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## Chapter 09 Safety and Risk Management

### Introduction

The primary means by which we prevent accidents in wildland fire operations is through aggressive risk management. Our safety philosophy acknowledges that while the ideal level of risk may be zero, a hazard free work environment is not a reasonable or achievable goal in fire operations. Through organized, comprehensive, and systematic risk management, we will determine the acceptable level of risk that allows us to provide for safety yet still achieve fire operations objectives. Risk management is intended to minimize the number of injuries or fatalities experienced by wildland firefighters.

The Bureau of Indian Affairs (BIA), as well as the other Department of the Interior (DOI) bureau's, and USDA Forest Service are committed to "Zero Tolerance" of carelessness and unsafe actions. The commitment to and accountability for safety is a joint responsibility of all firefighters, managers, and administrators. All Land Management Plans (LMP) and all suppression plans and actions must reflect this commitment. Individuals must be personally committed and responsible for their own performance, accountability, and safety.

### Definitions

**Safety** – defined as a measure of the degree of freedom from risk or conditions that can cause death, physical harm, or equipment or property damage.

**Risk Management** – defined as a continuous, five-step process that provides a systematic method for identifying and managing the risk associate with any operation, for more information refer to Incident Response Pocket Guide (IRPG) page 1.

### Policy

#### Safety Policy

Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment. The commitment to and accountability for safety is a joint responsibility of firefighters, managers, and administrators. (Federal Wildland Fire Policy, December, 1995 and as revised 2001).

Every BIA supervisor, employee, and volunteer is responsible for following safe work practices, and procedures, while identifying and reporting unsafe conditions.

**1 Risk Assessment (RA)/Job Hazard Analysis (JHA)**

2 A completed RA or JHA is required for:

- 3 • Jobs or work practices that have potential hazards.
- 4 • New, non-routine, or hazardous tasks to be performed where potential
- 5 hazards exist.
- 6 • Jobs that may require the employee to use non-standard personal
- 7 protective equipment (PPE).
- 8 • Changes in equipment, work environment, conditions, policies, or
- 9 materials.
- 10 • Supervisors and appropriate line managers must ensure that established
- 11 JHAs are reviewed and signed prior to any non-routine task or at the
- 12 beginning of the fire season.

13

**14 Program Goal**

15 The goal of the fire safety program is to provide direction and guidance for safe  
16 and effective management in all activities. Safety is the responsibility of  
17 everyone assigned to wildland fire, and all hazard incidents. This must be  
18 practiced at all operational levels from the BIA Director, Regional Director,  
19 Superintendent, Tribes, and to employees in the field. Agency Administrators  
20 need to stress that firefighter and public safety always takes precedence over  
21 property and resource loss. Coordination between the fire management staff and  
22 unit Safety Officer(s) is essential in achieving this objective. For additional  
23 Safety Guidance and References:

- 24 • Fireline Handbook (PMS 410-1, NFES 0065)
- 25 • Incident Response Pocket Guide (IRPG) (PMS 461, NFES 1077)
- 26 • National Interagency Mobilization Guide (NFES 2092)

27

**28 Physical Fitness Standards, Work Capacity, Physical Examinations**

29 Physical fitness plays an important role in improving fireline safety and  
30 effectiveness; unfit persons can quickly become a hazard to themselves as well  
31 as others. The Work Capacity Tests (Pack, Field and Walk Test) and physical  
32 examinations are the means used for fitness screening of employees who have  
33 wildland fire jobs.

34

**35 Physical Training**

36 Physical training should include both aerobic conditioning and strength  
37 exercises. Agency Administrators and Fire Management Officers (FMOs) are  
38 responsible for ensuring firefighter fitness.

39

40 Employees who have a position description requiring them to maintain an  
41 arduous redcard rating should be authorized one hour a day for fitness  
42 conditioning.

43

1 Employees who do not have a position description requiring them to maintain an  
2 arduous redcard rating, but who have arduous jobs on their redcard, may be  
3 authorized up to three hours per week of duty time for fitness conditioning.

4  
5 The physical training program should be structured and productive. A fitness  
6 initiative by the name of "FireFit" has been created to provide a comprehensive,  
7 easy-to-follow, fitness curriculum. It can be found on the web site at:

8 <http://www.nifc.gov/FireFit/index.htm>

#### 9 10 **Work Capacity Test (WCT) Administration**

11 The Work Capacity Test (WCT) is the official method of assessing wildland  
12 firefighter fitness levels. FMOs, or WCT Administrators are responsible for  
13 administering Work Capacity Tests (WCTs) to all employees who will be  
14 serving in fitness dependant wildland fire positions. The WCT can be used to  
15 evaluate an employee's level of physical fitness at any time. Employees must  
16 have medical clearance prior to taking the WCT. The WCT must be passed  
17 prior to assigning the employee to wildland fire duty.

#### 18 19 **Procedure**

20 The WCT must be administered and passed at the appropriate level prior to Red  
21 Card issue. Testing should follow the procedures outlined in the Work Capacity  
22 Tests for Wildland Firefighters, Test Administrators Guide: PMS 307, NFES  
23 1109, <http://www.fs.fed.us/fire/safety/wct/pdf03512805dpi300.pdf>.

- 24 • WCT Administrators must ensure that WCT participants have been  
25 medically cleared, either through the Wildland Firefighter Medical  
26 Qualifications Standards or with the Health Screen Questionnaire  
27 (HSQ), prior to WCT participation.
- 28 • Persons administering the WCT must understand the testing  
29 instructions and be in command of the testing process. The WCT - Job  
30 Hazard Analysis (JHA) identified in Appendix E-1, should be used to  
31 analyze the testing program hazards at the local unit.
- 32 • Field units need to prepare a medical response plan (such as ICS-206  
33 form) and evaluate options for immediate medical care and transport  
34 and identify closest emergency medical services. A minimum of a  
35 qualified EMT must be on site with life support equipment during  
36 WCT administration. Based upon your specific evaluation a higher  
37 level of emergency medical qualifications on scene may be warranted  
38 e.g. Paramedic.
- 39 • Accurate documentation of the test results must be completed for all  
40 employees, see Appendix E-2. This documentation must be retained.
- 41 • Test results must be entered into the IQCS. Physical fitness dates  
42 entered in IQCS will reflect the date the employee passed the fitness  
43 test. Tests will be administered every calendar year, prior to the fire  
44 season.

- 1 • Personnel taking the WCT will only complete the level of testing  
2 (Pack, Field, Walk) required by the highest fitness level identified for a  
3 position on their Incident Qualification Card (Red Card).
- 4 • BIA policy allows for two hours to be charged against the DOI  
5 Administratively Determined (AD) Pay Plan for Emergency Workers  
6 for an individual to take the WCT.

7

8 **Standards for the work capacity test ratings are as follows:**

- 9 • Arduous- 3 mile walk carrying 45 lbs in 45 minutes or less.,
- 10 • Moderate- 2 mile walk carrying 25 lbs in 30 minutes or less,
- 11 • Light- 1 mile walk with no weight in 16 minutes or less

12

13 Fitness ratings for all incident responder positions can be found in the National  
14 Wildfire Coordinating Group (NWCWG), Wildland Fire Qualification System  
15 Guide (PMS 310-1).

16

17 **Frequency of Work Capacity Testing**

- 18 • An individual will not be allowed to take the WCT more than twice in a  
19 twelve month period. If an individual fails the first test, and a second  
20 test is requested, no more than two weeks shall lapse between the first  
21 and second tests.
- 22 • If extenuating circumstances exist, the FMO may determine if an  
23 additional attempt is warranted. In such cases, the extenuating  
24 circumstances must be documented and approval received through the  
25 Regional FMO before the test is administered.

26

27 **Interagency Medical Standards Program (IMSP)**

28 Established medical qualifications programs, as stated in 5 CFR 339, provide  
29 consistent medical standards in order to safeguard the health of employees  
30 whose work may subject them or others to significant health and safety risks due  
31 to occupational or environmental exposure or demand.

32

33 Medical examination requirements see Appendix E-3.

- 34 • The IMSP standard only applies to arduous wildland firefighters.
- 35 • For employees working in positions rated moderate or light, there are  
36 no medical examination requirements, although a HSQ, see Appendix  
37 E-4, must be completed before participating in the WCT.
- 38 • AD/EFF employees, under the age of 45, participating in wildland fire  
39 activities at the arduous level will be required to complete a HSQ  
40 before participating in the WCT.
- 41 • AD/EFF employees 45 years of age or greater, with an arduous duty  
42 position on their red card, are required to take the Medical Standards  
43 Annual Exam prior to participating in the WCT. These employees will  
44 not be required to take the Periodic Exam every three years.

45

- 1 • All Federal, and AD/EFF employees 45 years of age or greater who fail  
2 to meet IMSP standards will be required to complete the  
3 waiver/accomodation process prior to participating in the Work  
4 Capacity Test, or any wildland fire activities. Refer to Appendix E-5  
5 for more information on the waiver process.
- 6 • No employee or applicant who fails to meet the Medical Standards as a  
7 seasonal/temporary or permanent employee may be hired as an  
8 AD/emergency firefighter (EFF) in order to circumvent the medical  
9 qualification standards.
- 10 • The Interagency Medical Standards Program was intended by Congress  
11 for application to federal employees engaged in hazardous occupations.  
12 As such, full participation is not required by Tribal programs. At the  
13 discretion of their FMO, Tribal employees may elect to participate in  
14 the Medical Standards program at a lesser level than Permanent or  
15 Permanent Furlough BIA employees. The level of participation by  
16 Tribal employees may never be less than that required for AD/EFF  
17 employees; that is a pre-WCT HSQ every year while under the age of  
18 45, and an Annual Exam when 45 or older.
- 19 • If for any reason, a change in a firefighters medical status emerges  
20 between yearly exams, and that change prevents the firefighter from  
21 meeting any of the Wildland Firefighter Medical Standards, then the  
22 firefighter and his/her supervisor have an obligation to report this  
23 change to the IMSP through the customer service representatives at  
24 [wffcsr@blm.gov](mailto:wffcsr@blm.gov) or call 888-286-2521. Upon receipt of the  
25 information, a determination regarding the firefighter's status will be  
26 made e.g. pending or cleared.
- 27 • More information on the Wildland Firefighter Medical Standards can  
28 be found at the following web site:  
29 [http://www.nifc.gov/medical\\_standards](http://www.nifc.gov/medical_standards).
- 30 • Annual Fireline Refresher Training

### 31 32 Policy

- 33 • Annual Fireline Safety Refresher Training (RT-130) is required for all  
34 BIA personnel who will serve in a fireline position. Individuals will  
35 participate in 8 hours of safety refresher training. In addition to Red-  
36 Carded BIA and Tribal personnel, this includes all EFF mobilized for  
37 local, regional or national use. Refresher training may taken in-house  
38 or through another NWCG member agency. The refresher will include  
39 mandatory fire shelter inspection and deployment practice.
- 40 • The Annual Fireline Safety Refresher Training course (RT-130) is not a  
41 self-study course. Minimum requirements have been established for  
42 instructors for Annual Fireline Safety Refresher Training. These  
43 requirements will ensure that an appropriate level of expertise and  
44 knowledge is available to facilitate refresher training exercises and  
45 discussions.

- 1 • Lead Instructors must be a qualified single resource boss.
- 2 • Unit Instructors must be qualified firefighter Type 1 (FFT1).
- 3 • Adjunct instructors may be utilized to provide limited instruction
- 4 in specialized knowledge and skills at the discretion of the lead
- 5 instructor. They must be experienced, proficient and
- 6 knowledgeable of current issues in their field of expertise.
- 7 • For additional information, refer to the September 2007 NWCG Field
- 8 Manager's Course Guide (PMS 901-1) at
- 9 <http://www.nwcg.gov/pms/training/fmcg.pdf>
- 10 • BIA policy allows for up to 8 hours to be charged against the AD pay
- 11 authority for an individual to take Annual Safety Refresher Training.
- 12 • Refresher training should include pertinent local safety issues, as well
- 13 as discussions on the following:

14

### 15 **Entrapments**

16 Use training and reference materials to study the risk management process and  
17 rules of engagement (as appropriate to the participants, e.g., LCES, Standard  
18 Firefighting Orders, Watch Out Situations, and Fire Management Plan  
19 priorities, etc.).

20

### 21 **Current Issues**

22 Review and discuss identified “hot topics” and “national emphasis topics” as  
23 found on the current WFSTAR web site at:  
24 <http://www.nifc.gov/wfstar/index.htm>. Review forecasts and assessments for  
25 the upcoming fire season and discuss implications for firefighter safety.

26

### 27 **Fire Shelter**

28 Review and discuss last resort survival. Conduct “hands-on” fire shelter  
29 inspections. Practice shelter deployments in applicable crew/module  
30 configurations. When possible practice shelter deployments should be  
31 conducted in rough terrain and windy conditions. No “live fire” exercises for  
32 the purpose of fire shelter deployment training will be conducted.

33 More information on Fire Shelters can be found at:

34 [http://www.nifc.gov/safety/fire\\_shelter.htm](http://www.nifc.gov/safety/fire_shelter.htm)

35

### 36 **Job Hazard Analysis (JHA)**

37 Review, update or create JHA's necessary to complete tasks,  
38 duties, and responsibilities on local wildland fire, and national  
39 assignments.

40

### 41 **Other Hazards and Safety Issues**

42 Choose additional hazard and safety subjects, which could include SAFENET  
43 located at: <http://safenet.nifc.gov/>, current safety alerts on the NWCG website at  
44 <http://www.nwcg.gov/teams/shwt/safetyalerts2.htm>., site/unit specific safety  
45 issues and hazards.

46

1 The WFSTAR website has been established to provide a centralized resource for  
2 instructors of refresher training. This web site can be found at:

3 <http://www.nifc.gov/wfstar/index.htm>.

4

### 5 **Fatigue**

6 Firefighting is hard, dirty, and inherently dangerous work. Fire management  
7 staff, dispatchers, and support personnel are subject to long hours and high  
8 levels of stress. At any level in the fire organization or management, fatigue can  
9 lead to mistakes which result in accidents and injuries. Here are ways to  
10 monitor fatigue:

11

### 12 **Management of Fatigue**

13 Managers and Incident Management Teams (IMT) should establish work and  
14 rest schedules that minimize fatigue in the following ways:

- 15 • Establish record-keeping systems that track crew work time.
- 16 • Plan and strive to provide one hour of sleep or rest for every two hours  
17 worked.
- 18 • When deviating from work/rest guidelines, the Agency Administrator  
19 or IC must approve in writing shifts over 16 hours in length.
- 20 • Provide an adequate sleep environment.
- 21 • Frequent breaks of between 10 to 30 minutes should be encouraged  
22 during fireline operations.

23

### 24 **Work/Rest Guidelines**

25 In order to assure safe, productive fire operations, supervisory fire management  
26 personnel and fire program management must manage work/rest periods for  
27 crew, overhead and support personnel. BIA policy follows guidelines outlined  
28 in the NWCG Interagency Incident Business Management Handbook, February  
29 2008 (PMS 902, NFES 2160), Chapter 10, Section 12.7.

30 <http://www.nwcg.gov/pms/pubs/large.html#iibmh>

31

### 32 **Policy for Work/Rest**

- 33 • Work Rest Guidelines should be met on all incidents. Plan for and  
34 ensure that crews, overhead personnel, and support personnel are  
35 provided a minimum 2:1 work to rest ratio (for every 2 hours of work  
36 or travel, provide 1 hour of sleep and/or rest).
- 37
- 38 • The IC or Agency Administrator shall justify and document, daily  
39 incident records, work shifts exceeding 16 hours, and periods that do  
40 not meet 2:1 work to rest ratio, including travel time.
- 41 • Any period where the 2:1 work/rest ratio is not met should be the  
42 exception. However, in those situations where it does occur, incident  
43 management personnel will work towards resuming 2:1 work/rest as  
44 quickly as possible. Documentation will include mitigation measures  
45 employed to reduce fatigue.

**1 Days Off**

- 2 • Supervisors must manage work schedules for initial attack, dispatch  
3 and incident support personnel during extended incident operations.  
4 Every employees schedule should include regularly scheduled days off,  
5 regardless of fire activity.
- 6 • If an employee has been on assignment away from their home unit,  
7 upon completion of a 14 day assignment and return to the home unit,  
8 two days off will be provided and charged to the incident. Pay  
9 entitlement, including administrative leave, for a paid day off cannot be  
10 authorized on the employee's regular day off at their home unit.
- 11 • AD/EFF employees are not entitled to a paid day off upon release from  
12 the incident.

13

**14 Length of Assignment**

15 An assignment is defined as the time period (days) between the first full  
16 operational period at the first incident or reporting location on the original  
17 resource order, and commencement of return travel to the home unit.

- 18 • Standard assignment length is 14 days, exclusive of travel from at to  
19 home units. Possibilities for extensions are identified below.
- 20 • Time spent in staging and preposition status counts toward the 14-day  
21 limit, regardless of pay status.
- 22 • Assignments may be extended in situations where life and property are  
23 imminently threatened, suppression objectives are close to being met, a  
24 military battalion has been assigned, or replacement resources were  
25 ordered and unable to fill.
- 26 • Upon completion of the standard 14-day assignment, an extension of up  
27 to an additional 14 days may be allowed (exclusive of mandatory day  
28 off). Regardless of the duration of the extension, prior to the 22nd day,  
29 two mandatory days off will be provided.
- 30 • "Military battalions" are mobilized on a 30 day commitment (including  
31 training and travel), by prior agreement, as well as the Crew Advisors  
32 and Battalion Liaisons assigned to those units. Military Crew Advisors  
33 and Battalion Military Liaisons can expect to be staged in hotel  
34 accommodations up to 5 days prior to actual assignment to a military  
35 unit, at which time the 30 day commitment begins.
- 36 • Assignments to Federal Emergency Management Agency (FEMA)  
37 incidents may also be extended to 30 days. However, ICs will give  
38 strong consideration as to the health and condition of these crews by  
39 varying the intensity and exposure of their assignments.

40

**41 Single Resource/Kind Extensions**

- 42 • The Section Chief or Incident Commander will identify the need for  
43 assignment extension and will obtain the affected resource's  
44 concurrence. The Section Chief and affected resource will acquire and  
45 document the home units supervisor's approval.

- 1       • The Incident Commander approves the extension. If a convened  
2 geographic or national multi-agency coordinating group  
3 (GMAC/NMAC) directs the Incident Commander to authorize  
4 approval.  
5       • If the potential exists for reassignment to another incident during the  
6 extension, the home unit supervisor and affected resource will be  
7 advised and must concur prior to reassignment.  
8

#### 9 **Incident Management Team Extensions**

10 Incident Management Team (IMT) extensions are to be negotiated between the  
11 Incident Agency Administrator, the Incident Commander, and the  
12 GMAC.NMAC (if directed).  
13

#### 14 **Motor Vehicle Operation**

##### 15 **Policy**

16 All individuals operating a motor vehicle in performance of duties in support of  
17 the BIA, must comply with the requirement of the BIA Motor Vehicle policy  
18 requirements 5 CFR 930, and 485 DM 16. Regional Directors, Superintendents,  
19 and FMO's will be responsible for ensuring full compliance, including safe  
20 operation of motor vehicles as well as immediate response to issues of non-  
21 compliance.  
22

23  
24 All motor vehicle operators will be required to possess a current Government  
25 Motor Vehicle Operators Identification Card (OF-346). Potential drivers  
26 annually must complete GSA form 3607  
27 [http://contacts.gsa.gov/webforms.nsf/0/05DC08E9F37BD230862573FA005DFE](http://contacts.gsa.gov/webforms.nsf/0/05DC08E9F37BD230862573FA005DFE3E/$file/gS3607_f.pdf)  
28 [3E/\\$file/gS3607\\_f.pdf](http://contacts.gsa.gov/webforms.nsf/0/05DC08E9F37BD230862573FA005DFE3E/$file/gS3607_f.pdf) Motor Vehicle Operator's License and Driving Record.  
29 Completed forms will be submitted, and processed by the Division of Safety and  
30 Risk Management for authorization.  
31

##### 32 **Driver Qualifications**

- 33       • 18 years of age or older.  
34       • Possess a valid State driver's license, and requisite experience needed  
35 to drive type of vehicle assigned.  
36       • Have no convictions or uncontested citations within the three-year  
37 period preceding the submittal of GSA Form 3607 for Reckless  
38 Driving, Driving While Intoxicated (DWI), Driving Under the  
39 Influence (DUI), or Leaving the Scene of an Accident.  
40

##### 41 **Roles & Responsibilities of Supervisors**

- 42       • Ensure each Motor Vehicle Operator under their supervision possesses  
43 a valid driver's license that indicates State authorization to operate the  
44 class of vehicle required in the performance of duties.

- 1 • Based on available information, ensure no authorization is given to  
2 individuals with restricted driving privileges (i.e., home to work  
3 licenses).
- 4 • Terminates driving privileges for a Motor Vehicle Operator who is:
  - 5 • Arrested for, charged with, or convicted of Reckless Driving,  
6 Driving While Intoxicated (DWI), or Driving Under the Influence  
7 (DUI).
  - 8 • Arrested for, charged with, or convicted of a criminal offense  
9 related to a traffic incident involving alcohol or drugs, including  
10 but not limited to vehicular homicide, vehicular manslaughter, or  
11 endangerment.
  - 12 • Disqualified from holding a State driver's license, including  
13 restriction, suspension, revocation, or cancellation of a State  
14 driver's license for the type and class of vehicle operated.
  - 15 • Upon request, fails to provide a valid CDL medical certificate; Not  
16 in possession of a current Motor Vehicle Operator Authorization  
17 Card.
  - 18 • Is convicted for operating a motor vehicle under the intoxicating  
19 influence of alcohol, narcotics, or pathogenic drugs.
  - 20 • Is not qualified to operate a Government owned or leased vehicle  
21 safely because of a physical or medical condition.
  - 22 • No longer possesses a State license by revocation or suspension.  
23

#### 24 **Motor Vehicle Operator Requirements**

25 This policy addresses driving by operations personnel, support personnel such as  
26 bus drivers, Liaisons, IMT personnel actively engaged in wildland fire or all-risk  
27 activities; including driving while assigned to a specific incident (check-in to  
28 check-out) or during initial attack fire response (includes time required to  
29 control the fire and travel to a rest location).  
30

31 Agency resources assigned to an incident or engaged in initial attack fire  
32 response will adhere to the current BIA work/rest policy for determining length  
33 of duty day. For more information refer to:

34 <http://www.nwcg.gov/teams/shwt/DrivingStandards2004.pdf>  
35

36 The following are the operator requirements:

- 37 • Comply with State, local and tribal traffic laws and the lawful  
38 instruction of emergency and law enforcement personnel.
- 39 • Abstain from ingesting controlled substances, intoxicating beverages,  
40 prescription drugs or other medications that caution against operating a  
41 motor vehicle when taken, to avoid being impaired.
- 42 • Not transport intoxicating beverages, controlled substances, or any  
43 passenger who is in possession of intoxicating beverages or controlled  
44 substances.

- 1 • Not transport unauthorized passengers in a Government owned or  
2 leased motor vehicle.
- 3 • Report to his/her supervisor any medical or physical condition,  
4 including the use of controlled substances, prescription or over-the-  
5 counter drugs, which may impair the driver from the safe operation of a  
6 motor vehicle.
- 7 • Successfully complete motor vehicle safety training at least every three  
8 years.
- 9 • Notify their supervisor if their State driving privileges are restricted,  
10 suspended, revoked, or canceled, or if they have been otherwise  
11 disqualified from holding a license. Employees are also responsible for  
12 reporting any situation that may alter their authorization or ability to  
13 operate a motor vehicle, such as any legal or court ordered suspension  
14 of driving privileges or any limiting medical condition.
- 15 • Report all incidents involving a Government owned or leased motor  
16 vehicle, commercial motor vehicle, rental motor vehicle, or a privately  
17 owned or leased motor vehicle that occur during the performance of  
18 their official duties.
- 19 • Report all on-duty incidents involving a Government owned or leased  
20 motor vehicle, commercial motor vehicle, rental motor vehicle, or a  
21 privately owned or leased motor vehicle that could result in a violation,  
22 citation, charge, arrest, warrant, or civil action.
- 23 • Report all incidents involving a Government owned or leased motor  
24 vehicle, Commercial motor vehicle, rental motor vehicle, or privately  
25 owned or leased motor vehicle and the use of controlled substances or  
26 intoxicating beverages; impairment resulting from prescription or over-  
27 the-counter drugs, illness, or medical condition; or other factors that  
28 impair concentration, motor skills or reaction time.
- 29 • Report any restriction, suspension, revocation, or cancellation of their  
30 driver's license, for any length of time, or any disqualification from  
31 holding a State, commercial, or international operator's license.
- 32 • Notify supervisors of these incidents no later than the following  
33 business day after their occurrence. Failure to inform the supervisor of  
34 any such situation may subject employees to disciplinary action.
- 35 • No driver will drive more than 10 hours (behind the wheel) within any  
36 duty-day.
- 37 • Multiple drivers in a single vehicle may drive up to the duty-day limitation  
38 provided no driver exceeds the individual driving (behind the wheel) time  
39 limitation of 10 hours.
- 40 • A driver shall drive only if they have had at least 8 consecutive hours off duty  
41 before beginning a new operational period.
- 42 • To manage fatigue, every effort should be made to not conduct off unit  
43 (excluding IA response) mobilization and demobilization travel between 2200  
44 hours and 0500 hours.

- 1       • Exception to the minimum off-duty hour requirement is allowed when essential  
2       to 1) accomplish immediate and critical suppression objectives, or 2) address  
3       immediate and critical firefighter or public safety issues.
- 4       • Documentation of mitigation measures implemented to manage fatigue,  
5       as provided by the existing work rest guidelines, is also required for  
6       drivers who exceed 16 hour work shifts. This is required regardless of  
7       whether the driver is still compliant with the 10 hour individual (behind  
8       the wheel) driving time limitations.
- 9

#### 10 **Casuals hired as drivers when employed by BIA**

11 For more information refer to Chapter 10

12

#### 13 **Personal Protective Equipment (PPE)**

14

##### 15 **Policy**

16 All operational personnel on wildland, and prescribed fire are required to use  
17 PPE. Employees must be trained to use safety equipment effectively. Only  
18 undergarments made of 100 percent cotton, wool, aramid, or other fire resistant  
19 material should be worn on the fireline.

20

##### 21 **Required PPE**

22 Personnel assigned to wildland fires must wear heavy duty, all leather, lace-type  
23 work boots with Vibram type, or lug, melt-resistant soles and heels. The leather  
24 top must be at minimum 8 inches in height, measured from the bottom of the  
25 heel. Non-traditional style boots that meet the footwear standard as described  
26 above are authorized for firefighting. The boots are a condition of hire for  
27 firefighting positions and are purchased by the employee prior to employment.

28

29 Special PPE and JHA are required for operations involving aluma-gel. Aluma-  
30 gel mixing crews must be equipped with eye protection, fire retardant anti-static  
31 or 100 percent cotton coveralls, dust masks, and gloves.

##### 32 **Fire Shelters**

33 Fire shelters will be issued and carried in a readily accessible manner by all line  
34 personnel. Firefighters will inspect their fire shelters at the beginning of the  
35 year and periodically throughout the year.

36

- 37       • New Generation fire shelters will replace the existing stock of old fire  
38       shelters by the end of calendar year 2009 for all federal wildland  
39       firefighters. Refer to attached memo for more information,  
40       [http://www.wildfirelessons.net/documents/NFAEB\\_Memo\\_Fire\\_Shelter\\_Transition\\_Update.pdf](http://www.wildfirelessons.net/documents/NFAEB_Memo_Fire_Shelter_Transition_Update.pdf).
- 41       • Training in the deployment of the New Generation fire shelters will be  
42       provided prior to issuance. For more information refer to  
43       [http://www.nifc.gov/safety/fire\\_shelter.htm](http://www.nifc.gov/safety/fire_shelter.htm).
- 44       • The shelter is to be viewed as a last resort, and will not be used as a  
45       tactical tool.

- 1       • If fire shelters are deployed on a fire, shelters will be left in place and  
2       not removed pending approval of authorized investigators.  
3  
4  
5

### 6 **Hard hat with chin-strap**

7 Personnel must be equipped with hard hats and wear them at all times while on  
8 the fireline. Hard hats must be equipped with a chin strap—which must be  
9 fastened while riding in, or in the vicinity of, helicopters.

- 10       • Hard hats consist of two components - the shell and the suspension -  
11       which work together as a system. Alteration of either of these  
12       components compromises the effectiveness of the system (e.g. wearing  
13       hardhat backwards) and is not allowed. Both components require  
14       periodic inspection and maintenance. Specific inspection and  
15       maintenance instructions are found in Missoula Technology and  
16       Development Center (MTDC) Tech Tip publication, Your Hardhat:  
17       Inspection and Maintenance (0267-2331-MTDC).  
18       <http://www.fs.fed.us/eng/t-d.php>  
19       • Acceptable helmets for fireline use are “Helmet, Safety, Plastic” (NFES  
20       #0109, NSN 8415-01-055-2265) listed in NWCG National Fire  
21       Equipment System Catalog: Fire Supplies and Equipment, or  
22       equivalent helmets meeting the National Fire Protection Association  
23       (NFPA) Standard 1977, Standard on Protective Clothing and  
24       Equipment for use in Wildland Firefighting and American National  
25       Standards Institute (ANSI) Z89.1-1986.  
26

### 27 **Aramid shirts**

### 29 **Aramid trousers**

### 31 **Leather gloves**

### 33 **Eye and Face Protection**

- 34       • The following positions require the wearing of eye protection: nozzle  
35       person, chainsaw operator/faller, heliport and ramp personnel, and  
36       wildland fire chemical mixing crew. Other personnel in the immediate  
37       vicinity of these operations may also require eye protection. Face  
38       shields providing full face protection must be worn by Terra-Torch  
39       nozzle operators and power sharpener operators.  
40       • Full face protection in the form of a face shield (meets ANSI Z87.1  
41       standards) shall be worn when working in any position where face  
42       protection has been identified as required in the job specific JHA:  
43       Batch mixing for Terra-Torch®, power sharpener operators, etc.  
44

**1 Hearing Protection**

2 Personnel who are exposed to a noise level in excess of 85db must be provided  
3 with, and wear, hearing protection. This includes, but is not limited to, chainsaw  
4 operators/fallers, pump operators, helibase and aircraft ramp personnel, retardant  
5 mixing personnel, and any other personnel exposed on a regular basis to  
6 damaging noise levels.

7  
8 Employees may be placed under a hearing conservation program as identified in  
9 approved Medical Standards Program waivers with restrictions. Consult with  
10 local safety & health personnel for specifics regarding unit hearing conservation  
11 program.

**13 Face and Neck Protection**

14 Nomex "shrouds" are not required PPE. If used, the shrouds must meet the  
15 design and performance requirements identified in the NFPA 1977 Standard on  
16 Protective Clothing and Equipment for Wildland Fire Fighting, 1998 ed.

**18 Leg Protection**

19 All chainsaw operators will wear chainsaw chaps meeting the NFPA 1977  
20 Standards Protective Clothing and Equipment for Wildland Firefighting, or the  
21 FS 6170-4 specification. Chainsaw chaps shall be maintained in accordance  
22 with MTDC Publication, Inspecting and Repairing Your Chainsaw Chaps User  
23 Instructions (0567-2816-MTDC). <http://www.fs.fed.us/eng/t-d.php>

**25 High Visibility Vests**

26 A new regulation, 23 CFR 634, will require personnel working in a right-of-way  
27 on any Federal Aid highway to wear high visibility clothing that meets industry  
28 high visibility requirements. For current information on this requirement refer  
29 to <http://www.nifc.gov/wfstar/index.htm>.

**31 Fireline Safety****33 Incident Briefings**

34 The Incident Commander (IC) must ensure that safety briefings are occurring  
35 throughout the fire organization, and that safety factors are covered with  
36 incident personnel at all operational briefings.

37  
38 The IC, Safety Officer, Fire Behavior Analyst, and remainder of the command  
39 and general staff will use the 10 Standard Fire Orders, 18 Watch Out Situations,  
40 and the LCES Analysis of Tactical Applications on the Incident Action Plan  
41 Safety Analysis (ICS 215-A) for guidance at strategy meetings, during briefings,  
42 and when developing the incident action plan, safety message, and medical plan.

43  
44 A web site has been established that incorporates a daily safety message called  
45 "Six Minutes for Safety". The web site address is:  
46 [http://www.nifc.gov/sixminutes/dsp\\_sixminutes.php](http://www.nifc.gov/sixminutes/dsp_sixminutes.php)

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## LCES—A System for Operational Safety

### Purpose

LCES is a safety procedure put in place before fighting the fire. It is a self-triggering mechanism that functions sequentially: lookouts assess—and reassess—the fire environment; lookouts communicate to each firefighter threats to safety; firefighters use escape routes and move to safety zones. For more information refer to page 6 in the IRPG.

- L - Lookout(s)
- C - Communication(s)
- E - Escape Route(s)
- S - Safety Zone(s)

### Risk Management Process

The risk management process is a tool. It helps ensure that critical factors and risks associated with fireline operations are considered during decision-making.

In situations of low complexity you may be able to do your risk management in your head. However, as the situation gets more complex (more hazards or higher probabilities), a more formal risk management process is required.

The Risk Management Process checklist can be found in the IRPG, page 1.

### Escape Routes and Safety Zones

**Escape Route** - "a pre-planned and understood route firefighters take to move to a Safety Zone or other low-risk area. When escape routes deviate from a defined physical path, they should be clearly marked (flagged)."

**Safety Zones** - "an area cleared of flammable materials used for escape in the event the line is outflanked or in case a spot fire causes fuels outside the control line to render the line unsafe. In firing operations, crews progress so as to maintain a safety zone close at hand allowing the fuels inside the control line to be consumed before going ahead. Safety zones may also be constructed as integral parts of fuelbreaks; they are greatly enlarged areas which can be used with relative safety by firefighters and their equipment in the event of blowup in the vicinity."

- Identification of Escape Routes and Safety Zones is one of the primary responsibilities of any wildland firefighter working on or near the fireline.

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### **Standard Safety Flagging**

The NWCG has established the following standard for wildland fire activities:

- Safety Zones/Escapes Routes- Hot-Pink flagging marked ESCAPE ROUTE (NFES 0566). When flagging no longer shows valid escape routes/safety zones, remove it immediately. Crews with colorblind members may wish to carry and utilize fluorescent chartreuse flagging (NFES 2396).
- Hazards- yellow w/black diagonal stripes, fluorescent, biodegradable 1" wide (NFES 0267).

### **Common Denominators of Fire Behavior on Tragedy Fires**

- Most incidents happen on the smaller wildfires or on isolated portions of larger wildfires.
- Most fires are innocent in appearance before unexpected shifts in wind direction and/or speed results in "flare-ups" or "extreme wildfire behavior." In some cases, tragedies occur in the mop-up stage.
- Flare-ups generally occur in deceptively light fuels, such as grass and light brush.
- Wildfires run uphill surprisingly fast in chimneys, gullies, and on steep slopes.
- Some suppression tools, such as helicopters or airtankers, can adversely affect fire behavior.
- Downhill / Indirect Line Construction Guidelines
  - Downhill fireline construction is hazardous in steep terrain, fast-burning fuels, or rapidly changing weather. Downhill fireline construction should not be attempted unless there is no tactical alternative.
  - Down hill fireline can be constructed with handtools, mechanized equipment, water, or retardant. Fireline must be cut to mineral soil, constructed to catch rolling material and built along the wildland fire's edge using direct attack methods. A downhill line should be securely anchored at the top. Avoid underslung line if at all possible.
- The following guidelines also apply to indirect fireline that is being constructed some distance from the wildfire's edge, where wildland fire behavior cannot be observed and responded to.
  - The Crew Supervisor(s) and fireline overhead will discuss
  - Assignments prior to committing crew(s).
  - Decision will be made after proposed fireline has been scouted by supervisor(s) of involved crew(s).
- .LCES. will be coordinated for all personnel involved.

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- 1 • Direct attack will be used whenever possible; if not possible, the  
2 fireline should be completed between anchor points before firing  
3 operations begin.
- 4 • Downhill line construction should not be attempted when wildfire is  
5 present directly below the proposed anchor point.
- 6 • The fireline should not lie adjacent to a chute or chimney that could  
7 burn out while the crew is in the area.
- 8 • The crew must be able to rapidly reach a Safety Zone from any point  
9 along the line if the wildfire unexpectedly crosses below them.
- 10 • Line firing should be done as the line progresses, beginning from the  
11 anchor point. The burned out area provides a continuous safety zone  
12 for the crew and reduces the likelihood of wildland fire crossing the  
13 line.

14  
15 Refer to IRPG page 8 & 9 for more information on downhill line construction

#### 16 **Six Minutes for Safety**

17 Six Minutes for Safety is an interagency safety initiative that, on a daily basis,  
18 addresses the high risk situations that historically get firefighters in trouble. The  
19 intent of the program is to give firefighters six minutes of training every day on  
20 high risk fire activities that are performed infrequently.

21  
22 All BIA fire programs are encouraged to participate in daily 6 Minutes for  
23 Safety training. The program can be accessed at the following web site:  
24 [http://www.nifc.gov/sixminutes/index\\_j.asp](http://www.nifc.gov/sixminutes/index_j.asp).

#### 25 **Unexploded Ordnance (UXO)**

26 General guidance is as follows: If UXO is suspected, do not enter the area.  
27 Small arms (rifle and shotgun) munitions areas should be flagged and avoided  
28 by fire personnel. For suspected larger munitions, the area must be avoided by  
29 fire personnel and contact local law enforcement bomb squad or nearest  
30 Department of Defense agency. Each unit will determine which employees are  
31 authorized to enter known or potential hazardous substance release sites, and the  
32 responsibility for these determinations remains with each agency administrator.  
33 For additional UXO safety information, see current IRPG page 31.

#### 34 **Hazardous Materials**

35 Employees that discover any unauthorized waste dump or spill site that contains  
36 indicators of potential hazardous substances (e.g., containers of unknown  
37 substances, pools of unidentifiable liquids, piles of unknown solid materials,  
38 unusual odors, or any materials out of place or not associated with an authorized  
39 activity) should follow the procedures in the IRPG on pages 26-27.

- 40 • Treat each site as if it contains harmful materials.
- 41 • Do not handle, move, or open any container, breathe vapors, or make  
42 contact with the material.

- 1 • Move a safe distance upwind from the site.
- 2 • Contact appropriate personnel. Generally, this is the Hazardous
- 3 Materials Coordinator for the local office.
- 4
- 5

6 The following general safety rules shall be observed when working with  
7 chemicals:

- 8 • Read and understand the Material Safety Data Sheets.
- 9 • Keep the work area clean and orderly.
- 10 • Use the necessary safety equipment.
- 11 • Label every container with the identity of its contents and appropriate
- 12 hazard warnings.
- 13 • Store incompatible chemicals in separate areas.
- 14 • Substitute less toxic materials whenever possible.
- 15 • Limit the volume of volatile or flammable material to the minimum
- 16 needed for short operation periods.
- 17 • Provide means of containing the material if equipment or containers
- 18 should break or spill their contents.
- 19

#### 20 **Emergency Non-Wildland Fire Response-Hazardous Materials:**

21 Wildland firefighters have the potential to be exposed to hazardous materials  
22 released while performing their jobs. Hazardous material or waste may be  
23 found on public and tribal lands in a variety of forms (e.g. clandestine drug lab  
24 waste, mining waste, and illegal dumping).

25  
26 In order to meet 29 CFR 1910.120 and to ensure familiarity with hazardous  
27 materials releases all wildland firefighters will complete a one-time, two hour  
28 First Responder awareness training course and an annual refresher.

#### 30 **Emergency Non-Wildland Fire Response-Emergency Medical Response:**

31 Medical emergency response is not a function of wildland fire suppression  
32 resources. Wildland firefighters are not trained and equipped to perform  
33 emergency medical response duties and should not be a part of a pre-planned  
34 response that requires these duties. When wildland firefighters encounter  
35 emergency medical response situations, their effort should be limited to  
36 immediate care (e.g. first aid, first responder actions they are trained and  
37 qualified to perform).

#### 39 **Roadside Response:**

40 Positioning of vehicles and employee awareness is paramount when responding  
41 to incident in close proximity to roadways. Refer to Appendix E-6 "Roadside  
42 Incident Response" which highlights tactical considerations for roadway  
43 responses.

#### 45 **Responding to Wildland Fires in or near Oil and Gas Operations:**

1 Oil and gas production across the United States has increased dramatically and  
2 has an impact on wildland fire suppression operations and can expose  
3 firefighters to safety and health hazards. For lands that have oil and gas  
4 operations within their fire suppression jurisdiction, the following is the  
5 minimum standard operating procedures to help ensure the health and safety of  
6 wildland firefighters:

- 7 • Firefighters receive annual oil and gas hazard recognition and  
8 mitigation training.
- 9 • Local units shall complete a JHA for wildland fire suppression  
10 activities in oil and gas areas and provide firefighter a copy with a  
11 briefing.
- 12 • Establish notification procedures and protocols to contact gas and oil  
13 companies.
- 14 • Assign gas and oil Resource Advisors (RA) to each incident.
- 15 • Ensure at least one member of each squad, engine crew, misc overhead,  
16 etc are assigned a Hydrogen Sulfide (H<sub>2</sub>S) gas monitors.
- 17 • Provide training to firefighters assigned monitors on use, maintenance,  
18 and threshold data (10PPM) for H<sub>2</sub>S for gases.
- 19 • If H<sub>2</sub>S gas in encountered, immediately disengage and leave affected  
20 area.
- 21 • Report all exposure incidents to appropriate individuals.

22  
23 For more information, and training refer to the following websites:

- 24 • [http://gacc.nifc.gov/rmcc/dispatch\\_centers/r2drc/Handbook Oil & Gas Well.pdf](http://gacc.nifc.gov/rmcc/dispatch_centers/r2drc/Handbook_Oil_&_Gas_Well.pdf)
- 25
- 26 • [http://www.nifc.gov/sixminutes/dsp\\_discussion.php?id=177](http://www.nifc.gov/sixminutes/dsp_discussion.php?id=177)
- 27 • [http://www.nifc.gov/sixminutes/dsp\\_discussion.php?id=195](http://www.nifc.gov/sixminutes/dsp_discussion.php?id=195)
- 28 • [http://www.wildfirelessons.net/documents/Final Maverick Lessons Learned Review.pdf](http://www.wildfirelessons.net/documents/Final_Maverick_Lessons_Learned_Review.pdf)
- 29

### 30 **Safety For Non-Operational Personnel Visiting Fires**

31 The BIA recognizes the need for Agency Administrators, other agency  
32 personnel, dignitaries, and members of the new media, etc. to visit incidents.

33  
34 The following standards apply to all visitors.

- 35 • **Visit to Incident Base**
  - 36 • The minimum requirements for PPE at an incident base are the
  - 37 same as all field locations.
  - 38 • Lace-up shoes with non-slip soles and heels
  - 39 • Long trousers
  - 40 • Long-sleeve shirt
  - 41
  - 42
- 43 • **Visits to the Fireline**
  - 44 When visiting the fireline, there are two major considerations: required
  - 45 PPE, and the required physical fitness and training requirements which

1 vary based on whether or not the visitor is escorted or unescorted.  
2 Escorts must be qualified at the Single Resource Boss level.

3  
4  
5 **PPE Required:**

- 6 • 8-inch leather lace boots with non-slip soles and heels
- 7 • Long trousers made of flame-resistant material
- 8 • Long-sleeve shirt made of flame-resistant material
- 9 • Hard hat
- 10 • Leather gloves
- 11 • Fire shelter and hand tool
- 12 • Water canteen

13  
14 **Training and Physical Fitness Requirements**

- 15 • If Escorted:
  - 16 • No previous training required.
  - 17 • No specific physical fitness requirements; however, managers must
  - 18 able to walk in mountainous terrain and be in good physical
  - 19 condition with no known limiting conditions.
  - 20 • Visitors must receive training in the proper use of PPE.
  - 21 • Requirement for handtool and water to be determined by escort.
  - 22 • Deviation from this requirement must be approved by the IC for
  - 23 other non-escorted support personnel involved in vehicle
  - 24 operations or other support functions on established roadways and
  - 25 working in areas which pose no fire behavior threat.
- 26 • If Unescorted
  - 27 A fitness level of Moderate is required, plus successful completion of
  - 28 the following:
    - 29 • Introduction to Fire Behavior (S-190)
    - 30 • Firefighter Training/Standards for Survival (S-130)
    - 31 • Annual Fireline Refresher Training (RT-130)

32  
33 **SAFENET**

34  
35 **Reporting Unsafe Situations in Wildland Fire Operations**

36 The DOI bureaus and the USDA Forest Service have created and adopted a  
37 common reporting system to report unsafe situations or close calls in wildland  
38 and prescribed fire operations, all-risk incidents, and training events. SAFENET  
39 denotes "safety and health network in fire operations."  
40

41 **The objectives of the form and process are:**

- 42 • To provide immediate reporting and correction of unsafe situations or
- 43 close calls in wildland fire.
- 44 • To provide a means of sharing safety information throughout the fire
- 45 community.

- 1 • To provide long-term data that will assist in identifying trends.
- 2 • Primarily intended for wildland and prescribed fire situations; however,
- 3 SAFENET can be used for training and all-hazard events.

4  
5  
6  
7 Individuals who observe or who are involved in an unsafe situation should  
8 initiate corrective action, if possible, and then report the occurrence using  
9 SAFENET. You are encouraged, but not required, to put your name on the  
10 report.

11  
12 There is no punishment or penalty for filing a SAFENET. SAFENET  
13 submissions may be done anonymously.

14  
15 Prompt replies to the originator (if name provided), timely action to correct  
16 problems, and discussion of filed SAFENET's at local level meetings encourage  
17 program participation and active reporting.

18  
19 SAFENET does not replace agency accident reporting criteria.

20  
21 SAFENET's may be filed electronically at: <http://safenet.nifc.gov/> or verbally  
22 by telephone @ 1-888-670-3938.

## 23 24 **Reviews and Investigation Procedures**

### 25 26 **Introduction**

27 Reviews and investigations are two methods used by wildland fire and aviation  
28 managers to ensure or improve safety and efficiency, determine if any policy or  
29 operational changes should be initiated, and identify any management system  
30 failures. Reviews are methodical examination of system elements based on  
31 improving performance and increasing safety. Investigations are detailed efforts  
32 to collect and interpret fact relating to an incident or accident. Investigations  
33 identify causes (organizational factors, workplace factors, and unsafe acts) and  
34 develop control measures to prevent recurrence.

35 Depending on the complexity and severity, reviews and investigations may be  
36 conducted at the local, regional, or national level.

### 37 38 **Policy**

39 DOI and BIA policy require investigation or review of all wildland fires with  
40 entrapments and/or fire shelter deployments, multiple injuries, fatalities, escaped  
41 prescribed fires, and property or equipment damage of more than \$250,000.

### 42 43 **Reviews**

44 Reviews address all or any aspects of wildland fire and aviation management.  
45 Reviews may focus on program oversight, safety, leadership, operations,  
46 specific incidents, preparedness, training, staffing, business practices, budget,

1 planning, interagency cooperation, and linkage between fire and other BIA  
2 programs. Review teams will develop findings and recommendations and  
3 establish priorities for action. Established review types are described below and  
4 include:

5 **Preparedness Reviews:** Fire Preparedness reviews assess fire programs for  
6 compliance with established fire policies and procedures as outlined in the  
7 current Wildland Fire and Aviation Program Management and Operations Guide  
8 and other pertinent policy documents. Reviews identify organizational,  
9 operational, procedural, personnel or equipment deficiencies, and recommend  
10 specific corrective actions. Interagency Preparedness Review Checklists can be  
11 found at:

12 [http://www.nifc.gov/policies/preparedness\\_reviews/preparedness\\_reviews.htm](http://www.nifc.gov/policies/preparedness_reviews/preparedness_reviews.htm)

13  
14 **After Action Review (AAR):** An AAR is a learning tool intended for the  
15 evaluation of an incident or project in order to improve performance by  
16 sustaining strengths and correcting weaknesses. An AAR is performed as  
17 immediately after the event as possible by the personnel involved. An AAR  
18 should encourage input from participants that is focused on:

- 19 • What was planned?
- 20 • What actually happened?
- 21 • Why did it happen?
- 22 • What can be done next time?
- 23 • For more information on AAR's refer to IRPG page 19.

24  
25 **Fire and Aviation Safety Team Reviews:** Fire and Aviation Safety Teams  
26 (FAST) assist Agency Administrators during periods of high wildfire activity by  
27 assessing policy, rules, regulations, and management oversight relating to  
28 operational issues. They can also:

- 29 • Provide guidance to ensure fire and aviation programs are conducted  
30 safely.
- 31 • Review compliance with Occupational Safety and Health  
32 Administration (OSHA) abatement plans, reports, reviews and  
33 evaluations.
- 34 • Review compliance with the Interagency Standards for Fire and  
35 Aviation Operations (Red Book) and Wildland Fire and Aviation  
36 Program Management and Operations Guide (Blue Book).

37  
38 FAST reviews can be requested through Geographic Area Coordination Centers  
39 (GACCs) to conduct reviews at the Regional and field office level. If a more  
40 comprehensive review is required, a national FAST can be ordered through the  
41 National Interagency Coordination Center (NICC).

42  
43 FASTs generally include a team leader, who is either a line officer or fire  
44 program lead with previous experience as a FAST member, a safety and health

1 manager, and other individuals with a mix of skills from fire and aviation  
2 management.  
3 The team's report includes an executive summary, purpose, objectives,  
4 methods/procedures, findings, recommendations, follow-up actions (immediate,  
5 long-term, national issues), and a letter delegating authority for the review.  
6  
7 FASTs will be chartered by their respective Geographic Area Coordinating  
8 Group (GACG) with a delegation of authority, and report back to the GACG.  
9  
10 The GMAC group or assigned representatives will conduct an entry briefing  
11 with the FAST to review and provide the DOA, specific tasks, issues, incidents/  
12 organizations/operations, and time frames allotted to complete the review(s)  
13 and/or provide assistance.  
14  
15 Each agency representative on the GMAC will notify the respective agency  
16 field-unit managers of the impending visit by the FAST. The Zone or Local  
17 Coordination Centers will notify the IC (when applicable) and / or the local unit  
18 manager responsible for the incident/organization/operation to be reviewed  
19 and/or assisted.  
20  
21 The FAST will provide an entry briefing with the Agency Administrator and  
22 assigned ICs responsible for oversight of an incident, or the appropriate manager  
23 of the organization/operation being reviewed or assisted.  
24  
25 The FAST should report regularly to the GMAC as agreed during the entry  
26 briefing. FAST operational activities are preeminent, however it is critical that  
27 significant findings, solutions, and observations be recorded and reported.  
28 Reports need not be lengthy nor include detail beyond that necessary to describe  
29 the conditions, mitigations, or other significant safety-related details of the  
30 assignment. The FAST will prepare a report for each  
31 incident/organization/operation reviewed or assisted (mission segment).  
32  
33 Upon completion of the mission the GMAC will conduct an out-briefing with  
34 the FAST, who will then present the final report. (See "FAST Final Report  
35 Outline", contained in Delegation of Authority – Template, Appendix E-8.)  
36  
37 The GMAC coordinator will forward a copy of the mission segment report(s) to  
38 the agency administrator or IC responsible for the  
39 incident/organization/operation which was/were reviewed or assisted for  
40 necessary follow up actions. The GMAC coordinator will forward a copy of the  
41 final report to all members of the GMAC and to the NICC coordinator at the  
42 National Interagency Fire Center (NIFC) in Boise, ID. The NICC coordinator  
43 will forward the copy to the Chair, FAST for necessary follow up actions, trend  
44 analysis, and archiving.  
45

1 Each GACC will be responsible for maintaining a list of qualified FAST  
2 members, identified by area(s) of expertise. If the organizing GMAC requires  
3 assistance to form a team, requests may be forwarded to the Federal Fire and  
4 Aviation Safety Team (FFAST), located at NIFC, for names of qualified  
5 members.

6

7 **Aviation Safety Assistance Team Review (ASAT):** During high levels of  
8 aviation activity it is advisable to request an Aviation Safety Assistance Team.  
9 The team's purpose is to assist and review helicopter and/or fixed wing  
10 operations on ongoing wildland fires. An ASAT team should be requested  
11 through the agency chain of command and operate under a delegation from the  
12 appropriate state/regional aviation manager or multi-agency coordinating group.  
13 Formal written reports will be provided to the appropriate manager. An ASAT  
14 should consist of:

- 15 1. Aviation Safety Manager
- 16 2. Operations Specialist (helicopter and/or fixed wing)
- 17 3. Pilot Inspector
- 18 4. Maintenance Inspector (optional)
- 19 5. Avionics Inspector (optional)

20

21 **National Cost Oversight Team Review:** A National Cost Oversight Team will  
22 be assigned to a fire with suppression costs of more than 5 million dollars. This  
23 team will include a Line Officer (team lead), Incident Business Specialist,  
24 Incident Management Team Specialist, and a Financial Specialist. The team lead  
25 and the receiving Agency Administrator can agree to add team members as  
26 needed to address issues specific to the incident, i.e., aviation, personnel, or  
27 contracting specialists.

28

29 **Individual Fire Review:** Individual fire reviews examine all or part of the  
30 operations on an individual fire. The fire may be ongoing or controlled. These  
31 reviews may be a local, state/regional, or national. These reviews evaluate  
32 decisions and strategies; correct deficiencies; identify new or improved  
33 procedures, techniques or tactics; determine cost-effectiveness; and compile and  
34 develop information to improve local, state/regional or national fire management  
35 programs.

36

37 **Lessons Learned Review (LLR):** The LLR provides the wildland fire  
38 community an immediate learning opportunity in the form of a written report in  
39 an effort to identify underlying factors that could lead to future accidents and/or  
40 provide reasons for successes-all in support of organizational learning and  
41 accident prevention. This process bridges the gap between the after action  
42 review (performed on site immediately after the operation and conducted by the  
43 participants themselves) and the accident investigation (formally mandated  
44 effort to identify causes and develop control measures). LLRs provide an outside  
45 perspective with appropriate technical experts assisting involved personnel in  
46 identifying root causes and sharing findings and recommendations.

1

**2 Incident/Accidents Requiring an Investigation**

3 The following provides guidance and establishes procedures for  
4 incident/accident investigations, and should be used as a guide for this  
5 procedure. Investigations for the following categories are required, and must be  
6 conducted by a trained Team Leader and Chief Investigator. Initial notification  
7 to the National Office of Forestry and Fire Management is mandatory. All  
8 investigations will follow the policy outlined in the DOI Departmental Manual,  
9 Part 485, Chapter 7 (485 DM 7).

10

**11 Entrapment**

12 Defined by NWCG as situations where personnel are unexpectedly caught in a  
13 fire behavior-related, life-threatening position where planned escape routes and  
14 safety zones are absent, inadequate, or have been compromised. Entrapments  
15 may or may not include deployment of a fire shelter for its intended purpose,  
16 and they may or may not result in injury. Entrapment may result in a serious  
17 wildland fire accident, a non-serious wildland fire accident or a near-miss.

18

**19 Incidents with Potential and/or Non-Serious Injury**

20 Include wildland fire-related mishaps that result in serious or non-serious  
21 injuries involving multiple personnel, near accidents (which would have resulted  
22 in a serious injury or fatality), substantial loss of property (less than \$250,000),  
23 or are so complex and fraught with operational discrepancies that it has the  
24 potential to produce an accident, serious injury, or fatality given a similar  
25 environment or set of circumstances that existed at the time of the incident.

26

**27 Wildland Fire Serious Accident**

28 Defined as accidents where one or more fatalities occur and/or three or more  
29 personnel are inpatient hospitalized as a direct result, or in support of, wildland  
30 fire operations, and substantial property or equipment damage of \$250,000 or  
31 more occurs.

32

**33 Shelter deployment**

34 May occur in situations where individuals are not entrapped. However, any time  
35 a shelter is deployed (other than for training purposes), regardless of  
36 circumstances, notification to the National Fire and Aviation Safety Officer is  
37 required. Level of investigation will be determined at the national level.

38

**39 Serious Accident Investigation (SAI) Process**

40 Immediately following an incident or accident identified in any of the  
41 preceding categories, the following groups and individuals should be notified:  
42 Agency Superintendent, BIA National Wildland Fire and Aviation Safety  
43 Specialist, law enforcement (if appropriate), National Interagency Coordination  
44 Center (NICC), Regional FMO, and BIA Director, Branch of Fire Management.

45

1 Following initial notifications, the Director, Branch of Fire Management will  
2 form the investigation team and coordinate their dispatch through the National  
3 Interagency Coordination Center (NICC). Investigation team composition, as  
4 outlined in 485 DM 7, is as follows:

5 • **Fire Director**

6 The Fire Director(s) or designee(s) of the lead agency, or agency  
7 responsible for the land upon which the accident occurred, will:

- 8 • Notify the agency safety manager and Designated Agency Safety  
9 and Health Official (DASHO).
- 10 • Immediately appoint, authorize, and deploy an accident  
11 investigation team.
- 12 • Provide resources and procedures adequate to meet the team's  
13 needs.
- 14 • Receive the factual and management evaluation reports and take  
15 action to accept or reject recommendations.
- 16 • Forward investigation findings, recommendations, and corrective  
17 action plan to the DASHO (the agency safety office is the "office  
18 or record" for reports).
- 19 • Convene an accident review board/ board of review (if deemed  
20 necessary) to evaluate the adequacy of the factual and management  
21 reports and suggest corrective actions.
- 22 • Ensure a corrective action plan is developed, incorporating  
23 management initiatives established to address accident causal  
24 factors.

25  
26 • **Agency Administrator**

- 27 • Develop local preparedness plans to guide emergency response.
- 28 • Identify agencies with jurisdictional responsibilities for the  
29 accident.
- 30 • Provide for and emphasize treatment and care of survivors.
- 31 • Ensure the Incident Commander secures the accident site.
- 32 • Conduct an in-briefing to the investigation team.
- 33 • Facilitate and support the investigation as requested.
- 34 • Implement Critical Incident Stress Management (CISM).
- 35 • Notify home tribal leadership.
- 36 • Prepare and issue required 24 and 72 hour reports.

37  
38 • **Team Leader**

39 A senior BIA management official, at the equivalent agency  
40 superintendent level who receives a Delegation of Authority (DOA)  
41 from the Regional Director, and then acts to direct the investigation and  
42 serve as the point of contact with the BIA safety office and Bureau  
43 Designated Agency Safety and Health Official (DASHO).

44  
45 • **Chief Investigator**

- 1 A qualified accident investigation specialist responsible for direct  
2 management of all investigation activities. The chief investigator  
3 reports to the team leader.  
4
- 5 • **Accident Investigation Advisor**  
6 An experienced safety and occupational health specialist or manager  
7 who acts as an advisor to the team leader, to ensure the investigation  
8 focus remains on safety and health issues. The accident investigation  
9 advisor also works to ensure that strategic management issues are  
10 examined.  
11
  - 12 • **Technical Specialists**  
13 Personnel who are qualified and experienced in specialized  
14 occupations, activities, skills, and equipment, addressing specific  
15 technical issues such as fire operations, fire behavior, weather, and  
16 terrain.  
17
- 18 The senior Agency Administrator/Line Officer with jurisdiction  
19 (usually the Regional Director) will receive the factual and  
20 management reports once they have been completed by the  
21 Investigation Team. The Agency Administrator/Line Officer, in  
22 conjunction with the BIA National office of Forestry and Fire  
23 Management, will convene a board of review (if necessary) to evaluate  
24 the adequacy of the factual and management reports and suggest  
25 corrective actions.  
26

### 27 **The Final Report**

28 Within 45 days of the incident, a Factual Report (FR) and a Management  
29 Evaluation Report (MER) will be produced by the investigation team to  
30 document facts, findings, and recommendations and forward to the Designated  
31 Agency Safety and Health Official (DASHO) through the Agency Fire  
32 Director(s).  
33

### 34 **Factual Report**

35 This report contains a brief summary or background of the event, and facts  
36 based only on examination of technical and procedural issues related to  
37 equipment and tactical fire operations. It does not contain opinions, conclusions,  
38 or recommendations. Names of injured personnel are not to be included in this  
39 report (reference them by position). Post-accident actions should be included in  
40 this report (emergency response attribute to survival of a victim, etc) Factual  
41 Reports will be submitted to Wildland Fire Lessons Learned Center (WFLLC)  
42 by the BIA National Wildland Fire and Aviation Safety Specialist, and posted  
43 at: <http://www.wildfirelessons.net/Reviews.aspx>  
44

### 1 **Management Evaluation Report (MER)**

2 The MER is intended for internal use only and explores management policies,  
3 practices, procedures, and personnel performance related to the accident. The  
4 MER categorizes findings identified in the factual report and provides  
5 recommendations to prevent or reduce the risk of similar accidents. The MER  
6 includes the following sections:

- 7 • **Executive Summary:** A brief narrative of the facts involving the  
8 accident. Keep this section short. Readers can refer to the factual report  
9 if they want more detail.
- 10 • **Findings:** From the factual report.
- 11 • **Recommendations:** Recommendations are prevention measures  
12 management may take to prevent similar accidents. The  
13 recommendations must be reasonable, feasible, relate to the cause(s) of  
14 the accident, and allow for definitive closure. Depending upon the  
15 scope of impact there commendations can be implemented by a local  
16 unit, the state/regional office or the national office. The team should  
17 specify who should implement the recommendations.
- 18 • **Enclosures:** Information not contained in the Factual Report, but which  
19 the team feels necessary to support their recommendations. Since this  
20 report can be obtained by the public under certain circumstances, do  
21 not include anything that is not needed to substantiate  
22 recommendations.

### 23 24 **Processes Common to Serious and Non-Serious Wildland Fire** 25 **Investigations**

26  
27 **Site Protection:** The site of the incident should be secured immediately and  
28 nothing moved or disturbed until the area is photographed and visually  
29 reviewed. Exact locations of injured personnel, entrapments, injuries, fatalities,  
30 and the condition and location of personal protective equipment, property, and  
31 other equipment must be documented.

32  
33 **Management of Involved Personnel:** Treatment, transport, and follow up care  
34 must be immediately arranged for injured and involved personnel. The agency  
35 administrator or delegate should develop a roster of involved personnel and  
36 supervisors and ensure they are available for interviews by the investigation  
37 team. The agency administrator should consider relieving involved supervisors  
38 from fireline duty until the preliminary investigation has been completed.  
39 Attempt to collect initial statements from the involve individuals prior to a  
40 Critical Incident Stress Management (CISM) session.

41 **Critical Incident Stress Management (CISM):** CISM is the responsibility of  
42 local agency administrators, who should have individuals pre-identified for  
43 critical incident stress debriefings.

44  
45 Individuals or teams may be available through Employee Assistance Programs  
46 (EAP's). A Critical Incident Stress Defusing should be provided no more than 8

1 hours after an incident, or if possible, it should be provided immediately (one to  
2 two hours) after the incident, and usually takes 30 minutes to 1 hour. A Critical  
3 Incident Stress Debriefing should occur between 24 to 72 hours after the  
4 incident, and usually takes 1-3 hours.

5 Refer to the Agency Administrator's Guide to Critical Incident Management  
6 (PMS 926), available at:

- 7 • <http://www.nwcg.gov/pms/pubs/pms926.doc>

8  
9 **24-Hour-Preliminary Report:** This report contains only the most  
10 obvious and basic facts about the accident. It will be completed and forwarded  
11 by the agency administrator responsible for the jurisdiction where the accident  
12 occurred. Names of injured personnel are not to be included in this report  
13 (reference them by position).

14  
15 **72-Hour Expanded Report:** This report provides more detail about the  
16 accident and may contain the number of victims, severity of injuries, and  
17 information focused on accident prevention. It will be completed and forwarded  
18 by the SAIT. Names of injured personnel are not to be included in this report  
19 (reference them by position).

#### 20 21 **Investigation Report Standard Format**

- 22 • **Executive Summary:** A brief narrative of the facts involving the  
23 accident including dates, locations, times, name of incident,  
24 jurisdiction(s), number of individuals involved, etc.
- 25 • **Narrative** - A detailed chronological narrative of events leading up to  
26 and including the accident, as well as rescue and medical actions taken  
27 after the accident. This section should spell out in detail who, what, and  
28 where.
- 29 • **Investigation Process:** A brief narrative stating the team was assigned  
30 to investigate the accident. It should include a standard statement that  
31 human, material, and environmental factors were considered. If one of  
32 these factors is determined to be non-contributing to the accident, it  
33 should be addressed first and discounted. For example, if the  
34 investigation revealed that there were no environmental findings that  
35 contributed to the accident, simply note the fact and move on to the  
36 next factor. Human factors or material factors paragraphs should not be  
37 formulated so as to draw conclusions, nor should they contain  
38 adjectives or adverbs that describe and thus render an opinion into  
39 pertinent facts.
- 40 • **Findings:** Findings are developed from the factual information and are  
41 based on the weight of evidence, professional knowledge, good  
42 judgment and are listed in chronological order. Findings must be  
43 substantiated by the factual data within the report.
- 44 • **Discussion:** Provide a brief explanation of factual and other pertinent  
45 information that lead to the finding(s).

- 1 • **Recommendations:** Recommendations are prevention measures that should be  
2 taken to prevent similar accidents. Provide recommendations that are consistent  
3 with the findings and identify at which level the action needs to occur.
- 4 • **Conclusions and Observations:** Investigation team's opinions and inferences  
5 may be captured in the section.
- 6 • **Maps/Photographs/Illustrations:** Graphic information used to document and  
7 visually portray facts.
- 8 • **Appendices:** Reference materials (e.g., fire behavior analysis, equipment  
9 maintenance reports, and agreements).
- 10 • **Records:** Factual data and documents used to substantiate facts  
11 involving the accident.

## 12 **Firefighter Burn Injury Protocol**

13 The following procedures will be used when DOI employees sustain burn injuries,  
14 regardless of agency jurisdiction. These procedures will also apply to federal employees,  
15 casuals, and other personnel covered by the Federal Employee's Compensation Act who  
16 are burned during a wildland fire operation within DOI jurisdiction.

### 18 **Procedures**

19 After on-site medical response, initial medical stabilization, and evaluation(s)  
20 are completed, the Agency Administrator, or designee will coordinate with the  
21 attending physician to ensure that an employee whose injuries meet any of the  
22 following burn injury criteria (identified by the American Burn Association as  
23 warranting immediate referral to an accredited burn center) is immediately  
24 referred to the nearest regional burn center. A list of possible burn care facilities  
25 can be found at: <http://www.blm.gov/nifc/st/en/prog/fire/im.html>. For additional  
26 NWCG incident emergency medical information refer to:  
27 <http://www.nwcg.gov/teams/shwt/iemtg/index.html>

29 The decision to refer the employee to a regional burn center will be made  
30 directly by the attending physician or may be requested of the physician by the  
31 agency Administrator, or designee.

33 The Agency Administrator or designee for the incident will coordinate with the  
34 employee's home unit to identify a Workers Compensation liaison to assist the  
35 injured employee with workers compensation claims and procedures.

37 Workers Compensation benefits may be denied in the event that the attending  
38 physician does not agree to refer the firefighter to a regional burn center. During  
39 these rare events, close consultation must occur between the attending physician,  
40 the firefighter, the Agency Administrator or designee and/or firefighter  
41 representative, and the firefighter's physician to assure that the best possible  
42 care for the burn injuries is provided.

### 44 **Burn Injury Criteria**

45 It is imperative action is expeditious, as burn injuries are often difficult to  
46 evaluate and may take 72 hours to manifest themselves. When there is any

- 1 doubt as to the severity of the injury, the required action is to immediately refer  
2 and transport the employee to a regional burn center.
- 3 • Partial thickness burns (second degree) involving greater than 5% Total  
4 Body Surface Area (TBSA).
  - 5 • Burns involving the face, hands, feet, genitalia, perineum, or major  
6 joints.
  - 7 • Third-degree burns of any size are present.
  - 8 • Electrical burns, including lightning injury are present.
  - 9 • Inhalation injury is suspected.
  - 10 • Burns are accompanied by traumatic injury (such as fractures).
  - 11 • Individuals are unable to immediately return to full duty.

### 12 **Critical Incident Management**

13 The National Wildfire Coordinating Group has published the Agency  
14 Administrator's Guide to Critical Incident Management (PMS 926, NFES  
15 1356). The guide is designed as a working tool to assist Agency Administrators  
16 with the chronological steps in managing a critical incident. This document  
17 includes a series of checklists which outlines Agency Administrator's and other  
18 functional area's oversight and responsibilities. The guide is not intended to  
19 replace local emergency plans or other specific guidance that may be available,  
20 but should be used in conjunction with existing SOPs. Local units should  
21 complete the guide and review and update at least annually. This guide is only  
22 available electronically at: <http://www.nwccg.gov/pms/pubs/pms926.doc>  
23

### 24 **Critical Incident Stress Management (CISM)**

25 A critical incident may be defined as a fatality or other event that can have  
26 serious long term affects on the agency, its employees and their families or the  
27 community. Such an event may warrant stress management assistance. The  
28 local Agency Administrator may choose to provide CISM for personnel having  
29 been exposed to a traumatic event.

30  
31 The availability of CISM teams and related resources (e.g. defusing teams)  
32 varies constantly – it is imperative that local units pre-identify CISM resources  
33 that can support local unit needs.

34  
35 Some incident management teams have Human Resource Specialists (HRSP) on  
36 their teams who may be able to assist local units with CISM needs.