# Chapter 7
# 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.

## Policy

Firefighter and public safety is our first priority. All fire management plans and activities must reflect this commitment. The commitment to and accountability for safety is a joint responsibility of all firefighters, managers, and administrators. Every supervisor, employee, and volunteer is responsible for following safe work practices and procedures, as well as identifying and reporting unsafe conditions.

Agency-specific Safety Policy Documents:

- ***BLM*** *– BLM Handbook 1112-1, DOI Occupational Safety and Health Program – Field Manual*
- ***NPS –*** *DO-50 and RM-50 Loss Control Management Guideline*
- ***FWS –*** *Service Manual 240 FW 1 Safety Program Management, 241 FW7, Firefighting, 241 FW 4, Risk Management*
- ***FS –*** *FSM 5100 and chapters, FSH-6709.11 Health and Safety Code Handbook*

For additional safety guidance, refer to:

- *Incident Response Pocket Guide* (IRPG) (PMS 461, NFES 1077)
    - ***FS –*** *USDA Forest Service website for Risk Management at https://www.fs.fed.us/managing-land/fire/safety.*

## Guiding Principles

The primary means by which we implement command decisions and maintain unity of action is through the use of common principles of operations. These principles guide our fundamental wildland fire management practices, behaviors, and customs, and are mutually understood at every level of command. They include Risk Management, Standard Firefighting Orders and Watch Out Situations, LCES and the Downhill Line Construction Checklist. These principles are fundamental to how we perform fire operations, and are intended to improve decision making and firefighter safety. They are not absolute rules. They require judgment in application.

## Goal

The goal of the fire safety program is to provide direction and guidance for safe and effective management in all activities. Safety is the responsibility of everyone assigned to wildland fire, and must be practiced at all operational levels from the national fire director, state/regional director, and unit manager to employees in the field. Agency administrators need to stress that firefighter and public safety always takes precedence over property and resource loss. Coordination between the fire management staff and unit safety officer(s) is essential in achieving this objective.

## Definitions

**Safety:** A measure of the degree of freedom from risk or conditions that can cause death, physical harm, or equipment or property damage.

**Hazard:** A condition or situation that exists within the working environment capable of causing physical harm, injury, or damage.

**Risk:** The likelihood or possibility of hazardous consequences in terms of severity or probability.

**Risk Management:** The process whereby management decisions are made and actions taken concerning control of hazards and acceptance of remaining risk.

## Risk Management Process

Fire operations risk management is outlined in the *NWCG Incident Response Pocket Guide (IRPG)*. The five step process provides firefighters and fire managers a simple, universal, and consistent way to practice risk management by:

- Establishing situation awareness by identifying hazards.
- Assessing hazard potential.
- Developing hazard controls and making risk management decisions.
- Implementing hazard controls.
- Supervising implementation and evaluating effectiveness.

## Job Hazard Analysis (JHA)/Risk Assessment (RA)

A completed JHA/RA is required for:

- "High risk" work activities, projects or tasks where unintended outcomes could result in serious injuries, illnesses, fatalities or significant property damage.
- Jobs that may require the employee to use non-standard personal protective equipment (PPE).
- Changes in equipment, work environment, conditions, policies, or materials.

Supervisors and appropriate line managers must ensure that established JHAs/RAs are reviewed and signed prior to any non-routine task or at the beginning of the fire season.

- ***BLM –*** *Additional RA information can be obtained at https://doimspp.sharepoint.com/sites/blm-wo-700/safetyhealthandemergency/SitePages/Risk%20Management.aspx.*
- ***FWS –*** *See also 240 FW 1, Exhibit 1, Job Hazard Assessment.*
- ***FS –*** *JHAs must include a description of the emergency medical procedures, identification of key individuals, and actions that will be taken to ensure prompt and effective medical care and evacuation. See FSH 6709.11, section 21.1 for more information. The FS Operational Risk Management Guide, process and forms for conducting a RA can be found on the USDA Forest Service website for Risk Management at https://www.fs.fed.us/managing-land/fire/safety.*

## Work/Rest

To mitigate fatigue, agency administrators, fire managers, supervisors, incident commanders, and individual firefighters should plan for and ensure that all personnel are provided a minimum 2:1 work/rest ratio (for every 2 hours of work or travel, provide 1 hour of sleep and/or rest). Work shifts that exceed 16 hours and/or consecutive days that do not meet the 2:1 work/rest ratio should be the exception. When this occurs, the following actions are required:

- Personnel will resume 2:1 work/rest ratio as quickly as possible.
- The incident commander or agency administrator will justify work shifts that exceed 16 hours and/or consecutive days that do not meet 2:1 work to rest ratio. Justification will be documented in the daily incident records, made available to the employee by the finance section/local unit, and must include mitigation measures used to reduce fatigue.
- The time officer's/unit leader's approval of the Emergency Firefighter Time Report (OF-288), or other agency pay document, certifies that the required documentation is on file and no further documentation is required for pay purposes.

The work/rest guidelines do not apply to aircraft pilots assigned to an incident. Pilots must abide by applicable Federal Aviation Administration (FAA) guidelines, or agency policy if more restrictive.

## Length of Assignment

### Assignment Definition

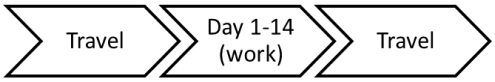
An assignment is defined as the time period (days) between the first full operational period at the first incident or reporting location on the original resource order and the last day worked prior to commencement of return travel to the home unit.

### Length of Assignment

Standard assignment length is 14 days, exclusive of travel from and to home unit, with possible extensions identified below. Time spent in staging and preposition status counts toward the 14-day limit, regardless of pay status, for all personnel, including incident management teams. Contracted aircraft are not

restricted by length of assignment. In order to limit disruption to operations, reduce strain on the ordering system and reduce unnecessary mobilization and demobilization of these high cost resources, exclusive use personnel are encouraged to utilize a personnel rotation schedule that meets staffing criteria required of the resource.

14-Day Scenario




**Days Off**

To assist in mitigating fatigue, days off are allowed during and after assignments. Agency administrators (incident host or home unit) may authorize time off supplementary to mandatory days off requirements.

The authority to grant a day off with pay lies within 5 U.S.C. 6104, 5 CFR 610.301-306, and 56 Comp. Gen. Decision 393 (1977).

After completion of a 14-day assignment and return to the home unit, two mandatory days off will be provided (2 after 14). Days off must occur on the calendar days immediately following the return travel in order to be charged to the incident (See Section 12.1-2) (5 U.S.C. 6104, 5 CFR 610.301-306, and 56 Comp. Gen. Decision 393 (1977). If the next day(s) upon return from an incident is/are a regular work day(s), a paid day(s) off will be authorized. Regulations may preclude authorizing this for non-NWCG and state/local employees.

- ***FS –*** *After completion of a 14-day assignment and return to the home unit, three mandatory days off will be provided (3 after 14).*

Pay entitlement, including administrative leave, for a paid day(s) off cannot be authorized on the individual's regular day(s) off at their home unit. Agencies will apply holiday pay regulations, as appropriate. A paid day off is recorded on home unit time records according to agency requirements. Casuals (AD) are not entitled to paid day(s) off upon release from the incident or at their point of hire.

Contract resources are not entitled to paid day(s) off upon release from the incident or at their point of hire.

- ***DOI –*** *After completion of a 14-day assignment and return travel, the mandatory days off will be charged to Administrative Leave (Code 061, Weather and Safety) if they fall on a regularly-scheduled work day.*

Home unit agency administrators may authorize additional day(s) off with compensation to further mitigate fatigue. If authorized, home unit program funds will be used.

**Assignment Extension**

Extensions beyond 14-day assignments should be made sparingly. Prior to assigning incident personnel to back-to-back assignments, their health,

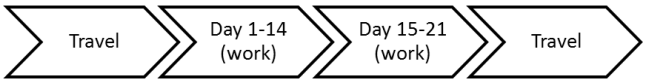
readiness, and capability must be considered. The health and safety of incident personnel and resources will not be compromised under any circumstance.

Assignments may be extended when:

- Life and property are imminently threatened.
- Suppression objectives are close to being met.
- A military battalion is assigned.
- Replacement resources are unavailable, or have not yet arrived.

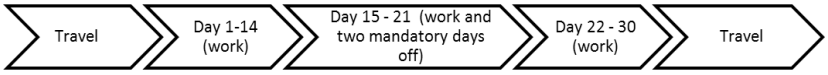
Upon completion of the standard 14-day assignment, an extension of up to an additional 14 days may be allowed (for a total of up to 30 days, inclusive of mandatory days off, and exclusive of travel).

21-Day Scenario




A 21-day assignment is exclusive of travel from and to home unit. Time spent in staging and preposition status counts toward the 21-day assignment, regardless of pay status, for all personnel, including incident management teams.

30-Day Scenario




An assignment longer than 22 days is exclusive of travel from and to home unit. Time spent in staging and preposition status counts toward the assignment, regardless of pay status, for all personnel, including incident management teams. For an assignment exceeding 21 days, two mandatory days off will be provided prior to the 22nd day of the assignment.

- ***FS –*** *For an assignment exceeding 21 days, two mandatory days off will be provided prior to the 22nd day of the assignment. Upon completion of the assignment and return to the home unit, three mandatory days off will be provided.*

Contracts, Incident Blanket Purchase Agreements (I-BPA), and Emergency Equipment Rental Agreements (EERA) should be reviewed for appropriate pay requirements and length of assignment. If the contract, I-BPA, or EERA do not address this, the incident Finance/Administration Section Chief or the procurement official should be consulted as to whether compensation for a day off is appropriate.

**Single Resource/Kind Extensions**

The section chief or incident commander will identify the need for assignment extension and will obtain the affected resource's concurrence. The section chief

and affected resource will acquire and document the home unit supervisor's approval.

The incident commander approves the extension. If a convened Geographic or National Multi-Agency Coordinating Group (GMAC/NMAC) directs, the incident commander approves only after GMAC/NMAC concurrence.

If the potential exists for reassignment to another incident during the extension, the home unit supervisor and the affected resource will be advised and must concur prior to reassignment.

**Incident Management Team Extensions**

Incident management team extensions are to be negotiated between the incident agency administrator, the incident commander, and the GMAC/NMAC (if directed).

**Maximum Consecutive Days Worked – Home Unit**

During extended periods of activity at the home unit, personnel will have a minimum of 1 day off in any 21-day period.

- ***FS –*** *During extended periods of activity in support of local fire management, personnel will have a minimum of 2 days off in any 14-day period.*

## Driving Standard

All employees driving motor vehicles are responsible for the proper care, operation, maintenance, and protection of the vehicle, and to obey all federal and state laws.

The use of government-owned, rented, or leased motor vehicles is for official business only. Unauthorized use is prohibited.

**General Driving Policy**

- Employees must have a valid state driver's license in their possession for the appropriate vehicle class before operating the vehicle. Operating a government-owned or rental vehicle without a valid state driver's license is prohibited.
- All drivers whose job duties require the use of a motor vehicle will receive initial defensive driver training within three months of entering on duty and refresher driver training every three years thereafter.
  - ***BLM/FS –*** *Driver training is required prior to operating a vehicle for official purposes.*
- All traffic violations or parking tickets will be the operator's responsibility.
- All driving requiring a CDL will be performed in accordance with applicable Department of Transportation regulations.
- Drivers and all passengers are required to use provided seat belts at all times when the motor vehicle is in motion.
  - ***BLM –*** *BLM Form 1112-11 will be used to document every fire and aviation employee's authorization to drive government vehicles or to*

*drive private or rental vehicles for government business. BLM Form 1112-11 replaces form OF-345, form DI-131, and any equivalent form that has been created for local or state level use. Employees are required to self-certify their physical ability to operate vehicles which they are authorized to use. Drivers of vehicles that require a Commercial Driver's License may be required to have additional driver, medical, and fitness testing as required by local and/or state laws. Employees will immediately inform their supervisor and update BLM Form 1112-11 if a change in medical condition impedes their driving ability or if a state driving privilege is restricted for any reason. Supervisors will review the updated form and take appropriate action as necessary. BLM Form 1112-11 is available at https://doimspp.sharepoint.com/sites/blm-oc/dbs/eForms%20Library/Forms/Safety.aspx.*

- ***BLM/NPS/FWS –*** *Employees, volunteers, and contractors (for BLM, this includes cooperators) are prohibited from using any mobile voice/data communication or electronic data retrieval device while operating a government owned, leased, or rented vehicle or while operating a personally-owned vehicle for official government business, and are further prohibited from using any government-owned mobile communication or data retrieval device while operating a personally-owned vehicle. Government purchased two-way radios are exempt from this requirement. The use of any of these devices during an emergency situation (immediate threat to life) is limited to the extent necessary to convey vital information. When there is a passenger in the vehicle and the vehicle is in motion, the passenger shall manage communications to prevent driver distraction.*
- ***NPS –*** *For NPS employees engaged in activities other than wildfire or prescribed fire, refer to the current NPS Official Travel Driving Policy for restrictions.*
- ***FS –*** *Policy requires all operators of government owned, or leased vehicles to have a Forest Service issued Operator's Identification Card (OF-346) indicating the type of vehicles or equipment the holder is authorized and qualified to operate.*
- ***FS –*** *Drivers shall not engage in cellular phone or mobile radio communications while the vehicle is in motion unless actively engaged in an emergency such as wildland firefighting. During non-emergency situations, the driver shall identify a safe location to stop the vehicle and then engage in cellular phone or mobile radio communications. These restrictions apply whether or not hands-free technology is available.*

Employees operating a motor vehicle that meets any of the following criteria must possess a valid Commercial Driver's License (CDL) with all of the applicable endorsements:

- Has a gross combination weight rating or gross combination weight of 26,001 pounds or more, whichever is greater, inclusive of a towed unit(s) with a gross vehicle weight rating or gross vehicle weight of more than 10,000 pounds, whichever is greater; or
- Has a gross vehicle weight rating or gross vehicle weight of 26,001 pounds or more, whichever is greater; or
- Is designed to transport 16 or more passengers, including the driver; or
- Is of any size and is used in the transportation of hazardous materials. Hazardous materials means any material that has been designated as hazardous under 49 U.S.C. 5103 and is required to be placarded under subpart F of 49 CFR part 172 or any quantity of a material listed as a select agent or toxin in 42 CFR part 73.
    - ***DOI*** *– Employees under the age of 21 that possess a CDL may operate Commercial Motor Vehicles (CMV) across state lines for Interstate Commerce purposes under the following conditions:*
        - *Drivers with a CDL may operate a Commercial Motor Vehicle (CMV) in accordance with the issuing authority (i.e., the State) that issued the CDL and must comply with the issuing authority's CMV operational requirements and any special requirements and endorsements applicable to the CMV license classification of the CDL holder; and*
        - *Supervisors must annually establish and document that those drivers have a valid driver's license (i.e., that the license has not been suspended, revoked, canceled, or that he/she has not been otherwise disqualified from holding a license – 485 DM 16.3D (1)), have the ability to operate the vehicle(s) safely in the operational environment assigned (485 DM 16.3B (2)), and review and validate the employee's driving record (485 DM 16.3D (4)).*

**Non-Incident Operations Driving**

Refer to the current driving standards for each individual agency.

- ***BIA –*** *Per Indian Affairs Manual (IAM), Part 25, chapter 4: employees will not exceed eight hours of driving time (behind the wheel), to include use of specialized equipment, during a 16-hour duty day.*

**Mobilization and Demobilization**

To manage fatigue, every effort should be made to avoid off unit (excluding IA response) mobilization and demobilization travel between 2200 hours and 0500 hours.

**Incident Operations Driving**

This policy addresses driving by personnel actively engaged in wildland fire or all-hazard activities; this includes driving while in support, mobilization, and demobilization to an assigned incident, or during initial attack fire response (includes time required to control the fire and travel to a rest location).

- Agency resources assigned to an incident or engaged in initial attack fire response will adhere to the current agency work/rest policy for determining length of duty day.
- No driver will drive more than 10 hours (behind the wheel) within any duty-day.
- Multiple drivers in a single vehicle may drive up to the duty-day limitation provided no driver exceeds the individual driving (behind the wheel) time limitation of 10 hours.
- A driver shall drive only if they have had at least 8 consecutive hours off duty before beginning a shift. Exception to the minimum off-duty hour requirement is allowed when essential to:
  - Accomplish immediate and critical suppression objectives.
  - Address immediate and critical firefighter or public safety issues.
- As stated in the current agency work/rest policy, documentation of mitigation measures used to reduce fatigue is required for drivers who exceed 16 hour work shifts. This is required regardless of whether the driver was still compliant with the 10 hour individual (behind the wheel) driving time limitations.

### Fire Vehicle Operation Standards

Operators of all vehicles must abide by state traffic regulations. Operation of all vehicles will be conducted within the limits specified by the manufacturer. Limitations based on tire maximum speed ratings and GVWR restrictions must be followed. It is the vehicle operator's responsibility to ensure vehicles abide by these and any other limitations specified by agency or state regulations.

## Management Controls to Mitigate Risks to Responders

Management controls, engineering controls, equipment guards, and administrative procedures are the first line of defense against exposing an employee to a hazard. Personal protective equipment (PPE) will be used to protect employees against hazards that exist after all management controls are exhausted.

## Wildland Fire Field Attire

Polyester, polypropylene, and nylon materials are not to be worn, because most synthetic fibers melt when exposed to flame or extreme radiant heat. Personnel should wear only undergarments made of 100 percent or the highest possible content of natural fibers, aramid, or other flame-resistant materials.

## Personal Protective Equipment (PPE)

All personnel are required to use personal protective equipment (PPE) appropriate for their duties and/or as identified in JHAs/RAs. Employees must be trained to use safety equipment effectively.

Flame resistant clothing should be cleaned or replaced whenever soiled, especially when soiled with petroleum products. Flame resistant clothing will be

replaced when the fabric is so worn as to reduce the protection capability of the garment or is so faded as to significantly reduce the desired visibility qualities.

Any modification to personal protective equipment that reduces its protection capability such as iron-on logos, and stagging of pants, is an unacceptable practice and will not be allowed on fires.

**Required Fireline PPE**

- Wildland fire boots
- Fire shelter (M-2002)
- Helmet with chinstrap
- Goggles/safety glasses (as identified by JHAs/RAs)
- Ear plugs/hearing protection
- National Fire Protection Association (NFPA) 1977 compliant long-sleeved flame resistant shirt (yellow recommended)
- NFPA 1977 compliant flame resistant trousers
- Leather or leather/flame resistant combination gloves. Flame resistant flight gloves or NFPA 1977 compliant Driving Gloves can be used by heavy equipment operators, drivers and fireline supervisors when not using fireline hand tools.
- Additional PPE as identified by local conditions, Safety Data Sheet (SDS), or JHA/RA
    - ***FS –*** *Shirt, trousers, and gloves used by USFS personnel must meet Forest Service specification 5100-91 (shirt), 5100-92 (trousers), 6170-5 (gloves), or be NFPA 1977 compliant.*

**Wildland Fire Boot Standard**

Personnel assigned to wildland fires must wear a minimum of 8-inch high, lace-type exterior leather work boots with lug melt-resistant soles. The 8-inch height requirement is measured from the bottom of the boot's heel to the top of the boot. Alaska is exempt from the lug sole requirement.

All boots that meet the wildland fire boot standard as described above are required for firefighting and fireline visits, considered non-specialized PPE, and will be purchased by the employee (including AD/EFF) prior to employment.

The agencies have authorized payment of a boot stipend. See agency specific guidance for implementation.

**Fire Shelters**

New Generation Fire Shelters (M-2002, Forest Service Specification 5100-606) are required for all wildland firefighters. For more information, refer to https://www.nwcg.gov/committees/fire-shelter-and-personal-protective-equipment-subcommittee.

Training in inspection and deployment of fire shelters will be provided prior to issuance. Fire shelters do not have a shelf life; serviceability depends on the

shelter's condition. Firefighters will inspect their shelter at the beginning of each fire season and periodically throughout the year to ensure they are serviceable. Inspection criteria can be found at https://www.fs.fed.us/t-d/php/library_card.php?p_num=1151%202301P.

Training shelters will be deployed at required RT-130, Wildland Fire Safety Training Annual Refresher. No live fire exercises for the purpose of fire shelter deployment training will be conducted.

Fire shelters will be carried in a readily accessible manner by all line personnel. The deployment of shelters will not be used as a tactical tool. Supervisors and firefighters must never rely on fire shelters instead of using well-defined escape routes and safety zones. When deployed on a fire, fire shelters will be left in place if it is safe to do so and not be removed pending approval of authorized investigators. Firefighters must report the shelter deployment incident to their supervisor as soon as possible.

### Head Protection

Personnel must be equipped with helmets and wear them at all times while in the fire area. Helmets must be equipped with a chinstrap, which must be fastened while riding in, or in the vicinity of, helicopters. Acceptable helmets for fireline use must meet *NFPA 1977 Standard on Protective Clothing and Equipment for Wildland Fire Fighting* requirements.

- ***BLM –*** *Helmets and hats used for protection from impact of falling and flying objects and from limited electric shock and burn must meet the specifications of American National Standards Institute Z89.1-2009. Equivalent helmet meeting ANSI Z89.1-2009 Type 1, Class G or NFPA 1977.*

Helmets consist of the shell and the suspension, which work together as a system. Both components require frequent inspection and maintenance. Detailed helmet inspection procedures can be found at https://www.nwcg.gov/committees/fire-shelter-and-personal-protective-equipment-subcommittee.

### Eye and Face Protection

The following positions require the wearing of eye protection (meets *ANSI Z87.1* Standards):

- Nozzle operator
- Chainsaw operator/faller
  - The ANSI Z87.1 eye and face protection will be worn during all chainsaw operations involving cleaning and fueling. Steel mesh safety goggles are allowed only during falling and bucking chainsaw/crosscut saw operations.
  - Steel mesh glasses are not allowed for any chainsaw operations.
- Helibase and ramp personnel
- Wildland fire chemical mixing personnel
- Other duties may require eye protection as identified in a specific JHA/RA

Full-face protection in the form of a face shield in compliance with *ANSI Z87.1* shall be worn when working in any position where face protection has been identified as required in the job-specific JHA/RA: Batch Mixing for Terra-Torch®, power sharpener operators, etc.

**Hearing Protection**

Personnel who are exposed to a noise level in excess of 85db must be provided with, and wear, hearing protection. This includes, but is not limited to:

- Chainsaw operators/fallers
- Pump operators
- Helibase and aircraft ramp personnel
- Wildland fire chemical mixing personnel

Other duties may require hearing protection as identified in a specific JHA/RA.

Employees may be required to be placed under a hearing conservation program as required by *29 CFR 1910.95*. Consult with local safety and health personnel for specifics regarding unit hearing conservation programs.

**Neck Protection**

Face and neck shrouds are not required PPE. The use of shrouds is not required and should be as a result of onsite risk analysis. If used, face and neck shrouds shall meet the requirements of FS specification 5100-601 or *NFPA 1977 Standard on Protective Clothing and Equipment for Wildland Fire Fighting.*

Shrouds should be positioned in a manner that allows for immediate use. For additional information see MTDC Tech Tip *Improved Face and Neck Shroud for Wildland Firefighters, 2004* (0451-2323-MTDC) at https://www.fs.fed.us/t-d/pubs/htmlpubs/htm04512323/index.htm.

**Leg Protection**

All chainsaw operators will wear chainsaw chaps meeting the United States Forest Service Specification 6170-4F or 4G. Swampers should wear chaps when the need is demonstrated by a risk analysis considering proximity to the sawyer, slope, fuel type, etc. All previous Forest Service specification chainsaw chaps must be removed from service. Chainsaw chaps shall be maintained in accordance with MTDC Publication, *Inspecting and Repairing Your Chainsaw Chaps – User Instructions* (0567-2816-MTDC) available at https://www.fs.fed.us/t-d/pubs/htmlpubs/htm05672816/page01.htm.

**Respiratory Protection**

Respiratory protection should only be implemented once engineering and administrative controls are exhausted. The need for respiratory protection during wildland fire operations must be determined by each agency. The requirements for respirator use are found in *29 CFR Part 1910.134*.

Only NIOSH-approved respirators shall be used. Several respiratory-type products are marketed to wildland firefighters but are not NIOSH-approved (e.g., shrouds with filtration devices).

Managers and supervisors will not knowingly place wildland firefighters in positions where exposure to toxic gases or chemicals that cannot be mitigated and would require the use of self-contained breathing apparatus.

Managers will not sign cooperative fire protection agreements that would commit wildland firefighters to situations where exposure to toxic gases or chemicals would require the use of self-contained breathing apparatus.

- ***FS –*** *FSM 5130, Self-Contained Breathing Apparatus – Wildland firefighters may use only SCBA which are compliant with NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services. SCBA may only be used when contaminants from vehicle, dump, structure, or other non-wildland fuel fire cannot be avoided while meeting wildland fire suppression objectives (29 CFR 1910.134, Respiratory Protection). If such an apparatus is not available, avoid exposure to smoke from these sources. The acquisition, training, proper use, employee health surveillance programs, inspection, storage, and maintenance of respiratory protection equipment must comply with applicable National Fire Protection Association standards and 29 CFR 1910.134, and be justified by a Job Hazard Analysis or Risk Assessment (RA). Where the acquisition and use of an SCBA is approved, it may be carried only on a fire engine and its use must be consistent with FSM 5130.*

**Specialized or Non-Standard Personal Protective Equipment (PPE)**

Specialized PPE not routinely supplied by the agency (e.g., prescription safety glasses, static-resistant clothing, cold weather flame resistant outerwear, etc.) required to perform a task safely must be procured in accordance with agency direction, and supported by a JHA/Risk Assessment.

A JHA/Risk Assessment must be completed and reviewed by the Unit Safety Officer and the supervisor's approval is required. Items must meet agency and industry standards for specific intended use. Cold weather flame resistant outerwear shall be in compliance with NFPA 1977, *Standard on Protective Clothing and Equipment for Wildland Fire Fighting*. All cold weather inner wear should be composed of 100% or the highest possible content of natural fibers (cotton, wool or silk) or other flame resistant material such as aramid.

**High Visibility Vests**

In order to meet *23 CFR 634*, high visibility apparel should be worn whenever a firefighter is working on or in the right of way of a public roadway.

Employees must wear high visibility safety apparel that meets ANSI/ISEA 107-2004, Class 2 or 3, or ANSI/ISEA 207-2006.

***Exceptions***

The high visibility safety apparel should not be worn if:

- There is a reasonable chance that the employee may be exposed to flames, high heat, or hazardous materials.

- The high visibility garment hinders an employee's ability to do their job because it prevents necessary motion or because it limits access to necessary equipment such as radios or fire shelters.

Additional information is available in the Missoula Technology and Development Center (MTDC) report, *High-Visibility Garments and Worker Safety on Roadways* (1251-2818P-MTDC) at https://www.fs.fed.us/t-d/pubs/pdfpubs/pdf12512818/pdf12512818Pdpi300.pdf.

## Fireline Safety

### Incident Briefings

Fire managers must ensure that safety briefings are occurring throughout the fire organization, and that safety factors are addressed through the IC or their designee and communicated to all incident personnel at operational briefings. The identification and location of escape routes and safety zones must be stressed. A briefing checklist can be found in the *Incident Response Pocket Guide (IRPG).*

### LCES – A System for Operational Safety

LCES will be used in all operational briefings and tactical operations as per the *Incident Response Pocket Guide (IRPG).*

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

### Right to Refuse Risk

Every individual has the right to turn down unsafe assignments. When an individual feels an assignment is unsafe, they also have the obligation to identify, to the degree possible, safety alternatives for completing that assignment. The *IRPG* contains a process for properly refusing risk.

### Aerial Drop Safety Considerations

- Maintain prompt communications with aerial resources. Prioritize air-to-ground as appropriate.
- Establish a designated monitor for air-to-ground communications. Specific drops may not be accomplished unless communications are maintained and clearance is assured. Keep informed of the aerial firefighting objectives, tempo and aircraft type.
- Anticipate when line clearance may be requested. Tempo can change very quickly as aerial resources become available. Anticipate the clearance requirement based on the volume of delivery.
- Evaluate the environment for gravity hazards (tree limbs, rocks, logs and dispensed retardant/water). Broken trees and tree limbs, rolling rocks and logs all move with gravity. If clearance is downhill of the drop, heightened awareness is warranted.

- If clearance is impractical, where fuels and/or terrain obstruct lateral clearance, notify aerial supervisor or the initial attack resource immediately.
- If escape is not possible, lie face-down with head toward incoming aircraft with hardhat in place. Hold hand tool away from your body, and if possible, grasp something firm to prevent being carried or rolled about by the dropped liquid.

**Smoke and Carbon Monoxide**

It is important to note that smoke is just one of the potential risks faced by wildland firefighters. Site-specific hazards and mitigations need to be identified (using JHA/RA) to reduce firefighter exposure to smoke and potential carbon monoxide which includes evaluating and balancing all the risks associated with the operational objectives.

From an incident management perspective, smoke impacts need to be analyzed and a risk assessment completed using the ICS-215A, Incident Action Plan Safety Analysis worksheet. For additional information, reference NWCG memorandum EB-M-12-006, *Monitoring and Mitigating Exposure to Carbon Monoxide and Particulates at Incident Base Camps* at https://www.nwcg.gov/executive-board/correspondence. Ordering Air Resource Advisors should be considered when smoke impacts are of concern in the ICS-215A. Ordering Air Resources Advisors to the maximum extent practicable as identified by the 2019 Dingell Act on all Type 1 fires and consider assigning ARAs on Type 2 fires.

**Location of Fire Camps and Plans to Remain in Place**

Fire camps should be located in areas that will service the incident for the long term without having to relocate. Due to such factors as extreme fire behavior, fire camp locations might be compromised. Incident commanders are to be especially vigilant to quickly identify situations that may put their fire camp(s) or any other adjacent fire camps in jeopardy. As such, planning for evacuation and/ or remain in place actions should be considered. Evacuation plans at a minimum shall include:

- Documented risk assessment
- Trigger points
- Egress routes
- Transportation for all personnel
- Accountability for all personnel
- Those individuals not meeting PMS 310-1 qualifications will be considered escorted visitors as addressed elsewhere in this chapter.
    - ***FS –*** *At a minimum, plans shall also include:*
        - *ICP protection strategy referenced in the IAP.*
        - *Live-ability considerations including air quality index guidelines, functionality of location and facilities, and safety factors for post burn conditions.*

### Standard Safety Flagging

The following flagging is recommended for wildland fire activities:

- Hot-pink flagging marked "Escape Route" (NFES 0566). Crews with colorblind members may wish to carry and utilize fluorescent chartreuse flagging (NFES 2396).
- Hazards. Yellow with black diagonal stripes, 1-inch wide (NFES 0267). If the above recommendation is not utilized on an incident, the incident will need to identify the selected color and make it known to all firefighters.

## Emergency Medical Planning and Services

To provide for quick and effective response, all units (including dispatch centers) will develop and implement plans that specify emergency procedures, actions, and roles/responsibilities to ensure injured personnel are provided prompt and effective medical care and evacuation.

### Incident Medical Emergency Management Planning

In 2010, NWCG approved the standardized incident emergency protocol developed by the Dutch Creek Serious Accident Task Team, and issued direction that these emergency medical procedures be adopted by all IMTs during daily operations.

- Although some of the procedures are specific to larger Type 1 and Type 2 incidents when key unit leader positions are filled, these same procedures and protocols can be adapted for local unit use when managing Type 5, 4, and 3 incidents as well as during normal field operations. Local unit emergency medical plans must take into account all types and management levels of incidents.
- All IMTs will use the standard Medical Incident Report in their Medical Plan and Communication protocols. It is found in the *IRPG* under Emergency Medical Care Guidelines (red pages) and with the Medical Plan (ICS-206-WF) form available at https://www.nwcg.gov/publications/ics-forms.

To achieve successful medical response, agency administrators will ensure that their units have completed the following items prior to each field season:

- A Medical Emergency Plan that identifies medical evacuation options, local/county/state/federal resource capabilities, capacities, ordering procedures, cooperative agreements, role of dispatch centers, and key contacts or liaisons.
- Standardized incident and communication center protocols identified in the Medical Incident Report section of the *IRPG*.
- For incidents that require the preparation of an IAP, Form ICS-206-WF will be used. This form is available at https://www.nwcg.gov/publications/ics-forms.

### Air Ambulance Coordination

Unit and state/regional-level fire program managers should ensure that procedures, processes, and/or agreements for use of local and regional air

ambulance services are stated in writing and effectively coordinated between the fire programs, the dispatch/logistics centers, and the service providers. These procedures, processes, and/or agreements should address contact frequencies, coordinate format requirements, and capabilities/limitations of the air ambulance (e.g., night flying, unimproved helispots, and weather restrictions).

### Incident Emergency Medical Services

Incident medical information can be found on the NWCG Emergency Medical Committee website at https://www.nwcg.gov/committees/emergency-medical-committee.

NWCG has published *Clinical Treatment Guidelines for Wildland Fire Medical Units* (PMS 551). These guidelines establish a national approach for medical care during large incidents that expand the typical emergency management services (EMS) scope of practice to include the mission of managing and maintaining the health and wellness of wildland fire personnel. These guidelines are available at https://www.nwcg.gov/publications/551.

Home units that choose to utilize and support higher level medical responders to provide medical support for internal agency medical emergencies (beyond basic first aid/CPR) may do so; however, certification and credentialing must follow respective state laws and protocols unless there is other agency direction.

## Required Treatment for Burn Injuries

The following standards will be used when any firefighter sustains burn injuries, regardless of agency jurisdiction.

After on-site medical response, initial medical stabilization, and evaluation are completed, the agency administrator or designee having jurisdiction for the incident and/or firefighter representative (e.g., crew boss, medical unit leader, compensations for injury specialist, etc.) should discuss and coordinate with the attending physician to ensure that a firefighter whose burn injuries meet any of the following burn injury criteria is appropriately referred to the nearest regional burn center. Burn injuries are often difficult to evaluate and may take 72 hours to manifest themselves. When there is any doubt as to the severity of or if criteria are met for a burn injury, the recommended action is to work closely with the treating physician to facilitate either a digital picture or telemedicine consult with a burn center or the referral and transport of the burned employee to the nearest burn center. It should be kept in mind, however, that not all burns require referral to a burn center. Special consideration should be given to referring a burned firefighter to a burn center if there is poor pain control during care at the medical facility. The following criteria from the American Burn Association (ABA) are meant to help guide the patient referral decision process.

The decision to refer a firefighter not meeting the following criteria to a regional burn center is made directly by the attending physician or may be requested of the physician by the agency administrator or designee having jurisdiction and/or firefighter representative after discussing medical follow-up beyond the ER. A

possible solution is a referral to a burn center out-patient clinic for follow-up care after the ER visit.

After initial medical stabilization and evaluation are completed in a medical facility, the decision to refer the employee to a specialty care physician/facility is made only by the attending physician. Workers' compensation benefits may be denied in the event the employee is transported to a specialty care physician/facility without a referral from the attending physician after already being seen by a medical provider. A report prepared by a Physicians' Assistant must be countersigned by a physician to be accepted as medical evidence. A definition of "physician" can be found at https://www.dol.gov/owcp/dfec/regs/compliance/DFECfolio/FECA-PT3/#30100.

The agency administrator or designee for the incident will coordinate with the employee's home unit to identify a workers' compensation liaison to assist the injured employee with workers' compensation claims and procedures.

During these rare events, close consultation must occur between the attending physician, the firefighter, the agency administrator or designee and/or firefighter representative, the firefighter's physician (if they have one), and the burn center to assure that the best possible care for the burn injuries is provided.

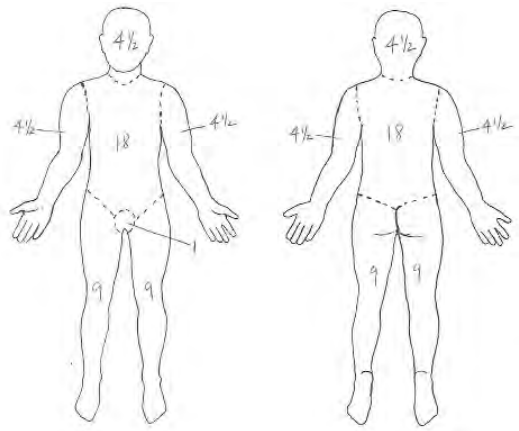
**ABA Burn Injury Criteria**

- Partial thickness burns (second degree) involving greater than 10% Total Body Surface Area (TBSA).
- Burns (second degree) involving the face, hands, foot, genitalia, perineum, or major joints.
- Third-degree burns of any size are present.
- Electrical burns, including lightning injury, or chemical burns are present.
- Inhalation injury is suspected.
- Burn injury in someone with preexisting medical disorders that could complicate management, prolong recovery or affect mortality (e.g., diabetes).
- Any patient with burns and concomitant trauma (such as fractures) in which the burn injury poses the greatest risk of morbidity or mortality. In such cases, if the trauma poses the greater immediate risk, the patient may be initially stabilized in a trauma center before being transferred to a burn unit. Physician judgment will be necessary in such situations and should be in concert with the regional medical control plan and triage protocols.
- Burn injury in someone who will require special social, emotional or rehabilitative intervention (PTSD, severe anxiety, etc.).

***Severity Determination***

- **First Degree** (Superficial) – Red, sometimes painful.
- **Second Degree** (Partial Thickness) – Skin may be red, blistered, swollen, and painful to very painful.

- **Third Degree** (Full Thickness) – Whitish, charred, or translucent, no pin prick sensation in burned area.




***Percentage Total Body Surface Area (TBSA) – Rule of 9s or Rule of Palms***

Rule of 9s (pictures on previous page): The body is divided into sections of 9 percent, or multiples of 9 percent, each as per the drawing.

Rule of Palms: Patient's palm equals 1% of their body surface. Estimate how many times the patient's palm could be placed over the burned areas to estimate the percentage of body that has been burned.

A map as well as a search engine of burn care facilities can be found at https://ameriburn.org/public-resources/find-a-burn-center/.

For additional NWCG incident emergency medical information see https://www.nwcg.gov/committees/emergency-medical-committee under "Guides and Agency Policies."

## Explosives, Munitions, and Unexploded Ordnance

When encountering explosives, munitions, unexploded ordnance (UXO), or suspected UXO, never pick up, handle, uncover, or touch suspected explosives or military munitions. Retreat and secure the area from entry. Immediately notify the local dispatch office, and gather as much information as possible from a safe distance.

Gather the following information and provide it to the dispatch center:

- Location of the explosive/munitions using a map, GPS coordinates, or landmarks (use of a GPS receiver is acceptable because it is a receive-only device).
- Picture of the explosive if it can be obtained from a safe distance.
- Who discovered the explosive/munitions and how they can be contacted.
- Condition of the explosive/munitions (e.g., buried, partially exposed, fully exposed, deteriorated, or punctured).

- Number and type of explosive/munitions visible (e.g., blasting caps, dynamite, bomb, grenade, etc.).
- Estimated size of explosive/munitions (e.g., length and diameter).
- Distinctive features of explosive/munitions (e.g., shape, color, markings).
- Nearby structures, if any (so inhabitants can be contacted and evacuated if necessary).
- Public access to the vicinity (i.e., open or closed to motor vehicles).

Never spend more time near munitions, suspected explosives, or UXO than is absolutely necessary. Only collect the above information as long as it is safe to do so from a distance. Never compromise safety to collect information.

**Notifications**

Local dispatch centers are responsible for notifying:

- Agency law enforcement;
- Unit safety officer;
- Agency administrator; and
- Local law enforcement.

**Discovery of Explosives/Munitions/UXO Associated with Former Defense Sites**

The military retains liability and responsibility for munitions removal and for remedial actions on all lands transferred (or transferring) from the military to the land management agencies, and is responsible for explosives safety at former defense sites. The military must be notified for all UXO on these lands.

Local law enforcement is responsible for contacting the appropriate military authority. If the responsible military unit is unknown, then local law enforcement should contact the U.S. Army Forces Command (FORSCOM), 52nd Ordnance Group (EOD), at its 24-hour emergency response number, (931) 431-3824.

For additional UXO safety information, see the current *IRPG*.

## Industrial and Naturally Occurring Hazardous Materials Exposure

Firefighters can potentially be exposed to hazards in the wildland fire environment. Encountered hazards can be both human and environmentally borne.

This section provides information and mitigations for most commonly encountered industrial and naturally occurring potential exposures. Recognizing there may be unique/area specific hazardous exposures (e.g., fungus causing valley fever, erionite, coal seams), the following standards apply to all hazards:

- Identifying unit-specific environmental hazards;
- Develop Risk Assessments/Job Hazard Analyses (RA/JHAs) for those hazards;
- Develop and provide specific training and standard operating procedures (SOPs);

- Provide briefings/training for those who may be exposed;
- If exposure is suspected, immediately disengage and leave the area; and
- Seek immediate medical attention if exposure symptoms occur.

**Hazardous Materials Response**

Hazardous materials response or control is not a functional responsibility of wildland fire suppression resources. These incidents have tremendous potential to cause significant health and life safety issues. In order to protect the health and safety of agency personnel, no employee shall be directed, or dispatched (including self-dispatching) to an incident involving hazardous materials unless they are provided with the required personal protective equipment and the appropriate certification level. Agency personnel on incidents involving hazardous material will limit their actions to those emergency services necessary for the immediate protection of themselves and the public and the prompt notification of appropriate public safety agencies. All wildland firefighters who are likely to witness or discover hazardous substances are required to complete their agency's First Responder Awareness (Level I) program.

**Dump and Spill Sites**

Employees that discover any unauthorized waste dump or spill site that contains indicators of potential hazardous substances (e.g., containers of unknown substances, pools of unidentifiable liquids, piles of unknown solid materials, unusual odors, or any materials out of place or not associated with an authorized activity) should take the following precautions:

- Follow the procedures in the *IRPG*;
- Treat each site as if it contains harmful materials;
- Do not handle, move, or open any container, breathe vapors, or make contact with the material;
- Move a safe distance upwind from the site;
- Contact appropriate personnel. Generally, this is the hazardous materials coordinator for the local office; and
- Firefighters need to immediately report hydrogen sulfide ($H_2S$) or potential exposure and seek immediate medical care.
    - ***BLM/NPS/FWS –*** *Agencies require that all field personnel complete First Responder Awareness training. Firefighters are required to take an annual refresher for Hazardous Material protocol.*

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

- Read and understand the Safety Data Sheets.
- Keep the work area clean and orderly.
- Use the necessary safety equipment.
- Label every container with the identity of its contents and appropriate hazard warnings.
- Store incompatible chemicals in separate areas.
- Substitute less toxic materials whenever possible.

- Limit the volume of volatile or flammable material to the minimum needed for short operation periods.
- Provide means of containing the material if equipment or containers should break or spill their contents.

**Wildland Fires In or Near Oil/Gas Operations**

For units with oil and gas operations within their jurisdiction, the following are the minimum standard operating procedures to help ensure the health and safety of wildland firefighters:

- Firefighters shall receive annual oil and gas hazard recognition and mitigation training;
- Local unit shall complete a JHA/RA for wildland fire activities in oil and gas areas and provide a copy with a briefing to all local and incoming resources;
- Establish Response Protocols and proper decontamination procedures to minimize exposure to additional employees, equipment, and facilities. Protocols will include notification procedures to respective oil and gas company(s);
- Ensure oil and gas resource advisors are consulted;
- Ensure that at least one member of each squad or engine crew is knowledgeable in the use and data interpretation of the $H_2S$ gas monitor. Training on the device will include at a minimum:
  - Equipment charging and maintenance of sensors;
  - Startup, zeroing, calibration, and bump testing procedures as recommended by the manufacturer; and
  - How the monitor elicits a warning alarm (visual, auditory, vibration).
- Understand Peak Reading, Short Term Exposure Limits (STEL), and Time Weighted Averages;
  - Understand how to set the monitors alarm threshold.
- The monitor's alarm shall be set at the current American Conference on Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (10 PPM 2008) and STEL (15 PPM 2008);
- If $H_2S$ gas is encountered, immediately disengage and leave area; and
- Do not establish incident base camps or staging areas in or near oil and gas operations.

The following websites provide additional information and training resources:

- https://www.wildfirelessons.net/irdb
- https://www.nfpa.org/
- A template for briefing incident management teams is available in the "Additional Resources" section of the NIFC Safety website at https://www.nifc.gov/programs/safety.

### Wildland Fires In or Near Radioactive Locations

Abandoned uranium mines and other potential radioactive sites exist in many areas of public lands. When these areas are identified, local management should provide information and direction on operations to be used. General knowledge and understanding of potential radiation exposure is necessary for wildland fire program management to make valid risk management decisions in these areas.

The following website provides information and general guidelines.
https://www.nifc.gov/standards/guides/red-book

### Wildland Fires In or Near Coal Seams

Coal is naturally occurring black or brownish rock usually located in rock strata in layers or veins, coal beds or coal seams. Exposed coal seams are abundant through southeast and central Montana, western North Dakota, South Dakota, and Alaska. A coal seam fire is the smoldering of an exposed or underground coal deposit.

***Risks:*** Coal seam fires pose a serious problem that can be a hazard to firefighter's health and safety. Coal seam fires can emit toxic gases, including carbon monoxide, sulfur dioxide and other potentially hazardous gases.

Carbon Monoxide is a colorless, odorless and tasteless gas that can be highly toxic. Sulfur Dioxide is a colorless gas with a characteristic of an irritating, pungent odor and is also highly toxic. Some symptoms of exposure to these gases may include headaches, nausea, dizziness, fatigue, shortness of breath, coughing and eye irritation.

Because of the variances in symptoms and exposure levels, seek medical attention for a complete diagnosis if firefighters have been exposed to toxic gases from coal seam fires and symptoms persist. Additionally firefighters exposed to coal ash, smoke or vapor should trade in their PPE for fresh PPE. Individually bag PPE that has been contaminated.

***Required Actions/Precautions:*** Firefighters are typically not equipped or trained for coal seam fires and should not attempt to extinguish such fires with hand tools and engines.

Putting water on coal seam fires is normally useless. Mitigation crews will need to excavate the burning coal seam and mix the hot material with soil and water to cool. The area can be reclaimed by backfilling the seam and re-vegetating the disturbed area.

Signs of a coal seam fire may include a rotten egg smell, smoking white ash and continuous or non-continuous lines of what appears to be smoldering black rock (coal) where the flame may or may not be visible. Avoid low lying terrain in known coal seam fire areas especially early morning when air temps are cool. Gas tends to sink when air is cool and will accumulate in low lying areas.

Do not depend on sense of smell to detect coal seam fires. At high concentrations the sense of smell will be almost immediately overwhelmed or

become numb. At lower levels, the sense of smell will slowly deteriorate as levels build in the blood stream. Do not stand downwind of coal smoke under any conditions especially during suppression operations.

Report the location of all coal seam fires to the incident commander or supervisor. ICs should notify agency representatives of locations of coal seam fires. Agencies should have resource advisors notify incoming incident command teams and firefighting resources of known locations of exposed coal seams, coal mines or abandoned coal mines adjacent to ongoing incidents and the risks and precautions to take when working around coal seam fires.

### Hazardous Water Sources

Many water sources used during wildland fire operations may appear harmless, but contain hazardous materials (e.g., hydraulic fracturing fluid, cyanide, sewage, corrosives). These hazardous water sources may pose threats to personnel health and firefighting equipment. Indicators that a water source may be hazardous include proximity to active or inactive mining operations, gas/oil wells, water treatment facilities, or other industrial operations. In many cases, these hazardous water sources may not be fenced and no warning signs may be present.

Fire personnel should evaluate water sources to ensure they do not contain potentially hazardous materials. If unsure of the contents of a water source, personnel should not utilize the water source until its contents can be verified. Dispatch centers, Resource Advisors, or on-scene personnel can assist with verification of safe water sources. Information about known hazardous water sources should be included in operational briefings.

### Hydrogen Cyanide (HCN) Exposure

Synthetic materials such as plastics, nylon, Styrofoam®, and polyurethane can produce HCN. HCN exposure can disrupt the body's ability to use oxygen, cause asphyxia, and cause carbon monoxide poisoning. Common items such as sofas, carpeting, vehicles, and other products routinely found in the wildland can produce smoke with HCN.

Symptoms of HCN poisoning include bitter almond odor on breath, burning taste in mouth, stiffness of lower jaw, feeling of numbness or constriction in throat, weakness, and headache.

Follow hazardous materials protocols contained in the *IRPG* to mitigate exposure to HCN. If personnel may have been exposed to HCN, immediate referral to a health care facility capable of toxicology testing and treatment of HCN exposure is required.

## Safety for Personnel Visiting Fires

A wide variety of personnel such as agency administrators, other agency personnel, dignitaries, members of the news media, etc., may visit incidents. The following standards apply to all visitors.

**Visits to Incident Base Camps or Non-Fireline Field Locations**

Recommended field attire includes:

- Lace-up, closed toe shoes/boots with traction soles and ankle support.
- Trousers.
- Long-sleeve shirt.
- For agency personnel, the field uniform is appropriate.

**Fireline Logistical Support**

Personnel performing fireline logistical support duties (e.g., bus drivers, supply delivery/retrieval, incident drivers, non-tactical water delivery, etc.) must meet the following requirements:

- Complete fire shelter training.
- Required Fireline PPE as referenced in the personal protective equipment section of this chapter.
- Receive an incident briefing.
- Ensure adequate communications are established.
- Other requirements (if any) established by the incident commander.
- A work capacity test (WCT) is not required unless required for a specific position defined in the PMS 310-1.

**Minimum Requirements for Visits to the Fireline/RX Burns**

Visits (such as media visits or political/administrative tours) to hazardous areas of the fire or areas that pose a fire behavior threat will be managed by meeting the requirements below:

- Visits to the fireline must have the approval of the IC/burn boss.
- Visitors must maintain communications with the DIVS or appropriate fireline supervisor of the area they are visiting.
- Required fireline PPE as referenced in the personal protective equipment section of this chapter.
- Required field attire:
  - Undergarments made of 100 percent or the highest possible content of natural fibers or flame-resistant materials.
- Required equipment/supplies:
  - Hand tool
  - Water canteen

Visitors to the fireline/RX burns may be “Non-Escorted” or “Escorted” depending on the following requirements:

**Non-Escorted Visits**

Visitors must have an incident qualification with a minimum physical fitness level of “light” to visit the fireline unescorted.

- Must have adequate communications and radio training.
- Completed the following training:
  - *Introduction to Fire Behavior* (S-190)
  - *Firefighter Training* (S-130)

  - *Wildland Fire Safety Training Annual Refresher* (RT-130), including fire shelter training
- Deviation from these requirements must be approved by the IC or burn boss.

**Escorted Visits**

All visitors lacking the above training and physical requirements must be escorted while on the fireline.

- Visitors must receive training in the proper use of fireline PPE.
- Requirement for hand tool and water to be determined by escort.
- Visitors must be able to walk in mountainous terrain and be in good physical condition with no known limiting conditions.
- Escorts must be minimally qualified as single resource boss.
- Deviation from these requirements must be approved by the IC or burn boss.

**Helicopter Observation Flights**

Visitors who take helicopter flights to observe fires must receive approval from the incident commander, a passenger briefing, and meet the following requirements:

- Required PPE:
  - Flight helmet
  - Leather boots
  - Flame-resistant clothing
  - Approved flame-resistant gloves; aviation life support equipment (ALSE) standard

Occasional passengers/visitors have no training requirement, but a qualified flight manager must supervise loading and unloading of passengers.

**Fixed-Wing Observation Flights**

No PPE is required for visitors and agency personnel who take fixed-wing flights to observe fires. However, a passenger briefing is required, and the flight level must not drop below 500 feet AGL.

## 6 Minutes for Safety Training

It is recommended that daily 6 Minutes for Safety training be conducted that focuses on high-risk, low frequency activities that fire personnel may encounter during a fire season. A daily national 6 Minutes for Safety briefing can be found at https://www.nwcg.gov/committees/6-Minutes-for-safety or within the National Incident Management Situation Report.

## SAFENET

SAFENET is a form, process, and method for reporting and resolving safety concerns encountered in any aspect (e.g., preparedness, training, etc.) of wildland fire or all hazard incident management. The information provided on

the form will provide important, safety-related data to the National Interagency Fire Center, and determine long-term trends and problem areas.

The objectives of the form and process are:

- To provide immediate reporting and correction of unsafe situations or close calls in wildland fire.
- To provide a means of sharing safety information throughout the fire community.
- To provide long-term data that will assist in identifying trends.
- Primarily intended for wildfire and prescribed fire situations, however, SAFENET can be used for training and all hazard events.

Individuals who observe or who are involved in an unsafe situation shall initiate corrective actions if possible, and then report the occurrence using SAFENET. You are encouraged, but not required, to put your name on the report.

Prompt replies to the originator (if name provided), timely action to correct the problem, and discussion of filed SAFENETs at local level meetings encourage program participation and active reporting.

SAFENET is not the only way to correct a safety-related concern and it does not replace accident reporting or any other valid agency reporting method. It is an efficient way to report a safety concern. It is also a way for front line firefighters to be involved in the daily job of being safe and keeping others safe, by documenting and helping to resolve safety issues. SAFENETs may be filed:

- Electronically at https://safenet.nifc.gov;
- Verbally by telephone at 1-888-670-3938; or
- By SAFENET Field Card.

The SAFENET Field Card can be used by wildland fire personnel to immediately identify and report unsafe situations or close calls that should receive immediate resolution/mitigation. If the situation cannot be resolved at the local/incident level, the reporting individual is encouraged to follow the formal SAFENET submission process stated above. SAFENET Field Cards are available at https://safenet.nifc.gov.

## Safety Alert System

The Safety Alert system is intended as another mechanism to provide safety related information to the field. The expectation is that the messages will continue to be forwarded within the fire community, and that they will receive a wide distribution in a relatively short period of time. There are three levels of Safety Alert:

- Safety Warning – A warning of a safety hazard that poses an imminent threat to life or property.
- Safety Advisory – An advisory on safety information that isn't related to imminent or potential threats of injury.

- Safety Bulletin – A factual confirmation of a serious accident, incident or fatality within the fire community.

A database of all bulletins can be found at https://www.nwcg.gov/alerts.

## Accident/Injury Reporting

The Occupational Safety and Health Administration (OSHA) mandates that all accidents and injuries be reported in a timely manner. This is important for the following reasons:

- To protect and compensate employees for incidents that occur on-the-job.
- To assist supervisors and safety managers in taking corrective actions and establish safer work procedures.
- To determine if administrative controls or personal protective equipment are needed to prevent a future incident of the same or similar type.
- To provide a means for trend analysis.

### Agency Reporting Requirements

Employees are required to immediately report to their supervisor every job-related accident. Managers and supervisors shall ensure that an appropriate level of investigation is conducted for each accident and record all personal injuries and property damage. Coordinate with your human resources office or administrative personnel to complete appropriate Office of Workers' Compensation (OWCP) forms. Reporting is the responsibility of the injured employee's home unit regardless of where the accident or injury occurred.

- ***BLM/NPS/FWS –*** *Employees will report accidents using the Safety Management Information System (SMIS) at https://www.smis.doi.gov. Supervisors shall complete SMIS report within six working days after the accident/injury.*
- ***FS –*** *Employees will use the eSafety system through the Forest Service Dashboard at http://fsweb.asc.fs.fed.us/HRM/owcp/WorkersComp_index.php//.*
- ***BIA –*** *In addition to reporting accidents using the Safety Management Information System (SMIS), fire management officers will complete the Early Alert at https://www.bia.gov/bia/ots/dfwfm/bwfm/safety, and submit to regional fire management officers within 24 hours after the accident/injury.*

### OSHA Reporting Requirements

For accidents/injuries meeting the Serious Accident criteria (found in chapter 18), OSHA must be notified within 8 hours.

For other work-related accidents/injuries requiring in-patient hospitalizations, amputations, or loss of an eye, OSHA must be notified within 24 hours. In-patient hospitalization is defined as formal admission to the in-patient service of a hospital or clinic for care or treatment (does not include admission for observation or diagnostic testing only).

Supervisors will coordinate with the unit safety manager where the accident/injury occurred to ensure notifications are made to the appropriate OSHA regional office.

OSHA reporting information is available at https://www.osha.gov/recordkeeping2014/index.html.

## Critical Incident Management

The NWCG has published the *Agency Administrator's Guide to Critical Incident Management* (PMS 926). This guide is designed as a working tool to assist agency administrators with the chronological steps in managing a critical incident. This document includes a series of checklists, which outline agency administrator's and other functional area's oversight and responsibilities. The guide is not intended to replace local emergency plans or other specific guidance that may be available, but should be used in conjunction with existing agency policy, line of duty death (LODD)/loss of human life (LOHL) handbooks, or other critical incident guidance. Local units should complete the guide or equivalent, and review and update at least annually.

## Critical Incident Stress Management (CISM)

CISM is a comprehensive, integrated, systematic, and multicomponent crisis intervention program that was developed to manage traumatic experiences. It is a package of tactics that are designed to mitigate the impact of a traumatic event, facilitate normal recovery processes, restore adaptive function, and identify people who would benefit from additional support services. CISM interventions services can be applied to wildland fire, law enforcement, or other emergency responses. CISM interventions should never be used for grief counseling, mediation or a replacement for mental health care professionals. The agency administrator is responsible for identifying an event as a critical incident.

### Critical Incident Peer Support (CIPS)

Critical Incident Peer Support (CIPS) is an intervention tactic designed for colleagues or people of "mutual respect" to help each other through difficult situations. It is the foundation of the interagency wildland fire CISM program since peers understand the unique traumas, fears, job related stresses, and offer instant trust, respect, credibility, and empathy. Camaraderie among peers has credibility that academic training cannot create.

### Critical Incident Peer Support Groups

CIPS Groups are assembled at the time of request and can be ordered through the dispatch/coordination system. For more information go to https://gacc.nifc.gov/cism/.

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