

SECTION
(October 2002)

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GENERAL HEALTH AND SAFETY (October 2002)	7070
FIREFIGHTING SAFETY AWARENESS FUNDAMENTALS (October 2002)	7070.1
TEN STANDARD "FIRE ORDERS" (October 2002)	7070.1.1
A. Fight Fire Aggressively, but Provide for Safety first.	
B. Inform Crew of Planned Escape Routes.	
C. Remain Calm, Be Alert, Think Clearly, Act Decisively.	
D. Establish Lookouts in Hazardous Situations.	
E. Observe Personally, Use Scouts, Always Know What Fire is Doing.	
F. Review Fire Weather Conditions and Forecasts.	
G. Decide Actions Based on Current and Expected Fire Behavior.	
H. Explain Orders Clearly and Be Sure They are Understood.	
I. Remain in Control of Crew at All Times.	
J. Stay in Constant Communications with Crew, Supervisor and Adjoining Forces.	

WATCHOUT SITUATIONS

(October 2002)

7070.1.2

1. Fire not scouted and sized up.
2. In country not seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather and local factors influencing fire behavior.
5. Uninformed on strategy, tactics, and hazards.
6. Instructions and assignments not clear.
7. No communication link between crewmembers and supervisors.
8. Constructing line without safe anchor point.
9. Building line downhill with fire below.
10. Attempting frontal assault on fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather gets hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain or fuels make escape to safety zones difficult.
18. Feel like taking a nap near fireline.

L.C.E.S.

(October 2002)

7070.1.3

“LCES” stands for “Lookout(s), Communication(s), Escape route(s), and Safety zone(s).” These are the same items stressed in the “FIRE ORDERS” and “Watchout Situations.” Each element should be evaluated independently and continuously. But of equal importance, these should also be evaluated as a system. For example, the best safety zone is of no value if your escape route does not offer timely access when needed.

The LCES system must be communicated to each firefighter prior to when it must be used. The nature of wildfire suppression dictates continuous evaluation of LCES and when necessary, and reestablishment of LCES as time and fire growth progress.

A. LOOKOUTS

- Every firefighter has both the authority and responsibility to warn others when hazards become threats to safety.

Lookout(s) or scouts (roving lookouts) need to be in a position where both the hazard and the firefighter(s) can be seen. Lookouts must be trained to observe the wildland fire environment and to recognize and anticipate fire behavior changes. Each situation determines the number of lookouts that are needed. Due to terrain, cover and fire size, one lookout is normally not sufficient. When the hazard becomes a danger, the lookout relays the information to the firefighters so they may reposition to the safety zone.

B. COMMUNICATIONS

- Must be able to tell other firefighters of an impending "problem"
- Must have communications

The crew must determine the method of communication(s) that will alert them of approaching hazards. Communications must be prompt and clear, whether by radio, verbal or hand signals.

C. ESCAPE ROUTES

- Must have one and preferably two escape routes
- Must lead to safety zones

Escape routes are the paths the firefighter takes from his/her current threatened position to an area free from danger. Unlike the other components of the system, there must *always* be more than one escape route available as a single escape route may get cut off!

Escape routes are probably the most dynamic component of LCES as their effectiveness changes continuously. As the firefighter works along the perimeter, fatigue and spatial separation increases the time required to reach a safety zone. The most common escape route is the fireline. Be aware that on indirect or parallel fireline, problem situations can become magnified. Unless safety zones have been identified ahead as well as to the rear, firefighter retreat may not be possible.

D. SAFETY ZONES

Safety zone(s) are locations where the threatened firefighter may find adequate refuge. Safety zones should be planned as a location where no shelter will be needed. This does not imply that a shelter should not be deployed if needed, only that if there is a deployment, that location is not a true safety zone. Fireline intensity and topographic location determine a safety zone's effectiveness.

E. SUMMARY

To reemphasize, the LCES system must be identified prior to when it must be used! Each time firefighters are working around hazards; lookouts must be posted with adequate communications to each firefighter, with a minimum of two escape routes from the work location to an adequate safety zone (a safety zone is NOT a shelter deployment site).

Since safety and tactics should not be considered as separate entities, the LCES system should be automatically included in any tactical operation where a hazard could or does exist. ([Use ICS-215a](#))

COMMON DENOMINATORS

7070.1.4

(October 2002)

The Common Denominators of Fire Behavior on Tragedy Fires are:

- Most incidents happen on smaller fires or isolated portions of larger fires.
- Fires respond quickly to shifts in wind direction or wind speed.
- Flare-ups generally occur in deceptively light fuels.
- Fires run uphill surprisingly fast in chimneys, gullies, and on steep slopes.
- Some suppression tools, most notably helicopters and air tankers, can adversely affect fire behavior. The blasts of air from low flying helicopters and air tankers have been known to cause flare-ups and cause weak trees to fall.

DOWNHILL LINE CONSTRUCTION

7070.2

(No. 2 August 2007)

It is the policy of CAL FIRE to adopt by reference the most current version of the Downhill Checklist as listed in the National Wildfire Coordinating Group (NWCG) Incident Response Pocket Guide (IRPG) for Downhill Line Construction. The Downhill Checklist shall be CAL FIRE Policy.

Reference: [1734.6](#)

ELECTRICAL HAZARDS

(October 2002)

7070.3

Whenever electrical hazards are present or suspected, the IC shall notify the ECC. The ECC immediately communicates a positive notification of the hazard to all units assigned to the incident.

At scene of fallen electrical lines, a danger zone shall be established and a guard posted to ensure the safety of the public and firefighters. The area shall be flagged with black and yellow hazard flagging for a minimum radius of twenty-five feet.

If possible, the Power Company should deactivate lines in the fire area that may endanger persons. **ASSUME ALL WIRES ARE ENERGIZED** until advised by the Power Company that it is safe. Deactivated transmission and distribution lines may continue to pose a hazard due to induction.

In the event that a power line drops onto a vehicle occupied by one or more person, they should stay in the vehicle until the power company arrives and removes the source of danger. If the vehicle is on fire, or threatened by fire, the individuals should jump clear of the vehicle (in one leap with feet together).

SURVIVAL TIPS:

- Do not direct straight water into high-tension lines.
- Be aware that smoke may become charged and conduct the electrical current to the ground.
- Do not operate heavy equipment under power lines.
- Do not use powerline rights of way as jump zones for smoke jumpers or parachute cargo drop spots.
- Do not drive with long antennas under power lines.
- Do not direct retardant into powerlines nor stand near power lines during retardant drops.
- Do not fuel vehicles under powerlines.
- Do not park under powerlines during fire situations.
- Phone and television cables may be energized if contact has been made with electrical wires.

Reference: HB 1700 Health and Safety--[1735.1 Emergency Alert](#) and [1746 Electrical Hazards](#); [HB 4300](#)--4331.2 Safety Precautions When Near Energized Electrical Equipment

To be written

(October 2002)

7070.4

INCIDENT ABANDONMENT PROCEDURES AND SIGNALS

7070.5

(October 2002)

In the event of a catastrophic hazard such as a structure collapse, likely explosion, extremely hazardous atmosphere, backdraft or flashover condition, fire front, or immediate deterioration of tactical conditions, members and civilians must be removed from areas of imminent danger. Under these conditions this shall be the priority activity of the Incident Commander as well as all those in the area of danger.

TERMINOLOGY

7070.5.1

(October 2002)

Evacuation: Evacuation is used to inform firefighters of the need to remove civilians from a hazard or potential hazard area. Evacuation is not used to inform emergency workers to leave an area.

Withdraw: When operations require that emergency personnel and civilians leave an area, and time is sufficient, they may pick up their equipment and leave in an orderly manner. This may be done when expanding a hot zone, changing from offensive to defensive operations, or leaving an area.

Abandon (Emergency Traffic): An imminent catastrophic hazard that endangers the safety of personnel and civilians. Time is not sufficient to take equipment and all must immediately leave the area. All emergency personnel must immediately leave the area in an orderly manner as quickly as possible and go to the nearest safety zone.

PROCEDURES

7070.5.2

(October 2002)

1. Request ECC or Incident Commander to announce "ABANDON (BUILDING, DIVISION OR BRANCH) ON XXX INCIDENT AND PREPARE FOR EMERGENCY ROLL CALL." Members may activate the MAYDAY signal by the use of their personal alarm devices or blowing on their high decibel whistles (such as a Fox 40 whistle).
2. The ECC or Incident Commander shall: (3 alert tones) and repeat five times on command and tactical frequencies, ABANDON (BUILDING, DIVISION OR BRANCH) ON XXX INCIDENT AND PREPARE FOR EMERGENCY ROLL CALL." If the incident operating on a tactical channel where the ECC does not have transmit capabilities, the Incident Commander will ensure the announcement is made on all incident-related channels.

3. All radio traffic on the incident shall cease.
4. The incident commander shall have apparatus sound the "ABANDON THE INCIDENT" air horn signal. The abandon signal shall be one (1) thirty (30) second air horn blasts from all apparatus at scene. Members will activate their personal high decibel whistles for thirty (30) seconds.
5. Using the accountability system, Emergency Roll Call shall be taken when members and civilians have assembled in a safe area. Every effort will be made to account for civilians as well.
6. If any member(s) are not accounted for the procedure will start again from step "A" and Command will send a Rapid Intervention Crew (RIC) to the last reported working area of the lost firefighter(s) to begin a search.
7. When all personnel are accounted for, the Incident Commander shall announce "EMERGENCY ROLL CALL COMPLETE."

ROLL CALL (October 2002)

7070.5.3

During an incident abandonment company officers shall assemble their crews and keep companies intact. Company officers shall assess the physical condition of members and determine the readiness of the company. Company officers shall assemble crews as soon as possible and proceed to assigned apparatus for roll call unless directed to another location by their supervisor. If any members fail to report, the next immediate supervisor shall be immediately notified.

Company officers, command staff, general staff, and division or group supervisors shall monitor radio traffic and wait for contact from the IC or their designee to report status except in the case of a missing member. When contacted, the officer in charge shall report "ALL PRESENT" and the number of injured personnel if any.

Members shall ensure that others in the area are aware of the abandon message.

All command staff, general staff, and division or group supervisors shall assemble their personnel in a safe location and take roll call.

Reference: BUC/RIC; NFPA 17-1

TRAFFIC CONTROL (October 2002)

7070.6

Traffic control is a primary function of law enforcement agencies; however, CAL FIRE does have a responsibility to warn motorists of smoke hazards resulting from an emergency incident adjoining a public roadway. Certain conditions, such as containment of a fire or the absence of adequate law enforcement authority, may justify department employees giving attention to traffic control. Responders should not perform intersection traffic control unless specifically trained to do so.

Responders engaged in traffic control shall make use of reflective vests and approved control signs. Responders may use HT radios to effectively control traffic, particularly if the flaggers are not visible to each other.

Responders engaged in traffic control during hours of darkness or periods of restricted visibility will use lights, highway flares, or other similar devices in a location which allows a light or glow to be visible to approaching motorists from a distance of at least 500 feet. Yellow flasher warning lights are preferable for such use.

One or both flag-persons must have communications or good sight distance from each end of traffic.

As soon as possible traffic control shall be turned over to law enforcement, Cal Trans or the local road department.

Reference: CAL FIRE [Handbook 1735.2 Traffic Control](#); Handbook [4331.1](#).

CAL FIRE EMERGENCY RESPONSE UNIFORM (October 2002)

7070.7

All CAL FIRE employees responding to emergencies will wear protective clothing and equipment consistent with [Sections 1721](#) and [1725](#) of the Health and Safety Procedures Handbook (1700). The poly/rayon and polyester response shirt will not be worn under protective clothing.

INCIDENT BASE/CAMP WEAR (October 2002)

7070.7.1

Personnel should remember that while off-shift, they remain on duty. Therefore, only authorized uniform clothing or safety clothing is to be worn while outside sleeping areas. It is the responsibility of company officers and their supervisors to ensure that personnel are properly attired at all times.

The Department has authorized the issuance of Nomex shirts to non-uniformed personnel who are assigned to incidents.

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT - GENERAL

7070.8

(October 2002)

CAL FIRE is responsible for providing personal protective clothing and equipment (PPE) to its employees. All PPE must meet or exceed current Cal/OSHA regulations and Departmental Policy. All departmental personnel are responsible for enforcing clothing and equipment standards and informing employees concerning safety hazards. PPE inspections are required annually, as a minimum.

Involvement in non-typical emergency operations, such as flood fighting, appropriate PPE shall be furnished by CAL FIRE or the contracting agency prior to engaging employees in work where a hazard exists.

CAL FIRE requires 100 percent cotton, crew neck, tee shirts for all fire suppression personnel as added insulation to prevent serious burns during critical fire exposures. Long-sleeved, crew neck, tee shirts are allowed, but cannot be worn under short-sleeved work or dress shirts. It is recommended that other undergarments also be made of 100 percent cotton.

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT (Department Approved)

7070.8.1

Wildland Firefighting Checklist

(October 2002)

- Safety helmet, or air-supplied helmet, as provided by the department
- Goggles
- Ear Protection
- Nomex Shroud-Double layered (both layers of inherently flame resistant materials and/or Nomex Hood or equivalent face and neck protection)
- Nomex Shirt, with Indura Fire Resistant cotton sleeve liners-7 ounce/yard
- Nomex Trousers worn over cotton uniform pant
- Gloves
- Safety Work Boots
- Web belt with accessories
- Fire Shelter
- Chain saw Chaps-for sawyers and pullers.

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

7070.8.2

Structural Firefighting Checklist

(October 2002)

- Structural fire safety helmet
- Nomex hood
- Goggles or face shield
- Ear protection
- Insulated gloves
- Turnout coat and pants
- Turnout rubber boots with steel toes and puncture proof soles
- Pressure-demand, self contained breathing apparatus
- Personal alarms

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT

7070.8.3

Medical Response – Checklist

(October 2002)

- Safety Helmet (if involved in rescue activities)
- Turnouts (if involved in vehicle extrication, etc.)
- Appropriate Eye protection
- Impermeable gown or apron
- Latex gloves
- Powdered
- non-powdered
- Impermeable footwear
- N-95 respirator (3M 9211) or approved sterile mask

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT - FOOT PROTECTION

7070.8.4

(October 2002)

- Wildland
 - Heavy duty lace-type work boots
 - Deeply lugged soles and heels
 - Leather tops, at least eight inches in height

Optional

- Hard toes
- Hard leather or
- Steel toes

There are exempt classifications of employees from wearing boots with lug soles, but must wear slip-resistant composition soles.

- Forestry Equipment Managers
- Heavy Equipment Mechanics
- Heavy Fire Equipment Operators
- Those needing caulking boots
- Employees at air attack bases
- Employees engaged in local government fire protection activities

Wedge-sole boots or boots without heels are prohibited

- Structural turnout boots
 - Steel-toed
 - Steel inner-sole

PERSONAL PROTECTIVE CLOTHING AND EQUIPMENT - Specialized Equipment (October 2002)

7070.8.5

When specialized safety clothing is required to protect the employee from injury, they will be provided. Supervisors are responsible for seeing that their employees are properly trained in the use of specialized equipment.

- Web gear
 - GSA approved FSS model
 - 2 pouches for 1 quart canteens
 - pouch for a fire shelter
 - shoulder harness
- Fire Shelter
 - GSA approved
 - Polyvinyl liner, with pull tab
 - Hard case
 - Readily accessible
 - Worn at the hip in an upright position
 - Inspected every 14 days
- Personal Alarms
 - Required for employees engaged in interior structural fire fighting activities that require the use of a SCBA
- Respiratory Protection
 - Employees will be provided with and required to wear the appropriate respiratory protection equipment when working in atmospheres that:

- Are immediately dangerous to life and health (IDLH)
 - Are suspected to be hazardous
 - Are not immediately dangerous to life and health; however, they may produce immediate physical discomfort or chronic poisoning
 - Medical emergency responses involving patients that may transmit respiratory infectious disease.

- Hazardous atmospheres include:
 - Oxygen deficient or enriched atmospheres
 - Gas, vapor, particulate contaminant, or chemicals that exceed the Permissible Exposure Limit (PEL)
 - Pesticide applications
 - Herbicide spraying
 - Spray painting
 - MSDS recommendations of a product

- SCBA pressure-demand respirators required when:
 - Entering an oxygen deficient atmosphere
 - Entering a burning building
 - Entering a confined space
 - Working a vehicle fire
 - Working in hazardous smoke, other than wildland smoke
 - Operating bulldozers in smoke containing hazardous materials

Any employee required to wear respiratory protection must first be medically cleared and then fit tested for each make, model, style and size of respirator issued.

References: [1000](#) Handbook-Personnel, [1500](#) Handbook-Uniform and Identification; 1700 Handbook-Health and Safety, [Section 1720](#); 4300 Handbook, Fire Protection Training-[Section 4305](#).

CAL FIRE Memo-December 7, 2000-Equipment and Apparel-Protective Clothing Southern Area Fire Equipment Research-PPE Care and Use Guidelines

[National Fire Protection Association Standards](#)

- 1) 1971-Protective Ensemble for Structural Fire Fighting-2000
- 2) 1975-Station/Work Uniforms for Fire and Emergency Services-1999
- 3) 1977-Protective Clothing and Equipment for Wildland Fire Fighting-1999
- 4) 1851-Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensembles-2001
- 5) 1854-Selection, Care, and Maintenance for Wildland Fire Fighting Protective Ensembles-2003*
- 6) 1981-Open-Circuit Self-Contained Breathing Apparatus for the Fire Service-1997

[California Code of Regulations](#), Title 8, General Safety Orders, Article 10.1 Personal Protective Clothing and Equipment for Fire Fighters, Sections:

- 1) 3401 Application
- 2) 3403 Head Protection
- 3) 3404 Eye and Face Protection

- 4) 3405 Ear and Neck Protection
- 5) 3406 Body Protection
- 6) 3407 Hand and Wrist Protection
- 7) 3408 Foot Protection
- 8) 3409 Respiratory Protection
- 9) 3410 Wildland Fire Fighters Requirements
- 10) 5193 Blood Borne Pathogens

INJURY AND ILLNESS PREVENTION PROGRAM - GENERAL

7070.9

(October 2002)

INJURY AND ILLNESS PREVENTION PROGRAM-CAL FIRE

7070.9.1

(October 2002)

It is CAL FIRE's policy to provide a safe and healthy work environment for the employees, and to fully comply with [Labor Code 6407.1](#). CAL FIRE has developed an IIPP that has 3 primary components, and departmental policies and procedures to promote a safe and healthy work environment.

The three IIPP components are:

- a) Overall Program Requirements
- b) Written Safety Plans
- c) Code of Safe Practices

The Overall Program component provides the general overview of the mandated components and guides for developing an IIPP for any location.

Written Safety Plans provide templates on work practices that have statewide application. They do not spell out the line-by-line activities but provide for guidance in understanding specific Cal/OSHA regulations and CAL FIRE policy. Plans contain minimum requirements, none of which can be removed. Unit or program managers can add components as needed.

Codes of Safe Practices (CSP) are detailed work practices utilized to perform a task. CSP's include a Job Hazard Analysis/Project Safety Work Plan (IIPP-2) and the Code of Safe Practices (IIPP-3). The IIPP-2 is used to generate a CSP (IIPP-3) for a specific work project, work site or other tasks performed by CAL FIRE employees. Formalized training curriculums, which incorporate 'hands-on' training, are considered IIPP-3's.

- Incident Action Plans are considered IIPP-2's and IIPP-3's

Employees are to be trained, supervised and provided with appropriate PPE before starting a work project. CAL FIRE policy requires that a tailgate safety briefing be provided at least every 10 days or when work site conditions change, or new employees are assigned.

- Safety Briefings and the Safety Message

CAL FIRE has a number of handbooks to assist the employee in determining safe work sites and environments. In particular:

- a) CAL FIRE 1700 Handbook-Health and Safety-provides the foundation for a safe working environment.
- Section 1760-Facilities Inspection and Employee Protection-provides information on assessing Hazards and risk associated with facilities and workplace conditions. The *Safety Inspection Reference Guide* provides templates and instructions for completing facility and equipment inspections. The section also provides documentation and record keeping standards.
 - Incident Base
 - Mobile Kitchen Unit
- Sections 1700 and 1710-establish communication procedures on safety issues and commendations; reporting and investigation requirements and; other safety and health related policies.
 - a) CAL FIRE 1000 Handbook-Personnel-sets the parameters for disciplinary action for unsafe work practices.
 - b) CAL FIRE Handbooks 4000 and 4300-provide the training components for most emergency operations.

INJURY AND ILLNESS PREVENTION PROGRAM (Other Employers)

(October 2002)

7070.9.2

When CAL FIRE hires or is provided employees from another agency, fire department or fire company, the sending employer is required to meet three criteria before they respond.

- a) Written and effective IIPP
- b) Employees are to be adequately trained to perform the tasks they are assigned.
- c) Employer to provide appropriate PPE for the tasks assigned.

CAL FIRE Managers and supervisors are responsible to ensure that these criteria are met. In many cases, existing agreements (Local Operation Plans, 4-Party, 5-Party agreements) are sufficient. If unsure, then ask the employee's liaison or representative to provide documentation. It is permissible to provide appropriate PPE to those who did not bring their own.

**INJURY AND ILLNESS
PREVENTION PROGRAM (Emergencies)**
(October 2002)

7070.9.3

When an emergency incident goes beyond the initial attack phase, and an organizational command is activated, many of the existing Incident Command System (ICS) forms become an IIPP. The Incident Action Plan (IAP) is seen as an approved IIPP, as long as the 8 components are established, for the large worksite. Individual areas, (i.e., Mobile Kitchen Unit, Demobilization Unit, etc.) may want to consider having CSP's developed, especially if a private vendor is utilized to assist.

The 8 mandatory components of an IIPP are:

- a) Identification of person or persons responsible for implementing the program
- b) Hazard & Risk Assessment
- c) Hazard & Risk Abatement
- d) Communications
- e) Training
- f) Documentation
- g) Record keeping
- h) Investigations

References: 1700 Handbook-Health and Safety, [Sections 1760-1765](#).
[CAL FIRE Injury and Illness Prevention Program](#).
[California Code of Regulations](#)-Title 8-General Industry Safety Orders, Section 3203.
Cal/OSHA's Prevention Model Program for High Hazard Employers.
Cal/OSHA's Workplace Injury and Illness Prevention Program.

BURN TREATMENT POLICY
(No.7 September 2016)

7070.10

See 1800 Handbook Sections: [1810](#), [1811](#), [1812](#), [1813](#), [1814](#), [1815](#), and [1816](#).

TO BE WRITTEN
(October 2002)

7070.11

INFECTIOUS DISEASE EXPOSURE
(October 2002)

7070.12

INFECTIOUS DISEASE EXPOSURES-PPE (October 2002)

7070.12.1

Appropriate PPE for exposures to blood or *Other potentially Infectious Material* (OPIM) must prevent contact with skin, mucous membranes, work clothing that can absorb fluids, and protection against inhalation or ingestion. PPE articles such as, but not limited to, include: Protective aprons, gowns or suits, gloves, respirator, goggles and/or face shield, helmet, and other emergency PPE. If structural turnouts are contaminated they shall be cleaned prior to being used for another incident. Wildland firefighting PPE is not to be used for medical responses where there is a potential for infectious disease exposure.

INFECTIOUS DISEASE EXPOSURES-POST EXPOSURE MANAGEMENT (October 2002)

7070.12.2

Hand and skin surfaces shall be thoroughly washed as soon as possible after each patient contact. If gloves are heavily soiled with blood, wash the gloves before removing. Hands shall always be washed after gloves are removed. In the absence of running water, antiseptic wipes must be used until facilities for better hand washing techniques are available.

Employees shall take precautions to prevent injuries by needles and other sharp instruments. Needles shall not be recapped, bent or broken by hand. Used needles shall be disposed of in puncture-resistant containers.

Contaminated or soiled PPE shall either be disposed of or cleaned before being used again. Follow manufacturer's recommended de-contamination procedures.

INFECTIOUS DISEASE EXPOSURES 7070.12.3 EXPOSURE REPORTING (October 2002)

The provisions of the Federal Ryan-White Act mandate that every employer of emergency response employees provide a means of notifying employees who have sustained an exposure to bloodborne or airborne pathogens. Prompt reporting and activation of reporting is essential because, in a case where Human Immunodeficiency Virus (HIV) exposure is highly likely, suspected, or confirmed, post-exposure treatment may be recommended, and it should be started as soon as possible-preferably within one to two hours after the exposure occurred. The confidentiality of the employee or employees must be adhered to throughout the notification and reporting procedures.

EXPOSURE REPORTING-NOTIFICATION

7070.12.4

(October 2002)

Employees who believe they may have been exposed to blood or OPIM shall utilize the Exposure Determination Matrix and Reporting Procedure Form- (IIPP-10). If the conditions are met for a potential exposure the employee or immediate supervisor shall notify the responsible Emergency Command Center (ECC) to activate their Procedure 205 notification. If CAL FIRE receives information from the treating medical facility that a CAL FIRE employee may have been exposed, the ECC shall activate the Procedure 205 and notify the employee(s) affected.

CAL FIRE's Ryan-White Designated Officer shall be notified of any potential exposures. Unit Ryan-White Liaison Officers will assist the Designated Officer. The Ryan-White Liaison Officer will utilize form IIPP-10a Communicable Disease Exposure Report Form to provide the Designated Officer with pertinent information. If the exposure was a result of a Sharps Injury, form IIPP-10b Sharps Injury Incident Form will be utilized.

References: 1700 Handbook-Health and Safety, [Section 1852 - Occupational Infections](#); 4000 Training Procedures Handbook, [Sections 4035](#) and [4043](#).

Ryan White Act, Federal Register Volume 59, Number 54.

[Section 5193](#), Cal/OSHA Title 8, General Industry Safety Orders, Bloodborne Pathogens Standard.

CAL FIRE Injury and Illness Prevention Program, Exposure Control Plan.

IIPP Forms [10](#), [10a](#), [10b](#).

HEAT ILLNESS PREVENTION

7070.13

(October 2002)

The following are essential components of heat-illness prevention and every employee shall be trained and familiar on how to apply each component to their personal well being:

- Medical Signs and Symptoms
- Acclimatization
- Hydration
- Physical Fitness
- Personal Human Factors
- Work/Rest Cycles
- Personal Protective Clothing and Equipment

Managers and supervisors are required to conduct periodic workplace assessments to evaluate the risk of excessive exposure to heat stress posed by different tasks conducted. Incident management supervisors shall provide information on the risk of heat illness, such as weather conditions, the need for adequate potable water and work/rest cycles.

CATEGORIES OF ILLNESSES (October 2002)

7070.13.1

Responders shall report any heat related cases to their supervisor. Supervisors will act to treat immediately.

There are five categories of heat illness disorders:

HEAT STROKE-Life Threatening Medical Emergency. Total collapse of the body's temperature regulating mechanism. Symptoms include: altered mental status, delirium, loss of consciousness, convulsions, elevated core temperature. Signs include: hot, dry, red skin; lack of sweat; pulse is rapid and bounding. Rapid cooling of the body is required. Immerse in cold water, ice the individual, IV fluids, fan. Treat for shock and transport ASAP.

DEHYDRATION EXHAUSTION-Failure to replace water losses over several days. Symptoms are weight loss, dark yellow urine and excessive fatigue. Provide fluids and rest. Monitor medically.

HEAT EXHAUSTION-Excessive exposure to heat, poor physical condition, and inadequate water consumption leads to weakness, unstable gait, wet-clammy skin, headaches, nausea, fatigue and collapse. Provide rest in shaded area and have patient drink water. Monitor medically.

HEAT CRAMPS-Painful muscle cramps, skin cool and moist, and rapid pulse. Provide fluids-water, sport drinks, etc. Monitor medically.

HEAT EDEMA-Swelling of feet and ankles, usually occurring in non-acclimated individuals. Elevate lower extremities and general cooling.

MEASURES TO CONTROL HEAT ILLNESS (October 2002)

7070.13.2

Acclimatization is the bodies ability to temporary adjust to the environmental conditions. Employees subjected to arduous work in hot climates acclimate easier if they are physically fit. The number of days to acclimate between those who are physically fit compared to those who are unfit is 1:2. The first couple of days in the most critical.

Hydration - Ensure that there is an adequate supply of potable water available and that employees are getting their needed liquids. Plan ahead and do not allow water to run out before supplying. If an employee indicates that they are thirsty, they have already lost 3% of their fluids, and will not be able to compensate until they have not only hydrated, but also had adequate rest. Continually drinking water will protect against dehydration. Gulping or consuming large quantities of water on a periodic basis will not prevent dehydration.

Electrolytes -While sweating can lower the levels of electrolytes, a balanced diet will provide more than the needed amount to work long arduous shifts. A sport drink, or equivalent, can be added to the hydration needs, but drinking adequate amounts of water is the best defense against heat-related illnesses.

Physical Fitness - Maintaining a high level of physical fitness, through a regular fitness program that includes aerobics, strength conditioning and flexibility, is a key in preventing heat-related illnesses.

Human Factor - Incorporating a regular physical fitness program along with a balanced diet will assist in minimizing problems being associated with being overweight, heart disease, diabetes, high blood pressure, and a host of physiological and sociological problems. Use only prescription medication as prescribed. Limit consumption of alcohol and caffeinated drinks. Avoid tobacco products and second hand smoke.

Work/Rest Cycles - A good rule of thumb is to get one hour of sleep for every two hours of work. When assigned to 24 hour shifts, it is very important that employees get a minimum of 12 hours uninterrupted sleep, preferably in a cool, quiet location. Work breaks should be in shaded locations, if feasible. During a break, remove or loosen PPE to release body heat. The head generates the most amount of heat, and only remove helmets if conditions are safe to do so.

PPE - Personal protective clothing and equipment (PPE) provides protection against radiant heat, infectious diseases, and other hazards associated with the emergency tasks being performed. PPE also traps body heat, potentially increasing body core temperatures to a point of creating a health hazard. Appropriate PPE should be worn; however, when conditions are safe it is recommended that the PPE be loosened or removed to allow the release of body heat. Employees must have supervisor's permission to loosen or remove PPE.

REPORTING HEAT ILLNESS

7070.13.3

(October 2002)

Employees are to report any heat-related illness or injuries that are a direct or indirect result of heat-illness to their supervisor. Supervisors will provide appropriate medical treatment and make the necessary notifications. The Compensation and Claims Unit is responsible to follow-up on the employee's condition and to ensure that all necessary paper work has been completed and distributed.

In the event that a heat-related illness occurs the following forms are required:

SCIF 3301 Employees Claim for Workers' Compensation Benefits*
CAL FIRE 3067 Employer's Report of Occupational Injury or Illness*
CAL FIRE 3067A Heat Stress*

References: [1700 Handbook-Health and Safety, Section 1855.](#)

CAL FIRE Injury and Illness Program - Heat Illness Prevention Plan.
USFS Health and Safety Code Handbook-Chapter 50 (1999).

TO BE WRITTEN **7070.14**
(October 2002)

SERIOUS ACCIDENT INVESTIGATIONS **7070.15**
(At Incidents)
(October 2002)

All serious accidents, injuries, fatalities or near miss incidents that occur while on emergency activities will be reported to the region chief responsible for the incident. The region chief will consult with the Director's Office and appoint an accident investigation team. The Chief Deputy Director or designee may exempt a serious accident or near-miss incident from investigation.

SERIOUS ACCIDENT INVESTIGATIONS **7070.15.1**
DEFINITIONS:
(October 2002)

A serious accident is one that results in serious injury or death to any of the following:

- a) CAL FIRE employee
- b) A person working under the direction of a CAL FIRE employee.
- c) A member of the public when a CAL FIRE employee is involved.

Serious Injury is defined as:

- a) Requires in-patient hospitalization for more than 24 hours for other than observation.
 - b) Involves the loss of a body part.
 - c) Involves serious disfigurement.
- If an employee suffers any serious injury or if a fatality occurs, the closest Cal/OSHA office is to be notified immediately.
 - Cal/OSHA notification does not apply to injuries or fatalities that involve vehicle accidents that occur on a public street, highway, or freeway.

Serious Accident is defined as:

- a) Major damage to a CAL FIRE vehicle
- b) Major damage to a CAL FIRE facility
- c) Major damage to public or private property
- d) Major damage to CAL FIRE aircraft

Near-Miss is defined as a sudden or unexpected event that occurs in the work environment and reasonably could have, but did not, result in a serious accident.

Wildland Fire Entrapments, whether or not a fire shelter is deployed, requires the completion of a National Wildfire Coordinating Group (NWCG) form # NFES 0869, and submission within 24 hours.

Supervisor, for the purposes of vehicle accidents, is a Battalion Chief or higher. Comparable classifications to Battalion Chief are considered supervisors.

SERIOUS ACCIDENT INVESTIGATIONS NOTIFICATIONS & FORMS

7070.15.2

(October 2002)

When a death, serious injury or serious accident occurs, the employee's immediate supervisor, agency representative or other CAL FIRE employee shall notify appropriate personnel as indicated on the Incident Action Plan (IAP) or to the Emergency Command Center (ECC) having jurisdiction. The Incident Commander (IC) and/or the ECC shall make all necessary notifications.

The Unit Duty Chief will be notified. Depending on the nature of the accident the following agencies may also need to be contacted:

- California Department of Corrections (CAL FIRE) for inmates.
- California Youth Authority (CYA) for wards.
- California Conservation Corps for corps members.
- State Compensation Insurance Fund (SCIF).
- California Highway Patrol.
- Department of Motor Vehicles.

Vehicle damage in excess of \$3,000 requires the notification of the Sacramento Mobile Equipment Management Office.

SERIOUS ACCIDENT INVESTIGATIONS VEHICLE ACCIDENTS

7070.15.3

(October 2002)

The Incident Safety Officer is responsible for conducting investigations involving accidents and incidents to, or caused by, CAL FIRE vehicles. The Compensation and Claims Unit, under Finance, coordinates the investigative activities with the Incident Safety Officer for loss prevention purposes. This includes employee's private vehicles and rental vehicles.

When an accident results in a death or a serious injury to a person, and or, substantial damage to vehicles or property, immediate notification shall be made to the region office

responsible for the incident. Management personnel from the incident are responsible to secure the scene for the members of the Serious Accident Investigation Team, and not conduct any investigation, including witness statements. It is important to obtain the names, addresses and other information of witnesses by the management personnel.

Any accident involving a state vehicle, or any vehicle used for state business must be reported to the Office of Risk and Insurance Management (ORIM) within 48 hours. If the accident resulted in a death, bodily injury or significant property damage to a non-state party, the accident must first be reported by telephone or by faxing a preliminary copy of the [STD 270](#) (see below).

Drivers of state-owned vehicles, involved in an accident shall, if able, are to complete an Accident Identification Card ([STD 269](#)), before leaving the scene.

Drivers, if not incapacitated, shall complete the Report of Vehicle Accident ([STD 270](#)). If the driver is not able, the immediate supervisor shall complete the form.

Supervisor must fill out the Review of State Driver Accident ([STD 274](#)). Supervisor must also request a copy of the employee's driving record by submitting [Form DL 254](#) to DMV.

SERIOUS ACCIDENT INVESTIGATIONS NON VEHICLE INJURY OR ILLNESS

7070.15.4

(October 2002)

In the event that an employee or other persons assigned under CAL FIRE supervision are involved in a serious accident, the immediate supervisor shall:

- Ensure that any cause of the injury/accident is no longer a danger
- Provide, or ensure that the worker receives medical attention.
- Contact next level of supervisor if a non-serious injury or illness.
- Contact appropriate personnel utilizing the IAP Medical Unit Communications Plan for serious injury or illness.
- For volunteers or contract workers secure the assistance of the Compensation and Claims Unit.
- Ensure that workers are accompanied to medical facility, if required.

**SERIOUS ACCIDENT INVESTIGATIONS
NON VEHICLE INJURY OR ILLNESS-FORMS**
(October 2002)

7070.15.5

SCIF-3301 Employee's Claim for Worker's Compensation Benefits

When a job related injury and/or illness has occurred, or is presumed to have occurred the employee, ward, inmate or other person performing work on behalf of CAL FIRE, is to be provided a SCIF form 3301 within 24 hours from the date of knowledge.

The form is provided when:

- Medical treatment has been rendered beyond first aid.
- Lost time has been incurred.
- Employee requests the form.

If an employee requests the SCIF-3301, it must be provided, even though medical treatment has not been received nor time lost from work.

**CAL FIRE-3067 EMPLOYER'S REPORT OF OCCUPATIONAL
INJURY OR ILLNESS**

The [CAL FIRE-3067](#) is to be completed for all reportable injuries and/or illnesses or when the SCIF 3301 is requested by an employee. There are many types of injuries and/or illnesses that may be work-related. Depending upon the circumstances, some will be (a) reportable, (b) non-reportable, or (c) record only.

- **Reportable**
 - Any work-related injury and/or illness that requires "professional" medical treatment and/or employee has lost time after the date of injury.
 - Complete blocks #1-70 and submit, through the Compensation and Claims Unit. SCIF must receive the form within five days from the date of knowledge.
- **Non-Reportable**
 - Any injury and/or illness which does not result in lost time, and/or does not require medical services/treatment from a private medical provider.
 - Supervisors to complete Blocks #51A through #70.
- **Record Only**
 - Any situation which is a 'near-miss' or which is perceived to have "possible" exposure to hazardous materials or infectious disease
 - Employee has not received medical treatment.
 - No lost time
 - Employee or supervisor to complete Blocks #51B, and 53 through 70.

CAL FIRE-3067A, Heat Stress

If an employee is injured and /or becomes ill due to heat-related illness, the employee or supervisor will fill out the [CAL FIRE-3067A](#) in addition to the [CAL FIRE-3067](#).

References: 1700 Handbook-Health and Safety, [Sections 1711-1714](#), [1715-1716](#), and [1718](#); [6400 Handbook, CDC Camp Operations](#); 3800 Handbook-Incident Fiscal Management, [3851-3854](#); [8300 Handbook](#).
USFS Health and Safety Handbook

ENGINE PROTECTION LINE **7070.16** **(October 2002)**

All Engine Companies operated or administered by CAL FIRE shall establish a Personnel/Engine protection hose line when involved in wildland fire suppression. The Personnel/Engine protection line will be identified and made operational prior to entering an area of any active wildland fire. The Personnel/Engine protection line should remain charged when operationally feasible.

The Personnel/Engine protection line shall meet the following minimum standards.

- The hose line shall be a minimum of 1 1/2" diameter.
- The hose shall be connected to an 1 1/2" discharge or larger.
- The hose line shall be a minimum of 50' in length.
- An 1 1/2" combination nozzle with a shutoff shall be used.

THIS HOSE IS INTENDED FOR ENGINE PROTECTION AND IS NOT TO BE USED FOR OTHER PURPOSES.

Reference: [Handbook 1700](#)

TO BE WRITTEN **7070.17** **(October 2002)**

RELIEF OF INCIDENT-ASSIGNED PERSONNEL **7070.18** [\(Section 7757\)](#) **(October 2002)**

Extended periods of maximum effort may reduce a fire suppression force's capability to a level that would adversely affect both safety and productivity. This situation may be offset through the assignment of rest and relaxation (R&R) periods or through assignment relief.

REST AND RELAXATION (R&R)

7070.18.1

(October 2002)

Rest and relaxation is assigned by an IC to ensure a safe and productive incident work force. Personnel on R&R are temporarily assigned to a short-term situation, which will allow them to rest and regain their previous productivity level. R&R is used when the normal off-shift period does not provide sufficient recuperation of an individual's ability to perform at the optimum level. Personnel on R&R assignments remain assigned to the incident and are not subject to reassignment. R&R may take place at or away from the incident area.

The following rules apply to R&R:

1. The determination that a need for R&R exists rests completely with the incident commander.
2. Personnel on R&R assignment may be relocated to an off-incident site but remain assigned to the incident.
3. Employees remain on full pay status and are subject to all department rules and regulations.

ASSIGNMENT RELIEF

7070.18.2

(October 2002)

The term "assignment relief" is applied to replacement of an individual or crew from an incident. Released personnel will normally be returned to their home unit to be placed in an assignment of lesser demand than full-time emergency incident work (regular duty assignment) or to take assigned time off duty.

The following rules apply to assignment relief:

1. Assignment relief should take place after an individual has been out of his or her home unit for fourteen (14) consecutive days working on emergency assignments, or sooner if working conditions are unusually arduous, either physically or mentally. It is the responsibility of the crew or strike team leader to make the IC aware of the need for relief ahead of time.
2. Relief may be postponed if the availability of qualified replacements seriously jeopardizes the initial attack capability of the unit providing the relief.
3. It is the responsibility of the using unit to request assignment relief. Relief may or may not be provided by the original sending unit, depending on circumstances at the time.

4. The unit providing the relief is responsible for providing the receiving unit with a qualified replacement for each relieved individual.
5. The receiving unit/incident will work to ensure a timely transfer of relieved and relieving personnel.
6. Relieved personnel will not be held on incidents but may be routed through a demobilization center without home unit concurrence.
7. Personnel on assignment relief status are not subject to reassignment from a demobilization center without home unit concurrence.
8. Members of pre-incident established Incident Management Teams may be excluded from assignment relief status when such relief would disrupt the function of the team.
9. All relief orders will be processed through regular ECC ordering channels.
10. Out-of-state incidents may require extension or modification of relief schedules, depending on specific circumstances. The Assistant Deputy Director for Fire Protection will determine needed changes.
11. All assignments associated with Federal Military Crews will be on a voluntary basis. All personnel assigned to the Federal Military Crews should be prepared for a thirty-five day (35) commitment without assignment relief. Within the commitment period, personnel assigned should expect to receive at least one R&R period.

FEDERAL AGENCY POLICY, INCIDENT ASSIGNMENTS 7070.18.3
(Applies to Federal Personnel Only)
(October 2002)

In order to provide for safe, efficient, and effective support to wildland fire operations, the following policy on length of assignments is established. This policy applies to ALL firefighters, overhead, dispatchers, and support personnel. R&R and Work Rest guidelines as outlined in the Interagency Incident Business Management Handbook remain in effect.

Incident assignments will not exceed 14 days, excluding travel. There may be situations where life and property are so imminently threatened, or suppression objectives are close to being met, that an exception is necessary to smoothly allow for replacements. Incident Commanders and agency administrators (responsible for the incident and home units) will document, gain approval from agency administrators, and include the justification in the incident records, for any assignment that exceeds 14 days. However, no assignment will exceed 21 days except for military assignments as defined elsewhere in this document. Strong consideration and management of firefighting resources must ensure that back-to-back assignments are considered in the

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

Reference: California Interagency Mobilization Guide, Section 23.1 – Mobilization.

[\(see next section\)](#)

[\(see HB Table of Contents\)](#)

[\(see Forms or Forms Samples\)](#)