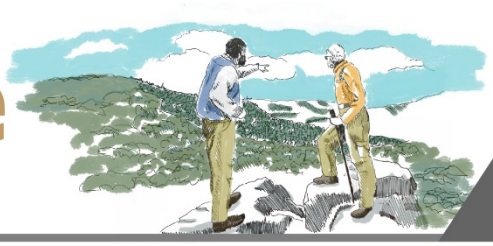

Loop Fire – Facilitator Field Reference, July 2004

NOTE TO FACILITATORS: This is a suggested format. Do not feel limited by the identified stands or discussion items. It is provided as a word document so that users may adapt and revise it to fit their specific audience and time demands.

Staff Ride Difficulty Rating:

Physical

Moderate – The walking segment from Stand 2 to Stand 3 is along the top of a ridge in tall brush with a minimal established trail. The hike up to Stand 4 is via a steep minimal established trail. Elevation for the area ranges from 1500 feet at the lower part of the site to 3500 feet at the upper part of the site.

Arduous – If the option to hike between Stand 3 and Stand 4 is utilized.

Logistics

Moderate – Adjacent to a major interstate highway. The site is located at the north edge of the Los Angeles, California metropolitan area. Paved roads provide access to both the upper part of the site and the lower part of the site. Movement of a group to both the upper and lower parts of the site will require some pre-planning to minimize number of vehicles in transit. The short road to Stand 4 and 5 is controlled by the Los Angeles County Water Department. The gate on this road is usually unlocked during normal work hours, check to be sure.

Hazards

Moderate – Rattlesnakes are common during warm weather. Terrain is steep and unstable if the option to hike between Stand 3 and Stand 4 is utilized.

Stand 1 – El Cariso Regional Park Monument

Maps

Travel map

Fire perimeter map

Access

Take Hubbard Street exit off Interstate 210 (from either direction)

Go 1 mile north on Hubbard Street

Turn right into El Cariso Regional Park

Locate Monument at the far end of the parking lot next to community center building

This location can provide a place to park extra vehicles

Terrain Orientation

Loop Fire Monument

Contractors Point

South point of ridge below Contractors Point

Pacoima Canyon

Loop Canyon

Events to Describe

General fuel conditions and seasonal situation in October 1966

Origin of the fire and initial attack response

Discussion Guide

Handout Tactical Decision Game #1

- Most Hotshot crews of the 1960's were Forest and Zone resources. Although a few crews in each region were called "Inter-Regional Crews" with an I.R. Hot Shot designator (Del Rosa I.R., El Cariso I.R, Redding I.R in California). These were the first pioneers of modern National Shared Resource IHC's:
    - Crew staffing ranged from 25 to 30 individuals. Some crews operated 7 days a week with 1 crew/squad off every day except training day. Typical experience levels for Superintendents was 8-10 years, Foreman 5-10 years, Crew Leader/Squad Boss 2-5 years, and Firefighter 1-2 years.
    - Seasonal firefighters were paid from $1.50 per hour to $2.00 per hour in the 1960s. There was no overtime rate (straight pay only). Most tours of duty were 5 days a week from 0700 to 2200. Straight pay for 8 hours and 25% of base wage for 7 hours stand by at the station. The long hours together, military barracks living, crews eating

together at station mess halls, and many cancelled days off, led crews to have strong crew cohesion.

- A number of equipment limitations existed in 1966 to include:
  - A lack of inter-crew communication due to no handy talkie sets. There was only direct verbal communication, hand signals, and whistle signals. Most crews had only 1 pack set with 2 channels; Forest Frequency 1-Direct and Forest Frequency 2-Repeater. The radio and extra batteries weighed so much that a crewman was assigned as an RTO (Radio-Telephone Operator) to carry the radio close to the Superintendent/Foreman and to be a message runner for verbal and written messages to his own crew, adjoining crews and fire overhead.
  - Crews used brush hooks until mid to late 1960's when chainsaws finally came into widespread use.
  - Helicopters were not plentiful and their buckets carried only 30 to 50 gallons of water.
  - Orange fire resistant shirts and fire shelters were in the experimental testing stages.
  - Standard line gear consisted of military web gear and a Filson vest, 2-4 quart canteens, 2-6 fusees, 1 head lamp, and a C-Ration or Quik Lunch. A one-gallon canteen was carried by every other firefighter on the crew for supplemental crew water.
- The Incident Command System had not been developed and the Large Fire Organization was being used for a command and control system. Line Boss is roughly equivalent to an Operations Section Chief and Division Boss is roughly equivalent to Division Supervisor.
- Leadership styles were influenced by numerous returnees from the military due to the draft being in effect from WWII through the Vietnam War. Typically individuals were put into roles of significant responsibility after 4 or 5 years of firefighting. Is accrued years of fire experience the most important factor for the development of good fireground leaders?

Conduct Tactical Decision Game #1

Handout Tactical Decision Game #2

Stand 2 – Contractors Point

Maps

Southeast flank quad map with GPS locations for all stands

Access

NAD 27 GPS Coordinates: 34.342131 x 118.41
Leave El Cariso Regional Park and turn left onto Hubbard Street

Go 1 mile south on Hubbard Street

Turn right onto the on-ramp for Interstate 210 West

Go 5 miles west on Interstate 210

Take Interstate 5 North exit

Go 1 mile north on Interstate 5

Take Highway 14 North exit

Go 8 miles north on Highway 14

Take Sand Canyon Road exit off Highway 14

Go 7 miles south on Sand Canyon Road

Turn right onto the paved road at the crest of Santa Clara ridge divide

The USFS Bear Divide Station is located at the junction

Go 2 miles west on the paved road that runs below Santa Clara ridge

Locate Contractors Point dirt road turnout to the left

There will be several radio towers and block buildings on the ridge to the left

Turn left on the dirt road turnout

Go ¼ mile south to end of dirt road

Parking is limited to 3 or 4 vehicles at the end of the dirt road

Park near the paved road for larger vehicles or if the group has many vehicles

Terrain Orientation

Santa Clara Ridge Road

L.A. County Fire Dept. Camp 9

(This was the U.S. Army's Los Pinetos Nike Missile Site in 1966 and was the fire's point of origin)

Contractors Point communication sites

Prominent or main ridge south of Contractors Point

Pacoima Canyon

Loop Canyon

Events to Describe

Reinforcement of initial attack

Conditions and situation at Contractors Point @ 1200

Discussion Guide

Conduct Tactical Decision Game #2

- As the fire progressed during the morning and escaped initial attack, the normal “fog and friction” of extended attack probably had an impact on the decision making of Line Boss Masterson and Division Boss Westmoreland:
  - Confusion on resource location, ambiguous instructions, incomplete information, etc.
- Limited number of radios, staggered arrival of additional resources, changing conditions, etc.
- At some point on the south ridge, there may have been conflicting opinions from the various crew supervisors regarding the options of staying on the fires edge or remaining on the ridge and continuing line construction down toward Pacoima Dam.
- Some problems that the Line Boss and the Division Boss may have had to consider:
  - What concerns are there if the Santa Ana wind influence increase?
  - What concerns are there if the Santa Ana wind influence decrease?
  - Given the steep rocky terrain, is it physically possible to cold-trail the fire edge all the way to the bottom?
  - Estimated time to complete the line to the bottom?
  - Are there enough resources to build and hold the line?
  - What alternate plans (contingency) are feasible?
  - Do all the crews know what the plan is and what their role is?
  - How to maintain communication between all the crews?
  - How to establish communication with the LA County resources on the south flank?
- In a fast moving situation, should the lead crew independently make tactical decisions that will affect other crews or do the crew supervisors need to come to a consensus agreement or should they wait for their fireline supervisor to decide on the tactics?

Handout Tactical Decision Game #3 and/or #3A

Stand 3 – South Point of Ridge

Maps

Southeast flank orthophoto with fire edge

Access

NAD 27 GPS Coordinates: 34.334108 x 118.4
Step off from the end of the dirt road at Contractors Point and continue going south

Stay to the left of the small chain link fenced facility

You will need to negotiate down a short, steep, and brushy cut bank

Follow the main ridge that drops down through a large saddle

The south point of the ridge will be approximately a ½ mile walk from Contractors Point

This will be moderately difficult hiking as there is no trail

Follow the break in the Chamise brush stand on the crest of the ridge

This is probably a remnant of the old fireline

Stop at the point where you can see several spur ridges drop to the valley floor

Terrain Orientation

Three spur ridges diverging to the SE, SW, and W from this point

Pacoima Reservoir

Loop Canyon

Contractors Point

Events to Describe

Actions of the four hotshot crews

Conditions and situation on ridge below Contractors Point @ 1430

Discussion Guide

Conduct Tactical Decision Game #3 and/or #3A

- Arriving on-scene during the extended attack phase of a late season fire, a number of things probably influenced Gordon King's decision making:
  - The order to keep one foot in the black.
  - Current fire behavior in this Division.
  - Focus on rolling rocks versus fire behavior.
  - Other crew actions were direct attack.
  - The LA County resources were right below.
  - Extensive air tanker work earlier in the day.
  - IR crews tended to operate with minimal supervision.
  - The attitude and experience level of himself and his crew.
- Consider the advantages and disadvantages of direct attack versus indirect attack:
  - Direct attack route looks steep but the fuels look sparse and the distance to the tie in point below is shorter.
  - Direct attack route is closer to the black.
  - Indirect attack route is on a ridge, which can be used as an escape route.
- As a leader of firefighters, how does your attitude about yourself, those you lead, and those you work for affect how you manage risk on the fireline?

Handout Tactical Decision Game #4

Stand 4 – Fatality Site

Maps

Investigation Report Figure 3

Access

NAD 27 GPS Coordinates: 34.330133 x 118.4

Option #1:

Retrace route back to Hubbard Street exit off Interstate 210 East

Go 2 miles north on Hubbard Street (go past the El Cariso Regional Park)

Hubbard Street will curve to the right and become Gavina Street

Go 1 mile east on Gavina Street

Turn left and go through gate onto Pacoima Dam Road

Go ½ mile north and park (This is Los Angeles County Water District land)

There is ample parking at this location

Walk approximately ¼ mile west

This will take you across the wash and up to the bottom of the chimney

Option #2:

This will require arrangements for a vehicle shuttle to Pacoima Dam Road

Continue hiking down from Stand #3 following footsteps of the El Cariso Hotshots

Follow either the spur ridge to the southeast or the spur ridge to the southwest

This is **extremely difficult terrain** (very steep, many loose rocks, brushy)

Recommended only for physically fit individuals experienced in off-trail hiking

A set of rocks arranged into an “M” or “W” pattern is located on the southeast ridge

This may indicate where the El Cariso Hotshots left the ridge following the fire edge

Continue the ½ mile descent down into the wash in Pacoima Canyon

Move over to chimney area and work back up to the bottom of the chimney

Terrain Orientation

Wash in lower Pacoima Canyon

Rock cairn (approximation of Gordon King’s location)

Steep gully below the site (feature that LACFD crews were working around)

Chimney leading up from the site (feature that El Cariso was working down)

300 foot long rock slide at the upper part of the chimney (the natural barrier)

Events to Describe

Actions of the El Cariso Hotshots, LA County resources, and the Helicopter

Conditions and situation in the chimney area @ 1530

Discussion Guide

Conduct Tactical Decision Game #4

- Situation awareness was a factor in this incident. The fire on the southeast flank was not active. Some firefighters perceived the day's assignment as a simple cold trail assignment. They considered the rock hazard from the steep terrain as the only real risk they would face. The effect that wind interactions from a decreasing Santa Ana can have on fire behavior may have been overlooked.
- Keeping one foot in the black is usually considered the safest and most effective strategy for line construction. Why is direct attack usually safer than indirect attack? And when is it not safer?

Handout Tactical Decision Game #5

Stand 5 – Pacoima Dam Road

Maps

Investigation Report Figure 3

Access

NAD 27 GPS Coordinates: 34.342131 x 118.41
Retrace route back to vehicles at the Pacoima Dam Road parking area.

Terrain Orientation

Three spur ridges diverging down to the SE, SW, and W from the main ridge

Multiple chimneys converging just below the fatality site

Bench that LACFD were working coming from the west

Events to Describe

Rescue actions

Investigation and follow-up actions

Discussion Guide

- The development of a Downhill Line Construction Checklist is directly identified in the recommendations of the Loop Fire investigation report. This checklist began showing up in the Fireline Handbook by 1970.
- Personal protective equipment (PPE) was in the experimental stage at the time of the Loop Fire. Further development efforts were spurred by this tragedy. However, it was not until after the Battlement Creek Fire in 1976 that fire shelters and fire resistant clothing became mandatory on a national basis.
- Communications within crews at the time of the Loop Fire consisted of verbal messages, hand signals, and the use of runners. Some crews had begun to use cheap store bought walkie talkies. Communication between crews was also difficult as hand held radios were not in wide spread use and no dedicated common frequencies existed for interagency fire responses. Hand held radios came into use following this incident. But it took the Romero Fire in 1970 before a national radio system was established.
- In 1967, there was a wide distribution of a training package based on the Loop Fire. This training emphasized the dangers of downhill line construction as well as the effect of chimneys and fine fuels on fire behavior.
- In 1968, a research paper that examined the dynamics of the local wind interaction with the Santa Ana winds on the Loop Fire was published. The authors were Clive Countryman, Richard Rothermal, Mark Fosberg, and Mark Schroeder.
- Carl Wilson was a member of the Loop Fire investigation team and he was also a member of the 1957 Task Force that had established the Standard Firefighting Orders. His involvement on these two teams eventually led to his work in developing the Common Denominators of Fatality Fires in the early 1970s.

Conduct Tactical Decision Game #5