

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.usda.gov/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.

1 Goal

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

10 Definitions

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

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

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

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

19 Risk Management Process

20 Fire operations risk management is outlined in the *IRPG*. The five-step process
21 provides firefighters and fire managers a simple, universal, and consistent way
22 to practice risk management by:

- 23 • Establishing situation awareness by identifying hazards.
- 24 • Assessing hazard potential.
- 25 • Developing hazard controls and making risk management decisions.
- 26 • Implementing hazard controls.
- 27 • Supervising implementation and evaluating effectiveness.

28 Job Hazard Analysis/Risk Assessment

29 A completed job hazard analysis (JHA)/risk assessment (RA) is required for:

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

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

- 1 • **BLM** – Additional RA information can be obtained at
2 [https://doimspp.sharepoint.com/sites/blm-wo-](https://doimspp.sharepoint.com/sites/blm-wo-700/safetyhealthandemergency/SitePages/Risk%20Management.aspx)
3 [700/safetyhealthandemergency/SitePages/Risk%20Management.aspx](https://doimspp.sharepoint.com/sites/blm-wo-700/safetyhealthandemergency/SitePages/Risk%20Management.aspx).
- 4 • **FWS** – See also 240 FW 1, Exhibit 1, Job Hazard Assessment.
- 5 • **FS** – JHAs must include a description of the emergency medical
6 procedures, identification of key individuals, and actions that will be taken
7 to ensure prompt and effective medical care and evacuation. See FSH
8 6709.11, section 21.1 for more information. The FS Operational Risk
9 Management Guide, process, and forms for conducting an RA can be found
10 on the USDA Forest Service website for risk management at
11 <https://www.fs.usda.gov/managing-land/fire/safety>.

12 **Work/Rest**

- 13 To mitigate fatigue, agency administrators, fire managers, supervisors, incident
14 commanders (IC), and individual firefighters should plan for and ensure that all
15 personnel are provided a minimum 2:1 work/rest ratio (for every 2 hours of
16 work or travel, provide 1 hour of sleep and/or rest). Work shifts that exceed 16
17 hours and/or consecutive days that do not meet the 2:1 work/rest ratio should be
18 the exception. When this occurs, the following actions are required:
- 19 • Personnel will resume 2:1 work/rest ratio as quickly as possible.
 - 20 • The IC or agency administrator will justify work shifts that exceed 16 hours
21 and/or consecutive days that do not meet 2:1 work to rest ratio. Justification
22 will be documented in the daily incident records, made available to the
23 employee by the finance section/local unit, and must include mitigation
24 measures used to reduce fatigue.
 - 25 • The time officer's/unit leader's approval of the Emergency Firefighter Time
26 Report (OF-288), or other agency pay document, certifies that the required
27 documentation is on file and no further documentation is required for pay
28 purposes.
- 29 The work/rest guidelines do not apply to aircraft pilots assigned to an incident.
30 Pilots must abide by applicable Federal Aviation Administration (FAA)
31 guidelines, or agency policy if more restrictive.

32 **Length of Assignment**

33 **Assignment Definition**

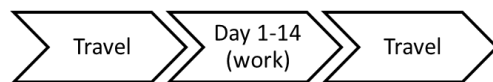
34 An assignment is defined as the time period (days) between the first full
35 operational period at the first incident or reporting location on the original
36 resource order and the last day worked prior to commencement of return travel
37 to the home unit.

38 **Length of Assignment**

39 Standard assignment length is 14 days, exclusive of travel from and to the home
40 unit, with possible extensions identified below. Time spent in staging and
41 preposition status counts toward the 14-day limit, regardless of pay status, for all
42 personnel, including incident management teams (IMT). Contracted aircraft are

1 not restricted by length of assignment. In order to limit disruption to operations,
 2 reduce strain on the ordering system and reduce unnecessary mobilization and
 3 demobilization of these high-cost resources, exclusive-use aviation personnel
 4 are encouraged to utilize a personnel rotation schedule that meets staffing
 5 criteria required of the resource.

6 14-day Scenario



8 **Days Off**

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

12 The authority to grant a day off with pay lies within 5 U.S.C. 6104, 5 CFR
 13 610.301-306, and 56 Comp. Gen. Decision 393 (1977).

14 After completion of a 14-day assignment and return to the home unit, two
 15 mandatory days off will be provided (also referred to as “2 after 14”). Days off
 16 must occur on the calendar days immediately following the return travel in order
 17 to be charged to the incident (See Section 12.1-2.) (5 U.S.C. 6104, 5 CFR
 18 610.301-306, and 56 Comp. Gen. Decision 393 (1977). If the next day(s) upon
 19 return from an incident is/are a regular workday(s), a paid day(s) off will be
 20 authorized. Regulations may preclude authorizing this for non-National Wildfire
 21 Coordinating Group (NWCG) and State/local employees.

22 • **FS** – *After completion of a 14-day assignment and return to the home unit,*
 23 *three mandatory days off will be provided (also referred to as “3 after 14”).*

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

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

32 • **DOI** – *After completion of a 14-day assignment and return travel, the*
 33 *mandatory days off will be charged to administrative leave (code 061,*
 34 *Weather and Safety) if they fall on a regularly scheduled workday.*

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

1 **Assignment Extension**

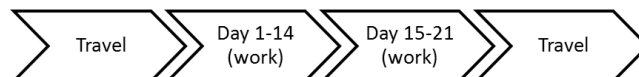
2 Extensions beyond 14-day assignments should be made sparingly. Consider the
3 health, readiness, and capability of incident personnel prior to authorizing back-
4 to-back assignments. The health and safety of incident personnel and resources
5 will not be compromised under any circumstance.

6 Assignments may be extended when:

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

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

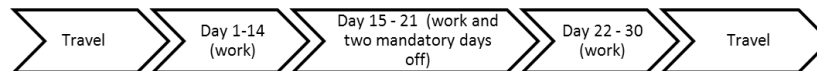
14 21-day Scenario



15

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

19 30-day Scenario



20

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

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

30 Contracts, incident blanket purchase agreements (I-BPA), and emergency
31 equipment rental agreements (EERA) should be reviewed for appropriate pay
32 requirements and length of assignment. If the contract, I-BPA, or EERA do not
33 address this, the incident Finance/Administration Section chief or the
34 procurement official should be consulted as to whether compensation for a day
35 off is appropriate.

1 Single Resource/Kind Extensions

2 The section chief or IC will identify the need for assignment extension and will
3 obtain the affected resource's concurrence. The section chief and affected
4 resource will acquire and document the home unit supervisor's approval.

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

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

11 Incident Management Team Extensions

12 Incident management team extensions are to be negotiated between the incident
13 agency administrator, the IC, and the GMAC/NMAC, if directed.

14 Maximum Consecutive Days Worked – Home Unit

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

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

20 Driving Standard

21 Employees driving motor vehicles are responsible for the proper care, operation,
22 maintenance, and protection of the vehicle, as well as obeying all Federal and
23 State laws.

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

26 General Driving Policy

- 27 • Employees must have a valid State driver's license in their possession for
28 the appropriate vehicle class before operating the vehicle. Operating a
29 Government-owned or -rental vehicle without a valid State driver's license
30 is prohibited.
- 31 • All drivers whose job duties require the use of a motor vehicle will receive
32 initial defensive driver training within three months of entering on duty and
33 refresher driver training every three years thereafter.
 - 34 ○ *BLM/FS – Driver training is required prior to operating a vehicle for*
35 *official purposes.*
- 36 • All traffic violations or parking tickets will be the operator's responsibility.
- 37 • All driving requiring a commercial driver's license (CDL) will be
38 performed in accordance with applicable Department of Transportation
39 regulations.
- 40 • Drivers and all passengers are required to use seat belts at all times when
41 the motor vehicle is in motion.

- 1 • **BLM** – *BLM Form 1112-11 will be used to document every BLM fire and*
2 *fire aviation employee’s authorization to drive Government vehicles or to*
3 *drive private or rental vehicles for Government business. Employees are*
4 *required to self-certify their physical ability to operate vehicles which they*
5 *are authorized to use. Drivers of vehicles that require a CDL may be*
6 *required to have additional driver, medical, and fitness testing as required*
7 *by local and/or State laws. Employees will immediately inform their*
8 *supervisor and update BLM Form 1112-11 if a change in medical condition*
9 *impedes their driving ability or if a State driving privilege is restricted for*
10 *any reason. Supervisors will review the updated form and take appropriate*
11 *action as necessary. BLM Form 1112-11 is available at*
12 *[https://doimspp.sharepoint.com/sites/blm-](https://doimspp.sharepoint.com/sites/blm-oc/dbs/eForms%20Library/Forms/Safety.aspx)*
13 *[oc/dbs/eForms%20Library/Forms/Safety.aspx](https://doimspp.sharepoint.com/sites/blm-oc/dbs/eForms%20Library/Forms/Safety.aspx).*
- 14 • **BLM** – *Employees, volunteers, contractors, and cooperators are prohibited*
15 *from using any mobile voice/data communication or electronic data*
16 *retrieval device while operating a government owned, leased, or rented*
17 *vehicle or while operating a personally-owned vehicle for official*
18 *government business, and are further prohibited from using any*
19 *government-owned mobile communication or data retrieval device while*
20 *operating a personally-owned vehicle, except where permitted by state law*
21 *and in hands-free mode. Government purchased two-way radios are exempt*
22 *from this requirement. The use of any of these devices during an emergency*
23 *situation (immediate threat to life) is limited to the extent necessary to*
24 *convey vital information. When there is a passenger in the vehicle and the*
25 *vehicle is in motion, the passenger shall manage communications to prevent*
26 *driver distraction.*
- 27 • **FWS** – *The safest way to use a cell phone or other electronic device while*
28 *driving is to pull over and stop the vehicle or use a passenger to manage*
29 *communications. When this is not possible, all operators acting on behalf of*
30 *the FWS may use cell phones or other electronic devices while operating*
31 *vehicles ONLY in hands-free mode and as allowed by their State or local*
32 *authority. Operators must not text while operating vehicles and pre-*
33 *program electronic devices, such as Global Positioning System (GPS) units,*
34 *before moving the vehicle. Emergency communications using a two-way*
35 *radio is exempt.*
- 36 • **NPS** – *The safest way to use a cellular telephone while driving is to pull*
37 *over and stop the vehicle. When this is not possible, all employees,*
38 *volunteers, youth program enrollees or any individual acting on behalf of*
39 *the National Park Service are prohibited from using a cellular or car*
40 *telephone unless they can be operated in a hands-free operation mode. In*
41 *addition, Executive Order 13513 of October 1, 2009 states, “Federal*
42 *employees shall not engage in text messaging (a) when driving GOV, or*
43 *when driving POV while on official Government business, or (b) when*
44 *using electronic equipment supplied by the Government while driving.”*

- 1 • **NPS** – For NPS employees engaged in activities other than wildfire or
2 prescribed fire, refer to the current NPS Official Travel Driving Policy for
3 restrictions.
- 4 • **FS** – Policy requires all operators of Government-owned, or -leased
5 vehicles to have a Forest Service issued Operator’s Identification Card
6 (OF-346) indicating the type of vehicles or equipment the holder is
7 authorized and qualified to operate.
- 8 • **FS** – Drivers shall not engage in cellular phone or mobile radio
9 communications while the vehicle is in motion unless actively engaged in an
10 emergency such as wildland firefighting. During non-emergency situations,
11 the driver shall identify a safe location to stop the vehicle and then engage
12 in cellular phone or mobile radio communications. These restrictions apply
13 whether or not hands-free technology is available.

14 Employees operating a motor vehicle that meets any of the following criteria
15 must possess a valid CDL with all applicable endorsements:

- 16 • Has a gross combination weight rating or gross combination weight of
17 26,001 pounds or more, whichever is greater, inclusive of a towed unit(s)
18 with a gross vehicle weight rating or gross vehicle weight of more than
19 10,000 pounds, whichever is greater; or
- 20 • Has a gross vehicle weight rating or gross vehicle weight of 26,001 pounds
21 or more, whichever is greater; or
- 22 • Is designed to transport 16 or more passengers, including the driver; or
- 23 • Is of any size and is used in the transportation of hazardous materials.
24 Hazardous materials means any material that has been designated as
25 hazardous under 49 U.S.C. 5103 and is required to be placarded under
26 subpart F of 49 CFR part 172 or any quantity of a material listed as a select
27 agent or toxin in 42 CFR part 73.
- 28 • **DOI** – Employees under the age of 21 that possess a CDL may operate
29 commercial motor vehicles (CMV) across State lines for interstate
30 commerce purposes under the following conditions:
 - 31 ○ Drivers with a CDL may operate a CMV in accordance with the issuing
32 authority (i.e., the State) that issued the CDL and must comply with the
33 issuing authority’s CMV operational requirements and any special
34 requirements and endorsements applicable to the CMV license
35 classification of the CDL holder; and
 - 36 ○ Supervisors must annually establish and document that those drivers
37 have a valid driver’s license (i.e., that the license has not been
38 suspended, revoked, canceled, or that he/she has not been otherwise
39 disqualified from holding a license – 485 DM 16.3D (1)), have the
40 ability to operate the vehicle(s) safely in the operational environment
41 assigned (485 DM 16.3B (2)), and review and validate the employee’s
42 driving record (485 DM 16.3D (4)).

43 **Non-Incident Operations Driving**

44 Refer to the current driving standards for each individual agency.

- 1 • *BIA – Per Indian Affairs Manual (IAM), part 25, chapter 4: employees will*
2 *not exceed 8 hours of driving time (behind the wheel), to include use of*
3 *specialized equipment, during a 16-hour duty day.*

4 **Mobilization and Demobilization**

5 To manage fatigue, every effort should be made to avoid off-unit mobilization
6 (excluding initial attack response) and demobilization travel between 2200 hours
7 and 0500 hours.

8 **Incident Operations Driving**

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

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

31 **Fire Vehicle Operation Standards**

32 Operators of all vehicles must abide by State traffic regulations and agency
33 policy, and must operate within the limits specified by the vehicle manufacturer
34 such as tire maximum speed ratings and gross vehicle weight ratings.

35 **Management Controls to Mitigate Risks to Responders**

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

1 Wildland Fire Field Attire

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

6 Personal Protective Equipment

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

10 Flame-resistant clothing should be cleaned or replaced whenever soiled,
11 especially when soiled with petroleum products. Flame-resistant clothing will be
12 replaced when the fabric is so worn as to reduce the protection capability of the
13 garment or is so faded as to significantly reduce the desired visibility qualities.

14 Any modification to PPE that reduces its protection capability, such as iron-on
15 logos, and tagging of pants, is an unacceptable practice and will not be allowed.

16 Required Fireline PPE

- 17 • Wildland fire boots
- 18 • Fire shelter M-2002, Forest Service specification 5100-60
- 19 • Helmet with chinstrap; must comply with NFPA 1977
- 20 • Goggles/safety glasses (as identified by JHAs/RAs)
- 21 • Ear plugs/hearing protection
- 22 • Long-sleeved, flame-resistant shirt (yellow recommended); must comply
23 with NFPA 1977
 - 24 ○ *NPS/FS – Shirt used by USFS personnel must meet Forest Service*
 - 25 *Specification 5100-91 or comply with NFPA 1977.*
- 26 • Flame-resistant trousers; must comply with NFPA 1977
 - 27 ○ *NPS/FS – Trousers used by USFS personnel must meet Forest Service*
 - 28 *Specification 5100-92 or comply with NFPA 1977.*
- 29 • Leather or leather/flame-resistant combination gloves. Flame-resistant flight
30 gloves or NFPA-1977-compliant driving gloves can be used by heavy
31 equipment operators, drivers, and fireline supervisors when not using
32 fireline hand tools.
 - 33 ○ *NPS/FS – Gloves used by USFS personnel must meet Forest Service*
 - 34 *Specification 6170-5 or comply with NFPA 1977.*
- 35 • Additional PPE as identified by local conditions, Safety Data Sheet (SDS),
36 or JHA/RA.

37 Wildland Fire Boot Standard

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

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

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

6 **Fire Shelters**

7 Fire shelter M-2002, Forest Service specification 5100-606 is required for all
8 wildland firefighters. For more information, refer to
9 [https://www.nwcg.gov/committees/fire-shelter-and-personal-protective-](https://www.nwcg.gov/committees/fire-shelter-and-personal-protective-equipment-subcommittee)
10 [equipment-subcommittee.](https://www.nwcg.gov/committees/fire-shelter-and-personal-protective-equipment-subcommittee)

11 Training in inspection and deployment of fire shelters will be provided prior to
12 issuance. Fire shelters do not have a shelf life; serviceability depends on the
13 shelter's condition. Firefighters will inspect their shelter at the beginning of each
14 fire season and periodically throughout the year to ensure serviceability.

15 Inspection criteria can be found at

16 [https://www.fs.usda.gov/t-d/php/library_card.php?p_num=1151%202301P.](https://www.fs.usda.gov/t-d/php/library_card.php?p_num=1151%202301P)

17 Regular sized fire shelters manufactured prior to 2006 should be removed from
18 service. Fire shelters manufactured prior to 2006 are identified as having a white
19 or pink paper insert label. If replacement fire shelters are not readily available,
20 replacement fire shelters should be ordered immediately and pre-2006 shelters
21 removed from service when replacements are available. Pre-2006 fire shelters
22 should be destroyed, or clearly marked as non-operational shelters, if retained.

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

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

33 **Head Protection**

34 All personal in the fire area will wear helmets at all times. Helmets must be
35 equipped with a chinstrap which must be fastened while riding in, or in the
36 vicinity of, helicopters. Acceptable helmets for fireline use must meet NFPA
37 1977.

- 38 • *BLM – Helmets and hats used for protection from impact of falling and*
39 *flying objects and from limited electric shock and burn must meet the*
40 *specifications of American National Standards Institute (ANSI) Z89.1.*
41 *Equivalent helmet meeting ANSI Z89.1 type 1, class G or NFPA 1977.*

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

6 **Eye and Face Protection**

7 The following positions require the wearing of eye protection (meets ANSI
8 Z87.1 standards):

- 9 • Nozzle operator
- 10 • Chainsaw operator/faller
 - 11 ○ Eye or face protection meeting ANSI Z87.1 must be worn during all
 - 12 chainsaw operations including cleaning and fueling.
- 13 • Helibase and ramp personnel
- 14 • Wildland fire chemical mixing personnel
- 15 • Other positions identified within JHAs/RAs

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

20 **Hearing Protection**

21 Personnel exposed to noise levels in excess of 85 dB must wear agency-
22 provided hearing protection. Personnel include, but are not limited to:

- 23 • Chainsaw operators/fallers
- 24 • Pump operators
- 25 • Helibase and aircraft ramp personnel
- 26 • Wildland fire chemical mixing personnel

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

28 The *Code of Federal Regulations* (29 CFR 1910.95) requires employers to
29 administer a continuing, effective hearing conservation program. Consult with
30 local safety and health personnel for specifics regarding unit hearing
31 conservation programs.

32 **Neck Protection**

33 Face and neck shrouds are not required PPE. The use of shrouds is not required
34 and should be as a result of onsite risk analysis. If used, face and neck shrouds
35 shall meet the requirements of FS Specification 5100-601 or *NFPA 1977*.

36 Shrouds should be positioned in a manner that allows for immediate use. For
37 additional information see MTDC Tech Tip *Improved Face and Neck Shroud*
38 *for Wildland Firefighters, 2004* (0451-2323-MTDC) at
39 https://www.fs.usda.gov/t-d/php/library_card.php?p_num=0451%202323.

1 Leg Protection

2 All chainsaw operators will wear chainsaw chaps meeting the United States
3 Forest Service Specification 6170-4F, 4G, or newer. Swampers should wear
4 chaps when the need is demonstrated by a risk analysis considering proximity to
5 the sawyer, slope, fuel type, etc. All other chainsaw chaps must be removed
6 from service. Chainsaw chaps shall be maintained in accordance with MTDC
7 Publication, *Inspecting and Repairing Your Chainsaw Chaps – User*
8 *Instructions* (0567-2816-MTDC) available at [https://www.fs.usda.gov/t-](https://www.fs.usda.gov/t-d/php/library_card.php?p_num=0451%202324P)
9 [d/php/library_card.php?p_num=0451%202324P](https://www.fs.usda.gov/t-d/php/library_card.php?p_num=0451%202324P).

10 Respiratory Protection

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

15 Only NIOSH-approved respirators shall be used.

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

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

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

35 Specialized or Non-Standard Personal Protective Equipment

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

40 A JHA/RA must be completed and reviewed by the unit safety officer;
41 supervisor approval is required. Items must meet agency and industry standards
42 for the intended use. Cold-weather, flame-resistant outerwear shall be in
43 compliance with NFPA 1977. All cold-weather innerwear should be composed

1 of 100 percent—or the highest possible content of—natural fibers (cotton, wool
2 or silk) or other flame-resistant material, such as aramid.

3 **High-Visibility Safety Apparel**

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

6 Employees must wear high-visibility safety apparel that meets ANSI/ISEA 107,
7 class 2 or 3, or ANSI/ISEA 207.

8 **Exceptions**

9 The high-visibility safety apparel should not be worn if:

- 10 • There is a reasonable chance that the employee may be exposed to flames,
11 high heat, or hazardous materials.
- 12 • The high-visibility garment hinders an employee's ability to do their job
13 because it prevents necessary motion or because it limits access to
14 necessary equipment, such as radios or fire shelters.

15 Additional information is available in the National Technology and
16 Development Program (NTDP) formerly known as Missoula Technology and
17 Development Center (MTDC) report, *High-Visibility Garments and Worker*
18 *Safety on Roadways* (1251-2818P-MTDC) at [https://www.fs.usda.gov/t-](https://www.fs.usda.gov/t-d/php/library_card.php?p_num=1251%202818P)
19 [d/php/library_card.php?p_num=1251%202818P](https://www.fs.usda.gov/t-d/php/library_card.php?p_num=1251%202818P).

20 **Fireline Safety**

21 **Incident Briefings**

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

28 **LCES – A System for Operational Safety**

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

- 31 • L – Lookout(s)
- 32 • C – Communication(s)
- 33 • E – Escape Route(s)
- 34 • S – Safety Zone(s)

35 **Right to Refuse Risk**

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

1 **Aerial Drop Safety Considerations**

- 2 • Maintain prompt communications with aerial resources. Prioritize air-to-
- 3 ground as appropriate.
- 4 • Establish a designated monitor for air-to-ground communications. Specific
- 5 drops may not be accomplished unless communications are maintained and
- 6 clearance is assured. Keep informed of the aerial firefighting objectives,
- 7 tempo, and aircraft type.
- 8 • Anticipate when line clearance may be requested. Tempo can change very
- 9 quickly as aerial resources become available. Anticipate the clearance
- 10 requirement based on the volume of delivery.
- 11 • Evaluate the environment for gravity hazards (tree limbs, rocks, logs, and
- 12 dispensed retardant/water). Broken trees and tree limbs, rolling rocks, and
- 13 logs all move with gravity. If clearance is downhill of the drop, heightened
- 14 awareness is warranted.
- 15 • If clearance is impractical, where fuels and/or terrain obstruct lateral
- 16 clearance, notify aerial supervisor or the initial attack resource immediately.
- 17 • If escape is not possible, lie face-down with head toward incoming aircraft
- 18 with hardhat in place. Hold hand tool away from your body, and if possible,
- 19 grasp something firm to prevent being carried or rolled about by the
- 20 dropped liquid.

21 **Smoke and Carbon Monoxide**

22 Smoke is one of the potential risks faced by wildland firefighters. Identify and
23 document site-specific hazards and mitigations to reduce firefighter exposure to
24 smoke and potential carbon monoxide in the JHA/RA. Evaluate and balance all
25 risks associated with the operational objectives.

26 From an incident management perspective, smoke impacts need to be analyzed
27 and an RA completed using the Incident Action Plan (IAP) Safety Analysis
28 (ICS-215A) worksheet. For additional information, reference NWCG
29 Memorandum EB-M-12-006, *Monitoring and Mitigating Exposure to Carbon*
30 *Monoxide and Particulates at Incident Base Camps* at
31 <https://www.nwcg.gov/executive-board/correspondence>. Consider ordering air
32 resource advisors (ARA, technical specialist) when smoke impacts are of
33 concern in the ICS-215A. Ordering ARAs to the maximum extent practicable as
34 identified by the 2019 Dingell Act on all type 1 fires; consider assigning ARAs
35 on type 2 fires.

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

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

- 43 • Documented risk assessment
- 44 • Trigger points

- 1 • Egress routes
- 2 • Transportation for all personnel
- 3 • Accountability for all personnel
- 4 • Individuals not meeting *NWCG Standards for Wildland Fire Position*
- 5 *Qualifications* (PMS 310-1) qualifications are considered escorted visitors.
- 6 ○ **FS** – *At a minimum, plans shall also include:*
 - 7 ■ *ICP protection strategy referenced in the IAP.*
 - 8 ■ *Livability considerations, including air quality index*
 - 9 *guidelines, functionality of location and facilities, and safety*
 - 10 *factors for post-burn conditions.*

11 **Standard Safety Flagging**

12 The following flagging is recommended for wildland fire activities:

- 13 • Escape routes - hot-pink flagging marked “Escape Route” (NFES 0566).
- 14 Crews with colorblind members may wish to carry and utilize fluorescent
- 15 chartreuse flagging (NFES 2396).
- 16 • Hazards – yellow with black diagonal stripes, 1-inch wide (NFES 0267).

17 If the above recommendations are not utilized on an incident, the incident will
18 need to identify the selected color and make it known to all firefighters.

19 **Emergency Medical Planning and Services**

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

24 **Incident Medical Emergency Management Planning**

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

- 29 • Although some of the procedures are specific to larger type 1 and type 2
30 incidents when key unit leader positions are filled, these same procedures
31 and protocols can be adapted for local unit use when managing type 5, 4,
32 and 3 incidents, as well as during normal field operations. Local unit
33 emergency medical plans must take into account all types and management
34 levels of incidents.
- 35 • All IMTs will use the standard Medical Incident Report (MIR) in their
36 medical plan and communication protocols. The MIR is found in the *IRPG*
37 under Emergency Medical Care Guidelines (red pages) and with the
38 medical plan (ICS-206-WF) form available at
39 <https://www.nwcg.gov/publications/ics-forms>.

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

- 42 • A medical emergency plan that identifies medical evacuation options,
43 local/county/State/Federal resource capabilities, capacities, ordering

- 1 procedures, cooperative agreements, role of dispatch centers, and key
2 contacts or liaisons.
- 3 • Standardized incident and communication center protocols identified in the
4 Medical Incident Report in the *IRPG*.
 - 5 • For incidents that require the preparation of an IAP, ICS-206-WF will be
6 used. This form is available at
7 <https://www.nwcg.gov/publications/ics-forms>.

8 **Air Ambulance Coordination**

9 Unit- and state-/regional-level fire program managers should ensure that
10 procedures, processes, and/or agreements for use of local and regional air
11 ambulance services are stated in writing and effectively coordinated between the
12 fire programs, the dispatch/logistics centers, and the service providers. These
13 procedures, processes, and/or agreements should address contact frequencies,
14 coordinate format requirements, and identify capabilities/limitations of the air
15 ambulance (e.g., night flying, unimproved helispots, and weather restrictions).

16 **Incident Emergency Medical Services**

17 Incident medical information can be found on the NWCG Emergency Medical
18 Committee website at [https://www.nwcg.gov/committees/emergency-medical-](https://www.nwcg.gov/committees/emergency-medical-committee)
19 [committee](https://www.nwcg.gov/committees/emergency-medical-committee).

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

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

30 **Burn Treatment Guidelines**

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

33 All significant burns should be treated as a medical emergency and after on-site
34 medical response, the patient should be transferred to a higher level of care. In
35 most cases, this will be the nearest emergency department (e.g., hospital
36 emergency room) receive an initial evaluation. After initial medical
37 stabilization, and evaluation are completed, the agency administrator or designee
38 having jurisdiction for the incident and/or firefighter representative (e.g., crew
39 boss, medical unit leader, compensations for injury specialist, etc.) should
40 discuss and coordinate with the attending physician to ensure that the injured
41 firefighter understands the plan of care.

1 The spectrum of burn care treatment is complex and can include only wound
 2 care and local follow up, to consultation by phone or with videos to a burn
 3 center, or even immediate transfer to a burn center.

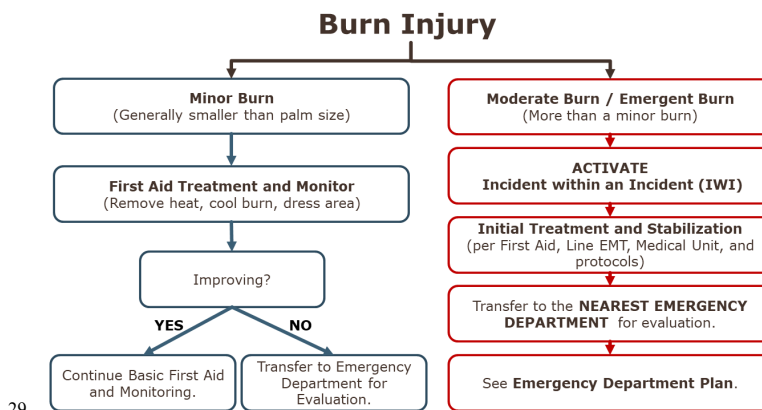
4 Burn centers are specialized hospitals that provide surgical and other
 5 interventions to burn patients. The American Burn Association has created
 6 certain transfer criteria that are to be used by referring physicians and can be
 7 found at <https://ameriburn.org/resources/>.

8 Agency administrators and the patient should understand that burns develop
 9 over days and the full extent or exact definitive treatment that will eventually be
 10 required may not be able to be determined on the initial emergency department
 11 visit. If a patient is discharged from the emergency department, the patient needs
 12 to understand when to follow up to have the burn reevaluated.

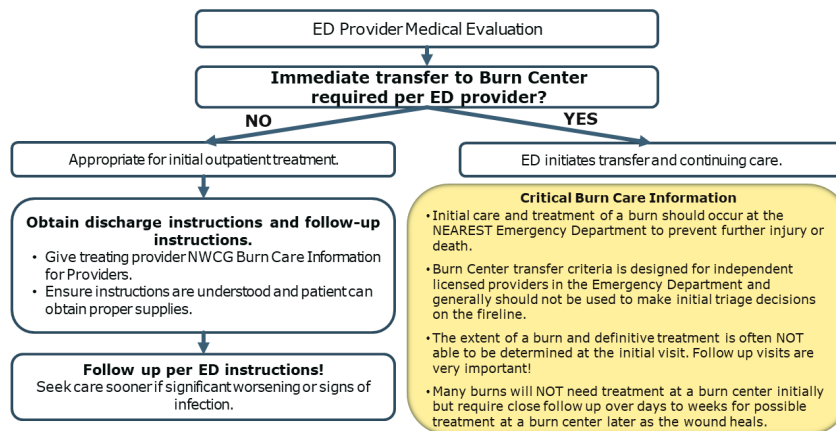
13 This referral or follow-up care recommendation is very important for OWCP
 14 and should be specified in the discharge documentation. Furthermore, this
 15 documentation must be signed by a PHYSICIAN. Workers' compensation
 16 benefits may be denied in the event the employee seeks follow-up without a
 17 referral from the attending physician after already being seen by a medical
 18 provider. A report prepared by a Physicians' Assistant or Nurse Practitioner
 19 must be countersigned by a physician to be accepted as medical evidence. A
 20 definition of "physician" can be found at
 21 [https://www.dol.gov/owcp/dfec/regs/compliance/DFECfolio/FECA-](https://www.dol.gov/owcp/dfec/regs/compliance/DFECfolio/FECA-PT3/#30100)
 22 [PT3/#30100](https://www.dol.gov/owcp/dfec/regs/compliance/DFECfolio/FECA-PT3/#30100).

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

26 The flowsheet below and emergency department information for attendings can
 27 be used as well. See [https://www.nwccg.gov/committees/emergency-medical-](https://www.nwccg.gov/committees/emergency-medical-committee)
 28 [committee](https://www.nwccg.gov/committees/emergency-medical-committee) for additional information.



Emergency Department (ED) Burn Evaluation



1

2 Burn Injury Care Guidelines

3 Thank you for taking care of our wildland firefighters! The information below is
4 provided to help clinicians provide the best care possible for this unique work
5 force.

6 Demographics for Wildland Firefighters

- 7 • Wildland firefighters are a diverse group, but generally are under 35 years
8 of age.
- 9 • They LOVE their job and want to return from an injury as soon as possible.
- 10 • They tend to be very stoic individuals that are accustomed to physical
11 labor.
- 12 • They are away from home most of the fire season and are often stationed in
13 another state.

14 Occupational Hazards which could result in Impaired Burn Wound 15 Healing and Potential Infection

- 16 • Dirty, dusty, smoky work environment.
- 17 • Lack of a clean environment to change dressings.
- 18 • Living in a tent and large communal camp settings.
- 19 • Extreme heat and sometimes cold environments.
- 20 • Lifting and carrying heavy loads (up to 85 lbs.) long distances.
- 21 • Working in remote and isolated sites.
- 22 • Extensive walking and hiking with significant exertional stress.
- 23 • Long hours with limited and disrupted sleep.
- 24 • Hunger and irregular meals, dehydration.
- 25 • Extreme stress in rapid pull-out emergency situations whether fire, falling
26 rocks, or falling trees.

1 Important Information for Emergency Department Providers

- 2 • Most wildland firefighters do not have a Primary Care Provider (PCP) at
3 home and are working remote from where they live.
- 4 • A referral paper trail is important for our-workmen’s compensation claims.
5 If they are discharged, please include where and approximately when to
6 follow up. Most EMR discharge instructions will suffice so long as it
7 includes the service (e.g., wound care, surgery, burn center). A specific
8 physician name is not needed but please do not put “PRN.” Without this
9 referral, significant delays can occur.
- 10 • If local follow-up for a minor injury is needed, please provide specific
11 instructions as transport and/or alternative living conditions may need to be
12 arranged by the fire personnel.
- 13 • If the injured firefighter is not told specifically that they cannot return to the
14 fireline, they will do so. Please List any specific instructions you feel are
15 indicated (e.g., daily dressing changes, do not use right hand until seen at
16 wound care, etc.). Please Do not just state “light duty.”
- 17 • Wildland firefighters may be accompanied by an agency representative to
18 help them with transport/instructions and act as a liaison with the fire, home
19 unit, and family for the patient.
- 20 • The fire may have a medical unit that can help with some minor care. These
21 units consist of EMTs in a remote area who only have access to basic over-
22 the-counter medications.
- 23 • Telehealth burn follow up or follow up with a burn center is preferred if
24 available.
 - 25 ○ **BLM** – For emergency assistance with burn injuries, contact the BLM
26 duty officer at 208-387-5876.

27 Explosives, Munitions, and Unexploded Ordnance

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

- 33 • Location of the explosive/munitions using a map, GPS coordinates, or
34 landmarks (use of a GPS receiver is acceptable because it is a receive-only
35 device).
- 36 • Picture of the explosive if it can be obtained from a safe distance.
- 37 • Name and contact information of person discovering the
38 explosive/munitions.
- 39 • Condition of the explosive/munitions (e.g., buried, partially exposed, fully
40 exposed, deteriorated, or punctured).
- 41 • Number and type of visible explosive/munitions (e.g., blasting caps,
42 dynamite, bomb, grenade, etc.).
- 43 • Estimated size (e.g., length and diameter) of explosive/munitions.

- 1 • Distinctive features (e.g., shape, color, markings) of explosive/munitions.
- 2 • Nearby structures, if any (so inhabitants can be contacted and evacuated if
- 3 necessary).
- 4 • Public access (i.e., open or closed to motor vehicles) to the vicinity.

5 **Notifications**

6 Local dispatch centers are responsible for notifying:

- 7 • Agency law enforcement;
- 8 • Unit safety officer;
- 9 • agency administrator; and
- 10 • Local law enforcement.

11 **Discovery of Explosives, Munitions, Unexploded Ordnance Associated with**

12 **Former Defense Sites**

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

17 Local law enforcement is responsible for contacting the appropriate military
18 authority. If the responsible military unit is unknown, then local law
19 enforcement should contact the U.S. Army Forces Command (FORSCOM),
20 52nd Ordnance Group (EOD), at its 24-hour emergency response number, (931)
21 431-3824.

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

23 **Industrial and Naturally Occurring Hazardous Materials Exposure**

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

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

- 31 • Identifying unit-specific environmental hazards;
- 32 • Develop JHAs/Ras for those hazards;
- 33 • Develop and provide specific training and SOPs;
- 34 • Provide briefings/training for those who may be exposed;
- 35 • If exposure is suspected, immediately disengage, and leave the area; and
- 36 • Seek immediate medical attention if exposure symptoms occur.

37 **Hazardous Materials Response**

38 Hazardous materials response or control is not a functional responsibility of
39 wildland fire suppression resources. These incidents have tremendous potential
40 to cause significant health and life safety issues. In order to protect the health
41 and safety of agency personnel, no employee shall be directed or dispatched

1 (including self-dispatching) to an incident involving hazardous materials unless
2 they are provided with the required PPE and the appropriate certification level.
3 Agency personnel on incidents involving hazardous material will limit their
4 actions to those emergency services necessary for the immediate protection of
5 themselves and the public and the prompt notification of appropriate public
6 safety agencies. All wildland firefighters who are likely to witness or discover
7 hazardous substances are required to complete their agency's First Responder
8 Awareness (Level I) program.

9 **Dump and Spill Sites**

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

- 15 • Follow the procedures in the *IRPG*;
- 16 • Treat each site as if it contains harmful materials;
- 17 • Do not handle, move, or open any container, breathe vapors, or make
18 contact with the material;
- 19 • Move a safe distance upwind from the site;
- 20 • Contact appropriate personnel. Generally, this is the hazardous materials
21 coordinator for the local office; and
- 22 • Firefighters need to immediately report hydrogen sulfide (H₂S) or potential
23 exposure and seek immediate medical care.
 - 24 ○ *BLM/NPS/FWS* – Agencies require that all field personnel complete
25 First Responder Awareness training. Firefighters are required to take
26 an annual refresher for hazardous material protocol.

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

- 29 • Read and understand the SDSs.
- 30 • Keep the work area clean and orderly.
- 31 • Use the necessary safety equipment.
- 32 • Label every container with the identity of its contents and appropriate
33 hazard warnings.
- 34 • Store incompatible chemicals in separate areas.
- 35 • Substitute less toxic materials whenever possible.
- 36 • Limit the volume of volatile or flammable material to the minimum needed
37 for short operation periods.
- 38 • Provide means of containing the material if equipment or containers should
39 break or spill their contents.

40 **Wildland Fires Within or Near Oil/Gas Operations**

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

- 1 • Firefighters shall receive annual oil and gas hazard recognition and
2 mitigation training;
- 3 • Local unit shall complete a JHA/RA for wildland fire activities in oil and
4 gas areas and provide a copy with a briefing to all local and incoming
5 resources;
- 6 • Establish response protocols and proper decontamination procedures to
7 minimize exposure to additional employees, equipment, and facilities.
8 Protocols will include notification procedures to respective oil and gas
9 company(s);
- 10 • Ensure oil and gas resource advisors are consulted;
- 11 • Ensure that at least one member of each squad or engine crew is
12 knowledgeable in the use and data interpretation of the hydrogen sulfide gas
13 monitor. Training on the device will include at a minimum:
 - 14 ○ Equipment charging and maintenance of sensors;
 - 15 ○ Startup, zeroing, calibration, and bump testing procedures as
16 recommended by the manufacturer; and
 - 17 ○ How the monitor elicits a warning alarm (visual, auditory, vibration).
- 18 • Understand peak reading, short-term exposure limits (STEL), and time
19 weighted averages;
 - 20 ○ Understand how to set the monitors alarm threshold.
- 21 • The monitor's alarm shall be set at the current American Conference on
22 Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (10
23 PPM 2008) and STEL (15 PPM 2008);
- 24 • If hydrogen sulfide gas is encountered, immediately disengage and leave
25 area; and
- 26 • Do not establish incident base camps or staging areas in or near oil and gas
27 operations.

28 The following websites provide additional information and training resources:

- 29 • <https://www.wildfirelessons.net/irdb>
- 30 • <https://www.nfpa.org/>
- 31 • A template for briefing IMTs is available in the “Additional Resources”
32 section of the NIFC Safety website at
33 <https://www.nifc.gov/programs/safety>.

34 **Wildland Fires Within or Near Radioactive Locations**

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

40 **Wildland Fires Within or Near Coal Seams**

41 Coal is naturally occurring black or brownish rock usually located in rock strata
42 in layers or veins, coal beds, or coal seams (smoldering exposed/underground

1 coal deposit). Exposed coal seams are abundant through southeast and central
2 Montana, western North Dakota, South Dakota, and Alaska.

3 **Risks**

4 Coal seam fires pose a serious problem that can be a hazard to firefighter's
5 health and safety. Coal seam fires can emit highly toxic gases, including carbon
6 monoxide (colorless, odorless, and tasteless), sulfur dioxide (colorless with an
7 irritating, pungent odor), and other potentially hazardous gases.

8 Some symptoms of exposure to these gases may include headaches, nausea,
9 dizziness, fatigue, shortness of breath, coughing, and eye irritation. Because of
10 the variances in symptoms and exposure levels, seek medical attention for a
11 complete diagnosis if firefighters have been exposed to toxic gases from coal
12 seam fires and symptoms persist.

13 Firefighters exposed to coal ash, smoke, or vapor should trade in their PPE for
14 fresh PPE. Individually bag PPE that has been contaminated.

15 **Required Actions/Precautions**

16 Firefighters are typically not equipped or trained for coal seam fires and should
17 not attempt to extinguish such fires with hand tools and engines.

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

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

27 Do not depend on sense of smell to detect coal seam fires. At high
28 concentrations, the sense of smell will be almost immediately overwhelmed or
29 become numb. At lower levels, the sense of smell will slowly deteriorate as
30 levels build in the blood stream. Do not stand downwind of coal smoke under
31 any conditions especially during suppression operations.

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

38 **Hazardous Water Sources**

39 Many water sources used during wildland fire operations may appear harmless,
40 but contain hazardous materials (e.g., hydraulic fracturing fluid, cyanide,
41 sewage, corrosives). These hazardous water sources may pose threats to

1 personnel health and firefighting equipment. Indicators that a water source may
2 be hazardous include proximity to active or inactive mining operations, gas/oil
3 wells, water treatment facilities, or other industrial operations. In many cases,
4 these hazardous water sources may not be fenced, and no warning signs may be
5 present.

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

12 **Hydrogen Cyanide Exposure**

13 Synthetic materials (plastics, nylon, Styrofoam®, and polyurethane) routinely
14 dumped on the wildland can produce hydrogen cyanide (HCN) when burned.
15 HCN exposure can disrupt the body's ability to use oxygen and can cause
16 asphyxia and/or carbon monoxide poisoning.

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

20 Follow hazardous materials protocols contained in the *IRPG* to mitigate
21 exposure to HCN. Immediately refer all personnel potentially exposed to HCN
22 to a health care facility capable of toxicology testing and treatment.

23 **Safety for Personnel Visiting Fires**

24 A wide variety of personnel (agency administrators, other agency personnel,
25 dignitaries, members of the news media, etc.) may visit incidents. The following
26 standards apply to all visitors.

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

28 Recommended field attire includes:

- 29 • Lace-up, closed toe shoes/boots with traction soles and ankle support
- 30 • Trousers
- 31 • Long-sleeved shirt
- 32 • Field uniform (agency personnel)

33 **Fireline Logistical Support**

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

- 37 • Successfully complete fire shelter training.
- 38 • Wear the required fireline PPE (“See Required Fireline PPE”).
- 39 • Receive an incident briefing.
- 40 • Ensure adequate communications are established.

- 1 • Provide proof of a current WCT, as the position requires.
 - 2 • Other requirements as established by the IC.
- 3 **Minimum Requirements for Visits to the Fireline/Prescribed Fire Burns**
- 4 Visits (e.g., media visits or political/administrative tours) to hazardous areas of
- 5 the fire or areas that pose a fire behavior threat will be managed by meeting the
- 6 requirements below:
- 7 • Visits to the fireline must have the approval of the IC/burn boss.
 - 8 • Visitors must maintain communications with the division supervisor or
 - 9 appropriate fireline supervisor of the area to be visited.
 - 10 • Visitors must wear the required fireline PPE (see “Required Fireline PPE”).
 - 11 • Required field attire includes undergarments made of 100 percent or the
 - 12 highest possible content of natural fibers or flame-resistant materials.
 - 13 • Required equipment/supplies include:
 - 14 ○ Hand tool
 - 15 ○ Water canteen
- 16 Visitors to the fireline/prescribed fire burns may be “non-escorted” or “escorted”
- 17 depending on the following requirements:
- 18 **Non-escorted Visits**
- 19 Unescorted visitors to the fireline must have:
- 20 • An incident qualification with a minimum physical fitness level of “light”
 - 21 • Adequate communications and radio training
 - 22 • Completed the following training:
 - 23 ○ *Introduction to Fire Behavior* (S-190)
 - 24 ○ *Firefighter Training* (S-130)
 - 25 ○ *Wildland Fire Safety Training Annual Refresher* (RT-130), including
 - 26 fire shelter training
- 27 Deviation from these requirements must be approved by the IC or burn boss.
- 28 **Escorted Visits**
- 29 All visitors lacking the requirements of a non-escorted visit must be escorted
- 30 while on the fireline.
- 31 • Visitors must receive training in the proper use of fireline PPE.
 - 32 • Escorts will determine hand tool and water requirements.
 - 33 • Visitors must be able to walk in mountainous terrain and be in good
 - 34 physical condition with no known limiting conditions.
 - 35 • Escorts must be minimally qualified as single resource boss.
- 36 Deviation from these requirements must be approved by the IC or burn boss.
- 37 **Helicopter Observation Flights**
- 38 Visitors who take helicopter flights to observe fires must receive approval from
- 39 the IC, a passenger briefing, and meet the following requirements:
- 40 • Required PPE:
 - 41 ○ Flight helmet

- 1 ○ Leather boots
 - 2 ○ Flame-resistant clothing
 - 3 ○ Flight gloves (type GS/FRP-2) constructed of a soft leather palm and
4 stretchable Nomex® fabric for the back are preferred. These gloves
5 have a long cuff extending several inches above the wrist providing
6 total coverage when the flight suit sleeve is properly worn. Gloves
7 should fit snugly to provide maximum finger dexterity for the wearer.
8 All-leather gloves (without synthetic liners) are acceptable if they
9 provide the wearer with wrist coverage and finger dexterity. Gloves
10 that meet the flame-resistant Nomex® and leather design (conforms to
11 Military Specification MIL-DTL-81188C) are available that are
12 compatible with modern touchscreen devices. These are preferred when
13 touchscreen devices are mission essential.
- 14 Occasional passengers/visitors have no training requirement; however, a
15 qualified flight manager must supervise loading and unloading of passengers.

16 **Fixed-Wing Observation Flights**

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

20 **6 Minutes for Safety Training**

21 Daily 6 Minutes for Safety training should be conducted to focus on high-risk,
22 low-frequency activities that fire personnel may encounter during a fire season.
23 A daily national 6 Minutes for Safety briefing can be found at
24 <https://www.nwccg.gov/committees/6-Minutes-for-safety> or within the National
25 Incident Management Situation Report.

26 **SAFENET**

27 SAFENET is a form, process, and method for reporting and resolving safety
28 concerns encountered in any aspect (e.g., preparedness, training, etc.) of
29 wildland fire, prescribed fire, or all-hazards incident management. The
30 information provided on the form provides important, safety-related data to the
31 National Interagency Fire Center (NIFC) for determining long-term trends and
32 problem areas.

33 The objectives of the form and process are:

- 34 • To provide immediate reporting and correction of unsafe situations or close
35 calls in wildland fire.
- 36 • To provide a means of sharing safety information throughout the fire
37 community.
- 38 • To provide long-term data that will assist in identifying trends.

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

- 1 Prompt replies to the originator (if name provided), timely action to correct the
2 problem, and discussion of filed SAFENETs at local-level meetings encourage
3 program participation and active reporting.
- 4 SAFENET submission does not replace accident reporting or any other valid
5 agency reporting method; however, SAFENETs are an efficient way to report a
6 safety concern and involves front line firefighters in the daily job of being safe
7 and keeping others safe by documenting and helping to resolve safety issues.
- 8
- 9 SAFENETs may be filed:
- 10 • Electronically at <https://safenet.nifc.gov>
 - 11 • Verbally by telephone at 1-888-670-3938
 - 12 • By the SAFENET Field Card
- 13 The SAFENET Field Card can be used by wildland fire personnel to
14 immediately identify and report unsafe situations or close calls that should
15 receive immediate resolution/mitigation. If the situation cannot be resolved at
16 the local/incident level, the reporting individual is encouraged to follow the
17 formal SAFENET submission process stated above. SAFENET Field Cards are
18 available at <https://safenet.nifc.gov>.

19 **Alert System**

- 20 The Alert System is intended as another mechanism to provide safety-related
21 information to the field. The expectation is that the messages will be forwarded
22 throughout the wildland fire community in a relatively short period of time.
- 23 There are three types of safety alert:
- 24 • Safety Warning – A time-sensitive alert to the wildland fire community
25 addressing wildland fire safety hazards that pose an imminent threat, or
26 have potential to pose a threat, to life or property. Red hash-marked
27 bordered stationary will be associated with this type of alert.
 - 28 • Advisory – A time-sensitive alert from an NWCG committee to the
29 wildland fire community regarding procedural changes, equipment
30 information and/or use updates, potential safety hazards, etc. Yellow hash-
31 marked bordered stationary will be associated with this type of alert.
 - 32 • Bulletin – A general alert from an NWCG committee to the wildland fire
33 community regarding the release of subject-specific information such as
34 technical information, equipment updates, accident reports, etc. Depending
35 on the origin and/or the subject content, a green hash-marked bordered
36 stationary may be associated with this type of alert.
- 37 A database of all alerts can be found at <https://www.nwcg.gov/alerts>.

38 **Accident/Injury Reporting**

- 39 The Occupational Safety and Health Administration (OSHA) mandates that all
40 accidents and injuries be reported in a timely manner. Accident and injury
41 reporting is important for the following reasons:
- 42 • To protect and compensate employees for on-the-job incidents.

- 1 • To assist supervisors and safety managers in taking corrective actions and
2 establish safer work procedures.
- 3 • To determine if administrative controls or PPE are needed to prevent a
4 future incident of the same or similar type.
- 5 • To provide a means for trend analysis.

6 **Agency Reporting Requirements**

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

- 14 • **BLM/NPS/FWS** – *Employees will report accidents using the Safety
15 Management Information System (SMIS) at <https://smis.doi.net>.
16 Supervisors shall complete the SMIS report within six working days after
17 the accident/injury.*
- 18 • **FS** – *Employees will use the eSafety system through the Forest Service
19 Dashboard at [https://fswweb.wo.fs.fed.us/hrm/workers-
21 compensation/index.php#esafety](https://fswweb.wo.fs.fed.us/hrm/workers-
20 compensation/index.php#esafety).*
- 22 • **BIA** – *In addition to reporting accidents using SMIS, fire management
23 officers will complete the Early Alert at
24 <https://www.bia.gov/bia/ots/dfwfm/bwfm/safety>, and submit to regional fire
management officers within 24 hours after the accident/injury.*

25 **OSHA Reporting Requirements**

26 For accidents/injuries meeting the “serious accident criteria (found in chapter
27 18), OSHA must be notified within 8 hours.

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

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

36 OSHA reporting information is available at
37 <https://www.osha.gov/recordkeeping/2014>.

38 **Critical Incident Management**

39 The NWCG Agency Administrator's Guide to Critical Incident Management
40 (PMS 926) is designed to assist agency administrators with the chronological
41 steps in managing a critical incident through a series of checklists outlining
42 functional area oversight and responsibilities.

1 The guide is not intended to replace local emergency plans or other specific
2 guidance that may be available but should be used in conjunction with existing
3 agency policy, line-of-duty-death (LODD)/loss-of-human-life (LOHL)
4 handbooks, or other critical incident guidance. Local units should complete the
5 guide or equivalent, and review and update at least annually.

6 **Critical Incident Stress Management**

7 Critical Incident Stress Management (CISM) is a comprehensive, integrated,
8 systematic, and multicomponent crisis intervention program that was developed
9 to manage traumatic experiences. CISM is a package of tactics that are designed
10 to mitigate the impact of a traumatic event, facilitate normal recovery processes,
11 restore adaptive function, and identify people who would benefit from additional
12 support services. CISM intervention services can be applied to wildland fire, law
13 enforcement, or other emergency responses. CISM interventions should never
14 be used for grief counseling, mediation, or a replacement for mental health care
15 professionals.

16 The agency administrator is responsible for identifying an event as a critical
17 incident.

18 **Critical Incident Peer Support**

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

25 ***Critical Incident Peer Support Groups***

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