



FIRE CREW FIREFIGHTER TRAINING

Procedures Handbook 4200

WILDLAND FIRE CONTROL

TOPIC: WILDLAND FIRE CONTROL

TIME FRAME: 1:30

LEVEL OF INSTRUCTION: Level II

BEHAVIORAL OBJECTIVE:

Condition: Given a written quiz

Behavior: The student will confirm a knowledge of the different strategies available for attacking a vegetation fire

Standard: With a minimum 70% accuracy

MATERIALS NEEDED:

- Writing board with markers/erasers
- Appropriate audio visual equipment and screen
- Slides/overhead transparencies for this lesson
- Student Information Sheet 4202.5-1
- Topic Quiz

REFERENCES:

- CDF Fire Protection Training Handbook 4300
- Wildland Firefighting, Clayton, Day, McFadden, 1987

PREPARATION:

Upon arrival at a fire scene, the initial attack Incident Commander must size up the situation and choose an attack method to safely and effectively extinguish a vegetation fire. Failure to choose the proper strategy can have disastrous consequences in terms of life hazards and property damage.



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PRESENTATION	APPLICATION
<p>I. THERE ARE TWO DIFFERENT ATTACK METHODS USED ON VEGETATION FIRES, “DIRECT” AND “INDIRECT”</p> <p>A. Direct attack</p> <ol style="list-style-type: none">1. Involves working directly on the fire’s edge2. This method has several advantages<ol style="list-style-type: none">a) Crews can escape to safety in burned areas<ol style="list-style-type: none">1) The burn is generally considered the safest part of a fireb) The fire is stopped with least spread and minimum acreagec) Full advantage is taken of burned-out areas along the control line<ol style="list-style-type: none">1) Eliminates fuel at fire’s edged) No need for standby personnel to watch unburned arease) Burning out is not necessary	<p>What are two attack methods for vegetation fires?</p> <p>What is direct attack?</p> <p>What are some advantages of direct attack?</p> <p>What are some of the disadvantages of the direct attack?</p>



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<p>3. Some of the disadvantages to the direct attack method are</p> <ul style="list-style-type: none">a) Personnel subject to heat, smoke and flameb) Control line is long and irregular and must follow fire's edgec) Does not take advantage of natural fire barriersd) More mop-up and closer patrol requirede) Not effective against fast moving hot fires <p>4. Direct attack tactics include</p>	
<p>NOTE: Hand out Student Information Sheet 4202.5-1, Wildland Fire Control Tactics</p>	
<ul style="list-style-type: none">a) Pincer – direct attack around a fire in opposite directions by two or more fire control resources	<p>Display graphic 4202.5-1, page 1</p>
<ul style="list-style-type: none">b) Tandem – direct attack along a part of the fire perimeter by control resources following each other (can leap frog)	<p>Display graphic 4202.5-1, page 2</p>
<ul style="list-style-type: none">c) Envelopment – control resources strike key or critical segments around the entire fire perimeter at approximately the same time	<p>Display graphic 4202.5-1, page 3</p>



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<p>B. Indirect attack</p> <ol style="list-style-type: none">1. Uses pre-existing roads, natural barriers, or constructed firelines ahead of the main fire2. The lines ahead of the fire are either burned out or held by ground and air forces and become the final control lines3. The advantages of the indirect method of attack are<ol style="list-style-type: none">a) Permits easier work for crew because of less smoke, heat and flame contactb) Reduces length of fire's edge and shortens control linec) Permits crews to take advantage of natural fire barriers4. The disadvantages of the indirect attack method are<ol style="list-style-type: none">a) Fire can catch firefighters working in unburned fuelb) Fire can outflank and put crew in jeopardyc) Increased acreage burnedd) Burning out can get out of control	<p>What is indirect attack?</p> <p>Name some of the advantages of indirect attack</p> <p>Name some of the advantages of indirect attack</p>



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<p>e) Requires look-outs to watch fireline and prevent entrapment</p> <p>5. Indirect attack tactics include</p> <p>a) Pincer - attack around a fire in opposite directions by two or more fire control resources</p> <p>b) Tandem - attack along a part of the fire perimeter by control resources following each other (can leap frog)</p> <p>c) Envelopment - control resources strike key or critical segments around the entire fire perimeter at approximately the same time</p> <p>d) Parallel attack</p> <p>1) Consists of constructing a continuous line from five to fifty feet from the fire's edge</p> <ul style="list-style-type: none">• Intervening fuels are burned out <p>2) Used on sections where fire is burning too fast or is too hot to use the direct attack method</p> <p>3) Advantage compared to direct attack</p> <ul style="list-style-type: none">• Reduces the danger of leaving spot fires on outer edge• Usually line is constructed faster• Less heat exposure	



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<ul style="list-style-type: none">• No fire edge knock down necessary• Permits cutting across irregular points of fire shortening line length• Could shorten mop up time <p>4) Advantage compared to indirect attack</p> <ul style="list-style-type: none">• Area of burn held to smaller acreage• Firing out is easier to control• Can easily change to direct or indirect attack <p>5) Disadvantages</p> <ul style="list-style-type: none">• Danger that burn out will not burn all intervening fuel• Fails to take advantage of fire perimeter that has gone out• Line is not tied in before burning out must start• Firefighters working in unburned fuels• Danger of being trapped by fire• Line construction and firing proceed uphill and down• There is usually fire between you and the burn	



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<p>C. Can use a combination of both attacks</p> <ol style="list-style-type: none">1. Be flexible, if the direct attack is not working start thinking about going indirect <p>II. HOT SPOTTING</p> <p>A. Hot spotting is defined as checking the spread of a fire at points of more rapid spread or special threat. It is usually the initial step where prompt control is the top priority</p> <ol style="list-style-type: none">1. Hot spotting is a practice often used by fire crews as well as by engine and Helitack crews<ol style="list-style-type: none">a) Control or check the rapidly spreading points of the fire and knock down localized flare-ups2. Less active sections of the fire, are left to the trailing crew. The object is to hold the fire in place until a continuous control line can be constructed3. When hot spotting<ol style="list-style-type: none">a) Scratch line<ol style="list-style-type: none">1) May be extremely narrow2) Need not be continuous3) Usually constructed just wide enough to temporarily hold the fire in check, until a finished line is constructedb) Go to extremes in scattering cut material to prevent slop-overs	<p>What is hot spotting?</p>



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<ul style="list-style-type: none">c) A hot spotting crew can contain several hot spots by leaving one or more firefighters at each spot after knockdown is reasonably assured4. Hot spotting is accomplished by using<ul style="list-style-type: none">a) Handtools to throw dirt at the base of the flame to cool and smother it and to construct handlinesb) Water to lower the fuel temperature below its ignition temperature5. During initial attack, hot spotting is done to check the spread of small heads or fingers and to prevent the fire from getting into<ul style="list-style-type: none">a) Fuels in which the fire will burn fasterb) Heavy masses of fuel such as logs or snagsc) Fuels where line construction will be more difficultd) Fuels on steeper slopese) Exposures6. Hot spotting requires tremendous physical effort from firefighters and basic knowledge of fire behavior due to exposure to<ul style="list-style-type: none">a) Ambient air temperatureb) Heat from the firec) Physical exertiond) Potentially extreme fire behavior	



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<ol style="list-style-type: none">7. Hot spotting may also be accomplished by fire engines, air tankers, and/or dozers, attacking one hot spot after another instead of establishing a continuous line along the fire's edge. Purpose is to contain the fastest burning parts of the fire first and then to complete the line later for full control8. Hot spotting is also appropriate when equipment and personnel are in short supply<ol style="list-style-type: none">a) Fire spread is limited resulting in fewer acres burned and less line to be constructed9. While attention is focused on hot spotting rapidly spreading portions of a fire, keep in mind that a change in wind direction or topography can change a flank into a dangerous head	<p>Administer Topic Quiz</p>



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SUMMARY:

An Incident Commander needs to understand the advantages and disadvantages of direct and indirect fire attack methods in order to decide when and where each should be used. Control tactics may include Pincer, Tandem, Envelopment, Parallel or Hot Spotting. Hot spotting can often be an initial step where prompt control is a top priority, to check the fire at points of more rapid spread or special threat. Any of the above can be accomplished by fire engines, helicopters, air tankers, dozers, and/or handcrews.

EVALUATION:

The student will complete a written quiz at a time determined by the instructor.

ASSIGNMENT:

Review your notes and Student Information Sheet 4202.5-1 in preparation for the upcoming quiz. Study for the next session.