

## SAFETY AND HEALTH

### RESPONSIBILITIES

**Firefighter and public safety is the first priority in every fire management activity!** This first guiding principle from the 12/95 "Federal Wildland Fire Management Policy and Program Review" is also NPS policy.

Safety is the responsibility of everyone assigned to a wildland or prescribed fire incident. The safety of employees and visitors alike must be of prime concern during fires. Agency administrators at all levels need to stress that firefighter and visitor safety always takes precedence over property and resource loss.

### TRAINING AND QUALIFICATIONS

Safety Leadership. Every firefighter, every fireline supervisor, every fire program manager, and every agency administrator will take positive action to ensure compliance with established safe fire management practices.

Knowledgeable leadership is a significant safety factor when dealing with fire. Experience, training, and physical fitness are required of all people in leadership roles in fire operations. Sufficient safety and operational knowledge is necessary for managers to protect themselves, their crews and the resources of the park.

Standards. The training program and the qualification and certification process are the foundations of the safety program. Only fully qualified personnel will be assigned fire management duties. All fire management personnel must meet National Park Service qualifications and accepted interagency competencies (knowledge, skills and abilities) for their assigned fire job.

1. Trainees. All trainee assignments are to be closely supervised by an individual fully qualified for the position.
2. Fireline Operations Personnel. All personnel including emergency hire firefighters engaged in fireline operations must have completed a minimum of 32 hours of basic wildland fire training, including the modules on basic firefighting, basic fire behavior, and standards for survival.

In addition, agency firefighting personnel (to include those people, not in the Operations section, who are likely to be on the fireline, such as but not limited to Fire Behavior Analysts, Field Observers etc.) will receive at least eight hours of annual safety refresher training.

Topics in this annual training should include but not be limited to the following, as discussion of additional safety issues is strongly encouraged.

- Risk management procedures (to include situational awareness/risk assessment/risk controls/decision points/evaluation process; "Fire Orders"; "Watchout Situations"; "LCES-Lookouts, Communications, Escape Routes, Safety Zones"; "Common Denominators on Tragic or Near-Miss Wildland Fires"; etc.)
- "Standards for Survival" training.
- "Firefighter Survival" training modules.
- Discussion reviews of local entrapments, near entrapments and deployments, as well as other near-miss incidents.
- Actual "hands on" fire shelter inspection and deployment practice (see "Beyond the Basics", 1996, NFES 2179). This practice is **MANDATORY!**
- Health hazards of smoke, and mitigation measures.
- Discussion reviews of other fireline hazards commonly encountered.
- Discussion about appropriate procedures to follow subsequent to identifying safety problems on incidents (responsibilities of incident command and agency administrators).

Emergency firefighters EFF's (those hired on Emergency Employment Time Slips [OF-288]) should be used only in situations where regular firefighters are not available. Once hired, EFF's are considered employees of the NPS. Under no circumstances shall these individuals be hired and assigned to fire duty without fully qualified supervision. Emergency firefighters must pass required physical fitness testing as a condition of employment before being placed on the fireline.

3. Fire Program Managers. Fire management has become an extremely complex and critical aspect of resource management. All personnel involved in this highly professional and technical field must be aware of the issues involved in fire management, and of the full spectrum of responsibilities and accountability that fire managers bear while performing their duties.

To assist the development of qualified fire program managers, the National Wildfire

Coordinating Group has developed an 8-day course, "Fire Program Management." The National Park Service requires that this course be attended in its entirety by all full-time Fire Management Officers (FMO's). It is also highly recommended that collateral duty FMO's, Chief Park Rangers and others with acting FMO duties attend this course.

## **FIELD OPERATIONS**

Briefings. Before and during all fire management field operations, the park superintendent through assigned operational supervisors, must ensure that safety factors are covered with incident personnel at all operational briefings, and that safety briefings are occurring throughout the fire organization. The identification and location of escape routes and safety zones must be stressed. On wildland fire incidents, the IC, safety officer, fire behavior analyst, and remainder of the command and general staff should use fire orders and "watch out" situations for guidance at strategy meetings, during briefings, and when developing the incident action plan, safety message, and medical plan.

Incident Safety Oversight. At least one person, operationally qualified at a level commensurate to the complexity of the incident, should be assigned the responsibility for safety oversight. Consider bringing in extra help when any of the following conditions exist:

1. A fire escapes initial attack or when extended attack is probable.
2. There is complex or critical fire behavior.
3. There is a complex air operation.
4. The fire is in an urban intermix/interface.

All personnel are authorized and obligated to exercise emergency authority to stop and prevent unsafe acts.

All employees have the right to turn down unsafe assignments; they also have the responsibility to identify alternative methods of accomplishing the mission.

Additional safety assistants with appropriate functional expertise should be assigned as required by the complexity of the incident.

When encountering hazardous materials on an incident, the supervisor should ascertain whether suppression action is necessary in light of the added risk. The supervisor should keep his or her subordinates clear of the area and immediately notify the safety officer. Where it is necessary to go into a hazardous area, employees should be given clear and direct instructions on the use of necessary and applicable personal safety equipment and proper actions and movements while they're exposed to the hazard.

Park Closures. Threats to visitor safety may require temporary closure of a park, or a portion of it. When a fire threatens escape from the unit, adjacent authorities should be given as much

advance notice as possible in order to achieve orderly evacuation.

Evaluations. Attention to safety factors is critical to the evaluation process. These evaluations must be honest appraisals of performances. The documentation of sub-standard or unsafe performances is mandatory (see review section) Chapter 13.

Critical Incident Management. The National Wildfire Coordinating Group has published the "Agency Administrator's Guide to Critical Incident Management". The Guide is a series of subject-area checklists designed to be reviewed in detail before a critical incident occurs, during the actual management of the incident, and after the incident has taken place. It is a compilation of lessons learned and suggestions that are designed to assist an agency administrator in the management of a critical incident. 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 SOP's. It is available through the Publications Management System, National Interagency Fire Center.

As indicated in the above Guide, use of Critical Incident Stress Debriefing Teams is very strongly encouraged!

Personal Protective Equipment. It is required that all firefighting personnel be equipped with the proper personal protection equipment (PPE); operational personnel on wildland and prescribed fires are required to use PPE. Common permanent-press materials are not to be worn, as they may melt and stick to the skin when exposed to flame or heat. Mandatory PPE includes:

1. 8" high, laced, leather boots with lug soles
2. fire shelter
3. hard hat with chin strap
4. goggles/safety glasses
5. ear plugs
6. nomex shirts
7. nomex trousers
8. leather gloves

No personal protective equipment will be purchased that is not National Fire Protection Association-compliant or that meet or exceed standards.

Nomex clothing will be cleaned or replaced whenever soiled, particularly with oils. Nomex clothing will be replaced when the fabric is so worn as to reduce the fire resistance capability of the garment or is so faded as to significantly reduce the desired visibility qualities. Any modification to personal protective equipment or that reduces the fire retardant ability is an unacceptable practice and will not be allowed on NPS fires. Due to the strength of nomex weave, staggging is generally ineffective; it also makes the pants unsuitable for trade-in for clean

pants or for return to the cache system.

The National Park Service Wildland Fire Qualification System Guide contains a supplemental list of personal equipment. Special PPE and hazard analysis is required for operations involving fuel gelling agents, fireline explosives, aircraft (particularly helicopters), and chainsaw operations.

A full complement of standard personal protective equipment is not normally required during simple, routine debris burning operations unless a job hazard analysis indicates otherwise.

Wildland Fire Uniform Standards. The Servicewide Uniform Program Guideline (DO-43) sets forth the Servicewide policies and associated legal mandates for wearing the National Park Service (NPS) uniform and for authorizing allowances to employees.

The guideline states that superintendents administer the uniform program within their areas, and are responsible for developing and communicating local uniform and appearance standards in accordance with DO-43, determining who will wear the uniform and what uniform will be worn, and enforcing uniform and appearance standards. Three options exist for uniforms for wildland fire personnel.

1. Within the context of the uniform standards, if the conventional NPS uniform is identified at the local level as required for specified fire management staff, FIREPRO program management funds may be used to support uniform purchases in accordance with allowance limits identified in DO-43.
2. While Nomex outerwear (i.e., shirts, trousers, brush-coats), routinely issued as personal protective equipment, has become recognized as the "uniform" of the wildland firefighter as a matter of necessity, these apparel also have justifiable utility as a uniform standard at the park level for certain FIREPRO and/or ONPS base-funded wildland fire staff.
3. When the conventional NPS uniform or the full Nomex outerwear is not appropriate or justified, local management with regional director approval may establish a predetermined dress code for fire staff. The goals of the NPS uniform program can appropriately be applied (with common sense) to this departure from the "norm."

Where appropriate and justified, FIREPRO funds may be applied to the purchase of 100 percent cotton tee shirts and sweatshirts, and ball caps, with appropriate logo and color scheme, to augment the Nomex outerwear worn in conjunction with project or wildland fire management incidents. Nomex outerwear will usually be returned to the park's fire cache based on the tour of duty (end of season, transfer to another park, etc.).

The fire management officer is responsible for establishing a reasonable allotment schedule for new or returning employees, commensurate with supplies provided in previous seasons. A

suggested per person issuance is: 3 to 4 tee shirts, one ball cap, and one sweatshirt (where appropriate). \$75 would normally be adequate to cover costs of this issuance.

Just as with uniform allowance discussed in DO-43, the intent of FIREPRO-funded purchases is to defray the cost of the appropriate apparel, not necessarily to cover the cost of all items. This will not only be factored into the quantities deemed necessary for the individual, but would also preclude FIREPRO-funded purchases of fleece jackets, rain gear, and other personal items generally considered the responsibility of those employees not covered by the NPS uniform program.

Hard Hats. Only safety helmets which meet ANSI Z89.1-1986 penetration test standards, as well as a 350 degree F. and 20,000 volt electric non-conductor tests are approved for wildland and prescribed fire duty (see Exhibit 1). Only the GSA "Helmet, Safety, Wildfire" or equivalent is authorized.

Fire Shelters. Fire shelters will be issued and worn by all personnel exposed to fire hazard. They will be inspected regularly, and "training" shelters will be deployed annually at required refresher safety training. The shelter is to be viewed as a last resort, and will not be utilized as a tactical tool. Supervisors and firefighters must never employ fire shelters instead of well-defined and pre-located escape routes.

"Live Fire" Training. No "live fire" exercises for the purpose of fire shelter deployment training will be conducted or condoned, both for safety reasons and because shelters are intended as personal protective equipment-of-last-resort and not as standard tactical tools.

Fire Boots. Government funds will be utilized for purchase of wildland fire boots for those employees currently redcarded/certified in positions which require wildland and prescribed fireline duties. Secondly, the individual employee must be available to perform those duties when assigned; if not routinely available for park fire assignments, FIREPRO funds should not be used to purchase boots for that employee.

FIREPRO funds, not to exceed \$100 a pair, may be used to purchase or repair boots. Other government funds, such as from safety, protection or maintenance accounts, may also be used for purchase or to augment FIREPRO funds, dependent on local management direction. Costs to repair boots not damaged on fire should be charged to other appropriate accounts.

Wildland fire boots must have 8-inch uppers (minimum), be constructed of leather, be lace-up, with a non-melt lug type sole. They differ from many standard safety shoes/boots in that full-length metal shanks are not permitted, and steel toes are optional, depending on application. This difference is due to heat transfer problems arising from standing in very hot environments such as embers and ash.

It is the responsibility of the local FMO to determine those employees requiring boots as

personal protective equipment, and the frequency of necessary replacement or repair. Boots will be considered similar to uniform items and will not be subject to cache item return, due to health, sanitation, and individual sizing considerations.

Job Hazard Analysis. A job hazard analysis, similar to that in Exhibit 2, should be accomplished whenever tasks or activities have potential to cause serious injury or illness to personnel and/or damage to property, materiel, or the environment.

Investigations. All wildland fire incidents which result in human entrapment, fatalities or serious injuries, or result in incidents with potential, will be reported and investigated. Pending initial assessment, those directly involved in the event to be investigated will be removed from fireline duties as soon as practical, and will be made available for interview by the investigation team. Appropriate administrative actions will be taken subsequent to a full investigation. Exhibits 3, 4, 5, and 6 provide specific guidance in reporting, conducting and documenting investigations of serious accidents, entrapments, and incidents with potential.

An "entrapment" is defined as: "A situation where personnel are unexpectedly caught in a fire behavior-related, life-threatening position where planned escape routes or safety zones are absent, inadequate, or have been compromised. An entrapment may or may not include deployment of a fire shelter for its intended purpose. These situations may or may not result in injury. They include "near misses" .

An "incident with potential" is defined as: "A wildland fire-related mishap which results in serious injury, near accident (which would have resulted in a serious injury or fatality), substantial loss of property, or is so complex and filled with operational discrepancies that it has the potential to produce an accident, serious injury or fatality given a similar environment or set of circumstances that existed at the time of the incident."

Wildland Fire Entrapment/Fatality Initial Report. Within 24 hours of any entrapment or fatality, the "NWCG Wildland Fire Entrapment/Fatality Initial Report, NFES 0869" (Exhibit 7) will be used to report the incident to appropriate fire operations and safety personnel, and coordination centers.

Standards for Fireline Visitors. All non-operationally trained and qualified personnel visiting the fireline (both prescribed and wildland fire situations) on NPS fires will meet the LIGHT physical fitness standard as identified in NWCG 310-1, will wear the required personal protective equipment (including the readily accessible fire shelter), and will be accompanied by a qualified person who will determine PPE and physical conditions.

Vehicle Operations. Managers and fire program supervisors will ensure that all vehicles meet GSA and agency safety standards. All vehicles employed on incidents will be provided with a safety inspection appropriate to their use and prior to their release. Drivers will comply with duty periods identified in the "Interagency Incident Business Management Handbook, NWCG

Handbook 2". Commercial Drivers License (CDL) regulations and other guidance as therein described.

FIREPRO funds are authorized to pay for the cost of CDL licensing fees and exams, necessary for employees to operate fire equipment, with one exception. That exception involves those cases where a test has been failed and must be retaken, in which case the employee will be responsible for costs associated with additional testing.

### **SAFETY AND HEALTH FISCAL, MEDICAL SURVEILLANCE, AND FITNESS ISSUES.**

"Wildland Firefighter" Defined. Those employees who frequently perform duties of a hazardous and/or strenuous nature are targeted. Therefore within this section, "wildland firefighter" hereinafter refers to an employee meeting either of the below definitions:

1. Those seasonal employees hired primarily for fire duties and those permanent employees with arduous duty fire assignments identified as a primary or major duty in their position descriptions, or
2. Those permanent employees who are designated members of organized fire Incident Management Teams or frequently fill fire assignments, whose assigned positions require a physical fitness/work capacity score of 35/moderate or higher.

For health, fitness, and medical examination purposes, those who are fire-qualified, but do not meet the above definitions, are not required to meet the mandatory fitness program requirements of DO-57 for wildland fire management. However, they are strongly encouraged to participate in the voluntary fitness program and must still meet physical fitness/work capacity requirements as outlined in NWCG 310-1 "Wildland Fire Qualification Subsystem Guide".

Health Screening. Arduous duty medical exams must be taken once every 3 years by wildland firefighters. They do not include stress EKG's, except for those 41 years or older if required by the examining physician. Those cases would be considered exceptional. FIREPRO funding will not be used to pay for stress EKG's, except in exceptional cases which require prior approval by the regional fire management officer.

FIREPRO funding may be used to pay for medical exams for mandatory fitness program participants within the following limits:

1. Those who meet the definition of "wildland firefighter", paragraph 1. above, will have costs of all required medical examinations paid for by FIREPRO, not to exceed \$250. Anything in excess of \$250 requires approval of the regional fire management officer. This includes recent requirements for blood screenings.

2. Those who meet the definition of "wildland firefighter", paragraph 2. above, will have costs of required medical exams paid for by FIREPRO, subject to the Regional Fire Management Officer's approval. Where the employee is required to have a medical exam for non-wildland fire duties under DO-57 as well (e.g. law enforcement, diving), costs will be shared equally between FIREPRO and the benefiting ONPS account(s).

In the event an employee-selected physician indicates that an EKG or other advanced test is needed, the government may require a second opinion from an appointed physician.

Administratively determined (AD), emergency hire firefighters are not required to have arduous duty medical exams, but must meet the appropriate physical fitness/work capacity requirements.

Pending development and adoption of a Departmental medical surveillance program for wildland firefighters, the NPS will continue to use the U.S. Civil Service Commission Certificate of Medical Exam, SF-78, wildland fire medical examination standard, for use by examining physicians. (See Exhibit 8).

The examining physician will submit the completed SF-78 to the employee's park, where it will be reviewed by the personnel office and the fire management officer. The SF-78 will be retained in the employee's Official Personnel File.

Individual Health and Fitness Programs. Managers should provide wildland firefighters 3 hours per week of duty time to assist them in meeting fitness goals. Those wildland firefighters whose fulltime duties are 100% arduous duty-related (such as helitack, hotshot, engine, prescribed fire, smokejumper crews) are normally provided one hour per day for fitness training.

Fitness Goals. Wildland firefighters must meet the minimum physical fitness/work capacity standards for their assigned incident management position, as defined in NWCG 310-1 "Wildland Fire Qualifications Subsystem Guide." They are also strongly encouraged to meet and exceed the "Project SHARP" fitness goals where such health and fitness programs exist in parks.

Physical fitness/work capacity tests for wildland firefighters and other fire-qualified employees will consist of the "pack test" series of tests.

Fitness Equipment and Facilities. DO-57 "Health and Fitness Guideline" defines the minimum equipment needed to meet physical fitness goals. The following guidance will be used to specifically determine FIREPRO allocations for equipment purchase:

1. The FIREPRO funding allocation will represent the percentage of mandatory fitness participants in a park. For example, park "X" may have 20 total mandatory fitness participants in its health and fitness program, 5 of who are wildland firefighters. FIREPRO

would pay 25% of the cost of equipment purchase.

The regional fire management officer's approval is required for any anticipated purchases requiring FIREPRO contributions in excess of \$1,200.

2. Where all of a park's mandatory fitness participants are wildland firefighters; FIREPRO will fund up to a maximum of \$1,200 per park for equipment purchase. The regional fire management officer's approval is required for purchases in excess of that amount.
3. DO-57 indicates that health club costs must be borne by park management for mandatory fitness participants. However, in-park exercise facility development is the preferred option. Where this is not possible, health club costs, not to exceed \$360 per year, may be paid from FIREPRO funds for each wildland firefighter mandatory program participant. Approval from the regional fire management officer is required for annual fees, which exceed \$360.

Office of Workers' Compensation Program. OWCP costs resulting from injuries and illnesses associated with wildland fire operations are chargeable to the fire program, rather than to other regular programs. These OWCP chargeback codes are identified in the Interagency Incident Business Management Handbook.