



FIRE CREW FIREFIGHTER TRAINING

Procedures Handbook 4200

FIREFIGHTER SURVIVAL

TOPIC: THE 18 FIRE SITUATIONS THAT SHOUT "WATCH OUT"

TIME FRAME: 1:00

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: Given a written and/or oral quiz

Behavior: The student will confirm a knowledge of the 18 Fire Situations that Shout "Watch Out"

Standard: With a minimum of 80% accuracy

MATERIALS NEEDED:

- Writing board with markers/erasers
- Appropriate audio visual equipment and screen
- Slides/overhead transparencies for this lesson
- Wallet sized card with Fire Situations that Shout "Watch Out"
- Student Information Sheet 4203.2-1
- Topic Quiz

REFERENCES:

- CDF Fire Protection Training Handbook 4300
- CDF Health and Safety Handbook 1700
- Ground Cover Fire Fighting Practices, IFSTA, 2nd Edition
- Standards for Survival Course (NFES 2086), NWCG, 1987
- Wildland Firefighting, Clayton, Day, and McFadden, 1987

PREPARATION:

Wildland firefighting is a dangerous job. It requires that you be thoroughly familiar and aware of the hazards involved on the fireline. Your life and the lives of others may depend upon your ability to recognize a dangerous situation before it develops. All personnel have an obligation to work safely and to protect themselves and others from injury.



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THE 18 FIRE SITUATIONS
THAT SHOUT "WATCH OUT"

PRESENTATION

APPLICATION

A. FIRE SITUATIONS THAT SHOUT "WATCH OUT!"

NOTE: Hand out Student Information Sheet 4203.2-1, and refer students to page 1 (Page numbers mentioned throughout the remainder of this lesson refer to this handout)

- A. The fire has not been scouted and sized up
1. Scout by using aerial recon or ground observation
 2. Look for fire size and direction, fuel types, topography, hazards, safety zones and escape routes

NOTE: Refer students to page 2

- B. You are in country you have not seen in daylight
1. Stay with your crew, don't get lost
 2. Advance scouting is essential
 - a) Proceed slowly and carefully
 - b) Watch for sheer drop-offs, shafts, rock slides, etc.
 3. Use headlamps and flashlights for all night activities
 4. Maintain communications with your fireline supervisor
 5. Stay close to the fireline

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- a) Can use hoselays, dozerlines, and handlines to follow
- b) Avoid taking "shortcuts"

NOTE: Refer students to page 3

- C. Safety zones and escape routes have not been identified
 - 1. Safety zones must be large enough for entire crew
 - a) Meadows
 - b) Rock slides
 - c) Dirt, barren areas
 - d) Creeks, river bottoms
 - e) Swamps
 - 2. Escape routes lead to safety zones
 - a) Shortest and most direct route to safety zone
 - b) Relatively easy to travel
 - c) Make them known to all personnel

NOTE: Refer students to page 4

- D. You are in an area where you are unfamiliar with local factors influencing fire behavior

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1. Keep informed on forecasts; interpret what they mean
2. One of the most important factors affecting fire behavior is weather. It is usually broken down into three parts
 - a) Temperature
 - b) Relative humidity
 - c) Wind
 - 1) Each has a direct effect upon the burning conditions
3. Watch for nature's danger signals, mirages, dust devils, etc.
4. Maintain communications with your supervisor

NOTE: Refer students to page 5

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4203.2-1, page 5

- E. You are not informed on strategy, tactics and hazards
1. Strategy: overall plan to achieve the fire suppression objectives
 2. Tactics: specific actions done to suppress the fire
 3. Hazards in relation to strategy and tactics
 - a) Heavy fuels
 - b) Topographic features such as slopes and chimneys
 - c) Falling operations



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- d) Firing operations
- 4. All personnel must be familiar with overall strategy
 - a) Tactics to accomplish strategy
 - b) Hazards involved with accomplishing tactics

NOTE: Refer students to page 6

- F. You have been given an assignment and instructions unclear to you
 - 1. Repeat them back until you clearly understand, especially before going on the fireline
 - 2. Communicate frequently with your supervisor and keep him/her posted on your progress

NOTE: Refer students to page 7

- G. You have no communication link with crew members or supervisors
 - 1. Communications with all crew members or supervisors is important
 - a) To alert to changing conditions
 - b) To alert to problems developing
 - c) To alert to blow-up
 - d) To maintain control and prevent panic

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NOTE: Refer students to page 8

- H. You are constructing fireline without a safe anchor point
 - 1. Anchor point is critical when planning your suppression tactics
 - a) A point or location not currently, or likely to be in the future, threatened by fire spread
 - b) A place to begin your fireline where you are likely to hold your line

NOTE: Refer students to page 9

- I. You are building a fireline downhill toward a fire
 - 1. Have escape routes established ahead of time
 - 2. An extremely dangerous situation
 - 3. Stay with your crew
 - 4. Post lookout as necessary, be alert to conditions around you
 - 5. Fuels on the upslope are preheated and will burn rapidly
 - 6. Spot fires on the upslope can be expected
 - 7. Fires may generate momentum upslope, jump across hoselays, constructed hand or dozer lines and/or fire retardant drops

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NOTE: Refer students to page 10

- J. You are attempting a frontal assault on a fire
1. Position engines/vehicles so as to have an immediate escape route
 2. Many of these frontal assault tactics require numerous engines, restricting access and maneuverability
 3. Observe the convection column direction and watch for spot fires behind you
 4. Do not wander into the green at an oncoming fire
 5. Be alert and follow instructions
 6. Charge hose lines before starting the frontal attack

NOTE: Refer students to page 11

- K. You are in a heavy cover with unburned fuel between you and the fire
1. An extremely dangerous situation, particularly if the fire is spotting in your direction
 2. Always requires that lookouts be posted at strategic points for constant observation
 3. Line will usually be burned out behind you, by your crew supervisor, as it is being constructed

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4. Remain in constant contact with your fireline supervisor
5. Be prepared to use escape routes immediately, remain alert
6. Make sure any constructed line is wide enough and clean, down to bare soil
7. Anchor your starting point to ensure holding line without being flanked
8. Keep looking behind you to ensure line is secure

NOTE: Refer students to page 12

- L. You cannot see main fire and you are not in communication with anyone who can
 1. A very dangerous situation
 2. Scout area thoroughly
 3. Pre-plan escape routes and advise others of them
 4. Post lookouts as necessary
 5. Be weather alert
 6. Follow instructions from your supervisor
 7. Establish communications as quickly as possible

NOTE: Refer students to page 13

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- M. You are fighting fire on a hillside where rolling material can ignite fuel below you
1. The steepness of the slope affects both the rate and direction of the spread. This is due to several things:
 - a) On uphill side, flames are closer to the ground, preheating fuels above the fire
 - b) Convected heat rising upslope causes a draft, increasing rate of spread
 - c) Wind currents generally flow uphill during the day and downhill at night
 2. Construct trenches on slopes to hold all rolling material
 3. Have established escape routes, know where they are
 4. Cut your way into spot fire areas, do not just walk through the green
 5. Post lookouts as necessary

NOTE: Refer students to page 14

- N. You feel the weather getting hotter and drier
1. There will usually be a decrease in humidity and fuel moisture. Air is usually drier during the day than it is at night because temperatures are usually cooler at night. Fuels, then, are also drier during the day than at night. The result is that fires will normally burn more rapidly during the day

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2. Be alert to an increase in hot spots appearing on the fireline
3. The behavior of the fire is likely to change

NOTE: Refer students to page 15

- O. You notice that the wind begins to blow, increase or change direction
1. Of all the influences on a fire's behavior, wind has the greatest influence on both the rate and direction of spread
 2. Fire may begin to spread in a different direction
 3. The method of fire attack and approach may now have to be changed
 4. Be alert, post lookouts as necessary
 5. One visible indicator of a possible change in wind speed and direction, is the presence of thunderstorms (cumulus clouds)
 - a) Gusty winds usually flow out from the edge of a thunderstorm and can reach speeds up to 70 mph

NOTE: Refer students to page 16

- P. You are getting frequent spot fires over your line
1. Live fuels have a higher moisture content than dead fuels. Spot fires are most likely to occur in dead fuels with low moisture content

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2. This is an indication that fire conditions and weather are changing
3. Do not become trapped between two fires
4. Be alert to what is happening around you
5. Inform fireline supervisor of this change in conditions

NOTE: Refer students to page 17

- Q. You are away from a burned area where terrain and/or cover makes travel to safety zones difficult and slow
1. Maintain at least 10' interval while walking or working
 2. Know where the fire is at all times, in relation to your location
 3. Know where you are going
 4. Stay as close to the burn as possible
 5. Be alert for rolling rock and fuels. Warn others below if something starts rolling downhill. Make sure you have secure footing on steep slopes
 6. In dense fuels cut your way through, even if nothing more than a walking path wide enough for others to follow and widen as necessary

NOTE: Refer students to page 18

- R. You feel like taking a nap near the fireline

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1. Sleep in shifts if necessary
2. Sleep as a group and only with permission from your fireline supervisor
3. Do not wander off from crew, stay together
4. Never sleep in the green; always in the burn
5. Post a lookout to stay awake and protect crew members from fire

B. ALTERNATE METHOD

S. An alternative for remembering the 18 "Watch Out Situations"

1. **W**ind increasing or changing directions
2. **A**ttempting frontal assault on fire
3. **T**errain and fuels make escape to safety zones difficult and slow
4. **C**annot see main fire, and not in contact with anyone who can
5. **H**otter and drier weather
6. **O**n a hillside where rolling material can ignite, fuel below you
7. **U**nfamiliar with weather and local factors influencing fire behavior
8. **T**aking a nap near the fireline
9. **S**pot fires across fireline are increasing in number
10. **I**nstructions and assignments are unclear



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11. **T**here is unburned fuel between you and the fire
12. **U**ninformed on strategy, tactics, and hazards
13. **A**nchor point not established while constructing fireline
14. **T**he fire has not been scouted and sized up
15. **I**n country not seen in daylight
16. **O**perating on a hill with fire below you
17. **N**o communication link with crew members and supervisors
18. **S**afety zones and escape routes not identified

Administer Topic Quiz



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SUMMARY:

There are numerous situations that you may find yourself in that could jeopardize your safety. If you pay attention to the 18 Fire Situations that Shout "Watch Out", you will be more likely to avoid danger and be better prepared to make correct decisions should an emergency condition arise.

EVALUATION:

The student will complete a written and/or oral quiz at a time determined by the instructor.

ASSIGNMENT:

Review your notes and Student Information Sheet 4203.2-1 in preparation for the upcoming quiz. Study for the next session.