectives is provided through review by specialists. For example, fire/fuels specialists will determine the effectiveness of treatments at reducing hazardous fuels, wildlife biologists and range conservationists will determine the effectiveness of treatments at meeting habitat/range improvement objectives, etc. These will be documented in individual project folders. In the event of wildland fires occurring in areas that have received fuels treatments, the effectiveness of the treatments at reducing fire intensity will be evaluated as part of the “after incident review” process.

Line officer inspections of at least 10% of all Type 3, 4, and 5 fires as required by the Thirtymile Hazard Abatement, ensures strict adherence to safety practices, and that suppression operations are conducted in a cost effective and efficient manner.

**Validation Monitoring**

If effectiveness monitoring indicates flaws or questionable areas in the fire program, validation monitoring will be implemented to address these issues.

**Evaluation of Monitoring**

Evaluation examines the results of monitoring. Evaluation occurs through on-site observations of resource specialists, field visits by line officers and forest staff, and various reporting requirements as described below.

Annual post fire season meeting of Forest firefighting resources evaluates the Forest's preparedness and hazardous fuels programs to ensure safety, effectiveness, and cost efficiency.

The annual post fire season meeting of the cooperators in the CDC Zone provides an opportunity to view/evaluate the Bighorn NF fire program in relation to the zone as a whole.

## **B. Reporting Requirements**

- **PAR FP- FFPC:** Fire Fighting Production Capability (FFPC) of Forest based on budget allocation. (See Appendix B)
- **FACTS-FUELS:** Acres of hazardous fuels treated.
- **INDIVIDUAL FIRE REPORT, FS-5100-29** (See Appendix I)