INCIDENT COMMAND SYSTEM

S-330 Strike Team/Task Force Leader - ALL RISK

FIRESCOPE CALIFORNIA

STUDENT MANUAL

DECEMBER 2002

FIREFIGHTING RESOURCES OF CALIFORNIA ORGANIZED FOR POTENTIAL EMERGENCIES

INCIDENT COMMAND SYSTEM

S-330 Strike Team/Task Force Leader – ALL RISK

Student Manual

published by

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PREFACE

CERTIFICATION STATEMENT

On behalf of

FIRESCOPE

The following training material meets the minimum standards prescribed for courses developed under FIRESCOPE to meet California needs for "ALL RISK" ICS position specific training. This course is accredited by the State Board of Fire Services and is approved by the FIRESCOPE Board of Directors. The curriculum is based upon NWCG training material. Agencies participating in and desiring certification from NWCG should utilize the NWCG training materials. Instructors are encouraged to use and blend specific local policies and procedures in presenting this course. The instruction is certified for interagency use and is known as:

TASK FORCE LEADER/STRIKE TEAM LEADER S-330

Certified at Level I

FIRESCOPE ALL RISK Version

ACKNOWLEDGMENTS

Special acknowledgement and thanks are extended to the U.S.D.A. Forest Service for funding the development of this S-330 Strike Team/Task Force Leader "ALL RISK" course. Additional acknowledgements and thanks are extended to the following members of CDF/State Fire Training Curriculum Development Division for their diligent efforts and contributions that made the final publication of this document possible.

The material contained in this document was compiled and organized through the cooperative effort of numerous professionals within, and associated with, the California fire service. We gratefully acknowledge the following individuals who served as the principal developers for this document.

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COURSE STRUCTURE

Strike Team/Task Force leader, S-330 ALL RISK, is a 24-hour course designed to meet the training needs of a Strike Team/Task Force Leader to manage ALL RISK incidents.

The course is designed to be presented in a lecture/discussion format with group exercises. This course meets the S-330 training requirements of the California Incident Command Certification System (CICCS) for the position of Strike Team/Task Force Leader-All Risk.

For an individual to become fully qualified as a Strike Team/Task Force Leader, the individual must also meet the standards set forth in CICCS.

CICCS is based on the Wildland Fire Qualifications Subsystem, 310-1, which provides guidance and a state standard for establishing minimum training, skills, knowledge, experience, and physical fitness requirements for the participating agencies.

The S-330 All-Risk Strike Team/Task Force Leader course has been developed by an interagency development group and meets the course requirements of the NWCG curriculum from the National Interagency Fire Center, National Fire and Aviation Training Support Group, under the authority if the National Wildfire Coordinating Group.

This course is approved by FIRESCOPE and all material is available through CDF/OSFM State Fire Training.

Additional copies of this publication may be ordered from:

The California Department of Forestry and Fire Protection
Office of the State Fire Marshal (Training)
P.O. Box 944246, Sacramento, CA 94244-2460

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- CDF/State Fire Training (916) 445-8500
- OES (FIRESCOPE) (909) 782-4174
- OES (FAX) (909) 782-4239

This section contains instructions and information essential in making an effective presentation. This section should be read thoroughly prior to the course presentation. These instructions are specific for this course, Strike Team/Task Force Leader, S-330-ALL RISK.

Description of the California Incident Command Certification System

The California Incident Command Certification System (CICCS) is a "performance-based" system. In this system, Qualification is base on real performance, as measured on the job, versus perceived performance, as measured by an examination or classroom activities. CICCS recognizes NWCG 310-1 as the model, which is readily adapted to "all-risk" use. The standard includes a system administrator's guide, prerequisites, minimum training standards, experience requirements, physical fitness requirements, currency requirements and Position Task Books that identify the skills necessary to perform in all of the ICS positions. The components for CICCS are as follows:

Training Courses and Job Aids provide the specific skills and knowledge required to perform tasks as prescribed in the Position Task Book.

NOTE: Training requirements include completion of all required training courses prior to issuance of a position task book.

Position Task Books (PTB) contain critical tasks, which are required to perform the job. PTB's have been designed in a format, which will allow documentation of a trainee's ability to perform each task. Successful completion of all tasks required of the position, as determined by an evaluator, will be the basis for recommending certification.

CICCS Terminology Certification- The process whereby the State Fire Marshal's Office confirms through the issuance of a certificate that an individual has met the required coursework and documented experience.

Qualification - The process whereby the fire chief affirms physical fitness and currency of position and makes the individual available to the mutual aid system.

INTRODUCTION TO THE MANUAL

This publication is intended to serve as the course textbook. The Student Manual is divided into four units and three appendices.

APPENDIX A - STUDENT REFERENCE MATERIAL

APPENDIX B - STUDENT "JOB AID" MATERIAL

APPENDIX C – POSITION TASK BOOKS

Additional appendices may be added as necessary to meet minimum course requirements.

FIRESCOPE gladly accepts your comments and suggestions for future enhancements or revisions to this document. Please forward to:

CDF/State Fire Training

Curriculum Development Division
4501 State Highway 104
Ione, California 95640-9705

COURSE OUTLINE

COURSE TITLE: INCIDENT COMMAND SYSTEM
S-330 Strike Team/Task Force Leader– ALL RISK

COURSE OBJECTIVES: To...

a. Identify and define Strike Team/Task Forces of various resources.

b. Identify and describe how to implement Strike Team/Task Force Leader responsibilities prior to and during mobilization and demobilization.

c. Identify and describe how to implement Strike Team/Task Force Leader responsibilities during incident activities.

d. Identify the hazards and risks throughout Strike Team/Task Forces deployment and describe how to mitigate them.

e. Recognize, plan for, and describe how to implement appropriate tactics in various all risk incident situations with various resources organized into strike teams or task forces.

f. Evaluate students' ability to apply Strike Team/Task Force Leader fundamentals to all risk incidents.

COURSE CONTENT: .....32:00 HOURS
UNIT 1: COURSE INTRODUCTION
Course Introduction 1:30
UNIT 2: PRE-DEPLOYMENT RESPONSIBILITIES
Concept of Strike Team/Task Force Leader 1:00
Resource Typing Standards 1:30
ICS Resource Designation System 1:30
Pre-Dispatch Preparation ..... :30
UNIT 3: INCIDENT RESPONSIBILITIES
Administration 1:00
Supervision 1:15
Coordination With Other ICS Functional Areas ..... :45
Strike Team/Task Force Response 2:00
Assignment/Status 2:00
Demobilization ..... :45

UNIT 4: TACTICS AND SAFETY

Risk Management	2:00
Entrapment Avoidance	2:30
Tactical Considerations – Wildland/Urban Interface	2:30
Tactical Considerations – Urban Search and Rescue	1:00
Tactical Considerations – Swiftwater/Flood	:30
Tactical Considerations – Multi-Casualty	:30
Independent Action vs. Freelancing	:30

PRE-COURSE ASSIGNMENT REVIEW	:45
WRITTEN QUIZZES	1:30
LOCAL/AGENCY SPECIFIC ISSUES AND MATERIAL	3:30
FINAL WRITTEN EXAM	1:00
FINAL SCENARIO	2:00

REFERENCES:

- "Entrapment Avoidance," PowerPoint program, U.S. Forest Service Wildland Fire Safety Office, March 2002
- Field Operations Guide (FOG), ICS 420-1, FIRESCOPE, January 2001
- Fireline Handbook, National Wildfire Coordinating Group (NWCG), January 1998
- Flood Fighting Methods, California Dept. of Water Resources, Division of Flood Management, 1997
- Incident Response Pocket Guide, NWCG, January 2002
- "Interface Improv: An Argument for Independent Action," Wildfire Magazine, Mark Bisbee, April/May 2000
- Multi-Agency Coordination System: Resource Designation System (MACS) 410-2, FIRESCOPE, November 2000
- OES Swiftwater/Flood Rescue Operational System Description, January 2001
- Rescue Systems I curriculum, CDF/SFT, December 2000
- Task Force/Strike Team Leader, S-330, NWCG, September 1996

COURSE SCHEDULE

Day One

Unit 1	**Introduction**
Topics:	Welcome and Introduction
Unit II	**Pre-Deployment Responsibilities**
Topics	Concept of a Strike Team/Task Force Leader
	Resource Typing Standards
	ICS Resource Designation System
	Pre-Dispatch Preparation
Unit III	**Incident Responsibilities**
Topics:	Administration
	Supervision

Day Two

	Unit 2 Quiz
	Pre-Course Work Assignment Review
Unit III	**Incident Responsibilities**
Topics:	Coordination With Other ICS Functional Areas
	Strike Team / Task Force Response
	Assignment / Status
	Demobilization
	Local/Agency Specific Issues

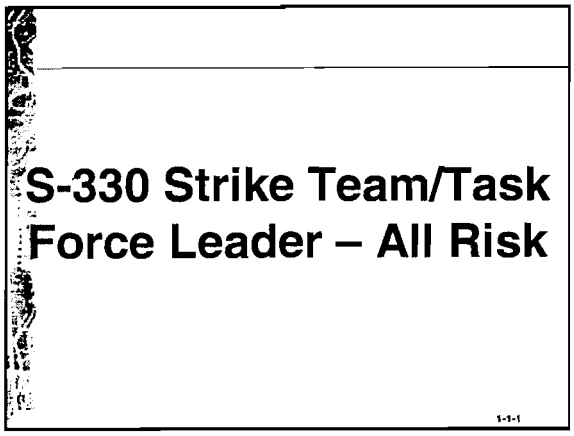
Day Three

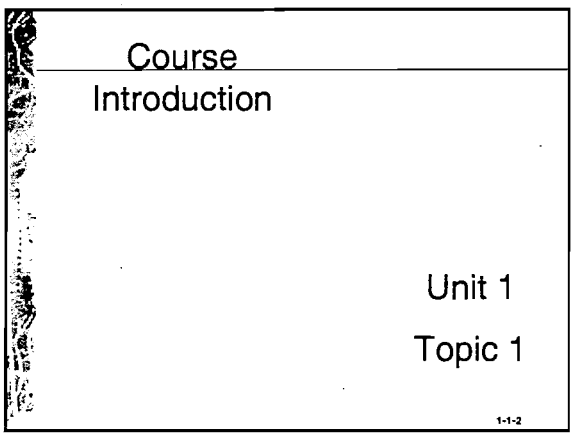
	Unit 3 Quiz
Unit IV	**Tactics and Safety**
Topics:	Risk Management
	Entrapment Avoidance
	Tactical Considerations – Wildland/Urban Interface
	Tactical Considerations – Urban Search and Rescue

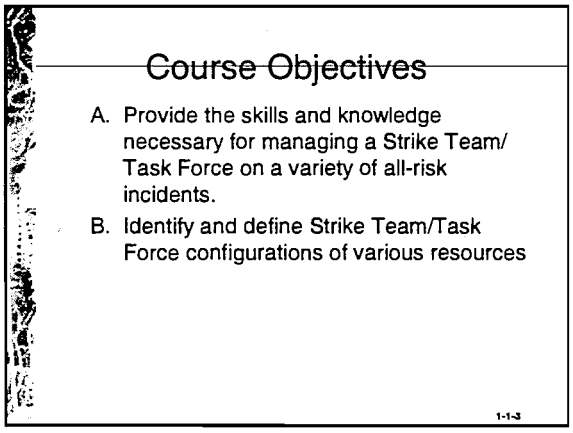
Day Four

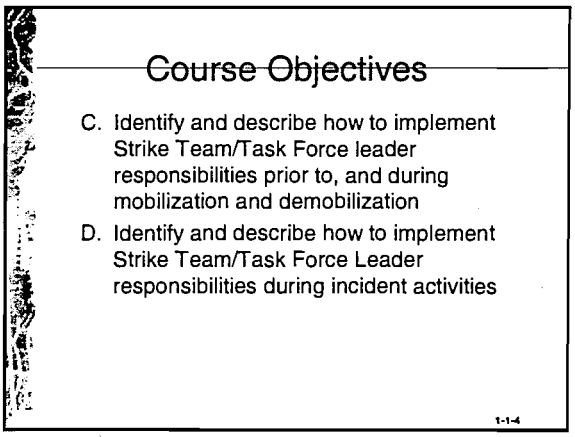
Unit IV	**Tactics and Safety**
Topics:	Tactical Considerations – Swiftwater/Flood
	Tactical Considerations – Multi-Casualty
	Independent Action vs. Freelancing
	Unit 4 Quiz
	Local/Agency Specific Issues
	Final Scenario
	Final Examination

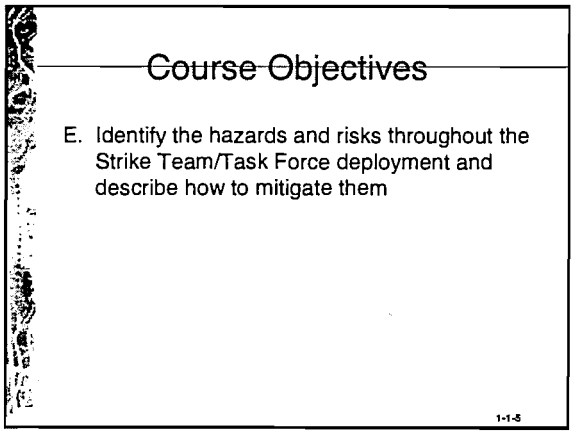
INTRODUCTION

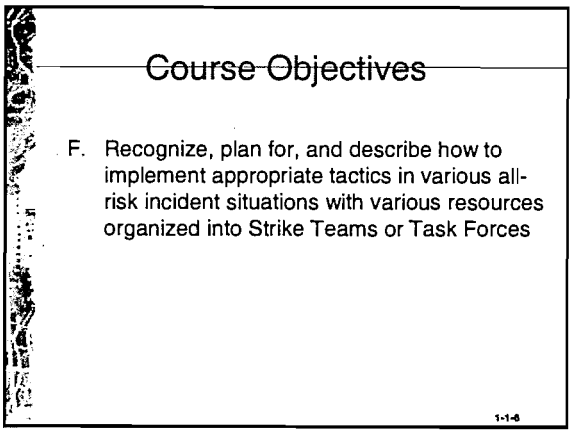

S-330 Strike Team/Task Force Leader – All Risk
1-1-1


Course Introduction
Unit 1
Topic 1
1-1-2


Course Objectives
A. Provide the skills and knowledge necessary for managing a Strike Team/ Task Force on a variety of all-risk incidents.
B. Identify and define Strike Team/Task Force configurations of various resources
1-1-3


Course Objectives
C. Identify and describe how to implement Strike Team/Task Force leader responsibilities prior to, and during mobilization and demobilization
D. Identify and describe how to implement Strike Team/Task Force Leader responsibilities during incident activities
1-1-4


Course Objectives
E. Identify the hazards and risks throughout the Strike Team/Task Force deployment and describe how to mitigate them
1-1-5


Course Objectives
F. Recognize, plan for, and describe how to implement appropriate tactics in various all-risk incident situations with various resources organized into Strike Teams or Task Forces
1-1-6

Introduction

1. Instructors
2. Brief Background
3. Students
4. Student Profile (complete profile)
5. Self Introductions
6. Experiences
7. Why be a Strike Team/Task Force Leader
   (list expectations & specific issues of concern)
8. Student expectations for the course

1-1-7

Course Preview & Schedule

Unit 1 Course Introduction

1-1-8

Course Preview & Schedule

Unit 2 Pre-Deployment Responsibilities
Topics: Concept of Strike Team/Task Force Leader
Resource Typing Standards
ICS Resource Designation System
Pre-Dispatch Preparation

1-1-9

Course Preview & Schedule

Unit 3 Incident Responsibilities

Topics:
- Administration
- Supervision
- Coordination with other ICS Functional Areas
- Strike Team/Task Force Response
- Assignment / Status
- Demobilization

1-1-10

Course Preview & Schedule

Unit 4 Tactics and Safety

Topics:
- Risk Management
- Entrapment Avoidance
- Tactical Deployment Considerations
  - Wildland / Urban Interface
  - Urban Search & Rescue
  - Swiftwater / Flood
  - Multi-Casualty
- Independent Action vs. Freelancing

1-1-11

Student Requirements

1. Quizzes 80% to pass (cumulative)
   a) Reference material may be used
2. Final exam 80% to pass
3. Class participation to be evaluated by instructor cadre
4. Course evaluations

Refer to the course evaluation in your Student Manual. Consider making notations throughout the course delivery

1-1-12

Background of All-Risk Curriculum

1. Diverse cadre of course developers with strong background as Strike Team/Task Force Leaders

1-1-13

Background of All-Risk Curriculum

2. Rewrite of National Wildfire Coordinating Group (NWCG) and California's State Fire Training curricula to satisfy California's diverse All-Risk needs

1-1-14

Strike Team Leader Qualification

Is based upon the California Incident Command Certification System (CICCS) and National Wildfire Coordinating Group (NWCG) guidelines. Fire Departments must individually adopt CICCS as their standard.

CICCS NWCG

1-1-15

Strike Team Leader Qualification

A. Complete required coursework for the position
   1. Strike Team Leader Tractor/Plow, Dozer, Engine, Crew
      a) S-205 Fire Operations in the Urban Interface (formerly S-215)
      b) S-330 Strike Team/Task Force Leader
   2. Task Force Leader
      a) S-390 Introduction to Wildland Fire Behavior Calculations
      b) S-330 Strike Team/Task Force Leader

Refer to Student Information Sheet 1-1-1 for additional recommended courses and prerequisites for subordinate positions

1-1-16

Position Task Book

B. Complete Position Task Book (PTB)
   1. All coursework should be completed before a PTB is issued by the fire chief or designee
   2. Document completion of critical tasks required of the position as observed by an evaluator
      a) Integral part of the "Performance Based" system utilized by CICCS and NWCG.

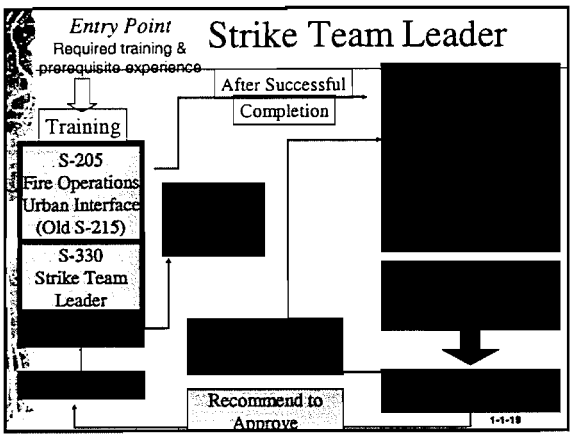
Student Manual
Appendix C

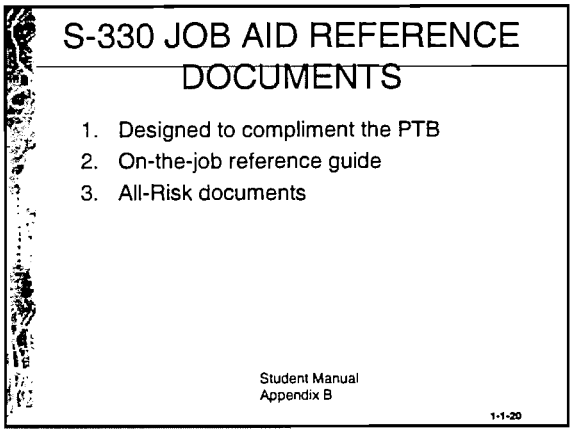
1-1-17

Peer Review

1. Forward coursework and PTB to the OES Operational Area Peer review committee
2. Peer review committee will forward OSFM certification to those who meet the requirements for the position
3. Fire Chief affirms physical fitness and currency
4. Fire Chief qualifies the individual for the specific position

1-1-18


Entry Point
Required training & prerequisite experience
Strike Team Leader
After Successful Completion
Training
S-205 Fire Operations Urban Interface (Old S-215)
S-330 Strike Team Leader
Recommend to Approve
1-1-19


S-330 JOB AID REFERENCE DOCUMENTS
1. Designed to compliment the PTB
2. On-the-job reference guide
3. All-Risk documents
Student Manual
Appendix B
1-1-20

STUDENT PROFILE

NAME: _____

UNIT: _____

NUMBER OF YEARS IN THE FIRE SERVICE: _____

PRESENT ASSIGNMENT: _____

PAST ASSIGNMENTS: _____

_____

_____

_____

_____

ICS QUALIFICATIONS: _____

_____

_____

_____

_____

_____

S-330 STRIKE TEAM/TASK FORCE LEADER- ALL RISK
Course Evaluation

Course Title: _____ Primary Instructor: _____

Location: _____ Assistant Instructor(s): _____

Course Dates: _____ _____

1. What was your reason for attending this course? _____

_____

2. What information was the most useful? _____

_____

3. Were the printed materials

a) well organized?	Yes ☐	No ☐
b) complete?	Yes ☐	No ☐
c) accurate and relevant?	Yes ☐	No ☐
d) readable (well printed) ?	Yes ☐	No ☐

Comments: _____

_____

4. Were audio-visual materials

a) related to your course?	Yes ☐	No ☐
b) of good quality?	Yes ☐	No ☐
c) in appropriate number?	Yes ☐	No ☐
d) easy to see?	Yes ☐	No ☐

Comments: _____

_____

5. Did the instructor

a) relate the material to class needs?	Yes ☐	No ☐
b) know the subject thoroughly?	Yes ☐	No ☐
c) encourage student participation?	Yes ☐	No ☐
d) make course requirements/objectives clear	Yes ☐	No ☐
e) answer all question completely?	Yes ☐	No ☐
f) use course text effectively?	Yes ☐	No ☐
g) tolerate differences of opinion?	Yes ☐	No ☐

Comments: _____

_____

6. Did the classroom

a) provide a comfortable atmosphere?	Yes ☐	No ☐
b) include a manageable number of students?	Yes ☐	No ☐
c) contain a minimum number of distractions?	Yes ☐	No ☐

7. Did the course

a) contain enough activities?	Yes ☐	No ☐
b) include useful activities?	Yes ☐	No ☐
c) allow enough time for the workload?	Yes ☐	No ☐
d) cover all the right amount of material?	Yes ☐	No ☐
e) contribute to your knowledge and skills?	Yes ☐	No ☐
f) relate to your needs?	Yes ☐	No ☐

8. How could this course be improved? _____

_____

9. How could the course content or structure be improved? _____

_____

10. How could the instructor improve the class delivery? _____

_____

11. Based upon objectives to be achieved, what is your overall opinion of this course?

Excellent _____ Good _____ Fair _____ Needs Improvement _____

Comments: _____

_____

_____

TASK FORCE LEADER (TFLD)

REQUIRED TRAINING	Introduction to Wildland Fire Behavior Calculations (S-390) Task Force/Strike Team Leader (S-330)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	No additional
PREREQUISITE EXPERIENCE	Satisfactory performance as a Strike Team Leader (Crew, Dozer, Engine, Tractor/Plow) + Satisfactory position performance as a Task Force Leader on a wildland fire incident OR Satisfactory performance in any two single resource boss positions (one must be Crew or Engine) + Satisfactory performance as an Incident Commander Type 4 + Satisfactory position performance as a Task Force Leader on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Incident Commander Type 3 Strike Team Leader (Crew, Dozer, Engine, Tractor/Plow)

STRIKE TEAM LEADER TRACTOR/PLOW (STPL)

REQUIRED TRAINING	Task Force/Strike Team Leader (S-330) Fire Operations in the Urban Interface (S-215)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Intermediate ICS (I-300) Leadership and Organizational Development (S-301)
PREREQUISITE EXPERIENCE	Satisfactory performance as a Single Resource Boss Tractor/Plow + Satisfactory position performance as a Strike Team Leader Tractor/Plow on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Strike Team Leader (Crew, Dozer, Engine)

STRIKE TEAM LEADER DOZER (STDZ)

REQUIRED TRAINING	Task Force/Strike Team Leader (S-330) Fire Operations in the Urban Interface (S-215)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Intermediate ICS (I-300) Leadership and Organizational Development (S-301)
PREREQUISITE EXPERIENCE	Satisfactory performance as a Single Resource Boss Dozer + Satisfactory position performance as a Strike Team Leader Dozer on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY OPERATIONS	Strike Team Leader (Crew, Engine, Tractor/Plow)

STRIKE TEAM LEADER ENGINE (STEN)

REQUIRED TRAINING	Fire Operations in the Urban Interface (S-215) Task Force/Strike Team Leader (S-330)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Intermediate ICS (I-300) Leadership and Organizational Development (S-301)
PREREQUISITE EXPERIENCE	Satisfactory performance as a Single Resource Boss Engine + Satisfactory position performance as a Strike Team Leader Engine on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Strike Team Leader (Crew, Dozer, Tractor/Plow)

STRIKE TEAM LEADER CREW (STCR)

REQUIRED TRAINING	Fire Operations In the Urban Interface (S-215) Task Force/Strike Team Leader(S-330)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Intermediate ICS (I-300) Leadership and Organizational Development (S-381)
PREREQUISITE EXPERIENCE	Satisfactory performance as a Single Resource Boss Crew + Satisfactory position performance as a Strike Team Leader Crew on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY OPERATIONS	Strike Team Leader (Dozer, Engine, Tractor/Plow

CREW REPRESENTATIVE (CREP)

REQUIRED TRAINING	None
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	No additional
PREREQUISITE EXPERIENCE	Satisfactory performance as a Single Resource Boss Crew + Satisfactory position performance as a Crew Representative
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Single Resource Boss Crew

CREW BOSS (SINGLE RESOURCE) (CRWB)

REQUIRED TRAINING	Crew Boss (S-230) Intermediate Wildland Fire Behavior (S-290)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Ignition Operations (S-234) Interagency Incident Business Management (S-260) Basic Air Operations (S-270)
PREREQUISITE EXPERIENCE	Satisfactory performance as an Advanced Firefighter/Squad Boss + Satisfactory position performance as a Single Resource Boss Crew on a wildland or prescribed fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Single Resource Boss (Dozer, Engine, Felling, Firing, Tractor/Plow) Incident Commander Type 4

DOZER BOSS (SINGLE RESOURCE) (DOZB)

REQUIRED TRAINING	Crew Boss (S-230) Intermediate Wildland Fire Behavior (S-290)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Dozer Boss (S-232) Ignition Operations (S-234) Interagency Incident Business Management (S-260) Basic Air Operations (S-270)
PREREQUISITE EXPERIENCE	Satisfactory performance as an Advanced Firefighter/Squad Boss + Satisfactory position performance as a Single Resource Boss Dozer on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT	Single Resource Boss (Crew, Engine, WILL MAINTAIN CURRENCY Felling, Firing, Tractor/Plow) Incident Commander Type 4

FELLING BOSS (SINGLE RESOURCE) (FELB)

REQUIRED TRAINING	Crew Boss (S-230) Intermediate Wildland Fire Behavior (S-290)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Wildfire Power Saws (S-212) Interagency Incident Business Management (S-260) Basic Air Operations (S-270)
PREREQUISITE EXPERIENCE	Satisfactory performance as an Advanced Firefighter/Squad Boss + Satisfactory position performance as a Felling Boss on a wildland or prescribed fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Single Resource Boss (Crew, Dozer, Engine, Firing, Tractor/Plow)

FIRING BOSS (SINGLE RESOURCE) (FIRB)

REQUIRED TRAINING	Crew Boss (S-230) Intermediate Wildland Fire Behavior (S-290)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Ignition Operations (S-234) Interagency Incident Business Management (S-260) Basic Air Operations (S-270)
PREREQUISITE EXPERIENCE	Satisfactory performance as an Advanced Firefighter/Squad Boss + Satisfactory position performance as a Single Resource Boss Firing on a wildland or prescribed fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Single Resource Boss (Crew, Dozer, Engine, Felling, Tractor/Plow)

ENGINE BOSS (SINGLE RESOURCE) (ENGB)

REQUIRED TRAINING	Crew Boss (S-230) Intermediate Wildland Fire Behavior (S-290)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Engine Boss (S-231) Ignition Operations (S-234) Interagency Incident Business Management (S-260) Basic Air Operations (S-270)
PREREQUISITE EXPERIENCE	Satisfactory performance as an Advanced Firefighter/Squad Boss + Satisfactory position performance as a Single Resource Boss Engine on a wildland or prescribed fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Single Resource Boss (Crew, Dozer, Felling, Firing, Tractor/Plow) Incident Commander Type 4

TRACTOR/PLOW BOSS (SINGLE RESOURCE) (TRPB)

REQUIRED TRAINING	Crew Boss (S-230) Intermediate Wildland Fire Behavior (S-290)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Tractor/Plow Boss (S-233) Interagency Incident Business Management (S-260) Basic Air Operations (S-270)
PREREQUISITE EXPERIENCE	Satisfactory performance as an Advanced Firefighter/Squad Boss + Satisfactory position performance as a Single Resource Boss Tractor/Plow on a wildland or prescribed fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Single Resource Boss (Crew, Dozer, Engine, Felling, Firing) Incident Commander Type 4

STAGING AREA MANAGER (STAM)

REQUIRED TRAINING	None
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Basic ICS (I-200) Supervisory Concepts and Techniques (S-281) Staging Area Manager (J-236)
PREREQUISITE EXPERIENCE	Satisfactory position performance as a Staging Area Manager
PHYSICAL FITNESS	Light
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Advanced Firefighter/Squad Boss

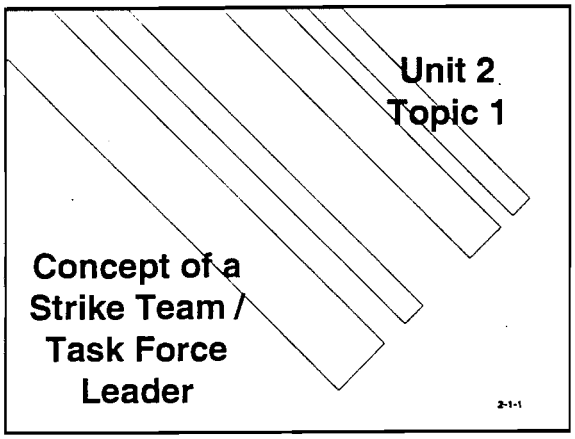
ADVANCED FIREFIGHTER/SQUAD BOSS (FFT1)

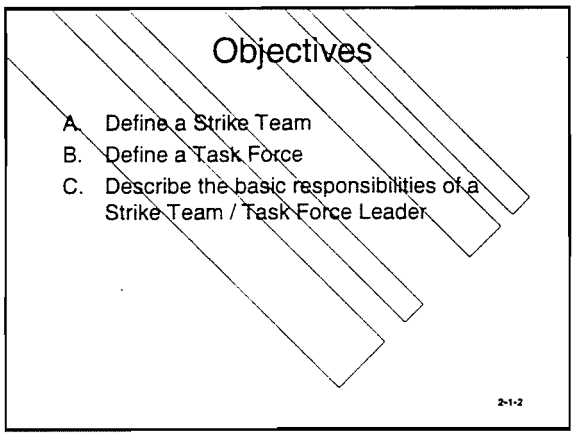
REQUIRED TRAINING	Advanced Firefighter Training (S-131)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Supervisory Concepts and Techniques (S-281) Portable Pumps and Water Use (S-211) Wildfire Power Saws (S-212)
PREREQUISITE EXPERIENCE	Satisfactory performance as a Firefighter Type 2 + Satisfactory position performance as an Advanced Firefighter/Squad Boss on a wildland fire incident
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	Incident Commander Type 5

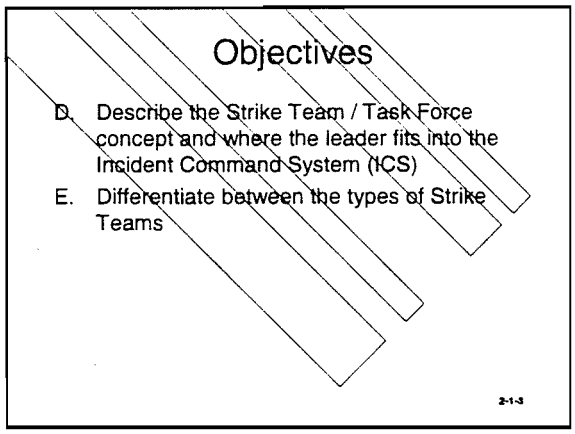
FIREFIGHTER (FFT2)

REQUIRED TRAINING	Firefighter Training (S-130) Introduction to Wildland Fire Behavior (S-190)
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS	Introduction to ICS (I-100)
PREREQUISITE EXPERIENCE	None
PHYSICAL FITNESS	Arduous
OTHER POSITION ASSIGNMENTS THAT WILL MAINTAIN CURRENCY	None

PRE-DEPLOYMENT
REPONSIBILITIES


Unit 2
Topic 1
Concept of a Strike Team / Task Force Leader
2-1-1


Objectives
A. Define a Strike Team
B. Define a Task Force
C. Describe the basic responsibilities of a Strike Team / Task Force Leader
2-1-2


Objectives
D. Describe the Strike Team / Task Force concept and where the leader fits into the Incident Command System (ICS)
E. Differentiate between the types of Strike Teams
2-1-3

Strike Teams

1. Definition
   A) Specified combinations of the same kind and type of resources, with common communications and a leader
2. Strike Teams are a set number of resources of the same kind and type
   A) With an established minimum number of personnel

Student Information Sheet 2-1-1

2-1-4

Strike Teams

3. Strike Teams will always have a leader
   a) In a separate vehicle
   b) And will have common communications among resource elements
   c) Example: Engine Strike Teams are made up of 5 engines and a leader

2-1-5

Task Forces

1. Definition
   a) A group of resources with common communications and a leader, that may be pre-established and sent to an incident, or formed at an incident.

2-1-6

Task Forces

2. A Task Force is a group of resources with:
   a) Common Communications
   b) A Leader
   c) And usually assembled for a specific mission

2-1-7

Task Forces

3. A Task Force can include
   a) Any combination of resources that does not meet the criteria for a Strike Team
   b) Or any combination of one kind of resource with other kinds of resources, i.e.
      1) Dozers – engines
      2) Hand crews – dozers
      3) Water Tenders – engines
      4) Engines – ladder trucks

2-1-8

ICS Positions and Mnemonics

1. All ICS Positions have a four (4) letter mnemonic assigned that the ST/TFL needs to be familiar with
2. Incident Action Plans, MACS FIRESCOPE forms and other incident forms utilize these mnemonics

(Refer to Student Information Sheet 2-1-2)

2-1-9

ICS Positions and Mnemonics

3. Some mnemonics that the ST/TFL may encounter are
   a) Strike Team Leader Crew (STCR)
   b) Strike Team Leader Dozer (STDZ)
   c) Strike Team Leader Engine (STEN)
   d) Strike Team Leader Tractor/Plow (STPL)
   e) Task Force Leader (TFLD)
   f) Division/Group Supervisor (DIVS)
   g) Liaison Officer (LOFR)
   h) Agency Representative (AREP)

2-1-10

ICS Positions and Mnemonics

4. Training positions are included and designated as (T)
   a) Example: STEN (T) would be the mnemonic for Strike Team Leader Engine Trainee

2-1-11

Management Principals

1. The management principals as well as many of the tactical concepts are the same or similar for either Strike Teams or Task Forces

2-1-12

Management Principals

Hereafter in this course, the generic mnemonic STL will be used when not referring to a specific position (i.e. crew, dozer, engine)

2-1-13

Management Principals

2. The use of Strike Teams is encouraged whenever possible.
   a) The Strike Team concept when requesting and managing resources is designed to maximize the efficiency of multiple resources on an incident
      1) The Strike Team concept does this by
         - Maximizing the use of resources
         - Reducing the managers span-of-control
         - Simplifying communications

2-1-14

Strike Team Leader

A. Strike Teams are a resource configuration within the ICS organization
   1. Definition: The ST/TFL reports to a Division/Group Supervisor (DIVS) and is responsible for performing tactical assignments assigned to the ST/TF. The leader reports work progress, resource status, and other important information to a DIVS and maintains work records on assigned personnel

2-1-15

Strike Team Leader

B. The STL is the contact point within ICS to the DIVS
   1. The STL typically reports to a DIVS on extended attack and major incidents
   2. The STL is mainly responsible for supervising tactical assignments given to the ST

2-1-16

Strike Team Leader

a) The STL reports progress of the ST in relation to the assigned tactical objectives to DIVS
   1) The STL manages, supervises, and monitors
      - Work progress
      - Resource status of the team
      - Other important information related to the logistical needs of the ST while on the incident, (i.e. maintaining work and time records on assigned personnel and apparatus)

2-1-17

Strike Team Leader

3. Other duties include
   a) Review common ICS responsibilities with personnel
   b) Review assignments with subordinates and assign tasks
   c) Monitor work progress and make changes when necessary
   d) Coordinate activities with adjacent strike teams, task forces and single resources

Refer Students to FOG, "Common Responsibilities

2-1-18

Strike Team Leader

3. Other duties include (cont)
   e) Travel to and from assignment area with assigned resources
   f) Retain control of assigned resources while in available or out-of-service status
   g) Submit situation and resource status information to DIVS
   h) Maintain Unit / Activity Log (ICS Form 214)

2-1-19

Strike Team Leader Interactions

A. ICS organizational interactions points with the STL
   1. Typical contact point on major incidents is the DIVS
   2. Other points of contact
      a) Communications Unit Leader (COML)
      b) Food Unit Leader(FDUL)
      c) Supply Unit Leader(SPUL)
      d) Ground Support Leader(GSUL)
      e) Staging Area Manager (STAM)
      f) Medical Unit Leader(MEDL)
      g) Agency Representative (AREP)

2-1-20

Strike Team Leader Interactions

3. Organizational interaction
   a) Incident work assignments may be obtained from STAM, DIVS or COML
   b) Air support requests will be directed to the DIVS
   c) Personnel issues with require involvement of the AREP
   d) Medical requests may be through the DIVS

2-1-21

Strike Team Leader Interactions

3. Organizational interaction (cont)
   e) Food and supply needs may be directed to DIVS for coordination with OSC for a larger order
   f) Fuel, repairs or transportation needs may be directed to DIVS

2-1-22

STRIKE TEAM TYPES AND MINIMUM STANDARDS

Kind	Strike Team Types	Number/Type	Minimum Equipment Standards								Minimum Personnel		
			Pump Capac	Water Capac	2 1/2" Hose	1 1/2" Hose	1" Hose	Ladder	Master Stream	Strike Team Leader	Per Single Resource	Total Personnel
ENGINES	A	5 - Type 1	1000 GPM	400 Gal	1200 Ft	400 Ft	200 Ft	20 Ft Ext	500 GPM	1	4	21
	B	5 - Type 2	500 GPM	400 Gal	1000 Ft	500 Ft	300 Ft	20 Ft Ext	N/A	1	3	16
	C	5 - Type 3	120 GPM	300 Gal	N/A	1000 Ft	800 Ft	N/A	N/A	1	3	16
	D	5 - Type 4	50 GPM	200 Gal	N/A	300 Ft	800 Ft	N/A	N/A	1	3	16
CREWS	G	Hand crew combinations consisting of a minimum of 29 persons (Do not mix Type 1 and Type 2 crews)	Type 1 Handcrews have no restrictions on use							1	N/A	30
	H		Type 2 Handcrews may have use restrictions.							1	N/A	30
DOZERS	K	2 - Type 1 1 Dozer Tender	Heavy Dozer Min. 200 HP (D-7, D 8, or equivalent)							1	1 1	4
	L	2 Type 2 1 - Dozer Tender	Medium Dozer Min. 100 HP (D 5, D 6, or equivalent)							1	1 1	4
	M	2 - Type 3 1 - Dozer Tender	Light Dozer Min. 50 HP (D-4, or equivalent)							1	1 1	4

Following is a listing of all ICS positions:

ICS POSITIONS AND MNEMONICS

Agency Representative (AREP)
Air Operations Branch Director (AOBD)
Air Support Group Supervisor (ASGS)
Air Tactical Group Supervisor (ATGS)
Air Tanker/Fixed Wing Coordinator (ATCO)
Aircraft Base Radio Operator (ABRO)
Area Command Aviation Coordinator (ACAC)
Area Commander (ACDR)
Assistant Area Commander, Logistics (ACLC)
Assistant Area Commander, Plans (ACPC)
Base/Camp Manager (BCMG)
Claims Specialist (CLMS)
Commissary Manager (CMSY)
Communications Unit Leader (COML)
Compensation/Claims Unit Leader (COMP)
Compensation-for-Injury Specialist (INJR)
Cost Unit Leader (COST)
Deck Coordinator (DECK)
Demobilization Unit Leader (DMOB)
Display Processor (DPRO)
Division/Group Supervisor (DIVS)
Documentation Unit Leader (DOCL)
Equipment Manager (EQPM)
Equipment Time Recorder (EQTR)
Facilities Unit Leader (FACL)
Field Observer (FOBS)
Finance/Administration Section Chief Type 1 (FSC1)
Finance/Administration Section Chief Type 2 (FSC2)
Food Unit Leader (FDUL)
Ground Support Unit Leader (GSUL)
Helibase Manager (4+) (HEB1)
Helibase Manager (1-3) (HEB2)
Helicopter Coordinator (HLCO)
Helicopter Crewmember (HECM)
Helicopter Manager (HEMG)
Incident Commander Type 1 (ICT1)
Incident Commander Type 2 (ICT2)
Incident Commander Type 3 (ICT3)
Incident Commander Type 4 (ICT4)
Incident Commander Type 5 (ICT5)
Incident Communications Center Manager (INCM)
Incident Communications Technician (COMT)
Interagency Resource Representative (IARR)
Information Officer Type 1 (IOF1)
Information Officer Type 2 (IOF2)
Information Officer Type 3 (IOF3)
Liaison Officer (LOFR)
Logistics Section Chief Type 1(LSC1)
Logistics Section Chief Type 2 (LSC2)
Medical Unit Leader (MEDL)
Operations Branch Director (OPBD)
Operations Section Chief Type 1 (OSC1)
Operations Section Chief Type 2 (OSC2)
Ordering Manager (ORDM)
Personnel Time Recorder (PTRC)
Planning Section Chief Type 1 (PSC1)
Planning Section Chief Type 2 (PSC2)
Procurement Unit Leader (PROC)
Radio Operator (RADO)
Receiving/Distribution Manager (RCDM)
Resources Unit Leader (RESL)
Safety Officer (SOF1)
Safety Officer (SOF2)
Safety Officer (SOF3)
Security Manager (SECM)
Service Branch Director (SVBD)
Situation Unit Leader (SITL)
Staging Area Manager (STAM)
Status/Check-In Recorder (SCKN)
Strike Team Leader Crew (STCR)
Strike Team Leader Dozer (STDZ)
Strike Team Leader Engine (STEN)
Strike Team Leader Tractor/Plow(STPL)
Supply Unit Leader (SPUL)
Support Branch Director (SUBD)
Take-Off and Landing Coordinator (TOLC)
Task Force Leader (TFLD)
Time Unit Leader (TIME)

2. Wildland Fire Skill Positions. These positions have been identified as unique to wildland fire suppression because they require a level of knowledge and skills to perform wildland fire suppression duties and were not identified in the Operational System Description. Personnel shall be assigned only to positions for which they are certified.

   The following is a listing of all wildland fire skill positions:

SKILL POSITIONS AND MNEMONICS

Wildland Fire Skill Positions

Advanced Firefighter/Squad Boss (FFT1)	Firefighter (FFT2)
Crew Representative (CREP)	Fire Behavior Analyst (FBAN)
Crew Boss (Single Resource) (CRWB	Infrared Interpreter (IRIN)
Dozer Boss (Single Resource) (DOZB)	Tractor/Plow Boss (Single Resource)
Engine Boss (Single Resource) (ENGB)	(TRPB)
Felling Boss (Single Resource) (FELB)	Training Specialist (TNSP)
Firing Boss (Single Resource) (FIRB)	

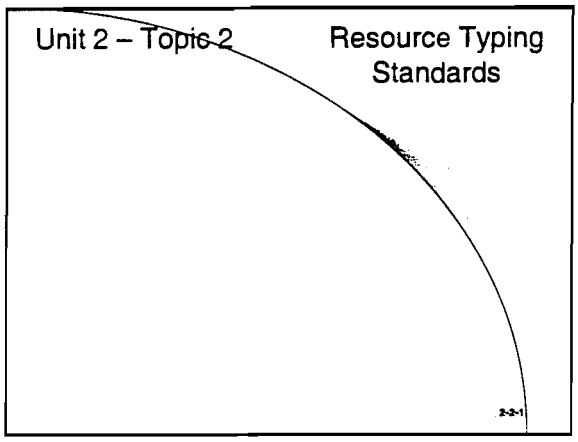
Expanded Dispatch Skill Positions

Coordinator CORD)	Supervisory Dispatcher (EDSP)
Dispatch Recorder (EDRC)	Support Dispatcher (EDSD)

3. Technical Specialist Positions. Technical specialists are personnel with unique skills. These specialists may be used anywhere within the incident organization. No minimum qualifications are identified in this guide. Most technical specialists are certified in their field or profession. To orient technical specialists, it is suggested that the knowledge and skills from the following training courses be reviewed:

   - Introduction to ICS (I-100)
   - Wildland Fire suppression Orientation for Non-Operations Personnel (S-110)

   For titles and mnemonics of identified technical specialists see the National Interagency Mobilization Guide (NFES 2091).



Unit Objectives

1. Know the typing of Engine, Crew, and Dozer Strike Teams
2. Know minimum personnel staffing
3. Identify special equipment for tactical assignments
4. Know qualifications / requirements for ST/TF personnel

2-2-2

Engine

A. The capability of an engine company and or Engine Strike Team is dependent on several things including
   1. Type
      a) FIRESCOPE Types 1,2,3, & 4
      b) NWCG Types 1,2,3,4,5,6, & 7
         Refer to Fireline Handbook for information regarding types 5,6 and 7
   2. Complement
   3. Configuration
   4. Training and Qualifications of Personnel

2-2-3

Engine

B. An Engine Strike Team consists of 5 engines of the same type with common communications and a leader (in a separate vehicle)

C. Engine type will often determine the suitability for the assignment

2-2-4

Engine

D. Type 1, 2, or 3 Engines may be suitable for structure protection, but narrow or rough roads may eliminate the ability to use Type 1 or 2 Engines. Incident assignments requiring large volumes of water may require the use of Type 1 or 2 Engines, but may be beyond the pumping capabilities of a Type 3 Engine

2-2-5

Engine

E. Engine Complement

1. Types of engines have a minimum standard for hose complement, ladders, master streams, personnel and pump capacity

2-2-6

Engine

Other types of equipment beyond the minimum complement might change operational applications;

a) Large diameter hose (LDH)
b) Master stream appliances
c) Communications equipment (radios, cell phones, etc.)
d) EMS Equipment
e) Rescue Equipment (hydraulic, power, etc.)

2-2-7

Engine

Other types of equipment beyond the minimum complement might change operational applications (cont);

f) Ladder type and complement
g) Salvage
h) Thermal imaging equipment
i) Ventilation equipment
j) SCBA (low or high pressure, quantity)
k) Chainsaws

2-2-8

Engine

Other types of equipment beyond the minimum complement might change operational applications (cont);

l) Portable pumps
m) Portable generators
n) Hand tools
o) Wildland hose complement and fittings (type & amount)

2-2-9

Engine Capabilities

1. Pump type and capacity
   a) Main or midship and rated capacity
      1) Pressure or volume
         - Pumping a hose lay with elevation may require a pump capable of 450 psi pressure
   b) Auxiliary or PTO
      1) Mobile attack capability
      2) Hit and run tactics

2-2-10

Configuration

2. Tank capacity
   a) Water supply may require a large capacity at the pumping engine
   b) Structure protection – bigger is better, a strike team with large capacity tanks can sustain themselves longer without support
   c) Depending on access a smaller and shorter wheel-base engine may be necessary, narrow steep driveways and roads may restrict use of larger engines

2-2-11

Configuration

3. Foam
   a) Class A
   b) Class B
   c) Compressed air foam
4. Conventional or 4 wheel drive
5. Mechanical condition
   a) First line engine
   b) Reserve engine
6. Cab and crew compartment configuration
   a) Open cab or crew compartment
   b) Seating configuration

(Refer to engine performance standards in the "Fireline Handbook" and Student Information Sheet 2-2-1)

2

Crews

A crew strike team consists of 29 persons plus a Strike Team Leader (30 total). The minimum 29 persons include crewmembers and supervisors. The strike team leader should not have the responsibility for an individual crew within the strike team and should have a separate vehicle

2-2-13

Crews

Differences between type 1 and type 2 crews;

1. Restrictions
2. Experience
3. Training
4. Supervision
5. Communications
6. Transportation

Typically type 1 crews may have a higher production rate than type 2 crews

Hotshot Crews

1. Highest level of training & experience
2. Not limited on type of assignment
3. May have specialty skills such as firing or falling
4. Can split into squads or teams
5. Well equipped for most assignments
6. Able to "spike" or "coyote" for long duration on assignments

(Refer to definition of "spike" + "coyote" In Incident Response Pocket Guide or Fireline Handbook)

2-2-15

Regular Agency Personnel Crews

1. High level of training & experience
2. Normally not limited on type of assignment
3. May have specialty skills such as firing or falling
4. Can split into squads or teams
5. Well equipped for most assignments
6. Able to spike or coyote for long duration on assignments

2-2-16

Inmate Crews (Adult)

1. Leader has high level of training
2. Inmates are regularly trained
3. Security considerations may influence operational deployment
4. May not split into squads
5. Will not normally have specialty training or qualifications
6. Requires special considerations to spike or coyote

2-2-17

Ward Crews (Youth)

1. Leader has high level of training
2. Wards are regularly trained
3. Security considerations may influence operational deployment
4. May not split into squads
5. Will not normally have specialty training or qualifications
6. Requires special considerations to spike or coyote
7. Should not be mixed with adult inmate crews

Type 2 Crews

Reasons why Type 2 crews might be less suited for complex operations (e.g. firing operation)

1. Moderate or minimum experience (college students)
2. Training level may be minimal
3. No assigned supervisor (permanent)
4. May not have their own transportation
   a) Incident may have to provide

2-2-19

Type 2 Crews

Reasons why Type 2 crews might be less suited for complex operations (e.g. firing operation)

5. Minimum equipment
   a) May need to be equipped at incident
   b) May need incident communication equipment
6. Little or no specialized equipment or training

2-2-20

Type 2 Crews

Reasons why Type 2 crews might be less suited for complex operations (e.g. firing operation) (cont)

7. Possible restrictions of hours, use and security
8. Requires special attention on timekeeping, commissary and contract provisions

(Refer to crew performance standards in the Fireline Handbook)

Dozer

A. A Dozer Strike Team is made of 2 dozers of the same type (Type 1,2,3) with 2 operators each, 1 dozer tender and 1 Dozer Strike Team Leader in a separate vehicle

The use of a STDZ Trainee should be considered due to the potential for dozers with 2 operators to operate on a continuing 24 hour basis on back-to-back days. The STDZ needs relief to provide the supervision and logistical support for the ST

2-2-22

Dozer

B. Type is dependent on the horsepower of the dozer.

Dozer horsepower ratings for dozer models and general fireline production rates are listed in the FOG ICS 420-1 and the NWCG Fireline Handbook

2-2-23

Dozer

C. Capabilities / performance
   1. Capability is based upon
      a) Horsepower
      b) Slope
      c) Fuel model
      d) Fire behavior
      e) Condition / age of equipment
      f) Level of operator experience

2-2-24

Dozer

g) Other conditions
   1) Temperature
   2) Soil moisture
   3) Rocky soil
   4) Day / night
   5) Direct / indirect line

2-2-25

Dozer

2. All dozer types can work in all fuel types, the difference is the rate of production

D. Limitations

1. Limitations can be relative to capabilities previously mentioned
   a) For example, slope grater than 70%, dense fuels, or inexperienced operators can be limiting factors

2-2-26

Dozer

2. Areas restricted to mechanized equipment
   a) National Parks / Monuments
   b) Riparian areas
   c) Archeological sites, etc.

2-2-27

Dozer

E. Agency dozers
1. Agency examples
   a) Forest agencies (USFS, CDF, BLM)
   b) Contract counties (LA, Ventura, Kern)
   c) Local government (LA City, Alameda Co.)
2. Level of training
   a) Will have formal training in
      1) Fire behavior
      2) Communication systems
      3) ICS

2-28

Private Hire Dozers

1. Operators on hired dozers may not be familiar with chain-of-command or agency policies
2. It may be necessary to inspect the PPE of the dozer operator to ensure compliance with agency requirements
3. Radios, on hired equipment must be inspected to ensure compatibility

2-2-29

Private Hire Dozers

4. The dozer needs to be inspected to determine condition and that it is suited for the assignment (Type, mechanical condition)
5. Verify contract for dozer and or transport

With hired equipment, the transport hauling the equipment may be a separate vendor requiring additional time keeping and contracts

2-2-30

Private Hire Dozers

6. The Dozer Strike Team Leader will be responsible for the time keeping on the hired equipment
7. Hired equipment requires direct and constant supervision by the STL

2-2-31

Private Hire Dozers

8. Provide the direction on tactics, safety, and expectations on the assignment
   a) Hired equipment operators may have only basic safety training
9. An evaluation on the performance of hired equipment is required by most agencies

(Refer to Student Information Sheet 2-2-2)

(Refer to Dozer Performance Standards in the Fireline Handbook)

2-32

Dozer Safety

1. Do not get immediately in front of or behind equipment in operation
   a) Operator has poor visibility out of the cab
2. If you need to talk to the operator
   a) Use radio if possible
   b) Do not climb on the dozer
3. Use hand signals for direction and safety
4. Avoid working directly below a dozer in operation
   a) Rolling rocks, etc.

Dozer Safety

5. Maintain communications with your dozers
   a) Watch out for dozers working in advance of the fire - operators may have poor visibility
   b) Operators commonly miss radio communication due to excessive noise
      1) Always follow up
      2) Face to face if necessary

2-2-34

Training & Qualification of Personnel

A. Kinds / types of training and qualifications
   1. EMS training (paramedic, etc.)
   2. ICS qualifications
   3. CICCS qualifications

2-2-35

Training & Qualification of Personnel

B. Assignments requiring specialty training not provided by the department or agency
   1. I Zone training
   2. Timber falling operations
   3. Firing operations
   4. Confined space rescue training

2-2-36

Training & Qualification of Personnel

B. Assignments requiring specialty training not provided by the department or agency
   5. Urban Search & Rescue (US&R)
   6. Swift water rescue
   7. Hazmat qualifications
   8. High rise incident qualifications
   9. Multi-casualty operational training
   10. Mechanic

2-2-37

Training & Qualification of Personnel

C. Agency or department regulations or policies may restrict the use of their resources
   1. Off road use
   2. Travel time
   3. Night time chainsaw use

2-2-38

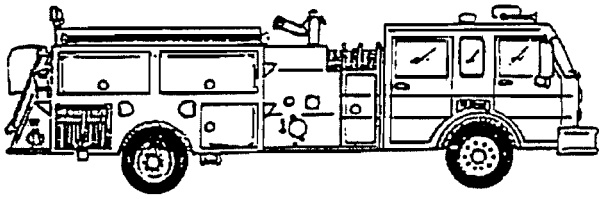
As the rains taper off and the grass gets higher and dryer, we find ourselves approaching another fire season. While we hope for a mild fire season, we also know that some mutual aid will no doubt be required.

A common discussion point in recent post fire season regional meetings has been Type 3 Engines. The ICS Minimum Standards for Type 3 are shown below:

TYPE STANDARD

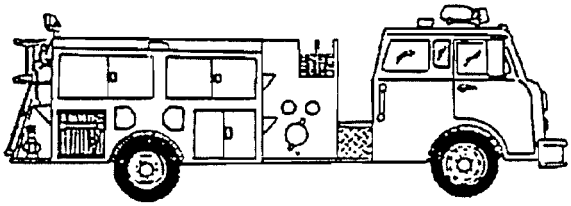
Type One Engine Company

- 1,000 gpm
- 400-gal. tank
- 1,200 ft. 2½" hose or larger
- 400 ft. 1½" or 1¾" hose
- 200 ft. 1" hose
- 20-24 ft. extension ladder
- 500 gpm heavy stream
- 4 personnel



Type Two Engine Company

- 500 gpm
- 400-gal. tank
- 20 ft. extension ladder
- 1,000 ft. 2½" hose or larger
- 500 ft. 1½" or 1¾" hose
- 300 ft. 1" hose
- 3 personnel

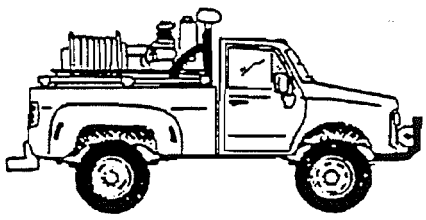


Type Three Engine Company

- 120 gpm
- 300 gal. tank
- 1,000 ft. 1½" hose
- 800 ft. 1" hose
- 3 personnel

Type Four Engine Company

- 50 gpm
- 200 gal. tank
- 300 ft. 1½" hose
- 800 ft. 1" hose
- 3 personnel



As orders for Type 3 Engine Strike Teams have increased, and as local interface problems have been identified, more and more local government fire agencies have been acquiring Type 3 Apparatus.

Please keep in mind that the above stated standards are minimum requirement. Just because an engine meets the minimum standards on the chart does not necessarily mean that it can carry out the mission of Type 3 Apparatus. An example would be a full sized Type 1 Engine that has the extra 1½" and 1" hose added so it can also meet Type 3 standards.

A typical Forest Agency Type 3 Engine has a number of features that enhance it's capability to operate on narrow, steep or unimproved roads and to allow the efficient application of water or other agents. These features include:

Short Wheelbase
High Ground Clearance
High Angle of Approach & Departure
Auxiliary Motor Powered Pump to allow Pump & Roll
Unit # on Roof
2x4 or 4x4
Class A Foam
Progressive Hose Lay Packs
Lower GVW than a Type 1 or 2
Wildland Hand Tools
Portable Pump
Chainsaw
Fusee's or drip torch
Hard suctions for drafting
Back Pumps

Lastly, the Forest Agencies have the expectation that when a Local Government Type 3 strike team arrives at an incident it can perform all of the missions that their own Type 3's can. This may or may not be true, depending upon the training that the Local Government crews have taken. Specifically, Type 3 Engine crews should be adequately trained in the following:

Wildland Strategy & Tactics
Wildland Fire Behavior
Wildland Hose Lays
Wildland Fire Safety
Backfiring
Hand Line Construction
Structure Triage
Prepping a Structure

I am offering this memo as a reminder for all of us. As overall suppression costs go up and as the reimbursement rate for strike teams also goes up, Forest Agencies are expecting all local government Type 3 strike teams to be capable of going where Type 3's were designed to go and doing what Type 3 crews are trained to do.

Thank you for taking the time to read this information and for your continued support for the California Fire and Rescue Mutual Aid System.

CONTRACTOR/VENDOR PERFORMANCE EVALUATION

ICS 230 (Draft 3/01)

Incident Name	Order Number	Request Number	Start Date To End Date
Shift/Operational Period	Operator		Assignment or Location

Vendor Name	Vendor Address	Phone and Contact
Service ☐ Commodity ☐ Rental Equipment ☐		Agreement #
Brief description of services/commodity/equipment ordered:		

Rating Factors	YES	NO
1) Gave and Met acceptable ETA/commitment.	☐	☐
2) Arrived prepared, equipped and ready to work.	☐	☐
3) Met with assigned supervisor for direction.	☐	☐
4) Met performance expectations.	☐	☐
5) Equipment in safe working condition.	☐	☐
6) Personnel were skilled and operated safely.	☐	☐
7) Personnel's level of cooperation was acceptable.	☐	☐
8) Other:	☐	☐
Overall rating of performance	Poor* ☐ Avg ☐ Good ☐ Exc. ☐	
Recommendation for Rehire/Reuse:	Yes ☐	No ☐**

* Any rating of poor ***requires*** explanation or comment.
** Recommendation of No Reuse ***requires*** comment and Logistics Chief concurrence.

Comments: _____

Signature below does not constitute agreement with rating, but that rating was discussed with me.

Vendor Representative Name/Title		Government Rep. Name/Position	
Signature	Date	Signature	Date

Note: Equipment safety/compliance inspections still required, please document separately.
Distribution: Blue; Original-Incident Packet Canary; Copy-Contractor/Vendor Pink; copy-Admin Unit

HIRING AND UTILIZATION GUIDES 7761

(No. 29 April 2002)

A. UTILIZATION GUIDELINES FOR HIRED EQUIPMENT

Because wildland firefighting is complex and inherently dangerous, the primary operational concern of CDF is to provide the safest possible work environment for hired equipment operators. The department has adopted policies that define our commitment to provide adequate supervision and accountability. CDF recognizes that it is impractical for hired equipment vendors to provide comprehensive wildland firefighting training to their employees that would bring them to the level that CDF requires its permanent employees to reach and maintain. Commensurate with the safety training CDF provides to hired equipment vendors and operators, the following operating procedures apply while vendors are employed in firefighting operations.

B. WATER TENDERS

Privately owned water tenders under agreement with CDF shall not be engaged in direct fire suppression efforts on any active fire line (line where the fire could continue to spread, flareup, or spot over the line). Water Tenders assigned to support firefighting activities shall be positioned in areas that provide an immediate safe exit route. Safe placement of these vehicles shall be the responsibility of the fire line supervisor under whose supervision the water tender was placed. Water tender operators must insure that their radio is operating properly in order to maintain communications with their fire line supervisor.

C. BULLDOZERS

Privately owned bulldozers under agreement to CDF shall have a fully trained and qualified firefighter available in the immediate area who is assigned to direct the private bulldozer operator at all times during any suppression activities. These operators **will not work** on the fire line without such supervision.

HIRING GUIDES - PERSONNEL 7761.1

(No. 21 March 1999)

The following applies to employment for fire suppression on a temporary or emergency basis:

- No one under 18 years of age shall be hired. (See Labor Code, _1285, et seq.) See also Section 3836, Incident Fiscal Management Handbook.
- Agricultural workers should not be hired during harvesting season except in extreme emergency.
- No one convicted of arson shall knowingly be hired.
- No person should be hired to protect their own property or property bearing their interests.
- Volunteers requested by or receiving specific instructions from CDF officials may be hired.

ICS Resource Designation System
Unit 2 – Topic 3

2-3-1

Objectives

A. Have a working knowledge of the FIRESCOPE Multi-Agency Coordination System – Resource Designation System (MACS 410-2)
B. Identify the basic system design components
C. Know the definition of terms as they relate to the Resource Designation System

2-3-2

Objectives

D. Identify how Strike Team/Task Forces are formed, designated, and reassigned
E. Identify how Strike Team/Task Force numbers and designators are assigned
F. Have a working knowledge of Strike Team/Task Force designation formatting

2-3-3

Basic System Design

A. The system is based upon the application and combined use of
   1. Three (3) letter designators for individual agencies and mutual aid operational areas
   2. Four (4) digit "block numbering" for six (6) mutual aid regions with sub-blocks for operational areas and agencies capable of fielding grouped resources

2-3-4

Basic System Design

3. Permanently assigned block numbers will allow for identification of mutual aid region, operational area or single agency and numbering of grouped resources without duplication of numbers.
4. Alphabetical lettering is used to identify kind and type of Strike Team

2-3-5

Definition of Terms

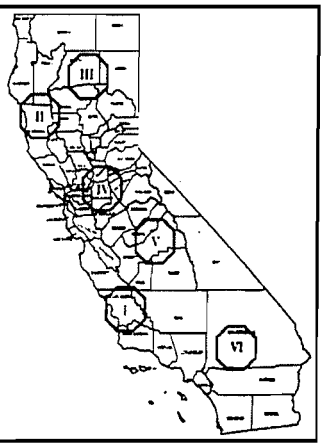
(Refer to Student Information sheet 2-3-1, Resource Designation System MACS 410-2, in the Student Manual. Review the following definitions using the Student Information Sheet)

A. Single Resources
B. Task Force
C. Strike Team
D. Three-letter designators
E. Resource Numbers

2-3-6

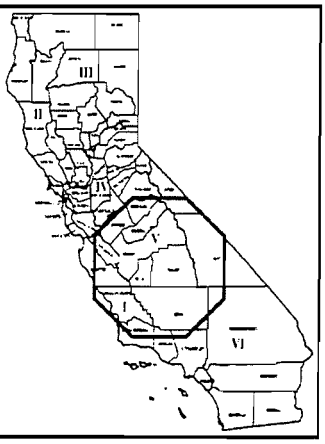
F. Mutual Aid Regions

State is broken down into 6 geographic areas. Regions are depicted by Roman numerals I thru VI



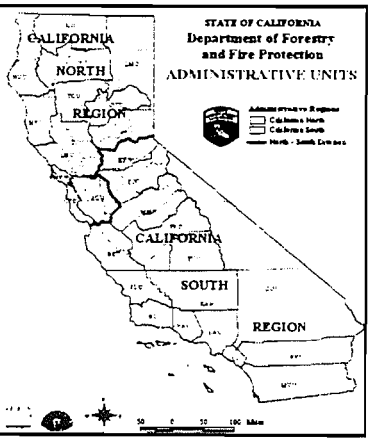
G. Operational Areas (Mutual Aid Area)

Each county within a Region is an operational area (except LA and the Tahoe Basin). Example: Region V has 7 operational areas



H. CDF Administrative Regions

State is broken down into two geographical areas. California Northern Region (CNR) and California Southern Region (CSR)



Definition of Terms

I. Geographic Coordination Centers (GACC)
   1. The two Geographic Coordination Centers in California are located at
      a) Redding, Ca. (North Ops)
      b) Riverside, Ca. (South Ops)
   2. The principal mission of the GACC's in California is the cost effective and timely coordination of wildland protection agencies in response to emergency incidents. This is accomplished through planning, situation monitoring and expediting resource orders between all agencies

2-3-10

Definition of Terms

3. The Geographical Coordination Centers are managed and staffed by
   a) USFS
   b) CDF
   c) Department of Interior
      1) BLM
      2) BIA
      3) FWS
      4) NPS
   d) Other cooperating agencies
      1) NWS
      2) OES

2-3-11

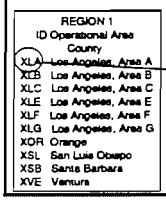
Forming and Designating Strike Teams and Task Forces

A. Strike Teams or Task Forces can be formed and designated in the following ways
   1. By a single agency (agency owned resources)
      a) The agency three letter designator will precede agency's block number.

2-3-12

Forming and Designating Strike Teams and Task Forces

1. Mixed Agency
   a) Local resources formed by Operational Area (Op Area) will be designated with respective Op Area three letter identification and block number.



XLA 1075-A

Mixed Federal and State resources may be designated by either agency

2-3-13

Forming and Designating Strike Teams and Task Forces

3. State OES Resources
   a) These will be formed and designated by the Op Area or Region. Three letter OES designator will precede block numbers.

OES 5800-B

OES and local resources will not be mixed on Strike Teams outside the Operational Area

2-3-14

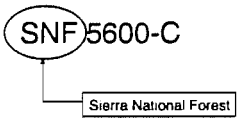
Forming and Designating Strike Teams and Task Forces

4. Mixed Operational Area
   a) Local resources formed from 2 or more Op Areas will be designated with the 3 letter identifier and a block number of the Op Area from which the leader is selected or the Op Area from which the greatest number of component resources are supplied

2-3-15

Forming and Designating Strike Teams and Task Forces

5. Out-of-State
   a) Resources imported from out-of-state, (i.e., federal agencies or private resources) will be designated by the agency that procures them.



2-3-16

Forming and Designating Strike Teams and Task Forces

6. By a combination of Administrative Units within the same agency
   a) CDF
      1) Combined resources of 2 or more units will be identified by the designator and block numbers of the unit providing the STL
         - Exception: If the STL is from a unit not providing equipment, the numbers will reflect the unit providing the majority of equipment

2-3-17

Forming and Designating Strike Teams and Task Forces

b) USFS
   1) Combined resources of 2 or more forests will be identified by the forest forming the Strike Team using its designator and block numbers

2-3-18

Forming and Designating Strike Teams and Task Forces

c) OES
   1) OES resources formed from 2 or more mutual aid regions will be identified by Sacramento OES Headquarters with OES designator and block numbers

2-3-19

Forming and Designating Strike Teams and Task Forces

7. At the incident
   a) Strike Teams or Task Forces assembled at the incident will be identified by incident name, for radio call, and sequentially numbered beginning with 1. This designation is done by the Resource Unit at the incident

2-3-20

Assigning Strike Team/Task Force Numbers

A. All numbers include four (4) digits followed by a single letter (i.e., 1234-A)

B. Numbers and letter indicate (1 2 3 4 -A)
   1. Mutual aid region
   2. Agency or Op Area
   3. Individual group numbers
   4. Kind and type resources

2-3-21

Assigning Strike Team/Task Force Numbers

C. Block numbers
   1. The six mutual aid regions will consist of six blocks of 1000 numbers each
      a) Mutual Aid Region I (1000 – 1999)
      b) Mutual Aid Region II (2000 – 2999)
      c) Mutual Aid Region III through IV (same format as above)

2-3-22

Assigning Strike Team/Task Force Numbers

2. Sub-blocks may be assigned to an Op Area or large single agencies such as LA City Fire Department
   a) Mutual Aid Region I (1000 – 1999)
      1) Sub-block (1000 – 1099)
   b) This designator reflects: LFD 1 0 0 1 -A
      1) Agency
      2) Region
      3) Area
      4) Grouped resource number
      5) Kind and type

2-3-23

Assigning Strike Team/Task Force Numbers

3. Any series of numbers within a region block becomes synonymous with the area or department to which it is assigned
   a) Example
      1) USFS = 6 (ANF 1600)
      2) BLM, FWS, BIA, NPS = 7 (BBD 5700)
      3) OES = 8 (OES 3800)

2-3-24

Assigning Strike Team/Task Force Numbers

D. Block numbers for CDF
   1. CDF utilizes a modified block number in the 9000 series statewide. CDF will assign block numbers to individual units
      a) Example: 9100 – 9199 block is assigned to CDF Coast Area

2-3-25

Assigning Strike Team/Task Force Numbers

2. CDF will utilize 9100, 9200, 9300, 9400 and 9500 for unit designation
   a) 9000 and 9600 through 9900 blocks are not allocated at this time
   b) This designator reflects: CDF 9 1 1 1 –C
      1) Agency
      2) CDF
      3) CDF Unit (old regions)
      4) Grouped resource number
      5) Kind and type

2-3-26

Assigning Strike Team/Task Force Numbers

E. Strike Team alphabetical lettering kind and type
   1. Kind and type of resources are identified by a single letter following block numbers
      a) A = Engine Type 1
      b) B = Engine Type 2
      c) C = Engine Type 3
      d) D = Engine Type 4
      e) E & F are reserved

2-3-27

Assigning Strike Team/Task Force Numbers

f) G = Crew Type 1
g) H = Crew Type 2
h) I & J are reserved
i) K = Dozer Type 1
j) L = Dozer Type 2
k) M = Dozer Type 3
l) N & O are reserved
m) P through Z are not assigned and reserved for expansion

2-3-28

Assigning Strike Team/Task Force Numbers

n) AR = US&R Company Type 1
o) BR = US&R Company Type 2
p) CR = US&R Company Type 3
q) DR = US&R Company Type 4
r) GR = US&R Crew Type 1
s) HR = US&R Crew Type 2
t) IR = US&R Crew Type 3
u) JR = US&R Crew Type 4

2-3-29

Assigning Strike Team/Task Force Numbers

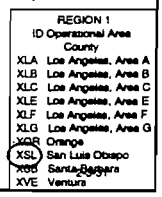
F. Three letter designator
   1. To identify agency or area resources
   2. Each agency has its own unique three letter identifier
      a) Example: LAC 1100-A

Los Angeles County FD

2-3-30

Assigning Strike Team/Task Force Numbers

3. When local government Strike Teams contain mixed agency or area resources, the three letter designator will be designated with respective Op Area three letter designator (always starts with "X")
   a) Example: X S L 1450-A



Assigning Strike Team/Task Force Numbers

G. Three letter designator & radio call sign examples
   1. Recorded designator: XOR 1400-A = "Orange area strike team fourteen hundred ALPHA"
   2. Recorded designator: OES 1800-B = "OES strike team eighteen hundred BRAVO"
   3. Recorded designator: CDF 9310-C = "CDF Strike team ninety-three ten CHARLIE"

2-3-32

Strike Team Examples

A. Single agency strike teams
   1. Resource designation format – BDF 6601-C
      a) Resources – Engines Type 3 from San Bernardino National Forest
      b) Three letter designator – BDF
      c) Number – 6601
      d) Kind/type – C (Engine Type 3)
      e) Radio call – "San Bernardino Forest Strike Team sixty-six zero one CHARLIE"
      f) Number assigned by – San Bernardino NF

2-3-33

Strike Team Examples

B. OES Strike Teams
   1. Resource designation format – OES 1801-A
      a) Resources – Engines Type 1, all OES owned equipment from OES Region I
      b) Three letter designator – OES
      c) Number – 1801
      d) Kind/type – A (Engine Type 1)
      e) Radio call – "OES Strike Team eighteen zero one ALPHA"
      f) Number assigned by – OES Region 1

2-3-34

Strike Team Examples

C. Mixed Agency Strike Teams from same Operational Area
   1. Resource designation format – XVE 1551-A
      a) Resources – Engines Type 1, from Ventura County Op Area, OES Region I
      b) Three letter designator – XVE
      c) Number – 1551
      d) Kind/type – A (Engine Type 1)
      e) Radio call – "Ventura Area Strike Team fifteen fifty one ALPHA"
      f) Number assigned by – Ventura County Op Area

2-3-35

Strike Team Examples

D. Different Operational Areas within a OES Region
   1. Resource designation format – to be determined
      a) Resources – 3 Engines, Type 1, from LA County Operational Area "A" and 2 Engines, Type 1, from other LA County Op Areas (OES Region I)
      b) Three letter designator – Would be determined by the Region and Op Area
      c) Number – Would be determined by the Region and Op Area
      d) Kind/type – A (Engine Type 1)
      e) Radio call – to be determined
      f) Number assigned by – Would be determined by the Region and Op Area

2-3-36

Strike Team Examples

E. Different administrative units (single agency)

USFS and CDF Strike Teams may be formed from more than one forest or CDF unit. Such a combination would not be considered a mixed agency resource.

2-3-37

Strike Team Examples

E. Different administrative units (single agency)
1. USFS example
   a) Resource designation format-ANF 1601-C
   b) Resources – 3 Engines, Type 3, from the Angeles NF & 2 Engines, Type 3, from the San Bernardino NF
   c) Three letter designator – ANF
   d) Number – 1601
   e) Kind/type – C (Engine Type 3)
   f) Radio call – "Angeles Forest Strike Team sixteen zero one CHARLIE"
   g) Number assigned by – Angeles NF

2-3-38

Strike Team Examples

E. Different administrative units (single agency)
1. CDF example
   a) Resource designation format-CDF 9310-C
   b) Resources – 3 Engines, Type 3, from the Riverside Unit and 2 Engines, Type 3, from the San Diego Unit
   c) Three Letter Designator – CDF
   d) Number – 9310
   e) Kind/type – C (Engine Type 3)
   f) Radio call – "CDF Strike Team ninety-three ten CHARLIE"
   g) Number assigned by – CDF South Ops

2-3-39

Strike Team Examples

F. Incident formed Strike Teams
   1. Resource designation format – Crest ST 1-L
      a) Resources – 1 Dozer, Type 2, privately owned; 1 Dozer, Type 2, from LA County FD; 1 Dozer Tender, from Santa Barbara County FD
      b) Three letter designator – "Crest" (incident name)
      c) Number – 1
      d) Kind/type – L (Dozer Type 2)
      e) Radio call – "Crest Strike Team one LIMA"
      f) Number assigned by – Resource Unit at the "Crest" incident

2-3-40

Assigning Task Force Designations

A. Agency formed Task Force
   1. Resource designation format-LAC TF 1102
      a) Resources – 1 Engine, Type 1 from LA County FD; 1 Dozer, Type 2, from LA County FD; 1 Crew, Type 1, from LA County FD
      b) Three letter designator – LAC
      c) Number – 1102
      d) Radio call – "LA County Task Force eleven zero two"
      e) Number assigned by – LA County dispatch

Assigning Task Force Designations

B. Incident formed Task Force
   1. Resource designation format – Sage TF 1
      a) Resources – 1 Engine, Type 1, from LA County FD; 1 Engine, Type 1, from LA City FD; 1 Dozer, Type 1, from LA County FD
      b) Three letter designator – "Sage" (incident name)
      c) Number – 1
      d) Radio call – "Sage Task Force one"
      e) Number assigned by – Resource Unit at the "Sage" incident

2-3-42

Resource Designation Format Strike Team or Task Force

A. Designations for Strike Team components include name of Strike Team Leader, agency designator, resource kind and agency number for individual units

2-3-43

Resource Designation Format Strike Team or Task Force

1. Example: Op Area mixed agency Strike Team
   a) XBO 6201-A
      1) STEN Jones RIA (Rialto FD)
      2) STEN (T) Smith RED (Redlands FD)
      3) BDO Eng-6 (San Bernardino FD)
      4) BDO Eng-3 (San Bernardino FD)
      5) RIA Eng-2 (Rialto FD)
      6) RED Eng-5 (Redlands FD)
      7) COL Eng-1 (Colton FD)

2-3-44

Resource Designation Format Strike Team or Task Force

b) XAL 2004-B
   1) STEN Dover OKL
   2) STEN (T) McCauley ALA
   3) ALA Eng-2341
   4) BER Eng-2453
   5) OKL Eng-2554
   6) OKL Eng-2563
   7) PIE Eng-2843

2-3-45

Reassigning Resources

A. Reassignment of resources from one incident to another can be done with the consent of the agencies sending the resources
   1. For ST/TF with local government resources, this contact is required prior to reassignment
B. OES resources may be reassigned by consent of the Op Area, Region or State OES respectively

2-3-46

Use of Sequential Numbers

A. Initial numbering of grouped resources will be assigned sequentially from the operational area or individual agency block of numbers. It is recommended that numbers not be re-used on any single incident or during a period of multi-incident activity

2-3-47

Use of Sequential Numbers

1. Example: A Strike Team may be formed and numbered for a specific incident then demobilized and released. Re-use of that number during the same period of activity might cause confusion
   a) XBO 6201-B deployed to the "Crest" incident, then demobilized
   b) XBO 6202-B deployed to "Sage" incident the following week

During a period of high activity, it is recommended that all numbers in any block be used before recycling sequential numbers

2-3-48

Student Activity

Refer to Student Activity Sheet 2-3-1 ICS Resource Designation System

2-3-49

MULTI-AGENCY COORDINATION SYSTEM

RESOURCE DESIGNATION SYSTEM
MACS 410-2

November 17. 2000

This document contains information relative to the Incident Command System (ICS) component of the National Interagency Incident Management System (NIIMS). This is the same Incident Command System developed by FIRESCOPE.

Additional information and documentation can be obtained from the following sources:

OES FIRESCOPE OCC
Document Control
2524 Mulberry Street
Riverside, CA 92501-2200
(909) 782-4174
Fax (909) 782-4239

The information contained in this document has been approved by the State Board of Fire Services and the Fire and Rescue Service Advisory Committee/FIRESCOPE Board of Directors for application in the statewide Fire and Rescue Mutual Aid System.

This material is a development of the FIRESCOPE Program.

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APPENDIX A A-1
MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING

APPENDIX B B-1
CALIFORNIA DEPARTMENT OF FORESTRY STATEWIDE NUMBER LISTING

APPENDIX C
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APPENDIX E
THREE-LETTER IDENTIFIER ALPHABETICAL BY AGENCY NAME E-1

APPENDIX F
OPERATIONAL AREA IDENTIFIERS F-1

1-0 BACKGROUND

a. In order to rapidly and accurately identify grouped (Strike Team - Task Force) resources used on multi-agency incidents throughout California, it is necessary to have a standard resource designation system. To ensure standardized training and use, this system will be included in both MACS and ICS procedures.

b. The Resource Designation System described in this document is the result of intensive research and testing by the FIRESCOPE Program. The system is designed to meet current and projected statewide needs.

2-0 BASIC SYSTEM DESIGN

The system is based upon the application and combined use of:

- Three (3) letter designators for individual agencies and mutual aid operational areas.

- Four (4) digit "block numbering" for six (6) mutual aid regions with sub-blocks for operational areas and agencies capable of fielding grouped resources.

- Permanently assigned block numbers will allow for identification of mutual aid region, operational area or single agency, and numbering of grouped resources without duplication of numbers.

- Alphabetical lettering is used to identify kind and type of Strike Teams.

- System is compatible with manual or electronic format.

3-0 3-0 DEFINITION OF TERMS

a. Single Resources — A single increment of any resource, considered fully operational when it has minimum numbers of personnel, equipment, etc. Example: A single crew, engine, dozer, helicopter, etc.

b. Task Force - A Task Force is a group of resources with common communications and a leader. Task Forces formed by agency or area dispatch centers will be designated from block numbers. If formed at the incident, they will be designated by incident name (i.e., "Sage TF 1"). Task Forces will be disassembled when the need no longer exists.

c. Strike Team — A Strike Team is a group composed of a set number of the same kind and type of resources, with common communications and a leader. Strike Teams may be assembled by a Regional Fire and Rescue Coordinator, Operational Area Fire and Rescue Coordinator, agency dispatch centers or at the incident. Strike Teams will be released when no longer needed and returned as a unit to the incident, area or department from which they were formed.

d. Three-Letter Designators — The three-letter designator is used to identify individual agencies or operational areas dispatching resources. All fire departments, agencies and mutual aid operational areas in California have been assigned a three-letter designator.

e. Resource Numbers — Numbers assigned to resources for ease of tracking and communication. Numbers will define resource type and configuration. Single Resources - Single Resources will always use their agency assigned equipment number or in the case of a crew, it may be a crew name and number. Strike Teams - Strike Teams will be assigned numbers from a block of numbers pre-established for each operational area or agency. These numbers will be assigned sequentially.

f. Mutual Aid Regions - The 58 counties in California are divided into six (6) mutual aid regions. Such regions are common to all emergency services. Each has a designated Region Fire and Rescue Coordinator and dispatch center.

g. Operational Area (Mutual Aid Area) - Each county in California is an "Operational Area" with a designated Fire and Rescue Coordinator. EXCEPTIONS: (1) Los Angeles County has six (6) operational areas identified alphabetically; (2) Tahoe Basin Operational Area includes parts of three counties in California and parts of three counties in Nevada.

h. California Department of Forestry and Fire Protection Administrative Regions - The California Department of Forestry and Fire Protection has divided the State into two geographic regions, four areas, and twenty-one (21) ranger units. CDF will assign radio numbers to be used with their three-letter identifier to designate their resources.

4-0 FORMING AND DESIGNATING STRIKE TEAMS AND TASK FORCES

Strike Teams or Task Forces can be formed and designated in the following ways:

a. By a single agency (agency owned resources) - The agency three-letter designator will precede agency's block number.

b. Mixed Agency - Local resources formed by Operational Area Fire and Rescue Coordinators will be designated with respective operational area three-letter identification and block number. NOTE: Mixed Federal and State Forestry resources may be designated by either agency. (A discretionary decision.)

c. State OES Resources - These will be formed and designated by Operational Area or Region Fire and Rescue Coordinators. Three-letter "OES" designator will precede block numbers. NOTE: OES and local resources should not be mixed.

d. Mixed Operational Area - Local resources formed from two (2) or more operational areas will be designated with the three-letter identifier and a block number of the operational area from which the leader is selected or the operational area from which the greatest number of component resources are supplied.

e. Out-of-State/Private Resources - Resources imported from out-of-state, (i.e., federal agencies or private resources) will be designated by the agency which procures them.

f. By a Combination of Administrative Units within same agency

   1. California Department of Forestry and Fire Protection - Combined resources of two (2) or more ranger units will be identified by the CDF region office and assign numbers.

   2. U.S. Forest Service - Cornbined resources of two (2) or more forests will be identified by the forest forming the strike team using its designator and block numbers.

   3. State Office of Emergency Services - OES or local resources formed from two (2) or more mutual aid regions will be identified by Sacramento OES Headquarters with OES designator and block numbers.

g. At the Incident - Strike Teams or Task Forces assembled at the incident will be identified by incident name, for radio call, and sequentially numbered beginning with 1.

5-0 ASSIGNING STRIKE TEAM/TASK FORCE NUMBERS

The Resource Designation System utilizes the block numbering concept. All numbers include four (4) digits followed by a single letter (i.e., 1234-A). Numbers and letter indicate: mutual aid region, agency or operational area, individual group numbers, kind and type resources. NOTE: Circumstances dictate a modification for CDF - see example b.

a. Block Numbers - The six (6) mutual aid regions will consist of six blocks of 1000 numbers each:

Example: Mutual Aid Region I - 1000 to 1999.

Sub-blocks (i.e., 1000 to 1099) may be assigned to operational area or large single agency such as L.A. City F.D. thus, four (4) digits reflect:

LFD	1	0	01	A
area or agency	region	area or agency	Grouped res. no.	kind & type

Any series of numbers within a region block becomes synonymous with the area or department to which it is assigned.

b. Block Numbers (California Department of Forestry and Fire Protection)

Because CDF utilizes a four (4) digit resources numbering system on a daily basis within its administrative regions, mutual aid region block numbers might be duplicated. Thus, CDF will utilize a modified block number in the 9000 series statewide. Example: 9100 - 9199 block assigned to CDF Coast Area.

CDF	9	1	1	1	C
Agency	CDF	CDF Area	Ranger Unit	Grouped res. no.	kind & type

NOTE: CDF region will assign block numbers to individual ranger units. CDF will utilize blocks 9100, 9200, 9300, and 9400 for their area designation. This leaves 9000, and 9500 through 9900 blocks not allocated.

c. Strike Teams Alphabetical Lettering - Kind and Type

Kind and type of resources (identified in ICS 020-1 Resource Designation Listing) are identified by a single letter following block numbers, (i.e., LFD ST 1001-A).

A. Engine type 1	G. Crew type 1	K. Dozer type 1
B. Engine type 2	H. Crew type 2	L. Dozer type 2
C. Engine type 3	I. Reserved	M. Dozer type 3
D. Engine type 4	J. Reserved	N. Reserved
E. Reserved		O. Reserved
F. Reserved		

P. through Z. Not assigned - reserved for expansion.

AR. US&R Company type 1	GR. US&R Crew type 1
BR. US&R Company type 2	HR. US&R Crew type 2
CR. US&R Company type 3	IR. US&R Crew type 3
DR. US&R Company type 4	JR. US&R Crew type 4

d. Three-Letter Designator vs. Radio Call Sign - The primary purpose of the three-letter designator is to identify agency or area resources.

EXAMPLE: Recorded Designator: XOR ST 1400-A

Radio Call: "Orange area strike team fourteen hundred-ALPHA"

Recorded Designator: OES ST 1800-A

Radio Call: "OES strike team eighteen hundred-ALPHA"

6-0 6-0 STRIKE TEAM EXAMPLES

a. Single Agency Strike Teams

RESOURCES - Engines Type 3, from San Bernardino National Forest.
THREE LETTER DESIGNATOR – BDF
NUMBER – 6601
KIND-TYPE - C (Engine type 3)
RESOURCE DESIGNATION FORMAT - BDF ST 6601-C
RADIO CALL - "San Bernardino Forest Strike Team sixty-six zero one "CHARLIE"
NUMBER ASSIGNED BY - San Bernardino National Forest.

b. OES Strike Teams

RESOURCES -Engines Type 1, all OES owned equipment from Mutual Aid Region I.

THREE LETTER DESIGNATOR – OES
NUMBER – 1801
KIND-TYPE - A (Engine type 1)
RESOURCE DESIGNATION FORMAT - OES ST 1801-A
RADIO CALL - "OES Strike Team eighteen zero one ALPHA "
NUMBER ASSIGNED BY - Region I Fire and Rescue Coordinator.

c. Mixed Agency Strike Teams From Same Mutual Aid Area

RESOURCES - Engines Type 1, from Ventura County Mutual Aid Area Region I.
THREE-LETTER DESIGNATOR – XVE
NUMBER – 1551
KIND-TYPE - A (Engine type 1)
RESOURCE DESIGNATION FORMAT - XVE ST 1551-A
RADIO CALL - "Ventura Area Strike Team fifteen fifty one ALPHA"
NUMBER ASSIGNED BY - Ventura County Operational Area Fire and Rescue Coordinator.

d. Different Mutual Aid Areas within a Mutual Aid Region

RESOURCES - 3 Engines type 1, from Los Angeles Co. Operational Area 'A'. (Region I)
2 Engines type 1, from other Los Angeles Co. Operational Areas (Region I).

THREE-LETTER DESIGNATOR & NUMBER -	Would be determined by the Region and Operational Area Fire and Rescue Coordinators involved.

e. Different Administrative Units (Single Agency)

USFS and CDF Strike Teams may be formed from more than one forest or CDF administrative unit. Such a combination would not be considered mixed agency resources.

U.S. Forest Service
RESOURCES - 3 Engines type 3, from the Angeles National Forest.
2 Engines type 3, from the San Bernardino National Forest.
THREE-LETTER DESIGNATOR - ANF
NUMBER - 1601
KIND-TYPE - C (Engine type 3)
RESOURCE DESIGNATION FORMAT - ANF ST 1601-C
RADIO CALL - "Angeles Forest Strike Team sixteen zero one CHARLIE"
NUMBER ASSIGNED BY - Angeles National Forest

California Department of Forestry and Fire Protection

RESOURCES - 3 Engines type 3, from the Riverside Ranger Unit
2 Engines type 3, from the San Diego Ranger Unit
THREE-LETTER DESIGNATOR - CDF
NUMBER - 9310
KIND-TYPE - C (Engine type 3)
RESOURCE DESIGNATION FORMAT - CDF ST 9310 C
RADIO CALL - "CDF Strike Team ninety-three ten CHARLIE"
NUMBER ASSIGNED BY - CDF Riverside Ranger Unit with Region Office Coordination

f. Incident Formed Strike Teams

RESOURCES - 1 Dozer type 2, privately owned
1 Dozer type 2, from L.A. Co. F.D.
1 Dozer tender, from Santa Barbara Co. F.D.
THREE-LETTER DESIGNATOR - "CREST" (Incident Name)
NUMBER - 1
KIND-TYPE - L (dozer type 2)
RESOURCE DESIGNATION FORMAT - CREST ST 1-L
RADIO CALL - "Crest Strike Team One LIMA"
NUMBER ASSIGNED BY - Resources Unit at the "Crest" incident

7-0 ASSIGNING TASK FORCE DESIGNATIONS

a. Agency formed Task Force

RESOURCES - 1 Engine type 1, from L.A. Co. F.D.
1 Dozer type 2, from L.A. Co. F.D.
1 Crew type 1, from L.A. Co. F.D.
THREE-LETTER DESIGNATOR - LAC
NUMBER - 1102
RESOURCE DESIGNATION FORMAT - LAC TF 1102
RADIO CALL - "L.A. County Task Force eleven zero two"
NUMBER ASSIGNED BY - Los Angeles County Dispatch

b. Incident formed Task Force

RESOURCES - 1 Engine type 1, from LAC
1 Engine type 1, from LFD
1 Dozer type 1, from LAC
THREE LETTER DESIGNATOR - "SAGE" (Incident Name)
NUMBER - 1
RESOURCE DESIGNATION FORMAT - SAGE TF 1
RADIO CALL - "Sage Task Force one"
NUMBER ASSIGNED BY - Resources Unit at the "Sage" incident

8-0 RESOURCE DESIGNATION FORMAT - STRIKE TEAM OR TASK FORCE

Designations for Strike Team components include name of strike team leader, agency designator, resource kind and agency number for individual units.

EXAMPLE: Operational area mixed agency Strike Team

XBO ST 6201-A XAL 2004-A

STL Jones RIA STL Smith OKL

BDO Engine 6 ALA Engine 2341

BDO Engine 3 BER Engine 2453

RIA Engine 2 OKL Engine 2554

RED Engine 5 OKL Engine 2563

COL Engine 1 PIE Engine 2843

9-0 REASSIGNING RESOURCES

Reassignment of resources from one incident to another can be done with the consent of the agency's owning the resources.

OES resources may be reassigned by consent of Operational Area, Region or State Fire and Rescue Coordinator, respectively.

10-0 USE OF SEQUENTIAL NUMBERS

Initial numbering of grouped resources will be assigned sequentially from the mutual aid area or individual agency block of numbers. It is recommended that numbers not be re-used on any single incident or during a period of multi-incident activity. Example: A Strike Team may be formed and numbered for a specific incident then demobilized and released. Re-use of that number during the same period of activity might cause confusion. During a period of high activity, it is recommended that all numbers in any block be used before recycling sequential numbers.

APPENDIX A

MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING
(STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	AGENCY	ASSIGNED S/T NOS.
OES	HEADQUARTERS OFFICE OF EMERGENCY SERVICES (STATEWIDE)	0800 - 0899

AGENCY DESIGNATOR	MUTUAL AID REGION I	ASSIGNED S/T NOS.
LFD	LOS ANGELES CITY FIRE DEPT.	1000 — 1074
XLA	LOS ANGELES, AREA "A"	1075 — 1099
LAC	LOS ANGELES CO. FIRE DEPT.	1100 — 1199
XLC	LOS ANGELES, AREA "C"	1200 — 1239
XLB	LOS ANGELES, AREA "B"	1240 — 1279
XLE	LOS ANGELES, AREA "E"	1280 — 1319
XLF	LOS ANGELES, AREA "F"	1320 — 1359
XLG	LOS ANGELES, AREA "G"	1360 — 1399
XOR	ORANGE	1400 — 1449
XSL	SAN LUIS OBISPO	1450 — 1499
XSB	SANTA BARBARA	1500 - 1529
SBC	SANTA BARBARA CO. FIRE DEPT.	1530 — 1549
XVE	VENTURA	1550 - 1565
VNC	VENTURA CO. FIRE DEPT.	1566 — 1599
USF	U.S. FOREST SERVICE	1600 — 1699
DOI	DEPARTMENT OF INTERIOR	1700 — 1799
OES	OFFICE OF EMERGENCY SERVICES	1800 — 1899
	NOT ALLOCATED	1900 — 1999

APPENDIX A

MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING (STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	MUTUAL AID REGION II	ASSIGNED S/T NOS.
XAL	ALAMEDA	2000 - 2024
XCC	CONTRA COSTA	2025 — 2049
XDN	DEL NORTE	2050 - 2074
XHU	HUMBOLDT	2075 - 2099
XLK	LAKE	2100 — 2124
XMR	MARIN	2125 - 2149
XME	MENDOCINO	2150 - 2174
XMY	MONTEREY	2175 — 2199
XNA	NAPA	2200 - 2224
XBE	SAN BENITO	2225 - 2249
XSF	SAN FRANCISCO	2250 — 2274
XSM	SAN MATEO	2275 - 2299
XSC	SANTA CLARA	2300 - 2324
XCZ	SANTA CRUZ	2325 — 2349
XSO	SOLANO	2350 - 2374
XSN	SONOMA	2375 - 2399
	NOT ALLOCATED	2400 — 2599
USF	U.S. FOREST SERVICE	2600 — 2699
DOI	DEPARTMENT OF INTERIOR	2700 — 2799
OES	OFFICE OF EMERGENCY SERVICES	2800 — 2899
	NOT ALLOCATED	2900 — 2999
CDF	CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION	See Appendix B

APPENDIX A

MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING
(STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	MUTUAL AID REGION III	ASSIGNED S/T NOS.
XBU	BUTTE	3000 — 3024
XCO	COLUSA	3025 — 3049
XGL	GLENN	3050 — 3074
XLS	LASSEN	3075 — 3099
XMO	MODOC	3100 — 3124
XPU	PLUMAS	3125 - 3149
XSH	SHASTA	3150 — 3174
XSI	SIERRA	3175 — 3199
XSK	SISKIYOU	3200 — 3224
XSU	SUTTER	3225 — 3249
XTE	TEHAMA	3250 - 3274
XTR	TRINITY	3275 - 3299
XYU	YUBA	3300 - 3324
	NOT ALLOCATED	3325 - 3599
USF	U.S. FOREST SERVICE	3600 - 3699
BLM	BUREAU OF LAND MANAGEMENT	3700 - 3719
FWS	FISH AND WILDLIFE SERVICE	3720 - 3739
BIA	BUREAU OF INDIAN AFFAIRS	3740 - 3759
NPS	NATIONAL PARK SERVICE	3760 - 3779
DOI	DEPARTMENT OF INTERIOR, RESERVED FOR FUTURE EXPANSION	3780 - 3799
OES	OFFICE OF EMERGENCY SERVICES	3800 - 3899
	NOT ALLOCATED	3900 - 3999
CDF	CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION	See Appendix B

APPENDIX A

MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING (STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	MUTUAL AID REGION IV	ASSIGNED S/T NOS.
XAP	ALPINE	4000 — 4024
XAM	AMADOR	4025 — 4049
XCA	CALAVERAS	4050 — 4074
XED	EL DORADO	4075 — 4099
XNE	NEVADA	4100 — 4124
XPL	PLACER	4125 - 4149
XSA	SACRAMENTO	4150 - 4174
XSJ	SAN JOAQUIN	4175 — 4199
XST	STANISLAUS	4200 - 4224
XTB	TAHOE BASIN	4225 - 4249
XTO	TUOLUMNE	4250 - 4274
XYO	YOLO	4275 - 4299
	NOT ALLOCATED	4300 - 4599
USF	U.S. FOREST SERVICE	4600 - 4699
DOI	DEPARTMENT OF INTERIOR	4700 - 4799
OES	OFFICE OF EMERGENCY SERVICES	4800 - 4899
	NOT ALLOCATED	4900 - 4999
CDF	CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION	See Appendix B

APPENDIX A

MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING (STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	MUTUAL AID REGION V	ASSIGNED S/T NOS.
XFR	FRESNO	5000 — 5024
XKE	KERN	5025 - 5049
XKI	KINGS	5050 - 5074
XMA	MADERA	5075 - 5099
XMP	MARIPOSA	5100 — 5124
XMD	MERCED	5125 - 5149
XTU	TULARE	5150 - 5174
	NOT ALLOCATED	5175 — 5199 5300 - 5599
KRN	KERN COUNTY FIRE DEPARTMENT	5200 - 5299
USF	U.S. FOREST SERVICE	5600 - 5699
BLM	BUREAU OF LAND MANAGEMENT	5700 - 5719
FWS	FISH AND WILDLIFE SERVICE	5720 - 5739
BIA	BUREAU OF INDIAN AFFAIRS	5740 - 5759
NPS	NATIONAL PARK SERVICE	5760 - 5779
DOI	DEPARTMENT OF INTERIOR, RESERVED FOR FUTURE EXPANSION	5780 - 5799
OES	OFFICE OF EMERGENCY SERVICES	5800 - 5899
	NOT ALLOCATED	5900 - 5999
CDF	CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION	See Appendix B

APPENDIX A

MUTUAL AID REGION DESIGNATORS AND NUMBER LISTING
(STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	MUTUAL AID REGION VI	ASSIGNED S/T NOS.
XIM	IMPERIAL	6100 — 6149
XIN	INYO	6150 - 6174
XMN	MONO	6175 - 6199
XRI	RIVERSIDE	6000 - 6099
XBO	SAN BERNARDINO	6200 - 6299
XSD	SAN DIEGO	6400 - 6499
	NOT ALLOCATED	6300 - 6399 6500 - 6599
USF	U.S. FOREST SERVICE	6600 - 6699
BLM	BUREAU OF LAND MANAGEMENT	6700 - 6719
FWS	FISH AND WILDLIFE SERVICE	6720 - 6739
BIA	BUREAU OF INDIAN AFFAIRS	6740 - 6759
NPS	NATIONAL PARK SERVICE	6760 - 6779
DOI	DEPARTMENT OF INTERIOR, RESERVED FOR FUTURE EXPANSION	6780 - 6799
	OTHER	6715 - 6799
OES	OFFICE OF EMERGENCY SERVICES	6800 - 6899
	NOT ALLOCATED	6900 - 6999
CDF	CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION	See Appendix B

MUTUAL AID REGION VI NUMBER LISTING FOR OES STRIKE TEAMS

AGENCY DESIGNATOR	OPERATIONAL AREA	ASSIGNED S/T NOS.
OES	IMPERIAL COUNTY	6810 - 6814
OES	INYO COUNTY	6815 - 6816
OES	MONO COUNTY	6817 - 6819
OES	RIVERSIDE COUNTY	6800 - 6809
OES	SAN BERNARDINO COUNTY	6820 - 6829
OES	SAN DIEGO COUNTY	6840 - 6849
OES	REGION VI	6860 - 6899

APPENDIX B

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION STATEWIDE NUMBER LISTING (STRIKE TEAMS/ TASK FORCES)

AGENCY DESIGNATOR	CDF SACRAMENTO		ASSIGNED S/T NOS.
CDF			9000 – 9099
		UNALLOCATED	9500 – 9599
			9600 – 9699
			9700 - 9799
			9800 – 9899
			9900 - 9999

CDF COAST CASCADE REGION

AGENCY DESIGNATOR			ASSIGNED S/T NOS.
RCC		CREWS	9196 - 9199
			9272 - 9273
			9294 - 9297
		DOZERS (RENTAL)	9100 - 9109
			9200 - 9209
		UNALLOCATED	9150 - 9159

CDF COAST CASCADE REGION
COAST AREA (9100-9199)

AGENCY DESIGNATOR	RANGER UNIT		ASSIGNED S/T NOS.
HUU	HUMBOLDT - DEL NORTE	ENGINES	9120 - 9127
		DOZERS	9128 - 9129
		CREWS	9184 - 9187
			9192 – 9193
LNU	SONOMA-LAKE-NAPA	ENGINES	9130 - 9137
			9140 - 9147
		DOZERS	9138 - 9139
			9148 - 9149
		CREWS	9180 – 9183
MEU	MENDOCINO	ENGINES	9110 - 9117
		DOZERS	9118 - 9119
		CREWS	9170 - 9171
			9194 - 9195
SCU	SANTA CLARA	ENGINES	9160 - 9167
		DOZERS	9168 - 9169
CZU	SAN MATEO-SANTA CRUZ	ENGINES	9170 - 9177
		DOZERS	9178 - 9179
		CREWS	9188 - 9199

CDF COAST CASCADE REGION
CASCADE AREA (9200-9299)

AGENCY DESIGNATOR	RANGER UNIT		ASSIGNED S/T NOS.
BTU	BUTTE	ENGINES	9210 - 9217
		DOZERS	9218 - 9219
		CREWS	9270 - 9271
LMU	LASSEN - MODOC	ENGINES	9220 - 9227
		DOZERS	9228 - 9229
		CREWS	9276 – 9277
			9282 – 9283
			9292 - 9293
NEU	NEVADA - YUBA - PLACER	ENGINES	9230 - 9237
		DOZERS	9238 - 9239
		CREWS	9278 - 9279
SHU	SHASTA - TRINITY	ENGINES	9240 - 9247
		DOZERS	9248 - 9249
		CREWS	9286 - 9289
SKU	SISKIYOU	ENGINES	9260 - 9267
		DOZERS	9268 - 9269
		CREWS	9280 - 9281
TGU	TEHAMA - GLENN	ENGINES	9250 - 9257
		DOZERS	9258 - 9259
		CREWS	9274 – 9275
			9284 – 9285
			9290 - 9291

AGENCY DESIGNATOR	CDF SIERRA SOUTH REGION	ASSIGNED S/T NOS.
RSS	CREWS	9380 - 9381
		9478 - 9479
		9486 - 9487
	DOZERS (RENTAL)	9300 - 9309
		9400 - 9409
	UNALLOCATED	9320 - 9329
		9360 - 9369

CDF SIERRA SOUTH REGION
SOUTH AREA (9300-9399)

AGENCY DESIGNATOR	RANGER UNIT		ASSIGNED S/T NOS.
RRU	RIVERSIDE	ENGINES	9310 - 9317
		DOZERS	9318 - 9319
		CREWS	9374 - 9375
			9382 - 9383
			9390 - 9391
BDU	SAN BERNARDINO	ENGINES	9350 - 9357
		DOZERS	9358 - 9359
		CREWS	9370 - 9373
			9384 - 9385
			9388 - 9389
SLU	SAN LUIS OBISPO	ENGINES	9340 - 9347
		DOZERS	9348 - 9349
		CREWS	9394 - 9399
MVU	SAN DIEGO	ENGINES	9330 - 9337
		DOZERS	9338 - 9339
		CREWS	9376 - 9379
			9386 - 9387
			9392 - 9393

CDF SIERRA SOUTH REGION
SIERRA AREA (9400-9499)

AGENCY DESIGNATOR	RANGER UNIT		ASSIGNED S/T NOS.
AEU	AMADOR - EL DORADO	ENGINES	9450 - 9457
		DOZERS	9458 - 9459
		CREWS	9482 - 9485
FKU	FRESNO - KINGS	ENGINES	9430 - 9437
		DOZERS	9438 - 9439
		CREWS	9474 - 9475
MMU	MADERA-MARIPOSA-MERCED	ENGINES	9420 - 9427
		DOZERS	9428 - 9429
		CREWS	9470 - 9471
BEU	SAN BENITO - MONTEREY	ENGINES	9460 - 9467
		DOZERS	9468 - 9469
		CREWS	9488 - 9489
TUU	TULARE	ENGINES	9410 - 9447
		DOZERS	9418 - 9419
		CREWS	9472 - 9473
TCU	TUOLUMNE - CALAVERAS	ENGINES	9440 - 9447
		DOZERS	9448 - 9449
		CREWS	9476 - 9477
			9480 - 9481

APPENDIX C

UNITED STATES FOREST SERVICE
STATEWIDE NUMBER LISTING (STRIKE TEAMS / TASK FORCES)

AGENCY DESIGNATOR	MUTUAL AID REGION I	ASSIGNED S/T NOS.
ANF	ANGELES	1600 - 1649
LPF	LOS PADRES	1650 - 1699

AGENCY DESIGNATOR	MUTUAL AID REGION II	ASSIGNED S/T NOS.
SRF	SIX RIVERS	2600 - 2649
LPF	NOT ALLOCATED	2650 - 2699

AGENCY DESIGNATOR	MUTUAL AID REGION III	ASSIGNED S/T NOS.
KNF	KLAMATH	3600 - 3614
LNF	LASSEN	3615 - 3629
MDF	MODOC	3630 - 3644
MNF	MENDOCINO	3645 - 3659
PNF	PLUMAS	3660 - 3674
SHF	SHASTA-TRINITY	3675 - 3689
	NOT ALLOCATED	3690 - 3699

AGENCY DESIGNATOR	MUTUAL AID REGION IV	ASSIGNED S/T NOS.
ENF	EL DORADO	4600 – 4629
STF	STANISLAUS	4630 – 4659
TNF	TAHOE	4660 – 4689
TMU	LAKE TAHOE BASIN MANAGEMENT UNIT	4690 – 4695
	NOT ALLOCATED	4696 - 4699

AGENCY DESIGNATOR	MUTUAL AID REGION V	ASSIGNED S/T NOS.
SNF	SIERRA	5600 – 5649
SQF	SEQUOIA	5650 - 5699

AGENCY DESIGNATOR	MUTUAL AID REGION VI	ASSIGNED S/T NOS.
BDF	SAN BERNARDINO	6600 – 6630
CNF	CLEVELAND	6631 - 6659
INF	INYO	6660 - 6689
	NOT ALLOCATED	6690 - 6699

APPENDIX D

UNITED STATES DEPARTMENT OF INTERIOR
STATEWIDE NUMBER LISTING (STRIKE TEAMS / TASK FORCES)

BLM

AGENCY DESIGNATOR	MUTUAL AID REGION III	ASSIGNED S/T NOS.
NOD	NORTHERN CALIFORNIA DISTRICT	3700 - 3719

AGENCY DESIGNATOR	MUTUAL AID REGION V	ASSIGNED S/T NOS.
BBD	BAKERSFIELD DISTRICT	5700 - 5719

AGENCY DESIGNATOR	MUTUAL AID REGION VI	ASSIGNED S/T NOS.
CDD	CALIFORNIA DESERT DISTRICT	6700 - 6719

SAO SACRAMENTO AREA OFFICE
BIA

AGENCY DESIGNATOR	MUTUAL AID REGION III	ASSIGNED S/T NOS.
NCA	NORTHERN CALIFORNIA AGENCY	3740 – 3759

AGENCY DESIGNATOR	MUTUAL AID REGION V	ASSIGNED S/T NOS.
CCA	CENTRAL CALIFORNIA AGENCY	5740 - 5759

AGENCY DESIGNATOR	MUTUAL AID REGION VI	ASSIGNED S/T NOS.
SCA	SOUTHERN CALIFORNIA AGENCY	6740 - 6759

Resource Designation System

Give resource designators to the following strike teams

1. Engines Type 1, all OES owned equipment from Mutual Aid Region I

2. Engines Type 1, from Ventura County Mutual Aid Region I

3. 3 Engines Type 3, from CDF Riverside Unit and 2 Engines Type 3, from CDF San Diego Unit

4. Crest incident formed dozer strike team
   1 Dozer Type 2, privately owned
   1 Dozer Type 2, from L.A. Co. F.D.
   1 Dozer tender, from Santa Barbara Co. F.D.

5. Sage Incident formed Task Force
   1 Engine Type 1, from LAC
   1 Engine Type 1, from LFD
   1 Dozer Type 2, from LAC

6. Engines Type 3, from Cleveland National Forest

Unit 2 – Topic 4

Pre-Dispatch Preparation

2-4-1

Pre-Dispatch Preparation Objectives

A. Know what to include in your ST/TFL kit
B. Know what items to carry in your personal kit
C. Ensure that resources are ready with adequate supplies for self sufficiency out of their area
D. Initiate and/or participate in readiness exercises designed to evaluate your mobilization capabilities

2-4-2

Pre-Dispatch Preparation Objectives

5. Describe proper formation and communication procedures

2-4-3

Pre-Dispatch Preparation

A. Assemble a kit for an assignment
   1. Kit should be assembled prior to receiving an assignment
   2. The kit should contain enough critical information and materials to allow you to operate for the first 24 hours without the need for support
   3. The kit should be easily transportable and meet agency weight limitations for travel

2-44

Pre-Dispatch Preparation

A. Assemble a kit for an assignment (cont)
   4. Your kit should be geared for the management of your team. You should also have a kit for personal items
      a) Out of county/area/state bag

Show an example of a ST/TFL Kit (optional)

2-45

Pre-Dispatch Preparation

B. Strike Team Leader kit contents
   1. Forms and documents
      a) Financial documents
         1) Purchase orders
         2) Credit cards
      b) Vehicle activity records
      c) Injury/accident reports (for vehicle and personnel)
      d) Time keeping records
      e) Staffing/equipment information sheets
      f) Inventory sheets
      g) Vehicle safety inspection
      h) OES documents

2-46

Pre-Dispatch Preparation

B. Strike Team Leader kit contents (cont)
   2. Maps and mileage charts
      a) GPS
      b) Compass
   3. Portable radio
      a) Spare batteries
      b) Chargers
      c) Programmer
      d) Cloning cable

2-4-7

Pre-Dispatch Preparation

B. Strike Team Leader kit contents (cont)
   4. Field Operations Guide (FOG)
   5. Agency specific and all-risk guides
      a) Fireline Handbook
      b) Interagency Response Guide
      c) Earthquake Plan
      d) Hazmat guides
      e) Flood Fighting Methods guide

2-4-8

Pre-Dispatch Preparation

B. Strike Team Leader kit contents (cont)
   6. Unit logs (ICS Form 214)
   7. Office supplies
      a) Notebooks/pads
      b) Pencils
      c) Colored pens
      d) Paperclips, etc.

2-4-9

Pre-Dispatch Preparation

B. Strike Team Leader kit contents (cont)
   8. Strike Team identifiers
      a) Pre-made cardboard
      b) White shoe polish
   9. Regional phone directory

2-4-10

Pre-Dispatch Preparation

B. Strike Team Leader kit contents (cont)
   10. Belt Weather Kit
      a) Other electronic devices
   11. It is important to keep your kit updated with current information concerning federal/state laws and safety guidelines

(What about agency specific items?)

2-4-11

Pre-Dispatch Preparation

C. Personal kit
   1. Spare change of clothes/uniforms
   2. Personal items
      a) Medicine
      b) Hygiene
   3. Sleeping bag
   4. Throw tent or compact tent / tarp – one for each person
   5. Money/Credit card for personal purchases
   6. Personal first aid kit

2-4-12

Pre-Dispatch Preparation

D. Engine kits
   1. In addition to the STL kit and your personal kit, engines should consider
      a) Tarps / extra blankets
         1) Cold / wet conditions
      b) Food supply
         1) For up to 72 hours
         2) MRE's
         3) Smokey Snacks
         4) Other non-perishables
      c) Camping items
         1) Nylon cord
         2) Insect repellant
         3) Mats, etc.

2-4-13

Pre-Dispatch Preparation

E. Pre-season readiness training
   1. Pre-season drills are an excellent measure of readiness for a ST/TF
   2. If your agency/unit does not initiate this type of training, consider suggesting or implementing yourself

2-4-14

INCIDENT RESPONSIBILITIES

Unit 3
Topic 1

Administration

Objectives

A. Have a working knowledge of a ST/TFL's administrative responsibilities regarding personnel issues
B. Understand the scope of a ST/TFL's responsibilities if a significant event, such as a burn-over, injury or fatality should occur involving the ST/TF

Objectives

C. Know a ST/TFL's administrative function regarding equipment and property issues
D. Be familiar with the types of agreements a ST/TF may be operating under on any given incident

Personnel Considerations

A. Personnel manifest
   1. Name and last 4 numbers of Social Security
   2. Agency
   3. Rank / Classification
   4. Personnel qualifications

Refer students to Strike Team Engine & Crew Data Sheet in Appendix B (Job Aids), in the Student Manual

Personnel Considerations

B. Changing of personnel
   1. Staffing/crew changes on apparatus must be coordinated with the ST/TFL to ensure it does not interfere with incident objectives

Personnel Considerations

2. Ramifications of not coordinating personnel changes
   a) Interrupts the incident objectives
   b) Interrupts operational continuity
   c) Interrupts the interpersonal dynamics that have been developed
   d) Personnel are not properly briefed on
      1) Assignment
      2) Safety considerations

Personnel Considerations

C. Notifications
   1. Routinely contact your home agency to keep them informed of personnel status
   2. Maintain daily contact with your AREP
      a) Especially with any significant changes in your status

Personnel Considerations

D. Finance
   1. ST/TFL's need to ensure that all personnel update their pay documents daily
   2. Pay documents
      a) OES F-42 – Emergency Activity Record
      b) CDF FC-33 – Overhead/Crew/Equipment Report
      c) CDF FC-33A – Fire Crew Activity Record
      d) USFS SF-261 – Crew Time Report

Refer to Student Information Sheet 3-1-1, Pay Documents, in the Student Manual

Personnel Considerations

E. Documentation
   1. Maintain Unit Log daily
   2. Personnel evaluations
      a) Needed only for those completing Position Task Books or by individual request
      b) Completed by immediate supervisor

Personnel Considerations

c) Evaluation forms
   1) ICS Form 224 – Crew Performance Rating
   2) ICS Form 225 – Incident Personnel Performance Rating

Refer to Student Information Sheet 3-1-2, Performance Rating Documents, in the Student Manual

Significant Events

A. Shelter deployment / burn-over
   1. Notification
      a) Immediate supervisor
      b) Safety Officer (SOF)
      c) AREP

Significant Events

A. Shelter deployment / burn-over
   1. Notification (cont)
      d) Include
         1) Nature of event
         2) Location
         3) Magnitude
         4) Personnel involved
            - No names over radio
         5) Initial action taken

Significant Events

2. Provide medical treatment
   a) Follow the Medical Plan ICS Form 206
3. Assemble the ST/TF
   a) The ST/TFL will gather accurate basic information

Significant Events

b) Advise ST/TF personnel against personal communications with anyone outside the incident until appropriate notifications have been made
   1) Cell phone calls home may cause unnecessary alarm
   2) All media contact will be handled by the incident Information Officer (IOF)

Significant Events

4. Preserve incident scene
   a) Flag area to prevent entry
   b) Do not disturb or remove anything from the scene
      1) This is critical to the chain-of-custody

Significant Events

5. Coordination
   a) The ST/TFL will coordinate with the AREP, Liaison Officer, or IC prior to making notification to the sending unit
      1) Required notification – OSHA
      2) Families – Personal contact

Significant Events

b) The ST/TFL, in conjunction with the incident, may coordinate the establishment of a Liaison at the medical facility
   1) Consider using a local fire department to Liaison for you
   2) Transition to agency specific liaison as soon as possible
   3) This position is key to obtaining information on patient status

Significant Events

c) IOF
   a) To take care of media issues

Significant Events

6. Major accident investigation
   a) The ST/TF will be placed on out-of-service status
      1) This is due to personnel concerns
      2) Necessary for investigation
   b) Involved personnel will be interviewed

Significant Events

7. Strike Team support after the incident
   a) Liaison / IC
   b) AREP
   c) Liaison at receiving medical facility
      1) Fire department contact for family
   d) Critical Incident Stress Management (CISM)
      1) The ST/TFL may need to coordinate CISM with the incident and/or the sending agency

Significant Events

8. Finance
   a) Workers Comp forms
      1) Compensation/Claims Unit
9. Documentation
   a) Unit Log
   b) Additional documentation as required

A separate incident number may be generated, requiring additional documentation for cost tracking.

Significant Events

B. Personnel injury / exposure
   1. Notification
   2. Provide medical treatment
   3. Assemble the ST/TF
   4. Preserve incident scene, based upon the severity of the incident
   5. Coordination

Significant Events

6. Major accident investigation, if applicable
7. Strike Team support after the incident
8. Finance
9. Documentation
   a) Exposure report forms

A separate incident number may be generated, requiring additional documentation for cost tracking. For example, a serious burn victim will be at a burn center for an extended period of time.

Significant Events

C. Fatality Incidents
   1. Notification
   2. Assemble the ST/TF

Significant Events

3. Preserve incident scene
   a) Flag area to prevent unauthorized entry
   b) Maintain uninterrupted scene security
      1) Utilize uninvolved personnel
   c) Do not disturb or remove anything from the scene
      1) This is critical to the chain-of-custody

Significant Events

4. Coordination
   a) The ST/TFL must coordinate with the AREP, Liaison Officer or IC regarding notification to the sending unit
      1) Required notifications
      2) Families should be contacted in person by appropriate officials
         - ST/TFL will not make family notifications

Significant Events

3) Coroner
   - Sending agency must coordinate with the Coroner's Office to prevent duplication of activities and notification (especially to families)

4) IOF
   - To take care of all press releases and statements relating to the incident

Significant Events

5. Major accident investigation
   a) There will be multiple agencies involved

Significant Events

6. Strike Team support after the incident
   a) Liaison / IC
   b) AREP
   c) Critical Incident Stress Management (CISM)
      1) The ST/TFL may need to coordinate CISM with the incident and/or the sending agency
      2) Ensure that your ST/TF personnel are taken care of

Significant Events

8. Finance
   a) Workers Comp forms
      1) Required for fatalities
9. Documentation
   a) Unit Log
   b) Additional documentation as requested

A separate incident number may be generated, requiring additional documentation for cost tracking.

Equipment / Property Considerations

A. Apparatus/equipment damage
   1. Report to DIVS if on line assignment, Comp/Claims Unit if in Base Camp
      a) Vehicle accident – use State form STD 270 or agency specific form
      b) Incident will only pay for that which is documented and approved
      c) AREP or Liaison should be involved

Refer to Student Information Sheet 3-1-3, State of California Vehicle Accident Report (STD270)

Equipment / Property Considerations

d) If equipment lost or damaged cannot be replaced by incident supply, make sure you have appropriate authorization and paperwork for purchase later
e) Document

Equipment / Property Considerations

2. Private property damage
   a) Notify DIVS if on line assignment, Comp/Claims when in Base Camp
      1) Obtain owners name, address, etc.
      2) Nature of event
      3) Location
      4) Magnitude
   b) Document

Equipment / Property Considerations

B. Equipment Time
   1. The ST/TFL may be required to sign and verify shift tickets for equipment time
      a) You should only be responsible for those resources assigned to you
      b) Refer others to DIVS

Refer to Student Information Sheet 3-1-4, Shift Tickets in the Student Manual

Agreements

A. There is an array of agreements at various levels of governments and between agencies that allow for and provide assistance during times of emergencies
   1. Mutual Aid
      a) Assistance rendered free of charge
         1) Non-reimbursable
         2) Generally a short duration assignment

Agreements

   2. Assistance by Hire
      a) Assistance paid for (reimbursed) by the user
   3. Local agreements
      a) Voluntary, between two or more local entities that describe the initial responses to incidents occurring within adjoining areas or in areas of close proximity
      b) The agreements will determine whether the responses are Mutual Aid or Assistance by Hire

Agreements

4. Cooperative Fire Protection Agreement or 4-Party Agreement
   a) Between CDF, USFS, BLM and the NPS (collectively known as the Forest Agencies)
   b) Though the missions of these agencies differ, they acknowledge one another's objectives, authorities and policies in order to minimize the potential exposure impact of a wildland fire on intermingled or adjacent lands, involving any combination of these agencies

Agreements

5. Direct Protection Area (DPA)
   a) An area delineated by boundaries regardless of statutory responsibility, where the protection is assumed by administrative units of either Federal or State agencies
   b) The agency with the direct protection responsibility, known as the Protecting Agency, has assumed both fire suppression and fiscal responsibility as agreed

Agreements

6. California Fire Assistance Agreement (formerly called the 5-Party agreement)
   a) Used by the Forest Agencies in times of severe wildfire conditions, when local government apparatus are needed to provide structural protection or to supplement their respective agency-controlled resources to aid in the suppression effort
   b) The agreement makes OES and/or various local government jurisdiction's emergency apparatus available for dispatch through the State Fire & Rescue Mutual Aid System

EMERGENCY ACTIVITY RECORD (Revision 6/2000)

1. Agency Designator					2. Strike Team/Task Force #								3. Incident Order Number										4. Incident Request Number									
State		3 Letter ID			3 Letter ID			Number				Ltr	State		3 Letter ID			Number						3 Letter ID			ID	Number				

5. Dispatch Information:

Incident Name: _____

Reporting Location: _____

To: ☐ Incident ☐ Complex ☐ Mobilization Center (Not Staging Area)

Committed to Incident: Time (24 hr): _____ Date: _____

Return from Incident: Time (24 hr): _____ Date: _____

Redispatched: Time (24 hr): _____ Date: _____

6. Redispatched Information: (Start new F-42 if redispatched)

NEW Incident Order Number						NEW Request Number				
State		3 Letter ID			Number	3 Letter ID			ID	Number

7. Overhead Information: ST(TF) Leader / ST(TF) Leader (Trainee) / Overhead Trainee REQUIRE a separate OES F-42 and "O" Request Number

☐ Strike Team Leader or Task Force Leader ☐ Strike Team Leader or Task Force Leader (Trainee)

☐ Overhead Position (ICS Title): _____

8. Support Vehicle Information: ST(TF)Leader / Overhead / Support Vehicle

Vehicle Ownership: ☐ Agency ☐ Privately Owned Vehicle ☐ CDF/OES Vehicle

License or VIN: _____

(Check One Only) ☐ Sedan ☐ Van ☐ Pick-up 2x4 ☐ Pick-up 4x4

☐ S.U.V. Other: _____

9. Privately Owned Vehicles Only:

Beginning Odometer:	Ending Odometer:	Total Miles:

10. Equipment Resource Information:

Unit No.: _____ Radio Call Sign: _____ ☐ CDF/OES Vehicle

Fire Engine or _____ (i.e. Water Tender, Air Crash Rescue, etc.) Type: ☐ 1 ☐ 2 ☐ 3 ☐ 4

License or VIN/Serial #: _____ Engine Horsepower: _____

11. Personnel Information:

Number of Personnel on Apparatus: _____

Name (Last Name First)	Classification/Rank	Last 4 Digits of SSN	CDF

12. Comments: (Division Assignments, Reassignments, Equipment Breakdowns, Crew size Change, Etc.)

Date/Time	

13. Responding Agency Information:

Agency/Department Name:

Signature: _____ Title: _____

Printed Name:

14. Incident Information:

☐ CDF ☐ USFS ☐ BLM ☐ NPS ☐ Other

Time Unit Signature: _____ ICS Position/Title: _____

Printed Name:

Distribution: WHITE: OES Fire and Rescue, 2900 Meadowview Road, Sacramento, CA 95832-1499 (916) 262-1885 PINK: Incident Finance Section GOLDENROD: Responding Agency

DSP 01 50971 PLEASE PROVIDE EXPLANATION OF ANY CHANGES OR CORRECTIONS, PRINT NAME, TITLE AND SIGN OES F-42 (Rev 6/2000)

INSTRUCTIONS FOR THE EMERGENCY ACTIVITY RECORD (FORM-42)

1. AGENCY DESIGNATOR: The State Two-Letter Designator will need to be completed for the first two blocks as follows (CA, NV, AZ, OR). The next three blocks are for your department's Three-Letter Identifier as listed in the Field Operations Guide (FOG) ICS 420-1, Appendix B. Do NOT use the Operational Area (County) code (XLA, XOR).

2. STRIKE TEAM/TASK FORCE NUMBER: Unique identifier for each Strike Team/Task Force assigned at time of dispatch. (Example: OES-1801-A, XAL-2004-A)

3. INCIDENT ORDER NUMBER: A unique identifier assigned to each incident. Assigned at time of incident occurrence, includes the two-letter State Designator. (Example: CA-ANF-143721)

4. INCIDENT REQUEST NUMBER: A unique identifier for the resource requested for the incident.

5. DISPATCH INFORMATION: "Incident Name and Reporting Location is the name and location of the incident. "Complex" is the term applied to a series of large fires or incidents in close proximity. "Mobilization Center" is an off-incident location where personnel and equipment are temporarily located pending assignment, release or reassignment.

   COMMITTED: Time and Date resource responded to the incident, complex or mobilization center. Use military time.
   RETURN: Time and Date resource will arrival at its final destination. Use military time.
   REDISPATCHED: If resource was redispatched to another incident/mobilization center before returning to home station, do not fill in return time. Indicate Time and Date redispatched, new incident & request numbers, and start a new OES F-42. Note: This information is vital to process payment. Ensure all information is correct. Use military time.

6. REDISPATCHED INFORMATION: REQUIRED if a resource is redispatched. Enter the new order and request number and start a new OES F-42 with the new order and request numbers.

7. OVERHEAD INFORMATION: Required for overhead/STL/TF positions. If the Overhead box is checked please use the ICS position title. Each overhead/trainee positions require a separate F-42 and request number.

8. SUPPORT VEHICLE: To be completed by Leader/Overhead/Support personnel that required the use of a support vehicle at the incident. Payment is based on the type. Be sure to check the appropriate boxes for your vehicle. The "other" box is to be used when the vehicle being described is not covered by the listed boxes (i.e. utility, etc.). The other information required in this section is the agency that owns the unit, the License or VIN, and if the vehicle is owned by CDF or OES.

9. PRIVATELY OWNED VEHICLE INFORMATION: Enter the beginning odometer reading at the time of commitment and the ending odometer reading at the time of return or redispatch from the incident. Enter the totals miles traveled. Payment is based on mileage.

10. EQUIPMENT RESOURCE INFORMATION: Complete all the information requested. Use the Field Operations Guide (FOG) ICS 420-1, Chapter 11, for reference as to the typing of Engines/Rescue/Equipment. Please remember that not all equipment has a license plate number, therefore, a VIN or if no VIN then a serial number will be required on equipment without a plate number. Payment is based on Horsepower of equipment.

11. PERSONNEL INFORMATION: Enter the number of personnel claimed. List the name and rank of all personnel, including the last 4 digits of their social security number. Identify CDF personnel as Schedule A (Sch A), Schedule B (Sch B) or Paid Call Fire Fighter (PCF).

12. COMMENTS: Use this section to provide general information about how your resource was utilized on the incident (e.g. division assignments), and to describe any out-of-service status such as equipment breakdown. If additional comment space is required, attach an ICS-214 Unit Log.

13. RESPONDING AGENCY INFORMATION: To be completed by the person responding.

14. INCIDENT INFORMATION: This must be signed by the time unit or designated personnel.

PLEASE PROVIDE EXPLANATION OF ANY CHANGES OR CORRECTIONS, PRINT NAME, TITLE AND SIGN

FC-33 OVERHEAD CREW EQUIPMENT REPORT
STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
(REV. 1/14/92)

(1) ORDER NUMBER	(2) REQUEST	(3) FIRE NUMBER	(4) RESOURCE IDENTIFICATION OR OVERHEAD ASSIGNMENT

(5) DATE AND TIME COMMITTED	(6) DATE AND TIME RETURNED	(7) HOME UNIT	(8) ATTACHMENTS	(9) DOCUMENT #
		R.U.	PAGE OF	

(10) EQUIPMENT IDENTIFICATION				(11) EQUIPMENT HOURS AND MILEAGE					
ORGANIZATION	RADIO NUMBER	I.D. NUMBER	DESCRIPTION	VEHICLE PUMP	PORTABLE PUMP	BULLDOZER	SAW	MISC	MILES

(12) PERSONNEL SUMMARY				DUTY SCHEDULE							ID NUMBER (SS #)	GRAND TOTAL	
#	ORG.	FULL NAME	CLASS	MO	TU	WE	TH	FR	SA	SU		S.T.	O.T.
1													
2													
3													
4													
5.													
6.													
7													
8.													
9.													
10													
11.													
12													

(15) REMARKS:

IF SPO/DPV ISSUED, GIVE DETAILS AND CHECK ☐ AMEMDED COPY ☐

PRINT TIME RECORDER'S NAME →

(13) DOES INCIDENT END BEFORE START OF NEXT **DUTY DAY?**

YES ☐
** **STOP** **
GO TO BLOCK 15

NO ☐
GO TO BLOCK 14

(14) ACTIVITY RECORD

#																				TOTAL THIS PAGE		TOTAL ATTD. PAGES	
	S.T.	O.T.	ST.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	OT	ST	OT.	ST	OT	ST	OT	S.T.	O.T.	S.T.	O.T.
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12.																						

DAILY EQUIPMENT USE	MILEAGE											
	VEHICLE PUMP											
	PORTABLE PUMP											
	BULLDOZER											
	SAW/MISC.											
ACTIVITY →→→												

A) Complete POLICY AND PROCEDURES found in the Incident Fiscal Management Handbook (Chapter 3800)
B) FC-33's are mandatory for **ALL FIRES** (except Schedule A employee responding to Schedule A fires) **AND OTHER REIMBURSEABLE INCIDENTS.** Regions or Units may require FC-33's for other type incidents, including Schedule A resources.
C) All units and personnel involved with an incident will be shown on an FC-33. This includes units and personnel diverted or canceled from an incident
D) Each Company Officer/Overhead/Support Staff will be responsible to initiate, update, and ensure completion of an FC-33.
E) **Original FC-33's will be submitted to the person or function responsible for Time Recording.**
F) The Company Officer/Overhead/Support Staff is responsible for returning the copy of the FC-33 to their respective home base for retention.
G) **INITIAL ATTACK (IA) INCIDENTS:** An FC-33 will be completed and totaled. The **Original** will be turned into the IC or his designee prior to leaving the incident. Units/personnel canceled or diverted will submit the **original** to the person/unit responsible for the Fire Report. If that person/unit is not known the **original** will be submitted to the Incident Unit ECC **There are no staff exempted from this procedure**

NOTE: for IA complete only the HEADING, RESOURCE ID, EQUIPMENT ID, PERSONNEL SUMMARY, TOTAL EQUIPMENT HOURS, REMARKS (if necessary) AND TIME RECORDER.

H) **MAJOR INCIDENTS (Finance Section or Personnel Time Recorder activated):** fill in the appropriate heading, RESOURCES ID, EQUIPMENT ID, PERSONNEL SUMMARY, AND SPO/DPV - REMARKS Block and turn in all copies of the FC-33 to the Personnel Time Recorder by the end of the first work shift and upon your return to Incident Base. There are no staff exempted from this procedure

1) **Check in with the Personnel Time Recorder a minimum of once every 24 hours.** Normally when you complete an on duty Operational Period. Be prepared to tell the Personnel Time Recorder your activities, assignments, equipment use times, and mileage for the last 24 hours.
2) **During DEMOB, Check-out with the Personnel Time Recorder just prior to release** and as the final time to put the unit into full service, and administrative cleanup time to complete all necessary paper work relating to and chargeable to the incident.

I) **SUPPORT STAFF:** Complete an FC-33. An Incident Number and Request Number are required. Submit to your supervisor for verification and submit the original to the incident Unit ECC or person/function responsible for the Fire Report.

FC-33 INSTRUCTIONS

A) Complete FC-33 INSTRUCTIONS are found in the Incident Fiscal Management Handbook (Chapter 3800).

B) **Complete form in pencil. If more than one page is needed, number all pages consecutively.** (All totals for personnel and equipment will be recorded/totaled on page one).

C) **HEADINGS: ORD #** - Three letter unit designator and assigned number. **REQ #** - Alpha/Numeric number assigned to the request for your unit or position. **FIRE NUMBER** - Fire number given to the incident. **RESOURCE ID** - Station/Crew name or number given to unit; "Cambria 1" "San Luis BDU" etc. OVERHEAD - Indicate fire line assignment. **Strike Team/Task Force Leaders enter ST/TF # here.** Resources assigned to ST/TF also enter ST/TF # here.

D) **DATE/TIME COMMITTED** - Calendar date and military time dispatched. **DATE/TIME RETURNED** - Calendar date and military time returned or diverted. HOME UNIT - fill in the three-letter designator for your unit. **DOC NO.** - Used to assign individual number to each document for FC-40

E) **EQUIPMENT ID: ORG** - Organization "A", "B", "C", "OES", "CDC", "CYA", CORNING CITY, etc. **RADIO #** - Radio number of unit riding in 3502, 2514, 2740, 1166, OES 205, E-10, etc. **ID #** - "X" number or license number. **DESCRIPTION** - CDF Model No. or ICS type, if applicable, or clearly IDF sedan, pickup 4X4, grader, front-end loader, etc. VEHICLE PUMP - **PUMP HOURS** - Total number of pump time by type. **DOZER HOURS** - Total bulldozer hours, if applicable. **SAW/MISC HRS** - Total hours of chain saw or misc. equipment. Show misc. equipment type in Remarks. **MILEAGE:** Total accumulation of miles on incident.

F) **PERSONNEL SUMMARY:** ORG - "A", "B", "C", CDC, CYA, etc. **FULL NAME** - Last Name, first name, middle initial. **CLASS** - Civil service title or organizational designation FC, FAE, Volunteer - VOL., Paid Call Firefighter - PCF, etc. **DUTY SCHEDULE** - Hours scheduled for duty for each day; include work, standby, on call. 8, 10, 12, 19, 24. Circle any "swing day." ST - Total straight time worked on incident. **OT** - Total overtime worked on incident. **EMPLOYEE ID** - Last four digits of employee's social security number.

G) **ACTIVITY RECORD: DATE** - Month, columns show date and day of week. **START/STOP TIME** - enter time of dispatch or coming on/off duty day. Duty day is normally from 0800 to 0800 the next day. If you have an approved duty day other than 0800 to 0800, show the schedule hours/times in the **REMARKS** Block. Use Military Time during the time period noted in the Start/Stop column. **ACTIVITY** - Operational period assignment or duties. Show differences in REMARKS. I.e., off duty 2300-0500. Changed from Div. A to Div. C 1500 hrs., etc. **DAILY EQUIP USE** - Show daily mileage and pump, dozer, chain saw, or misc. equip. times for each day. Round up to whole hours. Total across and record in Equipment ID Section. **SEE ACTIVITY RECORD EXAMPLE AT BOTTOM OF INSTRUCTIONS.**

H) **REMARKS:** Use for data entry not otherwise shown or explained on FC-33. **SPO/DPV** Issued - Check box if you have issued any SPO/DPV Documents while enroute to this incident. Show Document Number, amount, vendor, location, and disposition of the document, I e , "Mailed to Home Unit", "Turned into Finance", etc. AMENDED COPY - If an amended copy, be sure to check box

I) **TIME RECORDER: Print the name of the person completing the FC-33.**

(14) ACTIVITY RECORD

	29 - Sun		30 - Mon		31 - Tue																				TOTAL THIS PAGE	
	1300	0800	0800	0800	0800	0800																				
#	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.	S.T.	O.T.
1	19		24		2																				45	-0-
2		19	12	12	2																				14	31
3	14	5	19	5		2																			33	12
4																										

STATE OF CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION **FIRE CREW ACTIVITY RECORD** FC-33A (REV. 5/92) (MSW 6/99)	**FIRE CREW ACTIVITY RECORD**	Doc. No.

ACTIVITY INFORMATION							**PAYROLL NAME**	**BILLABLE HOURS** REG.	PREM
UNIT:									
INC. NAME:									
ORDER NO: REQ. NO.: YEAR:									
CREW ACTIVITY									
ORG: CREW NAME & NO:									
LEADER'S NAME: NO. IN CREW:									
DISPATCHED		ARRIVED		RET HOME		TOTAL CREW HOURS			
DATE	TIME	DATE	TIME	DATE	TIME				
VEHICLE									
VEHICLE TYPE				ODOMETER					
RADIO NO.	I.D. OR X NO.:								
MILES TO	MILES ON	MILES RET.		END:					
				START:					
				TOT. MILES:					
SPECIAL EQUIPMENT									
TYPE OF EQUIPMENT	NO. OF EQUIP. DAYS	TOTAL HOURS							
							TOTAL BILLABLE HOURS		

ACTIVITY RECORD

DATE	NO OF PERSONS (1)	ON SHIFT (A)	OFF SHIFT (B)	SHIFT HOURS (B-A)	BILLABLE HOURS REG	PREM	SHIFT ASSIGNMENT (Job and Location)	VEH MILES	SPEC EQUIP TYPE NO.	HOURS
							TRAVEL TO ACTIVITY			
							TRAVEL FROM ACTIVITY			
(1) Explain changes in number:		TOTAL BILLABLE SHIFT HOURS:					TOTALS			

REMARKS: (Regions, Tools, Sleeping Bags, etc., used or lost)

Time Recorder	Incident Base Finance Chief

DISTRIBUTION: WHITE, YELLOW, (Home Camp), PINK (Finance Section Chief)

13.6 Exhibit 04

INSTRUCTIONS FOR COMPLETION OF CREW TIME REPORT, SF-261

Time shall initially be recorded on Crew Time Report, SF-261, see Exhibits 05 or 06, and transferred to the Emergency Firefighter Time Report, OF-288. An exception to this procedure could be where casuals are hired for one operational period and their on-shift time is recorded directly onto an OF-288. In this instance, the supervisor must sign the OF-288.

A CTR is prepared for each operational period as outlined below. Time must be reported in an accurate, legible fashion. At the end of the operational period, the original is given to the Time Unit. A copy is retained by the supervisor.

1. Crew Name. Use crew name or name of single resource.

2. Crew Number. Enter assigned crew number.

3. Office Responsible for Fire. Enter Incident Agency (appropriate federal, state, or local office).

4. Fire Name. Enter assigned incident name.

5. Fire Number. Enter incident order number, not "P" number (e.g., MT-LNF-016).

6. Remarks No. Enter number that corresponds to Remarks in Section 11.

7. Name of Employee. Self-explanatory.

8. Classification. Enter appropriate pay classification (AD-1 through AD-5, GS, WG, etc.).

13.6 Exhibit 04 - Continued

INSTRUCTIONS FOR COMPLETION OF CREW TIME REPORT, SF-261

9. Date. Enter month/day (8/3) in Date Block. Under Military Time Heading, enter military clock time for each period of on-shift time during the operational period.

10. Date. If the operational period involves two days, use column 10 as instructed in Number 9 above.

11. Remarks. Enter any pertinent information such as injury, discharge, transfer, position change, hazard/environmental differential, compensable meal break, etc. Include Remarks No. from Item 6.

12. Officer-in-Charge. Signature of incident supervisor.

13. Title. Officer-In-Charge. Self-exp lanatory (ICS position).

14. Name. Signature of person recording time on the Emergency Firefighter Time Report, OF-288.

15. Date. Date time recorded on OF-288.

NWCG AMENDMENT 00-1
EFFECTIVE 4/00

NWCG HB2, 13.6, Ex 02-13
Page 5 of 25

13.6 - Exhibit 05

CREW TIME REPORT, SF-261
Method 1

(1) Crew Name: Blackwell R.D. Engine				(2) Crew Number	
(3) Office Responsible for Fire: Vale District BLM		(4) Fire Name: Sun Creek		(5) Fire Number: OR-VDO-092	
(6) Re-Marks No	(7) Name of Employee	(8) Classification	(9) Date 8/8 Military Time On	(9) Off	(10) Date Military Time On	(10) Off
H	S. Burns	GS	0600	1900		
H	A. Brown	GS	0630	1900		
I	R. Wyatt	WG	0700	0930	T	

(11) Remarks

H - Hazard for uncontrolled fireline duty; unable
To take meal break
I - Wyatt traveled to incident to replace
F. Johnson who was injured on 8/6.
E - Env. Diff 25% for uncontrolled fireline
Duty; unable to take meal break

(12) Officer-in-Charge (Signature)	(13) Title (Officer-in-Charge)
Chris Port	*Div. Supv.*
(14) Name (Person posting to Emergency Time Report: *Michael Bell*	(15) Date: 8/8/XX

261-101

Standard Form 261 (5/78)
Prescribed by USDA-USDI (NWCG Handbook No.2)

NWCG AMENDMENT 00-1
EFFECTIVE 4/00

NWCG HB2, 13.6, Ex 02-13
Page 6 of 25

13.6 - Exhibit 06

CREW TIME REPORT, SF-261
Method 2

(1) Crew Name: SRV # 2			(2) Crew Number: #2			
(3) Office Responsible for Fire: Payette NF		(4) Fire Name: Airer Road		(5) Fire Number: ID-PNF-030		
(6)	(7)	(8)	(9)		(10)	
Re-Marks No	Name of Employee	Classification	Date: 8/8 Miltiary Time On	Off	Date: Military Time On	Off
	H. Castille	AD-4	2000	2400	0001	0800
	V. Reyes	AD-3				
	S. Hernandez					
2	J. Tracheta					
	A. Charez	AD-2	AD-2			
	F. Smith					
	J. Cadero					
	J. Cavez Jr.					
1	R. Fernandez					0600
	H. Valdez					0800
	G. Gusman					
3	Jose Valdez					0130

(11) Remarks

1 - Fernandez quit. No return travel or Transportation authorized.

2 - Tracheta to transfer to SRV # 4 at end of Shift.

3 - J. Valdez injured and transported to hospital Arrived hospital 0130. Admitted.

(12) Officer-in-Charge (Signature)	(13) Title (Officer-in-Charge)	
Joey LaRoecoa	Div. Supv.	
(14) Name (Person posting to Emergency Time Report		(15) Date
Laurie Walters		8/4/XX

261-101

Standard Form 261 (5/78)
Prescribed by USDA-USDI (NWCG Handbook No.2)

CREW TIME REPORT

(1) CREW NAME		(2) CREW NUMBER
(3) OFFICE RESPONSIBLE FOR FIRE	(4) FIRE NAME	(5) FIRE NUMBER

(6)	(7)	(8)	(9)		(10)	
RE-MARKS NO.	NAME OF EMPLOYEE	CLASSIF-ICATION	DATE Military Time ON	OFF	DATE Military Time ON	OFF

(11) REMARKS

(12) OFFICER-IN-CHARGE (Signature)	(13) TITLE (Officer-in-Charge)
(14) NAME (Person Posting to Emergency Time Report)	(15) DATE

261-101

STANDARD FORM 261 (5/78)
Prescribed by USDA-USDI (NWCG Handbook No. 2)

CREW PERFORMACE RATING	Instructions: This rating is to be used only for determining an individual's fire fighting qualifications. All blocks must be completed. Crew will be rated by the immediate supervisor, not crew respresentotive. If deficiencies are indicated for items 9 and 10, explain in item 11.	
1. Crew Name and Number	2. Fire Name and Number	3. Crew Boss *(name)*
4. Crew Home Unit and Address	5. Location of Fire *(complete address)*	
6. Crew Representative	7. Dates on Fire	8. Number of Shifts Worked

9. Crew Evaluation

Rating Factors	Excellent	Satisfactory	Deficient	Needs To Improve
Physical Condition				
Hot Line Construction				
Mop-Up				
Off Line Conduct				
Use of Safe Practices				
Crew Organization and Equipment				
Other (specify)				

10. Supervisory Performances

Crew Boss				
Squad Bosses				
Crew Representative				

11. Areas Needing Improvement

12. Names of Outstanding Workers *(comment)*

13. Names of Individuals Needing Improvement *(indicate area(s))*

14. Remarks

15. Crew Boss *(signature)* This rating has been discussed with me.			16. Date
17. Rated By *(signature)*	18. Home Unit *(address)*	19. Position of Fire	20. Date

INCIDENT PERSONNEL PERFORMANCE RATING	*INSTRUCTIONS:* The immediate job supervisor will prepare this form for each subordinate. It will be delivered to the planning section before the rater leaves the fire. Rating will be reviewed with employee who will sign at the bottom.

THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE

1. Name	2. Fire Name and Number
3. Home Unit *(address)*	4. Location of Fire *(address)*

5. Fire Position	6. Date of Assignment From: To:	7. Acres Burned	8. Fuel Type(s)

9. Evaluation

Enter **X** under appropriate rating number and under proper heading for each category listed. Definition for each rating number follows:

0 - Deficient. Does not meet minimum requirements of the individual element.

DEFICIENCIES MUST BE IDENTIFIED IN REMARKS.

1 - Needs to improve. Meets some or most of the requirements of the individual element.

IDENTIFY IMPORVEMENT NEEDED IN REMARKS.

2 - Satisfactory. Employee meets all requirements of the individual element.

3. - Superior. Employee consistently exceeds the performance requirements.

Rating Factors	Hot Line				Mop-Up				Camp				Other specify)			
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
Knowledge of the job																
Ability to obtain performance																
Attitude																
Decisions under stress																
Initiative																
Consideration for personnel welfare																
Obtain necessary equipment and supplies																
Physical ability for the job																
Safety																
Other *(specify)*																

10. Remarks

11. Employee *(signature)* This rating has been discussed with me			12. Date
13. Rated By *(signature)*	14. Home Unit *(address)*	15. Position of Fire	16. Date

STATE OF CALIFORNIA
VEHICLE ACCIDENT REPORT
STD. 270 (REV. 8/97)

ACCIDENT PREVIOUSLY REPORTED TO ORIM? (If YES, give details)
☐ YES ☐ NO

THIS REPORT MUST BE MAILED WITHIN 48 HOURS AFTER ACCIDENT (ACCIDENTS INVOLVING INJURY SHOULD BE FIRST CALLED OR FAXED TO ORIM AT (916) 376-5302 - FAX (916) 376-5277).

**** CONFIDENTIAL INFORMATION ****

DO NOT RELEASE TO OTHER PARTIES WITHOUT CONSENT OF THE OFFICE OF RISK AND INSURANCE MANAGEMENT

DISTRIBUTION: OFFICE OF RISK AND INSURANCE MANAGEMENT
ORIGINAL - 1325 J STREET, SUITE 1800 SACRAMENTO, CA 95814
COPY: STATE GARAGE (DGS pool vehicle only)
COPY: STATE DRIVER

PAGE _____ OF _____

STATE DRIVER

NAME		AGE	EMPLOYING DEPARTMENT	AGENCY BILLING CODE
DRIVER'S LICENSE NO.	ACCIDENT DATE	TIME	OFFICE ADDRESS	AGENCY DOCUMENT NO. (Optional)
WAS VEHICLE BEING USED ON OFFICIAL STATE BUSINESS? *(If NO, attach explanation)*	☐ YES ☐ NO			
APPROXIMATE DATE DRIVER LAST COMPLETED STATE DEFENSIVE DRIVER TRAINING	Mo/Yr	☐ NOT TAKEN	JOB TITLE	BUSINESS TELEPHONE -

STATE VEHICLE

VEHICLE LICENSE NUMBER	VEHICLE YEAR, MAKE MODEL	VEHICLE OWNER ☐ DEPT. OWNED ☐ DGS POOL	DEPT. VEHICLE NO. (Optional)
BRIEFLY DESCRIBE DAMAGES TO STATE VEHICLE	ESTIMATED REPAIR COST	☐ RENTAL ☐ EMPLOYEE OWNED	
		IF DEPARTMENT OWNED OR RENTAL, ENTER OWNER'S NAME	

ACCIDENT DETAILS
(See Reverse for Diagram and Description)

ACCIDENT LOCATION *(Address/Area.)*	ROAD CONDITIONS	
	WEATHER CONDITIONS	
(City/State)	TRAFFIC CONDITIONS	
(County)	HOW FAST WERE YOU DRIVING	EST. SPEED OF OTHER CAR

POLICE REPORT MADE ☐ YES ☐ NO
AGENCY ☐ CHP ☐ OTHER

NAME AND ADDRESS OF INVESTIGATING AGENCY

OTHER VEHICLE

DRIVER'S NAME	AGE/DOB		VEHICLE LICENSE NUMBER	VEHICLE YEAR, MAKE, MODEL	NO. OF PASSENGERS
DRIVER'S LICENSE NUMBER	HOME TELEPHONE	WORK TELEPHONE	REGISTERED OWNER		
DRIVER'S ADDRESS *(Street, City, State, Zip Code)*			OWNER'S ADDRESS	HOME TELEPHONE / WORK TELEPHONE	
BRIEFLY DESCRIBE DAMAGES TO OTHER VEHICLE OR PROPERTY			NAME AND ADDRESS OF OTHER PARTY'S INSURANCE COMPANY		

INJURED

NAME	AGE	ADDRESS	HOSPITAL
NAME	AGE	ADDRESS	HOSPITAL

WITNESS

NAME	TELEPHONE	ADDRESS
NAME	TELEPHONE	ADDRESS

VEHICLE PASSENGERS

	NAME	ADDRESS
STATE	NAME	ADDRESS
	NAME	ADDRESS
OTHER	NAME	ADDRESS

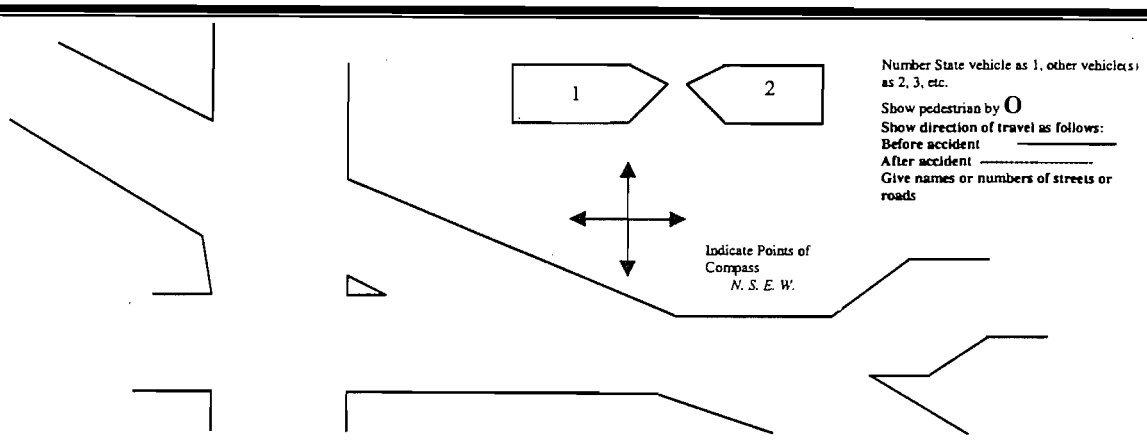
STATE OF CALIFORNIA
VEHICLE ACCIDENT REPORT
STD. 270 (REV 8/97)

***CONFIDENTIAL INFORMATION ***
DO NOT RELEASE TO OTHER PARTIES WITHOUT CONSENT OF THE
OFFICE OF RISK AND INSURANCE MANAGEMENT

ACCIDENT DETAILS - DESCRIPTION

STATE FULLY HOW ACCIDENT OCCURRED *(Give details, attach additional sheets if necessary)*

ACCIDENT DETAILS DIAGRAM



VEHICLE

DRIVER'S NAME		AGE/DOB	VEHICLE LICENSE NUMBER	VEHICLE YEAR, MAKE, MODEL
DRIVERS LICENSE NO.	HOME TELEPHONE	WORK TELEPHONE	REGISTERED OWNER	
ADDRESS *(Street, City, State, Zip Code)*			ADDRESS *(Street, City, State, Zip Code)*	HOME TELEPHONE WORK TELEPHONE
BRIEFLY DESCRIBE DAMAGES TO OTHER VEHICLE OR PROPERTY			NAME AND ADDRESS OF OTHER PARTY'S INSURANCE CARRIER	

ADDITIONAL VEHICLE/PASSENGER(S)

PASSENGER

NAME	AGE	ADDRESS	HOSPITAL
NAME	AGE	ADDRESS	HOSPITAL
NAME	ADDRESS		
NAME	ADDRESS		

The answers in this report contain a true and full account of the accident, and the vehicle was being operated on official business of the state at the time of the accident. (The reviewing officer is to explain any exception.) ***Attach extra pages as necessary.***

Type Name and Title of Reviewing Officer

Employee Signature and Date	Reviewing Officer Signature *(Supervisor or Safety Coordinator)*	*Telephone Number of Reviewing Officer*

EMERGENCY EQUIPMENT SHIFT TICKET

NOTE. The responsible Government Officer will update this form each day or shift and make initial and final equipment inspections.

1. AGREEMENT NUMBER		2. CONTRACTOR *(name)*
3. INCIDENT OR PROJECT NAME	4. INCIDENT NUMBER	5. OPERATOR *(name)*
6. EQUIPMENT MAKE	7. EQUIPMENT MODEL	8. OPERATOR FURNISHED BY ☐ CONTRACTOR ☐ GOVERNMENT
9. SERIAL NUMBER	10. LICENSE NUMBER	11. OPERATING SUPPLIES FURNISHED BY ☐ CONTRACTOR (wet) ☐ GOVERNMENT (dry)

12. DATE MO/DAY/YR	13. EQUIPMENT USE				14. REMARKS *(released, down time and cause, problems, etc.)*
	START	STOP	HOURS/DAYS/MILES *(circle one)*: WORK	SPECIAL	
					15. EQUIPMENT STATUS ☐ a. Inspected and under agreement ☐ b. Released by Government ☐ c. Withdrawn by Contractor
					16. INVOICE POSTED BY *(Recorder's initials)*

17. CONTRACTOR'S OR AUTHORIZED AGENT'S SIGNATURE	18. GOVERNMENT OFFICER'S SIGNATURE	19. DATE SIGNED

NSN 7540-01-119-5020 5028?-102 OPTIONAL FORM 297 (Rev. 7-90) USDA/USDI

Unit 3
Topic 2

Supervision

3-2-1

Objectives

A. Develop an understanding of leadership principles
B. Develop a understanding of performance based accountability
C. Be familiar with the Operational Leadership Guide, as it relates to emergency response situations
D. Develop an understanding of the three primary leadership styles, when each style is appropriate, and which style you tend to exhibit most often

3-2-2

Leadership Principals

A. They are
   1. Authority
   2. Responsibility
   3. Accountability
B. The authority comes from statute, charter or delegation of authority
C. Once you have the right or authority, you must be responsible

3-2-3

Leadership Principals

D. Delegate
   1. Get out of the way and let personnel do their work
   2. Hold people accountable based upon their job performance relative to performance standards
      a) Without prejudice
      b) Including all personnel and equipment

3-2-4

Performance Accountability

A. Performance evaluation
   1. Establish standards of performance, generally based on accepted norms
      a) Briefing
   2. Compare the actual results with the established standards
      a) IAP objectives
      b) Safety standards (ICS Form 215A)
   3. Make adjustments as necessary
      a) Evaluate, re-evaluate, and follow-up

3-2-5

Performance Accountability

B. Performance problems
   1. Discipline process
      a) Tell the person
         1) What is wrong
         2) How to fix
         3) Reasonable time frame
      b) Document

3-2-6

Performance Accountability

c) Reassignment
   1) Move the person into another function until you have the time to deal with it
d) Termination

3-2-7

Performance Accountability

C. Post incident analysis
   1. Briefing
   2. Evaluation
   3. Corrective action to be recommended in performance evaluation
   4. Training recommendations
   5. Positive approach to improve performance

3-2-8

Performance Accountability

D. Good performance
   1. Acknowledge
      a) Evaluation
      b) Praise
         1) "Praise in public, punish in private"

3-2-9

Operational Leadership

A. History
   1. The following guide was adapted from the U.S. Army, for our emergency response mission

S-2-10

Operational Leadership

B. The guide – "Be, Know, Do"
   1. Take charge
      a) Give orders and expect obedience
   2. Motivate
      a) Make the plan known
      b) Solicit two-way communication
   3. Demonstrate initiative
      a) Take action in the absence of orders
      b) Freelance vs. Independent Action

S-2-11

Operational Leadership

4. Communicate
   a) Give specific instructions
   b) Make sure they are understood
   c) Feedback
5. Supervise at the scene of action
   a) Maintain a calm demeanor
   b) Lead by example

S-2-12

Operational Leadership

6. Be technically and tactically proficient
   a) Adhere to professional SOP's
   b) Develop a plan to accomplish objectives
7. Be responsible for your actions
   a) Accept responsibility for team performance
   b) Credit subordinates for good performance

3-2-13

Operational Leadership

8. Know yourself and seek self-improvement
   a) Know strengths / weaknesses and skill levels
   b) Ask questions of peers and superiors
   c) Actively listen to feedback

3-2-14

Operational Leadership

9. Know your firefighters and look out for their well-being
   a) Safety #1 priority
   b) Take care of your subordinates' needs
   c) Resolve conflicts at the lowest possible level

3-2-15

Operational Leadership

10. Set the example
    a) Share information (hazards, hardships, etc.)
    b) Remain positive
    c) Make the right decision no matter how difficult

3-2-16

Operational Leadership

11. Make sound and timely decisions
    a) Maintain situation awareness
    b) Develop alternatives and contingencies
    c) Improvise to meet objectives
12. Keep your firefighters informed
    a) Provide accurate and timely briefings
    b) Give the reason for assignments and tasks
    c) Make yourself available

3-2-17

Operational Leadership

13. Ensure the task is understood, supervised and accomplished
    a) Issue clear instructions
    b) Observe and assess actions without micro-managing
    c) Use positive feedback to modify duties, tasks and assignments when appropriate

3-2-18

Operational Leadership

14. Develop a sense of responsibility in your firefighters
    a) Clearly state expectations
    b) Delegate tasks
    c) Give heads up of upcoming task assignments

3-2-19

Operational Leadership

15. Build the team
    a) Conduct frequent debriefings to identify lessons learned
    b) Recognize individual and team accomplishments (reward them appropriately)
    c) Apply disciplinary measures equally and without prejudice

3-2-20

Operational Leadership

16. Employ your team in accordance with its capabilities
    a) Set goals and objectives that are realistic and achievable within performance standards
    b) Observe human behavior as well as fire behavior
    c) Consider team experience, conditioning, fatigue, training and injury limitations when accepting assignments
    d) Consider individual skill levels when assigning tasks

3-2-21

Leadership Styles

A. Autocratic
   1. A one-way street with information flowing downhill

B. Laissez-faire
   1. A go-your-own-way style
   2. Relies on all members of the organization working toward a common goal and moving in the proper direction with minimal supervision

3-2-22

Leadership Styles

C. Democratic
   1. Also known as participative management
   2. Objectives and organizations are established at the top with information constantly flowing up from the bottom as to progress and needs
   3. These needs are then addressed by top management, with information then flowing back down the chain

D. A ST/TFL may have to play all of these roles

3-2-23

Unit 3 Topic 3

Coordination with other ICS Functional Areas

S-3-1

Objectives

A. Understand the importance of operational coordination with other resources within your assigned Division or Group
B. Understand how to successfully coordinate the concerns and needs of multiple agency personnel assigned to a Strike Team/Task Force
C. Understand how to obtain support for Strike Team/Task Force resources from Command and General Staff

S-3-2

Operational Coordination

A. Your primary operational contact will be the DIVS
   1. Supervisory duties
   2. Assignment / direction
   3. Contact for requesting resources

Depending on incident complexity, primary contact may be IC, Operations Section, Structure Protection Group, etc

S-3-3

Operational Coordination

B. Other possible resources within your assigned Division or Group
   1. Other ST/TF's
   2. US&R Teams
   3. Single increment resources
      a) Engines
      b) Crews
      c) Dozers
      d) Contract equipment (water tenders, graders, etc.)

S-330-4

Operational Coordination

C. Operations that MUST be coordinated
   1. Firing operations
   2. Hazardous materials operations
   3. Lifting operations
   4. Rescue operations

S-330-5

Multi-Agency Coordination

A. Multiple agencies within your Strike Team/Task Force
   1. Agency specific issues
      a) Maintain open communication with your company officers, especially when unfamiliar with the agency
      b) Rely on AREP's from appropriate agencies

S-330-6

Multi-Agency Coordination

B. Other agency coordination outside of your ST/TF
   1. In the spirit of cooperation, make every attempt to bridge gaps and maintain a friendly rapport
      a) Your lives may depend on it!
   2. Don't hesitate to utilize AREP's whenever you feel the situation warrants it

3-3-7

Coordination with Command and General Staff

A. General Staff interaction
   1. Operations Section
      a) Primarily DIVS

3-3-8

Coordination with Command and General Staff

2. Planning Section
   a) Attend briefings
   b) Submit documentation
   c) Situation Status
   d) Demobilization
   e) May deal with Technical Specialists
      1) Fire Behavior Specialist (FBAN)
      2) Training Specialist
         - Position Task Books

3-3-9

Coordination with Command and General Staff

3. Logistics Section
   a) Communication Unit
      1) Radios
   b) Medical Unit
      1) Medical treatment if needed
      2) Other needs
         - Prescriptions
         - Over the counter medication
         - Mole skin, eye wash, etc.

S-3-10

Coordination with Command and General Staff

3. Logistics Section
   c) Food Unit
      1) Sack lunches
      2) Water and ice

S-3-11

Coordination with Command and General Staff

d) Supply Unit
   1) Orders for items needed
      - Sleeping bags
      - Batteries
      - Gloves
   2) Orders for replacement items
      - Hose
      - Fittings
      - Nomex

S-3-12

Coordination with Command and General Staff

3. Logistics Section
   e) Ground Support Unit
      1) Equipment failure / breakdown issues
   f) Facilities
      1) Sleeping area issues
      2) Tents

S-3-13

Coordination with Command and General Staff

4. Finance Section
   a) Time Unit
      1) Personnel Time
      2) Equipment Time
      3) Comp/Claims

S-3-14

Coordination with Command and General Staff

B. Command Staff interaction
   1. Safety
      a) Routine line contact
      b) Significant event involvement
   2. Liaison
      a) Agency Representatives
         1) Routine daily contact
         2) Use for problem solving
         3) Significant event involvement

S-3-15

Coordination with Command and General Staff

3. Information (PIO)
   a) Proximity of the media to your ST/TF
   b) Significant event involvement

3-3-16

Student Activity

Student Activity 3-3-1

Problem Resolution: Interaction with ICS functional areas

3-3-17

Problem Resolution: Interaction with ICS Functional Areas

TIME: 0:15 Minutes

MATERIALS NEEDED:

- Flip Charts
- Pens

INTRODUCTION:

Problems come in all shapes and sizes (Murphy's Law). A Strike Team/Task Force Leader is faced with numerous problems on all incidents. This exercise will help you identify where in the incident management organization you can resolve a variety of problems.

DIRECTIONS:

Each group will be presented with one of the following problems encountered by a Strike Team/Task Force Leader:

- Water tender assigned to Strike Team/Task Force leaves for water and does not return
- An injury occurs on the Strike Team/Task Force
- Fuel shortage or equipment breakdown
- A supervisor on a single resource assigned to your Strike Team/Task Force refuses an assignment
- Crew requests air lift of drip torches and drip mix
- Assigned resources are inadequate to implement tactics as directed in IAP

Working within your group, identify which ICS sections you would deal with to remedy your problem. Appoint a spokesperson to present your findings.

Problem Resolution: Interaction with ICS Functional Areas

Potential solutions to your problem solving scenario:

1. Water tender assigned to Strike Team/Task Force leaves for water and does not return:

2. Injury occurs on Strike Team/Task Force:

3. Fuel shortage / equipment breakdown:

4. A supervisor on a single resource assigned to your Strike Team/Task Force refuses an assignment:

5. Crew requests air lift of drip torches and drip torch fuel:

Unit - 3
Topic - 4

Strike Team
Task Force
Response

3-4-1

Objectives

A. Understand the information gathering process and the sources of needed information
B. Understand the ST/TFL rendezvous responsibilities for both pre-arrival or at scene form-up
C. Understand and relay safe and appropriate travel procedures
D. Identify and address en route logistical needs and issues
E. Understand where to check in at an incident and the check-in process

3-4-2

Information Gathering

A. Incident information
B. Obtain complete information from agency dispatch concerning incident assignment and start an ICS Form 214

Refer to student information sheet 3-4-1, Example ICS Form 214

3-4-3

Information Gathering

1. Incident Name
2. Incident order number
3. Request number
4. Assignment (STL or TFL)
5. Travel route
6. Communication frequency
   a) Travel
   b) Incident
7. Reporting location and time
8. Resource designator

3-4-4

Information Gathering

C. Other information
   1. Incident type
      a) Need for specialized equipment
   2. Size or scope of incident
   3. Rendezvous point for resources
      a) Within jurisdiction
      b) En-route
      c) At scene

3-4-5

Information Gathering

C. Other information (cont)
   4. Phone contact
      a) Agency
      b) Incident
   5. Radio contact
   6. Transportation arrangements
   7. Special equipment needs
   8. Weather

3-4-6

Information Gathering

C. Other information (cont)
   9. Assigned resources and personnel
      a) Agency equipment
      b) Private / contract equipment
   10. Response mode
      a) Immediate
      b) Planned
   11. Need for a trainee
      a) Most agencies support filling trainee positions
      b) May require formal request and approval
   12. Travel route restrictions
      a) Road closures
      b) Weight restrictions

3-4-7

Assembly and Travel

A. Rendezvous en route
   1. When you are determining the formation point of your ST, you must consider
      a) Time of day
      b) Availability of parking
      c) Communications
      d) Logistical needs
         1) Rest Rooms
         2) Fuel
         3) Food
         4) Water

3-4-8

Assembly and Travel

A. Rendezvous en route (cont)
   2. Location considerations
      a) Easily recognizable or known
      b) Easily accessible
      c) Security
      d) Should be able to avoid impeding traffic and disrupting local businesses

3-4-8

Assembly and Travel

A. Rendezvous en route (cont)
   3. If you are dispatched on a planned need rather than an immediate need, or an initial attack, you generally have a better opportunity to make plans
      a) Initial attack is usually a code 3 response for protection of life and property

S-6-10

Assembly and Travel

b) Immediate need is a request for the current operational period, may or may not be a code 3 response
c) Planned need is a request for the next or future operational period, normally not a code 3 response

S-6-11

Student Activity

What is the definition of an operational period?
What are the different time frames for:

Commercial fires
High rise fires
Wildland fires
Floods
Earthquakes

S-6-12

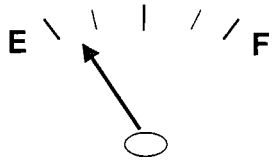
Assembly and Travel

A. Rendezvous en-route (cont)
   4. Resource survey and equipment check
      a) Upon arrival at the rendezvous point you should make a survey of the assigned resources
      b) You have the authority to eliminate a vehicle, piece of equipment, or any personnel you feel is in an unsafe or unsuitable condition
      c) Conduct a readiness inspection and briefing to make sure all resources are ready to fulfill the assignment

(Refer to Student Information Sheet 3-4-2 Strike Team Engine and Crew Data Sheet) 3-4-13

Assembly and Travel

1) Determine if there are any limitations, mechanical or otherwise, that would impede travel
2) Fuel type, tank capacity, and cruising range to determine fuel stops



3-4-14

Assembly and Travel

3) Special equipment and certifications
   - Chain saws
   - Lighting capabilities
   - Portable generators
   - Portable pumps
   - Appropriate fire tools
   - Breathing apparatus
   - Medical / Rescue equipment

3-4-15

Assembly and Travel

4) Determine mobile and portable communications capabilities and frequencies
   - 16 Channels for engines
   - 32 Channels for ST/TFL vehicle

   Refer to Appendix A in the FOG "Communications"
5) Personnel information
   - Names
   - Genders (Motel pairing)
   - ICS qualifications
   - Medical certifications (e.g.,EMT, EMT-P)

3-4-16

Assembly and Travel

6) How long since personnel last slept and ate
7) Do personnel have proper safety gear and PPE
   - If not, can it be obtained at incident base
8) Personnel special needs
   - Medical
   - Allergies, etc.

3-4-17

Assembly and Travel

5. Resolving equipment problems
   a) Inform your home agency
   b) Repair, if possible
   c) Replace or request replacement
   d) May have to function as a TF temporarily

3-4-18

Assembly and Travel

6. Resolving personnel problems
   a) Inform your home agency
   b) If problem is PPE related, try to borrow from another agency or consider incident base supply
   c) Attempt to have personnel traded out
   d) Request another like resource
   e) Consider utilizing your AREP for problem solving or brain storming

3-4-19

Assembly and Travel

7. Label and identify
   a) If time allows have individual apparatus label with ST/TF designator
      1) Stickers
      2) Tape
      3) Numbers
      4) Shoe polish

Make sure all engines/equipment are identified, front and rear

3-4-20

Assembly and Travel

8. Tailgate safety session
   a) Review chain-of-command within the team
      1) Who will maintain supervision in your absence

3-4-21

Assembly and Travel

8. Tailgate safety session (cont)
   b) Determine travel frequency
   c) Brief company officers on dispatch information
   d) Advise crews of expectations
      1) Performance
      2) Conduct
      3) Discipline
   e) Discuss travel procedure

(Refer to Student Information Sheets 3-4-3 Code of Conduct for Strike Teams and 3-4-4 Strike Team Briefing Checklist)

3-4-22

Student Activity

Refer to Student Activity Sheet 3-4-1
Strike Team Assembly Briefing

3-4-23

Assembly and Travel

9. Good organization at the rendezvous point is important; it will help you keep better control of the team
   a) Extra time here may prevent problems or injuries later
   b) Always give clear instructions and make sure they are understood.

3-4-24

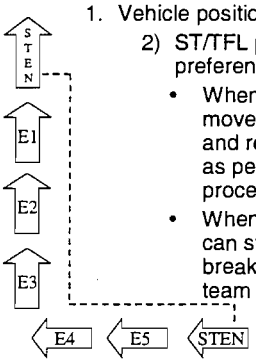
Assembly and Travel

B. Travel procedures
   1. Vehicle positioning
      a) Generally the slowest vehicle should set the pace in front
         1) Engines with communication problems should be placed in the middle

3-4-25

Assembly and Travel

1. Vehicle positioning (cont)
   2) ST/TFL position is a personal preference
      - When positioned in front you can move ahead and make food, fuel and rest arrangements, as well as perform incident check-in procedures
      - When positioned in the rear you can stop for equipment breakdowns while remainder of team continues



3-4-26

Assembly and Travel

B. Travel procedures (cont)
   2. Safety
      a) Maintain
         1) Adequate spacing
         2) Safe speed
      b) Alert crews to traffic hazards
      c) Lights on
   3. Routes
      a) Select routes that minimize traffic interference
      b) Consider toll roads and bridge weight limits, rush hour traffic, traffic hazards
      c) Have alternate routes planned

3-4-27

Assembly and Travel

B. Travel procedures (cont)
   4. Last vehicle in line should watch others in convoy and report problems to lead vehicle and ST/TFL
   5. Maintain communications with entire team while traveling

3-4-28

Assembly and Travel

C. Logistical needs
   1. Schedule food, fuel, water and rest stops
      a) Generally every two hours
   2. Consider fatigue factors
   3. Try to feed and fuel prior to incident arrival. You may not have time once you arrive

3-4-29

Assembly and Travel

4. Finances
   a) Agency credit cards
   b) State Purchase Order (SPO)
   c) Fuel cards

   Discuss agency specifics for payment of logistical needs

3-4-30

Assembly and Travel

D. Revising Estimated Time of Arrival (ETA)
   1. Be sure to contact agency or incident dispatch if events occur that could effect your established ETA
      a) For vehicle accidents involving the ST/TF
         1) Provide medical treatment
         2) Request additional response
            - Law enforcement
            - Ambulance

3-4-31

Assembly and Travel

3) Contact agency dispatch
4) Complete agency specific on scene forms or paperwork
5) Log incident on ICS Form 214

3-4-32

Student Activity

One of your engines on the strike team has become involved in an accident where damage to the engine has occurred.

3-4-33

Student Activity

As the ST/TFL what decisions do you make regarding the following questions:

- Do you (ST/TFL) leave the damaged vehicle?
- If so, do you stay with the vehicle or go on with the ST/TF?
- If you stay and the ST/TF goes on, who is in charge of the ST/TF?
- If you go on, who handles the accident scene management?
- Who and what notifications need to be made?

3-4-34

Assembly and Travel

E. Mixed agency ST/TFL considerations
1. Common radio frequencies
2. Agency travel restrictions
3. Length of assignment
4. Length of duty day / driving hour restrictions
5. Equipment fuel types / needs
6. Resources prepared for extended assignments
7. Personnel / personal conflicts
8. Union contracts

3-4-35

Rendezvous at Incident

A. On scene form-up
1. In an initial attack or extended attack incident you may be dispatched and requested to form-up at the scene
a) If you arrive after the team, you must attempt to regroup them
1) Do not remove them from critical assignments. Note their location and notify them of your arrival

3-4-36

Rendezvous at Incident

A. On scene form-up (cont)
   2) If possible have the first arriving team unit act as ST/TFL until you arrive
      - Be sure to brief with the acting ST/TFL on your arrival
   3) Make sure you brief with the incident chain-of-command, depending on what has been established
      - IC
      - OPS
      - Branch
      - Division / Group Supervisor (DIVS)

3-4-37

Rendezvous at Incident

A. On scene form-up (cont)
   4) If possible conduct a tailgate safety session (LCES) with your team when time and situation allows

Adhere to department policies, procedures and agreements such as MOU's. When working with agency resources other than your own, consult the agency's representative for clarification of any agency specific issues.

3-4-38

Check-In

A. Check in locations
   1. Base or camp – Check-In Recorder
   1. Helibase – Helibase Manager
   2. Incident Command Post (ICP) – Resource Status Unit
   3. Staging Area – Staging Area Manager
   5. Directly to the incident
      a) Check in may occur with IC, OSC or DIVS depending on the development of the incident upon your arrival

3-4-39

Check-In

B. Information for check-in
   1. Strike team designator
   2. Order number
   3. Request number
   4. Individual increment
      a) Identifier (E4567, TR R-2, D3442, E-34)
      b) Leader
      c) Personnel
      d) Home base
      e) Agency 3 letter identifier (MPA, ACF, RRU)
   5. ICS-211 (Incident Check-In List)

3-4-40

Student Activity

Refer to Student Activity Sheet 3-4-2
Check-In List ICS-211

Utilizing the Strike Team information from the previous activity (3-4-1), complete the check-in form

3-4-41

UNIT LOG	1. Incident Name	2. Date Prepared	3. Time Prepared
	Hondo Fire	***10/16/00***	***0700***
4. Unit Name/Designators	5. Unit Leader (Name and Position)		6. Operational Period
STL	***Borman, T..***		***0600 – 0600 hrs.***

7. Personnel Roster Assigned

Name	ICS Position	Home Base
Borman, T..	***S/T Leader***	***Napa F.D.***
Bradley, G.	***S/T Leader Trainee.***	***Napa F.D.***
Engine 3372		***Napa F.D.***
Engine 18		***Napa F.D.***
Engine 11		***American Canyon F.P.D***
Engine 16		***Napa F.D.***
Engine 17		***St. Helena F.D.***

Activity Log

Time	Major Events
1500	***Received briefing from Div. "C" Supervisor***
1530	***Briefed Strike Team on assignment***
1610	***Deployed engines to structure protections assignment on***
	Thompson Avenue and Elm Lane
1830	***Meet with Div. "C" supervisor to plan/discuss***
	cautioned all regarding precautions
	to be taken.
1950	***Met with adjoining S/T Leaders to review their***
	status and share information
0500	***Advised by Div. "C" Supervisor to get prepared to***
	be relieved.
0600	***relieved by XSN ST 2376 A***
0700	***Arrived at Incident Base***

9. Prepared by (Name and Position)

STRIKE TEAM ENGINE & CREW DATA SHEET

Engine Data: Lic. Number:_____ ICS Engine Type: ☐ 1 ☐ 2 ☐ 3 ☐ 4
Home Agency:_____ 3-Letter:_____ Unit Designator:_____
Vehicle Make:_____ Engine Horsepower:_____ GVW:_____ Mileage:_____
4-Wheel Drive ☐ yes ☐ no Fuel: ☐ diesel ☐ gas Water Tank:_____gallons
Main Pump GPM:_____ Pump & Roll Capable: ☐ yes ☐ no Drafting Capable: ☐ yes ☐ no

Communications Capabilities: Cell Phone:_____ Pager:_____
☐ WF-1 154.280 ☐ WF-2 154.265 ☐ WF-3 154.295 ☐ CalCord 156.075 ☐ CA Travel Net 169.125
Frequency Capabilities of: Field Programable
On-Board Raio:_____ ☐ yes ☐ no
Portable Radio(s)_____ QTY_____ ☐ yes ☐ no

Class-A Foam Capability: ☐ CAFS ☐ Proportioner ☐ Eductor ☐ Batch Mix ☐ None
Foam Concentrate Qty:_____ gal. Foam Nozzles: ☐ Low Expansion ☐ Med. Expansion

Hose Qty: Pencil:_____ 1"_____ thread type: ☐ pipe ☐ NS 1½" SJRL_____
1½" DJRL _____ 1¾"_____ 2½"/3"_____ LDH:_____ Suction:_____

Equipment: ☐ Ground Ladder(s) Qty:___ Length(s):_____ ☐ Drip torch ☐ Fusees
☐ Chain Saw – Bar length:_____ ☐ Floto Pump ☐ Portable Pump ☐ Portable Tank
☐ Brush Nozzles ☐ 1½" to 1" In-Line T's ☐ Forester's Hose Clamps ☐ Headlamps
☐ Tool Qty: McLeod_____ Pulaski_____ Round Pt. Shovel_____ EMS: ☐ ALS ☐ ILS ☐ BLS
Other/Specialized Equip:_____
Drinking Water:_____ day(s) supply Rations:_____ day(s) Sleeping Bags qty:_____

Safety: ☐ Wildland PPE for each crew member (fire shelter, shirt, pants, gloves, helmet with face protector, goggles, boots (high top, all leather, lace-up, sewn lug sole)
☐ Structure PPE for each Type-1 crew member (turnout coat & pants, boots, helmet, hood, gloves) ☐ SCBA qty:_____

Crew Data	Company Officer	Crew Member	Crew Member	Crew Member
Name				
SocSec # (last 4)				
E-Mail Address				
Phone				
Medical Problems				
Emerg. Contact/Ph				
ICS Qualifications				
EMS Cert. Level				
Other				

CODE OF CONDUCT FOR STRIKE TEAMS

1. No alcohol or drugs will be transported or consumed.
2. Normal radio procedures will be utilized. Radio traffic between units will be kept to a minimum.
3. This is not a vacation.
4. Know whom you are working for.
5. Limit the procurement of equipment to what is needed.
6. All equipment must be returned before you are demobilized. Theft of equipment is a crime.
7. Crews will maintain a state of readiness when not assigned.
8. Recreation will be limited to out-of-service hours.
9. Maintain and wear all safety clothing.
10. Wear the proper uniform while in the incident base.
11. Your actions are a reflection of your organization.
12. Do not enter any residence without the owner's permission except to fight a fire in that structure. Respect the property of the residents you are protecting.

STRIKE TEAM BRIEFING CHECKLIST

- ❑ **STL's General Message and Incident Update**
  - ❑ Introduce self, STL Trainee, and identify "Asst. STL" (most experienced engine captain)
  - ❑ Provide brief overview of known incident information and assignment
  - ❑ Work ethic, professionalism, human relations expectations
- ❑ **Communications**
  - ❑ Identify cell phone numbers, travel and tactical radio frequencies
  - ❑ Determine radio designators for engines/captains, STL, and STL (T)
  - ❑ Radio traffic will be kept brief, professional, and to a minimum
  - ❑ Information will normally be exchanged up and down via Captains' Meetings and chain of command. ***Exception:*** *immediate and/or unresolved safety issues*
  - ❑ Distribute portable radios/batteries if available/needed
- ❑ **Engine Readiness**
  - ❑ Full water tank
  - ❑ Rig for probable assignment*
  - ❑ Identify engines
    - ❑ Strike team designator in upper right corner of windshield with white shoe polish applicator
    - ❑ Engine designator/Captain's name lower right corner of windshield
- ❑ **Safety**
  - ❑ Review known or probable incident hazards, emphasizing LCES
  - ❑ Engine protection line* & 100 gallon reserve rule
  - ❑ Identify EMS resources on team
  - ❑ Fire shelters in the cab, PPE donned*
  - ❑ Affirm crew evacuation signals and procedure (e.g. where to reform, PAR procedure)
- ❑ **Travel Procedures**
  - ❑ Response urgency, including appropriate use of code-3
  - ❑ Travel route, planned stops, reporting location
  - ❑ Keep formation tight; slowest engine in front, Asst. STL engine bringing up the rear
  - ❑ Advise when approaching quarter fuel during travel, at least half fuel at time of deployment
  - ❑ Fuel payment procedure
- ❑ **Operations**
  - ❑ Briefly review essential elements of anticipated tactics (e.g. structure protection, progressive hose lay, running attack), emphasizing water conservation and mobility
  - ❑ Identify members having special experience/qualifications, e.g. Hot Shot, sawyer, mechanic
  - ❑ Assignments will primarily be based on crew experience, capability, and readiness
  - ❑ No freelancing. Captains will advise me when their assignments are completed or if they are receiving conflicting orders from Division Supervisor, etc.
  - ❑ Staging means 3-minute ***maximum*** ready time, ***all the time***
  - ❑ Accountability and behavior expectations during unassigned time
  - ❑ I'll try to work with Staging and the Resource Unit to get us in the game, but no guarantees
  - ❑ All supply requisitions will go through the STL or designee
  - ❑ If anyone is unable to commit to this assignment for at least 96 hours, advise as soon as possible.
- ❑ **Closing Comments/Questions**

* May postpone until approaching incident

STRIKE TEAM ASSEMBLY BRIEFING

TIME: O:20

INTRODUCTION:

The assembly briefing will set the tone for the entire duration of the assignment, as well as clearly indicate your expectations as a STL. This exercise is based on an Engine Strike Team response to the Ridge Incident.

DIRECTIONS:

The student groups will capture appropriate information from the student activity sheet and will perform a strike team assembly briefing.

Brief your strike team members prior to response to your assignment.

1.

2.

3.

4.

5.

6.

7.

8.

INCIDENT COMMAND SYSTEM

S-330 Strike Team/Task Force Leader – ALL RISK

STUDENT ACTIVITY SHEET
CHECK-IN LIST ICS-211
ACTIVITY 3-4-2

INCIDENT CHECK-IN LIST	1. Incident Name	2. Check-In Location (complete all that apply)					3. Date/Time
Check one: ☐ Personnel ☐ Handcrew ☐ Misc. ☐ Engines ☐ Dozers ☐ Helicopters ☐ Aircraft		☐ Base	☐ Camp	☐ Staging Area	☐ ICP Restat	☐ Helibase	

Check-In Information

4. List Personnel (overhead) by Agency & Name -OR- List equipment by the following format: Agency	Single	Kind	Type	I.D. No/Name	5. Order/Request Number	6. Date/ Time Check-In	7. Leader's Name	8. Total No. Personnel	9. Manifest Yes	9. Manifest No	10. Crew or Individual's Weight	11. Home Base	12. Departure Point	13. Method of Travel	14. Incident Assignment	15. Other Qualifications	16. Sent to RESTAT Time/Int

Page of

17. Prepared by (Name and Position) *Use back for remarks or comments*

INCIDENT CHECK-IN LIST

Check one:
☐ Personnel ☐ Handcrew ☐ Misc.
☒ Engines ☐ Dozers
☐ Helicopters ☐ Aircraft

1. Incident Name: Ridge

2. Check-In Location (complete all that apply): ☒ Base ☐ Camp ☐ Staging Area ☐ ICP Restat ☐ Helibase

3. Date/Time: 09/03

Check-In Information

4. List Personnel (overhead) by Agency & Name -OR- List equipment by the following format: Agency	Single	Kind	Type	I.D. No/Name	5. Order/Request Number	6. Date/ Time Check-In	7. Leader's Name	8. Total No. Personnel	9. Manifest Yes	9. Manifest No	10. Crew or Individual's Weight	11. Home Base	12. Departure Point	13. Method of Travel	14. Incident Assignment	15. Other Qualifications	16. Sent to RESTAT Time/Int
ABC		S/T	B	OES-5800-B	E-62	09/03-2200	A. Leader	16		x		Reg-5	Merced	SUV	TBD	None	
KRN			B	OES Eng 280	E-62	Same	J. Dokes	Incl		x		Kern	Kern	Eng			
TLC			B	OES Eng 278	E-62	Same	B. Smith	Incl		X		Tulare	Tulare	Eng			
CLV			B	OES Eng 276	E-62	Same	W. Wilson	Incl		X		Fresno	Fresno	Eng			
MER			B	OES Eng 279	E-62	Same	J. Smores	Incl		X		Merced	Merced	Eng			
FCO			B	OES Eng 277	E-62	Same	H. Goverman	Incl		X		Fresno	Fresno	Eng			

Page 2 of

17. Prepared by (Name and Position) *Use back for remarks or comments*

Unit 3 – Topic 5

Assignment / Status

3-5-1

Assignment / Status Objectives

A. Describe the primary responsibilities of the ST/TFL while on available status
B. Describe ST/TFL responsibilities while on assigned status
   1. Identify key information needed from briefing in order to brief ST/TF
   2. Describe ways to monitor work progress
   3. Describe ways to coordinate activities with adjoining resources

3-5-2

Assignment / Status Objectives

4. List examples of information to be reported to Division / Group Supervisor
5. Describe procedure for reporting significant events while on assignment
6. Describe procedure for requesting logistical support

3-5-3

Assignment / Status Objectives

7. Identify the actions necessary to ensure assigned resources are fully equipped and able to perform tactical assignments
8. List the factors required to establish and maintain communications with adjoining forces and assigned resources

3-5-4

Assignment / Status Objectives (cont)

C. Describe the primary ST/TFL responsibilities while on out-of-service status

3-5-5

Status

A. Available status
   1. Definition: Resources assigned to an incident and available for an assignment
   2. When the strike team is placed in available status, personnel and equipment must be kept together in a "state of readiness" and capable of meeting the three-minute response time

3-5-6

Status

A. Available status (cont)
   3. Responsibilities
      a) Available status means you are ready to respond within three minutes
      b) Regardless of your location

3-5-7

Status

A. Available status (cont)
   4. Chain-of-command
      a) While on available status you are assigned to the Operations Section Chief (OSC)
      b) If you have logistical needs you can order through
         1) Staging Area Manager if in staging
         2) Supply if in incident base

3-5-8

Status

B. Assigned Status
   1. Definition: Resources checked in and assigned work tasks on an incident
   2. Typically an active assignment
   3. Prior to assignment
      a) Obtain briefing from DIVS
         1) Receive briefing and initial instructions concerning work assignments and overall incident situation
            - Who, What, Where, Why, When

3-5-9

Assigned Status

4. Other sources of incident information
   a) The IAP
   b) Shift briefing
   c) Plans Section
   d) Shift change resources

3-S-10

Assigned Status

5. Make sure you feel comfortable with the assignment by asking adequate questions
6. Determine the communication procedure for tactics and requesting logistical support
   a) What channels / frequencies to operate on (see IAP)

3-S-11

Assigned Status

7. Ensure resources are ready for a tactical assignment
   a) Brief team company officers on preparation requirements for assignment

3-S-12

Assigned Status

b) Respond to logistical needs of team in order to prepare for assignment
- Food / Drinks
- Fuel
- Work materials
- Communication needs

c) Plan ahead

3-S-13

Assigned Status

d) Delegate readiness preparations to subordinates
   1) Assign specific responsibilities to ensure needs are promptly handled
   2) Follow up

e) Keep your supervisor informed of problems

3-S-14

Assigned Status

8. Incident assignment
   a) After briefing with DIVS, you as the ST/TFL are responsible for implementing the tactics that will complete the incident / division objectives for the area assigned to you

3-S-15

Assigned Status

b) Brief team personnel
   1) Elements of the briefing should include
      - Division assignment for the team
      - Safety considerations for assignment
      - Resources allotted for assignment

3-5-16

Assigned Status

1) Elements of the briefing should include (cont)
   - Individual assignment within the team
   - Geographic references
   - Timetables
   - Communication procedures
   - Command organization for division

3-5-17

Student Activity

Refer to Student Activity Sheet 3-5-1
Strike Team/Task Force Assignment Briefing

3-5-18

Assigned Status

b) Brief team personnel (cont)
   2) Follow-up briefings may occur
      - Changes to assigned resource configurations
      - Changes in tactics
      - Changes to safety and LCES considerations

3-5-19

Assigned Status

c) Monitor work progress and make changes when necessary
   1) Obtain information concerning progress by
      - Personal observation
      - Special reports from assigned personnel
      - Periodic routine reports
      - Reports from adjacent resources and lookouts (LCES)

3-5-20

Assigned Status

2) Always compare progress rates with assignment objectives
3) Take corrective action as appropriate
4) Ensure general welfare and safety of team personnel
   - LCES
   - 10 & 18
   - Psychological stress while working on incidents involving high death and casualty rates (MCI, Earthquakes, Floods, etc)

3-5-21

Assigned Status

5) Ensure that you and the team resources maintain prompt communications with personnel, supervisors and adjoining forces

What are some reasons for maintaining communications with adjoining forces and assigned resources?

3-5-22

Assigned Status

Reasons for maintaining communication with adjoining forces and assigned resources

- Safety
- Provide / request assistance
- Coordinate activities
- Keep informed of incident status (i.e. fire behavior)

Always monitor assigned TAC frequencies. Do not use non-assigned frequencies for intra-team communications

(Refer to Student Information Sheet 3-5-1 – Frequency Misuse Memo)

3-5-23

Student Activity

What are some activities that require coordination with adjacent forces during these all-risk situations?

- Fire
- Earthquake
- Flood

(Discuss)

3-5-24

Student Activity

Examples could include:

1. Firing operations on a wildland fire
2. Search and rescue operations on an earthquake incident
3. Levee reinforcement on a flood incident

3-5-25

Assigned Status

6) In all situations, escape routes, safety zones and danger areas should be made known
   - To all team members
   - Adjoining resources in Division / Group

3-5-26

Assigned Status

9. Other ST/TFL duties while at assignment
   a) The ST/TFL needs to be available to support team resources in order that they may efficiently and effectively complete their assigned objectives

3-5-27

Assigned Status

b) Determine need for assistance on assigned work task
   1) The ST/TFL must use personal judgment in determining whether the situation encountered warrants a request for additional resources.

3-5-28

Assigned Status

2) Procedures for requesting assistance include
   - Identify the need for assistance (i.e., equipment failure, sickness, etc.)
   - Verify assistance required to implement corrective action
   - Notify and coordinate with DIVS and request assistance according to procedures discussed in briefing

3-5-29

Assigned Status

c) Coordinate activities with adjacent ST/TF and single resources
   1) Identify resources working adjacent to or coordinating with ST/TF from briefings, IAP and DIVS
   2) Verify communication channels assigned to adjacent resources from current IAP or your DIVS

3-5-30

Assigned Status

3) Decide how this coordination will take place and notify
   - Through channels: STL to DIVS
   - Direct: STL to STL or adjacent resource

d) Submit situation and resource status information to DIVS

3-5-31

Assigned Status

1) Gather information to include in report through personal observation and reports from subordinates
   - Situation status in assigned work areas
   - Deviations from assignment
   - Conditions affecting ST/TF operations
   - Hazardous conditions and work progress
   - Effectiveness of air operations within assigned area
   - Property loss or damage

3-5-32

Assigned Status

2) Keep DIVS informed of any significant changes in status, conditions, or any communication problems
3) Keep DIVS informed of additional resources needed as well as excess resources

3-5-33

Assigned Status

e) Report and document special events
   1) Obtain information concerning the event from personnel or by personal observation, and document in Unit Log (ICS-214)
      - Nature of event
      - Location
      - Magnitude
      - Personnel involved
      - Initial action taken
      - Appropriate subsequent action

3-5-34

Assigned Status

e) Report and document special events (cont)
   2) Request assistance from the DIVS or other organizational elements, as appropriate

3-5-35

Student Activity

Refer to Student Activity Sheet 3-5-2
ICS Form 214

Document the incident shown on the following slides involving the resources in your Task Force, utilizing the blank Unit Log (ICS-214) provided.

3-5-36

Student Activity

Fredricksburg Incident
Date: 07-06-86
Time: 1400 Hours
Division: B

3-5-37

3-5-38

Assigned Status

f) Requesting Logistical Support
   1) The ST/TFL must use personal judgment in determining the need for support
   2) Identify support required such as fuel, repairs, etc. by requests from subordinates and from personal observations

3-5-39

Assigned Status

f) Requesting Logistical Support (cont)
   3) Verify validity of requests and obtain information needed for logistics unit
      - Nature of request
      - Location
      - Identification of equipment involved
      - When it is needed

3-S-40

Assigned Status

4) Order according to procedures discussed in briefing
   - Notify DIVS if ST/TF resource is out-of-service or if requested logistical needs are not being filled within a reasonable period of time

IDENTIFY VERIFY NOTIFY

3-S-41

Assigned Status

g) Brief oncoming relief
   1) Progress during operational period (completed objectives)
   2) Reference points or geographical features specific to assignment (drop points, water supplies, etc.)
   3) Hazards or special conditions

3-S-42

Assigned Status

10. Completing operational period responsibilities
    a) Debrief appropriate personnel
        1) Assigned personnel
        2) Division / Group Supervisor
        3) Planning Section
        4) Other incident functions as they apply

3-5-43

Assigned Status

b) Assist company officers within team on apparatus, personnel, and equipment needs
    1) Lodging
    2) Feeding
    3) Prepare logistical needs for next operational period
    4) Resolve personnel welfare problems

3-5-44

Assigned Status

c) Administrative duties
    1) Personnel time
    2) Equipment time
    3) Unit log (ICS-214)

3-5-45

Out-of-Service Status

C. Out-of-service status
   1. Definition: Resources assigned to an incident but unable to respond for mechanical, rest, or personnel reasons
   2. Special considerations
      a) Agency restrictions (i.e. CDF vs. USFS on shift / off duty activities)
      b) Custodial duties
      c) Inmates and wards vs. corpsmember or hotshots
   3. Subject to reactivation at any time

3-5-46

To: GACCs. MACs. ACs. ICs

Date: August 11. 2000

Subject: Frequency Misuse

Firefighter safety is being compromised and the Fire and Aviation Directors for the Department of the Interior and USDA. Forest Service will not tolerate any such actions. Crews, engines, firefighting and aircraft personnel are not adhering to assigned frequencies for use on division tactical. command. and air operations. Many are using unassigned frequencies not authorized by the Communications Unit Leaders. National Telecommunication Information Administration (NTIA), Federal Communications Commission (FCC). Federal Aviation Administration (FAA) and operating outside of the Incident Communication Plan (ICS-205).

As an example. on August 9. 2000 a strike team of engines was operating on an unassigned frequency and the Division Group Supervisor was unable to alert them to a potential emergency fire situation that was about to overrun them. The Communications Unit Leader alerted them via the unauthorized frequency and they were able to retreat to a safe area. If they had not been notified, they might have been injured or a possible loss of life may have occurred.

The use of unassigned/unauthorized frequencies creates a direct hazard to all personnel. By placing them off of the assigned net and not following the ICS-205 Conununications Plan there is no way of notifying these units in the event there is emergency traffic much less normal incident traffic.

Frequency abuse. and use of Family Radio Service units. the "Satan channel" 166.666 MHz.. and home unit frequencies are not authorized in any case. Those units identified using unauthorized/unassigned frequencies are subject to administrative action.

/s/Dennis W. Pendleton
DENNIS W. PENDLETON
Asst. Director. Wildland Fire Operations
USDA. Forest Service. NIFC

/s/Ron Dunton
RON DUNTON
Fire Program Manager
USDI, Bureau of Land Management. NIFC

/s/Jim Stires
JIM STIRES
Fire Director
USDI. Bureau of Indian Affairs. NIFC

/s/Roger D. Erb
ROGER ERB
Chief. Fire Management Branch
USDI. Fish and Wildlife Service. NIFC

/s/Sue Vap
SUE VAP
Fire Director
National Park Service. NIFC

/s/Bill Baden
BILL BADEN
National Association of State Foresters
Representative. NIFC

STRIKE TEAM/TASK FORCE ASSIGNMENT BRIEFING

TIME: 0:30

INTRODUCTION:

As the Strike Team/Task Force Leader you have the responsibility to ascertain and disseminate assignments for your Strike Team/Task Force. You must be able to gather the information from an IAP, the operational briefing and your Division/Group Supervisor.

This activity is based on a wildland fire in California called the McNally Fire. The incident consists of 8 Divisions and 2 branches working 12-hour shifts. The students will assume the role of Strike Team Leader/Task Force Leader and will give a briefing to their subordinates based on the McNally IAP. Groups will be assigned to various Divisions.

DIRECTIONS:

1. Break into groups as described by the instructor and refer to the McNally Fire IAP, in your reference appendix (A).

2. Group assignments are as follows:

a. Group 1	STCR 9480 G Horn	Division A/B
b. Group 2	STEN 6601 C Stump	Division C/E/G/H
c. Group 3	STEN 9430 C Morgan	Division Q
d. Group 4	STCR 1182 G Miller	Division Z/T

3. You will have approximately 10 minutes to discuss and answer questions. The group will designate one member as a spokesperson.

4. You may utilize the Line Assignment Worksheet to assist in answering the questions.

5. Your spokesperson will present the information gathered from the scenario question sheet in the form of a briefing, to the strike team/task force (the class).

BRIEFING STRIKE TEAM/TASK FORCE ON ASSIGNMENT SCENARIO ACTIVITY – STUDENT QUESTIONS

Who do you report to?

Where do you report?

What operational period are you working?

What are your objectives?

What are your safety considerations?

On what channel/frequency would you contact your DIV/Grp Sup?

What is the name of the OPS chief for your operational period?

What Drop Points would you go to for food water equipment on your division?

Are there any significant fire behavior issues for your assigned division?

ADDITIONAL QUESTIONS:

What channel/frequency would you contact FOBS Vanhomer on Division M?

One of your firefighters has been stung by a bee and is showing symptoms of anaphylactic shock. What notifications are you going to make?

Your firefighter was sent to Kern Valley Medical Center. How would you contact him?

UNIT LOG	1. Incident Name	2. Date Prepared	3. Time Prepared
4. Unit Name/Designators	5. Unit Leader (Name and Position)		6. Operational Period

7. Personnel Roster Assigned

Name	ICS Position	Home Base

8. Activity Log

Time	Major Events

9. Prepared by (Name and Position)

Unit 3 – Topic 6

Demobilization

3-6-1

Objectives

A. Describe the process to be followed to ensure that assigned resources are ready for demobilization
B. List the administrative duties which must be completed prior to demobilization
C. Describe how the demobilization process applies to a ST/TFL as opposed to a single resource leader

3-6-2

The Demobilization Process

A. Responsibilities
   1. The Demobilization Unit Leader is responsible for developing the Incident Demobilization Plan
   2. Demobilization and release will take place in accordance with the Incident Demobilization Plan using ICS Form 221 and ICS Form 212, if applicable

Refer to Student Information Sheet 3-6-1 Blank Demobilization Check Out Form, 3-6-2 sample Demobilization Plan and 3-6-3 Incident Demobilization Vehicle Safety Inspection

3-6-3

The Demobilization Process

4. The process should take place in an orderly manner
   a) Obtain demobilization instructions
      1) Confirm demobilization with your incident supervisor
   b) Inspection of assigned equipment
      1) Have personnel check equipment daily

3-6-4

The Demobilization Process

c) Return checked out equipment
   1) Radios
   2) Tents
   3) Sleeping bags
   4) Chainsaws
   5) Hose appliances

Anticipate problems before you start the process and have a plan to solve them. (i.e., missing equipment, repairs needed)

3-6-5

The Demobilization Process

B. Administrative duties for the ST/TFL
   1. Performance evaluations
   2. Unit log (ICS Form 214) completed and turned in
   3. Personnel time finalized
   4. Equipment time finalized

3-6-6

The Demobilization Process

B. Administrative duties for the ST/TFL (cont)
   5. Final inspection of equipment and personnel

3-6-7

The Demobilization Process

C. Check-out
   1. Complete the ICS Form 221
      a) Obtain demobilization form from the Demobilization Unit in the Planning Section
      b) Inspect form to ensure all information is accurate
      c) Complete block #11
         1) Section / Units that you are required to report to will be identified with a check in the appropriate box

3-6-8

The Demobilization Process

d) Demobilization can be relatively painless if you are prepared and plan ahead

3-6-9

The Demobilization Process

e) Return the completed ICS Form 221
   1) Return the completed form to the Demobilization Unit in the Planning Section
   2) Give Demobilization Unit your estimated time of departure and arrival at home base
      - Include feeding and rest stops
      - This time may vary if resources are from different locations
      - Give ETA to STL's home base
      - Contact home agency with ETA's

S-6-10

Travel Home

A. Assemble team for a final briefing
   1. Critique the assignment and performance
      a) Good work should be acknowledged
   2. Perform last visual assessment of personnel and equipment to assure readiness
   3. Discuss travel route / rest stops
   4. Confirm travel frequency
      a) Discuss divert instructions

S-6-11

Travel Home

5. Discuss disbanding instructions
6. Depart the incident
7. Make note of any specific events on return trip
   a) These events should be documented on the ICS Form 214 and transmitted back to the agency responsible for the incident.
8. Maintain contact with your agency dispatch in case of re-routing to another incident

S-6-12

Travel Home

9. Advise personnel of possible diversion to another assignment and the need to be ready at all times during the return trip
   a) Exception: Some local government resources require prior approval from their home agency before being assigned a new incident
10. Contact your command center upon arrival home for final disposition

S-6-13

DEMOBILIZATION CHECKOUT

1. Incident Name/Number	2. Date/Time	3. Demob. No.

4. Unit/Personnel Released

5. Transportation Type/No.

6. Actual Release Date/Time	7. Manifest? ☐ Yes ☐ No Number
8. Destination	9. Notified: ☐ Agency ☐ Region ☐ Area ☐ Dispatch Name: Date:

10. Unit Leader Responsible for Collecting Performance Rating

11. Unit/Personnel

You and your resources have been released subject to sign off from the following:
Demob. Unit Leader check the appropriate box

Logistics Section

- ☐ Supply Unit
- ☐ Communications Unit
- ☐ Facilities Unit
- ☐ Ground Support Unit Leader

Planning Section

- ☐ Documentation Unit

Finance Section

- ☐ Time Unit

Other

- ☐

12. Remarks

13. Prepared by (include Date and Time)

Instructions for completing the Demobilization Checkout (ICS form 221)

Prior to actual Demob Planning Section (Demob Unit) should check with the Command Staff (Liaison Officer) to determine any agency specific needs related to demob and release. If any, add to line Number 11.

Item No.	Item Title	Instructions
1.	Incident Name/No.	Enter Name and/or Number of Incident.
2.	Date & Time	Enter Date and Time prepared.
3.	Demob. No.	Enter Agency Request Number, Order Number, or Agency Demob Number if applicable.
4.	Unit/Personnel Released	Enter appropriate vehicle or Strike Team/Task Force ID Number(s) and Leader's name or individual overhead or staff personnel being released.
5.	Transportation	Enter Method and vehicle ID number for transportation back to home unit. Enter N/A if own transportation is provided. *Additional specific details should be included in Remarks, block # 12.*
6.	Actual Release Date/Time	To be completed at conclusion of Demob at time of actual release from incident. *Would normally be last item of form to be completed.*
7.	Manifest	Mark appropriate box. If yes, enter manifest number. *Some agencies require a manifest for air travel.*
8.	Destination	Enter the location to which Unit or personnel have been released. *i.e. Area, Region, Home Base, Airport, Mobilization Center, etc.*
9.	Area/Agency/ Region Notified	Identify the Area, Agency, or Region notified and enter date and time of notification.
10.	Unit Leader Responsible for Collecting Performance Ratings	Self-explanatory. *Not all agencies require these ratings.*
11.	Resource Supervision	Demob Unit Leader will identify with a check in the box to the left of those units requiring check-out. Identified Unit Leaders are to initial to the right to indicate release. Blank boxes are provided for any additional check, (unit requirements as needed), i.e. Safety Officer, Agency Rep., etc.
12.	Remarks	Any additional information pertaining to demob or release.
13.	Prepared by	Enter the name of the person who prepared this Demobilization Checkout, including the Date and Time.

SAMPLE DEMOBILIZATION PLAN

GAP FIRE DEMOBILIZATION PLAN

I. GENERAL INFORMATION

Functional Units (Operations, Logistics, Finance, Command & General Staff) will advise the Planning Section of resources that are surplus to their functional units. The Planning Section will identify resources surplus to the incident's needs and obtain approval from the Incident Commander for release. The Demob Unit will manage the release and return or reassignment of all surplus resources. The Demob process requires close coordination between the Incident Demob Unit and (Incident Dispatch Location).

The size and location of the Incident Base lends itself to the holding of surplus equipment and personnel while in the demob process.

II. GENERAL GUIDELINES

A NO resources will leave the Incident until authorized to do so by the Incident Commander facilitated through the Demob Unit.

B All releases and travel home or to a reassignment will be in compliance with the National Work Rest Guidelines. Emphasis will be placed to ensure that all released personnel arrive home no later than 22:00 hour's local time or as authorized by the Incident Commander. Resources will have a minimum of at least 8 consecutive hours off duty before beginning a shift or demobilization (re; Sec 23. 1.1 R5 Mob Guide).

C All Vehicles leaving the incident will have a safety inspection and deficiencies will be corrected prior to departure for home or reassignment. In addition, all vehicles will be washed to prevent the spread of noxious weeds.

D All Party Chiefs, Crew Supervisors, and Strike Team Leaders will be briefed by the Demob Unit prior to leaving the incident. The briefing will include: 1) method of travel 2) itinerary 3) manifests with destinations.

E All personnel flying commercial airlines will be given time to shower and dress in clean clothes prior to departure. A photo I.D. and travel authorization number (if necessary) is required by all personnel. The Demob Unit and/or Expanded Dispatch will make all flight arrangements unless another process is agreed upon.

F Notification of Incident personnel will be by posting of "Tentative Releases" in advance. Crew supervisors will be paged when the Demob process is to begin.

G Resources that have been reassigned within Geographic Areas will always be released on the original order and request number.

H Operators of oversize vehicles (e.g. transports) are responsible for obtaining their own permits required for the return trip back to their point of hire.

I Actual departure times and estimated time of arrival (ETA) at final destination will be relayed to Expanded Dispatch upon departure of all resources from the base. This includes all contract equipment and services.

J Performance Ratings are required for:
- a Trainees
- b Outstanding performance
- c Deficient performance
- d By personal request

III. RESPONSIBLITIES

Functional heads (e.g. Section Chiefs) are responsible for determining resource surplus to their needs and submitting written lists to the Planning Section with destination, travel needs and request numbers.

The Demob Unit Leader is responsible for:

- Preparing the Demobilization Plan with input from the TNF Center Manager or Expanded Dispatch.
- Providing Expanded Dispatch with "Tentative" releases.
- Providing Expanded Dispatch with confirmation of departing resources (including contract equipment) with their departure time and ETD at their final destination (if they have their own transportation).
- Making advance notification to incident personnel regarding tentative and final releases.
- Ensuring that all signatures are obtained on the Demob Checkout form (ICS-221).

- Monitoring the Demob process and making necessary adjustments in the process to maintain an orderly and safe release of all resources and ensure accurate and timely flow of release information.

The Incident Commander is responsible for:

- Establishing Incident release priorities in concert with the Geographic Area Coordinator.
- Review and approval of the Demobilization Plan
- Review and approval of tentative release lists.

The Safety Officer is responsible for:

- Identifying any special safety considerations for the Demob Plan.
- Approval of tentative surplus resources

The Planning Section Chief is responsible for:

- Review and approval of the Demob Plan
- Review and approval of the tentative release lists.

The Logistics Section Chief is responsible for:

- Insuring through the Facilities Unit, that all sleeping and work areas are cleaned up prior to release.
- Insuring, through the Supply Unit, that all non-expendable property items are returned or accounted for prior to release.
- Insuring, through Ground Support, that there will be adequate ground transportation during the release process and that all vehicles receive a safety inspection prior to leaving the incident. Any deficiencies must be corrected. Prevention of the spread of Noxious Weeds, by vehicles, will be followed as per (Location)

- Insuring through the Communications Unit that all communications equipment has been returned or accounted for.
- Insuring, through the Food Unit, that there will be adequate meals for those being released and for those remaining in camp.
- Follow the Hazardous Material Haulback Guide (R-5 letter dated 5/24/2000)
- Review and approval of the Demob Plan.
- Approval of tentative surplus (Logistics) resources.

The Finance Section Chief is responsible for:

- Completion of all time and equipment reports for released resources.
- Coordination for any ADO payoff(s).
- Contract equipment payments.
- Reviewing and providing excessive shift length justification with IC's signature.
- Approval of tentative surplus (Finance) personnel.
- Review of the Demob Plan.

The Operations Section Chief is responsible for:

- Review of the Demob Plan.
- Approval of the tentative surplus (Operations) personnel.

The Liaison Officer is responsible for:

- Providing any agency specific requirements for the Demob Plan.

IV. RELEASE PRIORITIES

The following release priorities have been established by the IC in concert with TNF Expanded Dispatch and the GACC:

1. OES Type 1,2,& 3 Engines (Priorities coordinated with OES Representative)
2. CDF Engines (Priorities coordinated with CDF Agency Representative)
3. CDF Crews (Priorities coordinated with CDF Agency Representative)
4. State and Local Government Overhead
5. Forest Service Engines
6. Forest Service Type 2 crews
7. Federal Overhead

V. RELEASE PROCEDURES

Section Chiefs and Command & General Staff will identify surpluses within their units and submit a list (or lists) to the Demob Unit Leader in the Planning Section.

Demob will combine lists and form a "Tentative Release" list to be submitted to the Planning Section Chief and Incident Commander for review and approval. The Demob Unit will coordinate with the Resources Unit so that the resource status board(s) can be kept current. All incident formed strike teams and/or task forces must be disbanded before IC approval and release from the incident.

After IC approval, Demob will notify Expanded Dispatch of the tentative releases and obtain approval. Demob will provide a minimum of 24 hours notice for all resources. Demob will also give Ground Support sufficient time to arrange for ground transportation for crews and overhead from the base to the departure point.

Demob will advise Expanded Dispatch of all surplus resources available for release, specifying those needing air transportation, identifying the nearest commercial airport to their home unit.

Expanded Dispatch will notify the appropriate GACC of all State and Federal surplus resources.

Expanded Dispatch will notify GVECC/OES R-4 Dispatch of all surplus/released OES 5 Party resources.

If the resource is to reassigned, Expanded Dispatch will so advise the Demob Unit. The resource will be released to the new assignment and Expanded Dispatch advised of the ETD & ETA.

If there is no reassignment for the resources and the resource has transportation, Expanded Dispatch will advise Demob to release the resource back to the home unit. If

the resource requires ground transportation, the Ground Support Unit will arrange transportation and coordinate with the Demob Unit.

When the Demob Unit receives confirmation of the release from Expanded Dispatch, notification will be as follows:

- Personnel to be released and prepare transportation manifests,
- Provide the crew leader or individual the Demob Checkout form (ICS-221)
- Crew leader or individual will take the Demob Checkout form (ICS-221) to the destinations checked off to:
    - Communications U.L.(if communications equipment has been issued).
    - Ground Support U.L. (for vehicle safety inspection as needed)
    - Facilities U.L. (to be sure all sleeping areas are clean)
    - Supply U.L. (to return all non-expendable property)
    - Finance Unit (to close our time and obtain Fire Time Report)
    - Documentation Unit (ie: unit logs, performance ratings)
    - Demob U.L. (WITH ALL SIGNATURES)

Demob Unit will be last stop in the release process. Demob will:

- Collect and sign-off the Demob Checkout form (ICS-221)
- Brief the released personnel on method of travel, schedule, and time frames.
- Release the resource from the base.
- Advise Expanded Dispatch of ETD & ETA to the home base or transportation point.
- Coordinate with the Resources Unit so that resource status is kept current.
- Coordinate with Security for inspection, if required by the Incident Commander.

VI. TRAVEL INFORMATION- Incident Directory

INCIDENT BASE PHONE NUMBERS

COMMUNICATIONS_____
DEMOB- _____
PLANS- _____
SUPPLY- _____
FINANCE- _____
PIO- _____

GROUND SUPPORT- _____

EXPANDED DISPATCH - _____

RADIO FREQUENCIES:

AGENCY DISPATCH:

FOREST NET: **RX** _____
TX _____

ICS 212
INSTRUCTIONS

The two master documents accompanying this cover sheet are the two pages of the ICS 212. These two pages should be copied back to back.

Incident Demobilization Vehicle Safety Inspection

Vehicle Operator: Complete items above double lines prior to inspection

Incident Name	Order No.	
Vehicle: License No.	Agency	Reg/Unit
Type (Eng., Bus., Sedan)	Odometer Reading	Veh. ID No.

Inspection Items	Pass	Fail	Comments
1. Gauges and lights. See back*			
2. Seat belts. See back *			
3. Glass and mirrors. See back*			
4. Wipers and horn. See back *			
5. Engine compartment. See back			
6. Fuel system. See back *			
7. Steering. See back *			
8. Brakes. See back *			
9. Drive line U-joints. Check play			
10. Springs and shocks. See back			
11. Exhaust system. See back *			
12. Frame. See back *			
13. Tire and wheels. See back *			
14. Coupling devices. * Emergency exit (Buses)			
15. Pump Operation			
16. Damage on Incident			
17. Other			

*** Safety Item - Do not Release Until Repaired**

Additional Comments:

HOLD FOR REPAIRS	RELEASE
Date / Time	Date / Time
Inspector Name (Print)	Operator Name (Print)
Inspector Signature	Operator Signature

This form may be photocopied, but three copies must be completed.
Distribution: Original to Inspector, copy to vehicle operator, copy to Incident Documentation Unit

ICS 212 2/96

INSPECTION ITEMS

(REF: FEDERAL MOTOR CARRIER SAFETY REGULATIONS

HOLD FOR REPAIRS IF:

1. Gauges & Lights	- Speedometer inoperative. (Federal Motor Carrier Safety Regulation (FMCSR 393.82) - All required lighting devices, reflectors and electrical equipment must be properly positioned, colored and working. (FMCSR 393.9)	8. Brakes	- Brake system has any missing, loose, broken. out of adjustment or worn out components. - Brake system has any air or fluid leaks. (FMCSR Appendix G, Sub. B) - Brake system has any other deficiencies as described in FMCSR Appendix G. Sub. B.
2. Seat Belts	- Any driver's or right outboard seat belt, missing or inoperative. (FMCSR 393.93) - Passenger carrying have missing or inoperative seat belts in passenger seats, Buses excepted.	10. Springs & Shocks	- Any U-bolt, spring, spring hanger or any other axle positioning part is cracked, broken, loose or missing resulting in any shifting of an axle from it's normal position. (FMCSR Appendix G, Sub. B)
3. Glass & Mirrors	- Any windshield crack over 1/4" wide. - Any damage 3/4" or greater in diameter. - Any 2 damaged areas are closer than 3" to each other. - Any crack less than 1/4" wide intersects with any other crack. (FMCSR 393.60) - Any crack or discoloration in the windshield area lying within the sweep of the wiper on either side of the windshield (FMCSR Appendix G, Sub. B) - Any required mirror missing. One on each side, firmly attached to the outside of the vehicle, and so located as to reflect to the driver a view of the highway to the rear along both sides of the vehicle. See Exceptions (FMCSR 393.80) - Any required mirror broken.	11. Exhaust	- Any leaks at any point forward of or directly below the driver and/or sleeper compartment. - Bus exhaust leaks or discharge forward of the rearmost part of the bus in excess of 6' for Gasoline powered or 15" for other then Gasoline powered, or forward of any door or window designed to be opened on other then Gasoline powered bus. (Exception: emergency exit) - Any part of the exhaust system so located as would be likely to result in burning, charring, or damaging the wiring, fuel supply or any combustible part of the vehicle. (FMCSR Appendix G, Sub. B)
4. Wipers & Horn	- Wiper blade(s) fail to clean windshield within 1" of windshield sides. (FMCSR 393.78) - Horn, missing, inoperative, or fails to give an adequate and reliable warning signal. (FMCSR 393.81)	12. Frame	- Any cracked, broken. loose or sagging frame member. - Any loose or missing fasteners including those attaching engine, transmission, steering gear, suspension, body or frame to contact the tire or wheel assemblies. - Adjustable axle assemblies with locking pins missing or not engaged. (FMCSR Appendix G, Sub. B)
5. Engine Compartment	- Low fluid levels - Loose or leaking battery - Excessive leaks - Cracked or deteriorated belts or hoses. - Any condition of impending or probable failure.	13. Tires & Tread	- Tread depth less than 4/32" on steering axle. - Less than 2/32" on any other axle. - Any body ply or belt material exposed through tread or sidewall. - Any tread or sidewall separation. - Any cut exposing ply or belt material. - Any tire marked "Not for highway use". - A tube-type radial tire without radial tube stem markings. - Any mixing of bias and radial tires on the same axle. - Any tire not properly inflated or overloaded. - Any bus with recapped tires. (FMCSR Appendix G, Sub. B)
6. Fuel System	- Visible leak at any point. - Fuel tank cap missing. - Fuel tank not securely attached to vehicle by reason of loose, broken or missing mounting bolts or brackets. (FMCSR Appendix G, Sub. B)		
7. Steering	- Steering wheel does not turn freely, has any spokes cracked, loose spokes or missing parts. - Steering lash not within parameters, see chart, in FMCSR 393.209. - Steering column is not secure - Steering system; any U-joints worn, faulty or repaired by welding. - Steering gear box is loose, cracked or missing mounting bolts. - Pitman arm loose. - Power Steering; any components inoperative. Any loose, broken or missing parts. Belts frayed, cracked or slipping. - Any fluid leaks, fluid reservoir not full. (FMCSR 393.209)		- Lock or slide rings; any bent, broken. cracked, improperly seated, sprung or mismatched ring(s). - Wheels and rims; any cracked or broken or has elongated bolt holes. - Fasteners (both spoke and disc wheels). Any loose, missing, broken, cracked, stripped or otherwise ineffective fasteners. - Any cracks in welds attaching disc wheel disc to rim. - Any crack in welds attaching tubeless demountable rim to adapter. - Any welded repair on aluminum wheel(s) on a steering axle or any welded repair other then disc to rim attachment on steel disc wheel(s) on steering axle. (FMCSR Appendix G. Sub. B)

TACTICS AND SAFETY

Unit 4
Topic 1

Risk
Management

1

Objectives

A. Understand the concept risk management and the Risk Management Process
B. Understand risk assessment and its applications
C. Understand the concepts of risk control
D. Know how to properly refuse risk

4-1-2

Risk Management

History

The following process was adapted from the US Army for our emergency response mission

You have the responsibility and the authority to implement a Risk Management Process

1. As a ST/TFL, you coordinate the activities of a set of emergency resources, each having their own leader
   a) You apply and adjust the tactics directed by the DIVS into tactical assignments for each resource assigned to your ST/TF

(Refer to Student Information Sheet 4-1-1 ICS Form 215A)

4-1-3

Risk Management

2. Part of this application of tactics means a risk management process must be applied to the decision to commit any resource to an assignment in a hazardous environment
   a) Risks are addressed in a general sense in the ICS 215A and the IAP. The DIVS will further address risk as they apply to the ST/TF

4-1-4

Risk Management

b) But a risk management process cannot truly be planned and implemented until you see the work site and associated emergency environment

c) Advise all personnel on the ST/TF that they are Safety Officers and need to actively participate in the process

4-1-5

Risk Management Process

What is the Risk Management Process?
(Refer to the Incident Response Pocket Guide)

A. Definition: A process of evaluating and mitigating hazards in the work environment
B. The steps of the risk management process
   1. Situation Awareness
   2. Hazard Assessment
   3. Hazard Control
   4. Decision Point
   5. Evaluate

4-1-6

Risk Management Process

C. Breakdown of the steps
   1. Situation Awareness
      a) Gather information
         1) Objectives
         2) Communications
         3) Fire Behavior (history, current and predicted)
         4) Weather (current and predicted)
         5) Chain of Command
         6) Complete size-up

4-1-7

Risk Management Process

b) Where can you gather information?
   1) Personal observations
   2) IAP
   3) Briefings
   4) Prior shift
   5) Adjoining forces
   6) Air resources
   7) Scouts
   8) Field observers

4-1-8

Risk Management Process

c) Rapid information gathering requires that you know reliable resources, make clear requests and focus on your tactical objectives

4-1-9

Risk Management Process

d) Barriers to situation awareness
   1) Fatigue
   2) Time pressure
   3) Inexperience
   4) Overconfidence
   5) Distraction
   6) Supervisory pressure
   7) Peer pressure / group thinking
   8) Subjective perception (everyone sees things differently)

4-1-10

Risk Management Process

e) These barriers interfere with accurate information gathering and distort the perception of the current situation

4-1-11

Risk Management Process

2. Hazard Assessment
   a) Identify potential hazards
      1) Probability
   b) Estimate potential hazard
      1) Worst case scenario
   c) Utilize job aid checklists
      1) Look up, down, around
      2) 18 Situations
      3) Common denominators of fatality fires, etc.

4-1-12

Risk Management Process

d) Some simple key factors
   1) Know the mission
   2) Know your authority
   3) Know essential information
   4) Set strategic priorities
   5) Have alternative plans and contingencies
   6) Communicate clearly and to the point

4-1-13

Risk Management Process

3. Hazard Control
   a) When a hazard is identified, measures must be implemented to reduce or eliminate the hazard
   b) Risk controls can vary from a simple briefing that provides awareness to an elaborate aerial lookout and communications network on a major incident

4-1-14

Risk Management Process

c) Job aid checklists
   1) Ten Standard Fire Orders
   2) LCES system
   3) 2-in-2-out rule
d) PPE are basic risk controls
e) Ensure that PPE is used at all times
f) Safety equipment
   1) Shoring
   2) Flagging, etc.

4-1-15

Risk Management Process

Lookouts
Communications
Escape Routes
Safety Zones

g) LCES is the heart of the Ten Standard Fire Orders and can be adapted to all risk incidents

h) THE MINIMUM MANDATORY RISK CONTROLS ON EVERY ASSIGNMENT WILL INCLUDE ESTABLISHING THE LCES SYSTEM

i) Every incident will dictate what other risk controls must be implemented

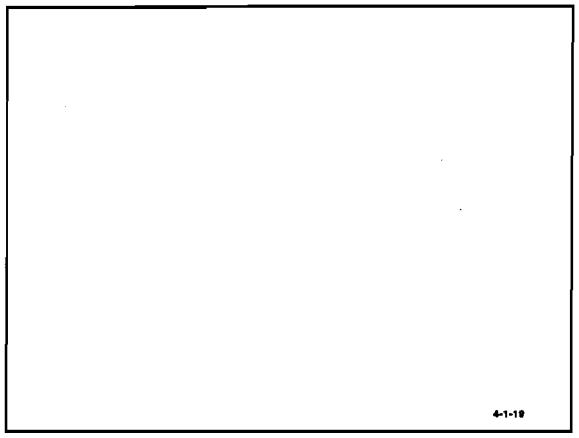
4-1-16

Student Activity

Refer to Student Activity Sheet 4-1-1
Hazard Assessment / Risk Controls / Mitigation

4-1-17

4-1-18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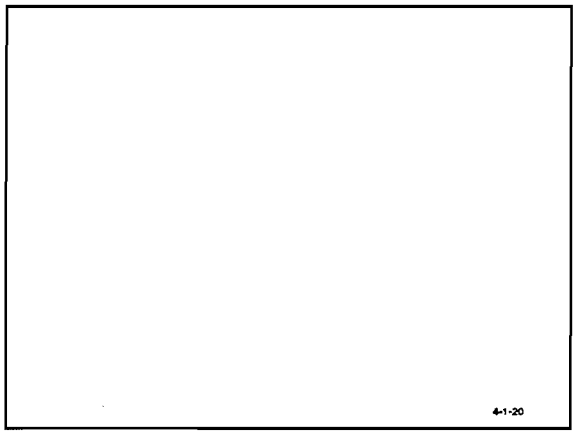
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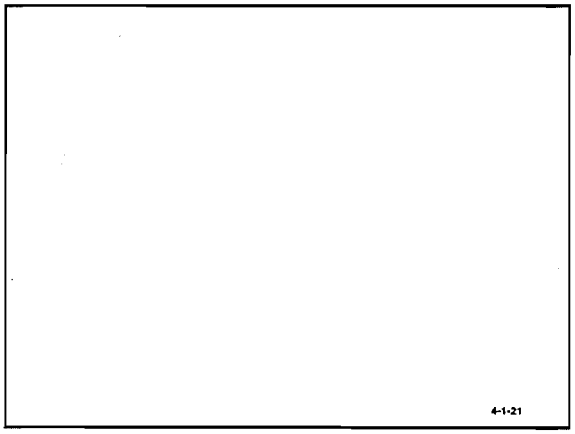
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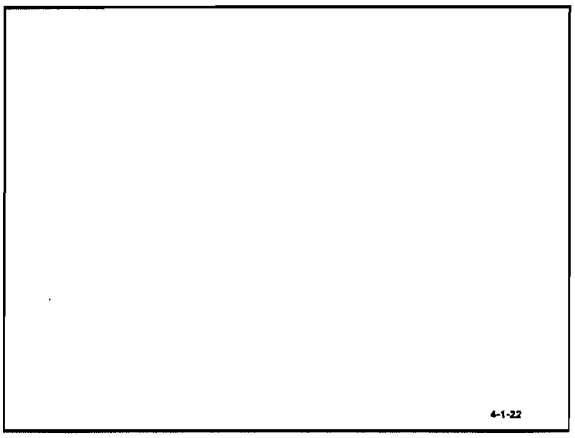
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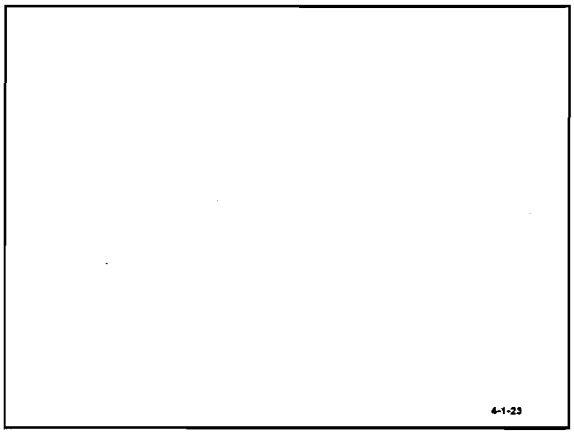
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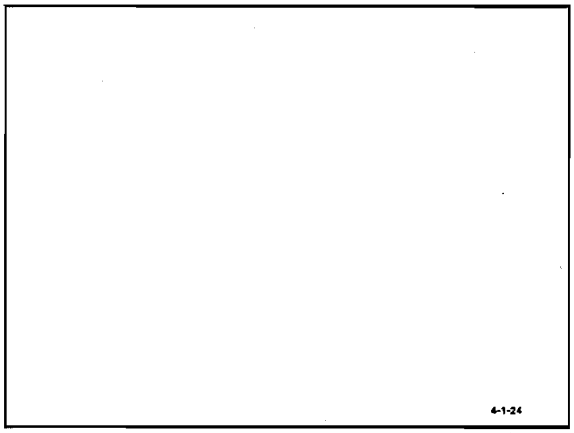

4-1-24

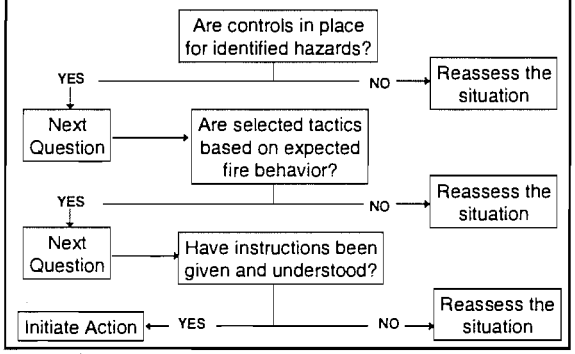
Risk Management Process

4. Decision Point
   a) You should ask the following three questions before initiating any action on an incident (Go/No Go)

4-1-25

Risk Management Process

Decision Point – Go/No Go



Risk Management Process

Why do people take on assignments when it is obvious the answer to one or more of these questions is "NO?"

(Discuss)

(Refer to Student Information Sheet 4-1-2; Decision Making Under Stress)

4-1-27

Risk Management Process

b) The five hazardous attitudes that effect the decision making process
   1) Anti-Authority – Disregards procedures and directions
   2) Impulsive – Acts without adequate situational awareness
   3) Invulnerable – Does not think about the worst case scenario
   4) Macho – Overconfident
   5) Resigned – Lets events occur without taking action

4-1-28

Risk Management Process

5. Evaluate
   a) ST/TFL's earn their pay in this step of the Risk Management Process. You must coordinate the resources working for you so they can accomplish the tactical objectives of the plan
   b) Reevaluate during the entire operational period to ensure the plan is working

4-1-29

Risk Management Process

c) Whenever your ongoing reevaluation of the operation tells you an adjustment is needed, it should be a cue to update your situational awareness, hazard assessment and control
d) Build an understanding with ST/TF personnel of the objectives and safety concerns

4-1-30

Risk Management Process

e) Assign company officers to direct operations based on their training and experience
f) Actively solicit feedback
g) Maintain control

4-1-31

Risk Assessment

A. Practical Application
1. Talk up the "what-if's" to maintain alertness
2. Briefings at times of situational transition
   a) "Here's what we face"
   b) "Here's what I think we should do"
   c) "Here's why"
   d) "Here's what I think we should keep an eye on" (trigger points)
   e) "Now talk to me"

4-1-32

How To Properly Refuse Risk

A. Everyone has a right and obligation to report safety problems
B. Everyone also has the obligation to identify alternatives for completing the assignment

(Refer to Student Information Sheet 4-1-3 How to Properly Refuse Risk)

4-1-33

How To Refuse Risk

C. Turning down an assignment
   1. Cannot take assignment(s) as given
   2. Unable to negotiate an alternate solution
   3. Based on assessment of risks
      a) Violation of safe work practices
      b) Environmental conditions
      c) Lack of qualification or experience
      d) Defective equipment
      e) Lack of logistical support

4-1-34

How To Refuse Risk

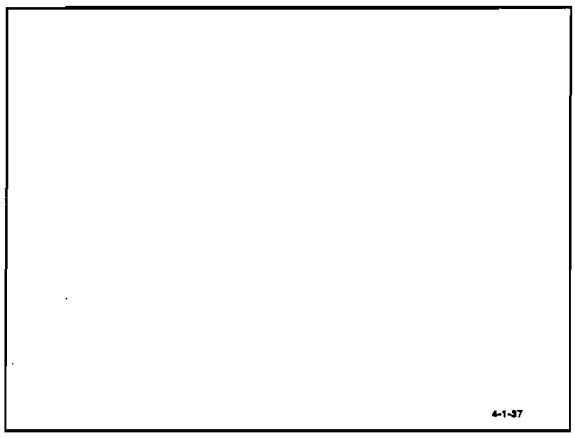
D. Notifications
   1. Individual notifies their supervisor
   2. Individual / supervisor notifies Safety Officer immediately
   3. If an assignment is turned down and offered to another resource, the supervisor must notify of prior refusal

4-1-35

Student Activity

Refer to Student Activity Sheet 4-1-2
Gavilan Fire – Go/No Go

4-1-36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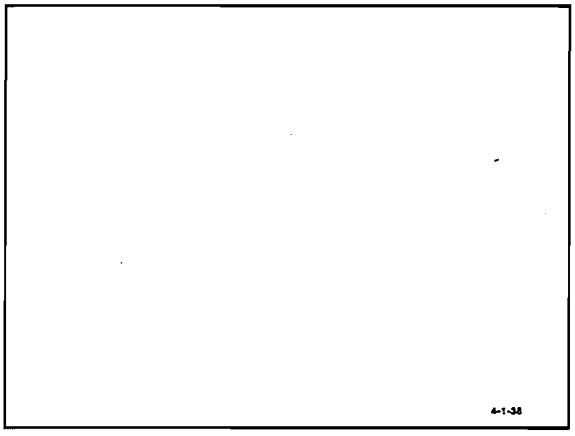
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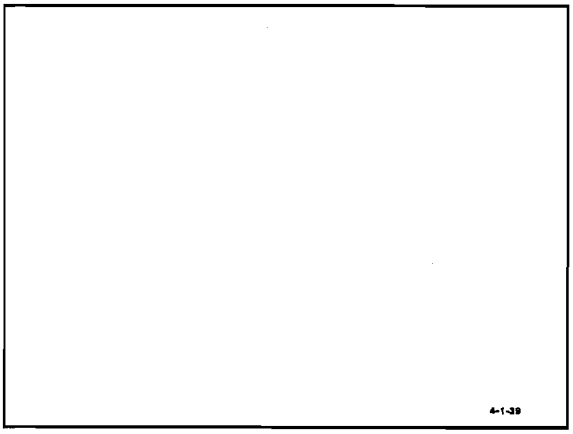

4-1-39

Gavilan Fire – Go/No Go

Location: San Diego County
Month: February 2002
Time: 1400 hrs
Winds: E-NE @12-20 (Red Flag Warning)
Temp: 80 F
One hour FM: 12% (Heavy brush, N Aspect)
RH: 18%

4-1-40

Student Activity 4-1-2

You have arrived at your assignment of structure protection and have met up with the OPS. You're looking down at the white house on the point that he wants your ST/TF to protect. The fire is still below but has spotted above the house, which is two minutes away from this location

41

Step 1 – Situation Awareness

- Obtain briefing
- Tailgate/Safety session with ST/TF
- Identify hazards
- Current and future situation
- Need for action

4-1-42

Step 2 – Hazard Assessment

- Assess hazards (utilize Fireline Handbook and Pocket Response Guide)
- Assess the impact of each hazard in terms of potential loss, cost & mission

4-1-43

Step 3 – Hazard Control

- Determine the best approach to mitigate or control the risk from hazards assessed
- Establish controls (LCES, limit exposure time)

4-1-44

Step 4 – Decision Point

- Consider whether controls are in place for identified hazards
- Reject the action if the risk is unacceptable (Refusal of risk process)
- Go/No Go

4-1-43

Step 5 - Evaluation

- Ensure controls are implemented and accomplished to standards
- Supervise/evaluate effectiveness of controls and decisions
- Adjust controls as necessary and as the situation changes
- Anticipate consequences of decisions. Have alternate plans & contingencies
- Maintain feedback line

4-1-46

The white house has been saved. OPS has now instructed your ST/TF to protect the houses indicated. In the next few slides you will observe the fires progression. Be prepared to present your risk analysis based on the observed fire behavior

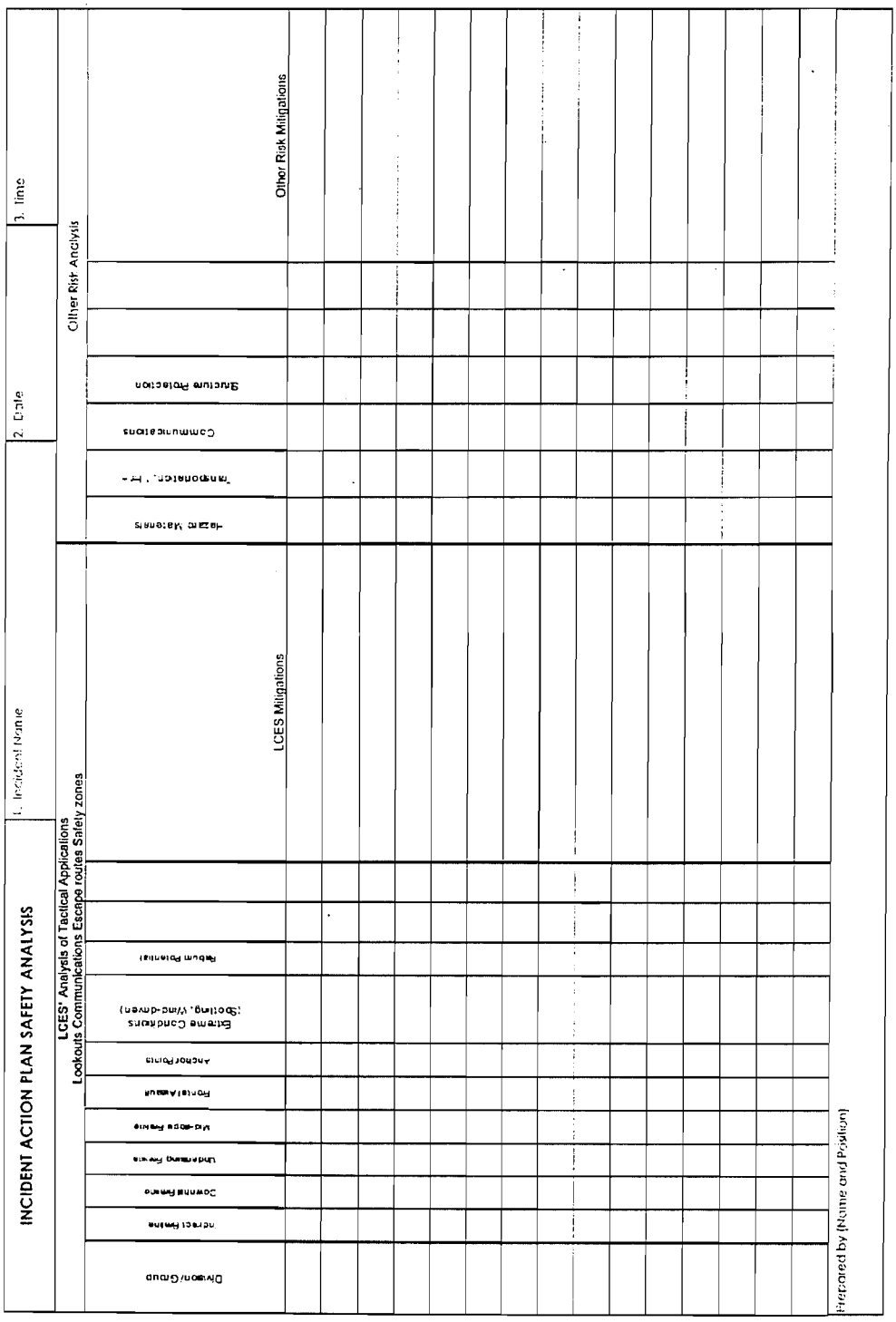
4-1-47

Utilizing the Risk Management Process, what is your plan?

1. Situation Awareness
2. Hazard Assessment
3. Hazard Control
4. Decision Point
5. Evaluation

4-1-48

The following information sheet is a sample of the ICS 215A and can be downloaded at http://cdfweb/Library/ElectronicForms/ICSForms.html



INCIDENT ACTION PLAN SAFETY ANALYSIS	1. Incident Name	2. Date	3. Time

LCES* Analysis of Tactical Applications Lookouts Communications Escape routes Safety zones												Other Risk Analysis						
Division/Group	Indirect Fireline	Downhill Fireline	Understung Fireline	Mid-slope Fireline	Frontal Assault	Anchor Points	Extreme Conditions (Spotting, Wind-driven)	Rebum Potential			LCES Mitigations	Hazard Materials	Transportation, 1 Hr +	Communications	Structure Protection			Other Risk Mitigations

Prepared by (Name and Position)

DECISION MAKING UNDER STRESS

(Ted Putnam)

1. The greater the stress, the greater the likelihood that a decision-maker will choose a risky alternative.

2. Groups experiencing substantive conflict more frequently employ creative alternatives to achieve more productive decisions than groups without conflict.

3. The greater the group conflict aroused by a crisis, the number of communication channels available to handle incoming information decrease.

4. During crisis, the ability of the group to handle difficult tasks requiring intensely focused attention is decreased.

5. The greater the stress, the greater the tendency to make a premature choice of alternatives for a correct response.

6. The greater the stress, the less likely that individuals can tolerate "ambiguity."

7. Under increasing stress, there is a decrease in productive thoughts and an increase in distracting thoughts.

8. The greater the stress, the greater the distortion in perception of threat and poor judgment often occurs.

9. The greater the fear, frustration and hostility aroused by a "crisis," the greater the tendency to aggression and escape behaviors.

10. In a stressful situation (whether real or perceived stress), only immediate survival goals are considered which means that longer range considerations must be sacrificed.

HOW TO PROPERLY REFUSE RISK

Every individual has the right and obligation to report safety problems and contribute ideas regarding their safety. Supervisors are expected to give these concerns and ideas serious consideration. When an individual feels an assignment is unsafe they also have the obligation to identify, to the degree possible, safe alternatives for completing that assignment. Turning down an assignment is one possible outcome of managing risk.

A "turn down" is a situation where an individual has determined they cannot undertake an assignment as given and they are unable to negotiate an alternative solution. The turn down of an assignment must be based on an assessment of risks and the ability of the individual or organization to control those risks. Individuals may turn down an assignment as unsafe when:

1. There is a violation of safe work practices.
2. Environmental conditions make the work unsafe.
3. They lack the necessary qualifications or experience.
4. Defective equipment is being used.

- Individual will directly inform their supervisor that they are turning down the assignment as given. The most appropriate means to document the turn down is using the criteria (10 Fire Orders, 18 Watch Out Situations, etc.) outlined in the Risk Management Process.

- Supervisor will notify the Safety Officer immediately upon being informed of the turn down. If there is no Safety Officer, notification shall go to the appropriate Section Chief or to the Incident Commander. This provides accountability for decisions and initiates communication of safety concerns within the incident organization.

- If the supervisor asks another resource to perform the assignment, they are responsible to inform the new resource that the assignment has been turned down and the reasons that it was turned down.

- If an unresolved safety hazard exists or an unsafe act was committed, the individual should also document the turn down by submitting a SAFENET (ground hazard) or SAFECOM (aviation hazard) form in a timely manner.

These actions do not stop an operation from being carried out. This protocol is integral to the effective management of risk as it provides timely identification of hazards to the chain of command, raises risk awareness for both leaders and subordinates, and promotes accountability.

HAZARD ASSESSMENT/RISK CONTROLS/MITIGATION

TIME: 0:30

INTRODUCTION:

As a Strike Team/Task Force Leader, you have the responsibility for the safety of all personnel within your division or functional assignment. You must be able to assess hazards quickly and apply risk control measures to mitigate those hazards.

DIRECTIONS:

You will be shown slides with corresponding scenario descriptions. Working within your group, you are to perform a hazard assessment and then determine risk controls that would mitigate the hazards identified. One person from each group will present your list to the rest of the class for discussion.

ALL RISK Strike Team/Task Force Leader
Slide Narratives

SLIDE #1: Building collapse with USAR and Dog Team
You are the Strike Team Leader with a Type I Engine Strike Team activated on a large earthquake. Your initial assignment is a nursing home building collapse. You are to: 1) Control any fire 2) Locate and rescue survivors and 3) Identify location of deceased for later removal. You have one Tech Specialist and one Urban Search and Rescue Dog for assistance.

HAZARD ASSESSMENT?

RISK CONTROL / MITIGATION?

SLIDE #2: I-Zone structure with timber fire background at night
You arrive at a wildland fire threatening numerous homes you are assigned as a Task Force Leader with: Two Type II Engines, one Type I crew, one Type II Dozer/transport, and one Type I water tender. You are <u>not</u> familiar with the area and have <u>not</u> seen it in daylight. You are assigned to a division with multiple structures on narrow driveways. Ash and embers are falling on your location.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

SLIDE #3: Commercial passenger plane down on a street in a commercial area
The plane aborted take off and went off the end of the runway. You are dispatched as a Strike Team Leader of Type I Engines to be formed at the incident. Upon your arrival this is what you see.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

SLIDE #4: Military hand crew on road with military transport trucks
You are assigned as a Task Force Leader for military troops used as a hand crew. Your Task Force consists of 80 troops with military 6x6 for transportation. When arriving on your assignment at the drop off point, you hear the Operation Section Chief alert the divisions to a predicted wind shift.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

SLIDE #5: Line assignment, two structure Engines on dirt road under power lines
You are the Strike Team Leader on a Type II Engine Strike Team. Due to a mechanical problem with your vehicle, you arrive on your assignment well after your Strike Team. The adjacent division is having serious problems holding a firing operation. Upon your arrival this is what you see.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

SLIDE #6: Rear view of Dozer working in heavy brush direct attack
You and your Type II Dozer Strike Team are assigned to construct direct line in heavy brush. The Safety Officer at the morning operational briefing advised that the division you are assigned to may have open mine shafts.

HAZARD ASSESSMENT?

RISK CONTROLS / MITIGATION?

Risk Management Process - Gavilan Incident/Go-No Go

TIME: 0:30

INTRODUCTION:

As a Strike Team/Task Force Leader you, are responsible for the safety of all personnel on your team. You must be able to quickly assess hazards and apply the Risk Management Process to identify and mitigate those hazards.

DIRECTIONS:

- View the Gavilan Fire slide presentation and follow the verbal instructions given by the instructor.

SCENARIO:

You have arrived at your assignment of structure protection and have located the OSC at N. Stage Coach Lane and Vista Del Lago. You're looking down at Vista Del Lago and the OSC points out the white house on the point and the houses above it as threatened structures he wants you to protect. The fire is below the structures and has spotted above the white house, which is two minutes away.

Location:	San Diego, Co.
Month:	February, 2002
Time:	1400 hours
Winds:	E-NE @ 12-20 MPH (Red Flag Warning)
Temperature:	80° F
One Hour Fuels:	12% (heavy brush, N aspect)
RH:	18%

GROUP ASSIGNMENT:

1. List the Risk Management components during each step in the process using your Student Activity Sheet.
2. Utilize your Fireline Handbook and Incident Response Pocket Guide

Situation Awareness (Step One)

Hazard Assessment (Step Two)

Hazard Control (Step Three)

Decision Point (Step Four)

Evaluation (Step Five)

Unit 4 Topic 3
Tactical Considerations-Wildland/Urban Interface

4-3-1

Objectives

A. Understand the concept of wildland perimeter control
B. Understand the commitment of structure protection
C. Understand the importance of orienting yourself to the area and situation
D. Know the structure triage guidelines
E. Know the components of structure assessment
F. Know the structure protection guidelines

4-3-2

Wildland Tactical Considerations

A. Orientation
   1. It is imperative that resources initiate a general familiarization of the assigned location as soon as possible
      a) Determine cardinal directions and prominent landmarks
      b) Determine road network and access points to key tactical positions and likely escape routes

4-3-3

Wildland Tactical Considerations

c) Ascertain the predicted fire behavior analysis and fire weather forecast
d) Locate and determine feasibility of water sources
e) Confirm who your supervisor is
f) Confirm the specifics of your assignment
g) Confirm the resources available to you

4-3-4

Wildland Tactical Considerations

h) Identify adjacent resources
i) Confirm communication frequencies
   1) Command net
   2) Tactical net
   3) Air to ground net

4-3-5

Wildland Tactical Considerations

B. Wildland fire control operations and safety
   1. Strategic determinations must be based upon
      a) Fire order number 2: "Initiate all action based on current and expected fire behavior"

4-3-6

Wildland Tactical Considerations

b) Evaluation and prioritization of values at risk
   1) Life safety of assigned personnel and civilians
      - Determine and confirm LCES

4-3-7

Wildland Tactical Considerations

2. Transitioning from wildland fire perimeter control to structure protection
   a) The distinction must be made as to whether you are engaged in perimeter control or structure protection
      1) This does not preclude the possibility of direct attack on a fire if that is the best tactic for protecting the structure

4-3-8

Wildland Tactical Considerations

b) Once you are committed to structure protection, the critical distinction to secure the structure(s) takes precedence over perimeter control
   1) Once assigned to structure protection, as opposed to perimeter control you may
      - Have unburned fuel between you and the fire
      - Be attempting frontal assault on the fire

4-3-9

Wildland Tactical Considerations

2) It is important to remember that you are still in a wildland fire environment

4-3-10

Urban Interface Incidents

A. Structure Triage Guidelines
   1. Firefighter safety is the primary consideration when evaluating whether a structure can be protected
   2. The three categories of structures
      a) Those that are <u>not threatened</u>
      b) Those that are <u>threatened</u> and have the potential of being saved
      c) Those that are <u>not able to be saved</u>; too dangerous to protect

4-3-11

Urban Interface Incidents

3. Factors to consider during structure triage
   a) FIREFIGHTER SAFETY
   b) Safety zone availability
      1) Is there time to prepare a safety zone
      2) Is it large enough for personnel on hand

4-3-12

Urban Interface Incidents

c) Proximity of fuels and predicted flame length to structure
   1) No defensible space
d) Position on slope relative to fire spread
e) Fire behavior and intensity
   2) The greater the intensity, the wider the defensible space needed

4-3-13

Urban Interface Incidents

f) Flammability of roof and siding
   1) Wood roof and siding
   2) Vinyl siding
g) Timing and available resources
   1) Time to position resources
   2) Lack of resources

4-3-14

Urban Interface Incidents

4. Factors that may make an attempt to save a structure unsuccessful or too dangerous are
   a) No safety zone and refuge available
   b) No place to park engine safely
   c) Fire is making a sustained run and there is little or no clearance

4-3-15

Urban Interface Incidents

d) Fire behavior is extreme
   1) Spot fires
   2) Significant fire runs
e) Water supply will not last as long as the threat
f) Fire's intensity dictates you leave the area NOW
g) Roof is more than ¼ involved

4-3-16

Urban Interface Incidents

h) Fire inside the structure
   1) Windows broken
   2) Windy conditions
i) You cannot safely remain at the structure and your escape route may be compromised
j) If a structure becomes well involved, leave it and move on to one that can be saved

4-3-17

Urban Interface Incidents

B. Structure Assessment Checklist components
   1. Address / property name
      a) Numerical street address, ranch name, etc.
      b) Number of residents on site
   2. Road access
      a) Road surface
         1) Paved, gravel, dirt

4-3-18

Urban Interface Incidents

b) Adequate width, vegetation clearance, safety zones along the road
c) Undercarriage problems
   1) 4 X 4 access only
d) Turnouts & turnarounds
e) Bridge load limits
f) Stream crossings
   1) Approach angle
   2) Crossing depth and surface

4-S-19

Urban Interface Incidents

g) Terrain
   1) Road slope
   2) Location on slope near chimneys
   3) Saddles
   4) Canyon bottom
h) Grade
   1) Greater than 15%

4-S-20

Urban Interface Incidents

3. Structure / building
   a) Single residence or multi complex, outbuildings (barn, shed)
   b) Does building have unknown or hazardous materials?
   c) Exterior walls
      1) Stucco, wood, wood shake, etc.

4-S-21

Urban Interface Incidents

d) Large unprotected windows facing heat source
e) Proximity of any above-ground fuel tanks
   1) LPG, gas vault
f) Roof material
   1) Wood shake, vinyl, non-combustible
g) Eaves
   1) Covered with little overhang
   2) Exposed with large overhang

4-S-22

Urban Interface Incidents

h) Other features
   1) Wood deck
   2) Wood patio cover
   3) Furniture
   4) Fencing
   5) Fire wood pile

4-S-23

Urban Interface Incidents

4. Clearances / exposures / defensible space
   a) Structure location
      1) Narrow ridge
      2) Canyon
      3) Mid-slope
      4) Chimney

4-S-24

Urban Interface Incidents

b) Adequate clearance around structure – minimum of 100'
   1) The steeper the slope, the more clearance required
c) Surrounding fuels
   1) The larger and denser the fuels, the more clearance required

4-3-25

Urban Interface Incidents

d) Flammable fuels
   1) Trees, ladder fuels, shrubs
   2) Fuels adjacent to structures / improvements
      - Is there time to remove these fuels?
e) Other combustibles near structure
   1) Wood piles, furniture, fuel tanks

4-3-26

Urban Interface Incidents

f) Is there adequate clearance around fuel tank?
g) Power lines or transformers
   1) DO NOT park under lines

4-3-27

Urban Interface Incidents

5. Hazardous materials
   a) Chemicals, pesticides, herbicides, petroleum products, paint products
      1) Look for symbols such as Department of Transportation (DOT), National Fire Protection Association (NFPA), etc.

4-3-28

Urban Interface Incidents

6. Water sources
   a) Hydrant / standpipe
      1) GPM, size, pressure (static, residual)
   b) Other sources
      1) Storage tank
      2) Swimming pool
      3) Hot tub
      4) Pond
      5) Irrigation ditch / canal

4-3-29

Urban Interface Incidents

7. Evacuation
   a) Is safe evacuation possible?
      1) Yes – Coordinate with on-scene law enforcement and emergency services personnel
      2) No – Safe refuge (shelter in place)

4-3-30

Urban Interface Incidents

8. Estimated resources for protection
   a) Numbers and types of engines, water tenders, crews, dozers
   b) Rule of Thumb One engine per structure, one additional engine for every 4 structures to be used as back-up and for patrol. For structures that are close together (50' or less), one engine may be adequate to protect 2 structures
   c) Is aviation support available?

4-3-31

Urban Interface Incidents

C. Structure Protection Guidelines
   1. DO NOT enter a structure unless you are
      a) Using the structure as a refuge

Anytime you take refuge, be it in a fire shelter, vehicle, or structure, always notify your supervisor immediately, advising of your location and any assistance needed.

      b) Mitigating interior hazards
      c) All personnel that enter a structure will treat the property with due respect, conduct themselves in a professional manner, and document accordingly

Refer to Student Information Sheet 4-3-1, OES letter regarding structure entry, in the Student Manual

4-3-32

Urban Interface Incidents

2. Firefighter safety and survival is the number one priority

4-3-33

Urban Interface Incidents

3. Equipment placement
   a) IDENTIFY ESCAPE ROUTES AND SAFETY ZONES AND MAKE THEM KNOW TO ALL CREW MEMBERS
   b) ALWAYS STAY MOBILE and wear all your PPE
   c) Back equipment in for quick response

4-3-34

Urban Interface Incidents

d) Mark entrance to long driveways to show that protection is in place
   1) Very important when structure cannot be seen from the road
   2) Multiple ribbons at end of drive on street
   3) Ribbon / flagging across drive entrance
   4) Sign or other pre-determined signal

4-3-35

Urban Interface Incidents

e) Park in cleared area
   1) Overhead hazards
f) Protect your equipment
   1) Park behind the structure
   2) Be aware of spot fires
   3) Ember protection

4-3-36

Urban Interface Incidents

g) Watch for hazards
   1) Drop offs, pot holes
   2) Fuel tanks
   3) Chemicals
   4) Wells / septic tanks
h) Keep egress route clear
   1) Park extra equipment in staging
   2) Keep hose off to the side

4-3-37

Urban Interface Incidents

i) Have an engine / crew protection line charged and readily available
j) DO NOT make long hoselays
k) Try to keep visual contact will all crewmembers

4-3-38

Urban Interface Incidents

4. Water use guidelines
   a) Keep at least 100 gallons of water reserved in your tank
   b) Top off tank at every opportunity – use garden hose
   c) Draft from swimming pool, hot tub, pond
   d) STAY MOBILE. Do not hook up to a hydrant except to refill the tank

4-3-39

Urban Interface Incidents

e) CONSERVE WATER – avoid wetting down an area
f) Apply water only if it controls fire spread or significantly reduces heating of structure being protected
g) Keep fire out of heavier fuels
h) Extinguish fire at its lowest intensity, not when it's flaring up
i) Knock down fire in the lighter fuels
j) Have enough water to last duration of main heat wave and to protect crew

4-3-40

Urban Interface Incidents

5. Class A Foam Use Guidelines
   a) Direct attack – apply to base of flame
   b) Indirect attack – lay out wet line and fire out
      1) Apply to structure (roof and siding) 10 to 15 minutes before fire arrives

4-3-41

Urban Interface Incidents

6. Preparing a structure
   a) Determine if residents are home
      1) Law enforcement has the legal responsibility for evacuation
      2) If residents decide to stay, advise them to use the structure when the fire arrives (shelter in place) <u>if it is safe to do so</u>
   b) Place a ladder (preferably the owners) at the corner of the structure on the side with least fire threat and away from power drop

4-3-42

Urban Interface Incidents

d) Clean roof of leaves, needles, and any other combustible materials
e) Cover vents and air conditioning unit on roof
f) Remove and scatter away from structure
   1) Overhanging limbs
   2) Ground / ladder fuels, to prevent fire from moving into the crowns
   3) Wooden fences and wood piles near structure

4-3-43

Urban Interface Incidents

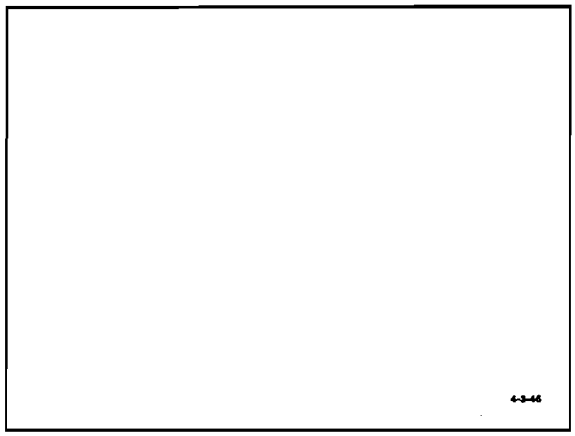
g) Clear area around above-ground fuel tank, shutting off tank
h) Place combustible, outdoor furniture inside structure
i) Close windows and doors, including garage, leaving unlocked. YOU MAY NEED TO USE STRUCTURE AS REFUGE
j) Have garden hose charged and placed strategically around structure for immediate use

4-3-44

Old Gulch Fire Video Segment

- Winds: W-SW @ 10-12 MPH – Up slope, Up canyon, Gusting to 15 at the ridges
- Temperature: 98-102 degrees
- One Hour Fuel Moisture: 3%
- Relative Humidity: 8%

4-3-45



APPENDIX C

STATE OF CALIFORNIA

GRAY DAVIS, Governor

GOVERNOR'S OFFICE OF EMERGENCY SERVICES
Fire and Rescue Branch
P.O. Box 419047-9047
Rancho Cordova, CA. 95741-9047
Phone (916) 845-8711
Night-Weekends: (916) 845-8911
Fax: (916) 845-8396
E-Mail: OES_Fire@oes.ca.gov

June 6, 2002

OES Fire Regional and Operational Coordinators

Please share the contents of this letter with all Regional and Operational Area personnel, especially with Division/Group Supervisors and Strike Team/Task Force Leaders.

At times, during structure protection assignments, fire personnel may need to consider entering unoccupied and/or evacuated dwellings. The following guidelines must be applied by Strike Team/Task Force Leaders to fire crews working on these assignments:

- The Strike Team/Task Force Leader has been given permission by the property owner to enter the structure. That permission and the owners contact information must be documented on the ICS 214.
- The dwelling is in imminent danger from an approaching fire and entry is warranted to conduct appropriate protective measures: i.e. closing windows, removing flammable curtains, closing doors, etc.
- The crew must take refuge inside dwelling to retreat from the fire.

It is expected that all fire personnel granted permission to enter a dwelling will treat the property with due respect, and conduct themselves in a professional manner. Failure to adhere to these basic concepts in the past has resulted in legal action.

All entries into any dwelling must be recorded on the Company and Strike Team/Task Force Leader Unit Log (ICS 214) and reported to the Division/Group Supervisor as soon as operationally feasible.

We have an obligation to the citizens we protect to respect their property, and to maintain the Public Trust we have earned.

Thank you for your continued support of the Fire and Rescue Mutual Aid System, and your efforts to share this important information.

Sincerely,

KIM ZAGARIS, Chief
Fire and Rescue Branch

c: File

KL/Bea

Tactical Considerations
Urban Search & Rescue

Unit 4
Topic 4

Objectives

A. Understand the types of incidents requiring Urban Search and Rescue (US&R) involvement
B. Understand the nature of your involvement as a ST/TFL at initial attack US&R incidents
C. Identify the various levels of US&R training, equipment and operational capabilities

4-4-2

Objectives

D. Be familiar with US&R organizational structure and political considerations
E. Understand the various safety and operational considerations on a US&R incident

4-4-3

US&R Deployment Overview

A. Types of US&R incidents
   1. Structural collapse
      a) Secondary to structure fire
      b) Construction failure
   2. Transportation accident
   3. Weather events
      a) Flood
      b) Storm / snow load
      c) Tornado
      d) Hurricane

4-4-4

US&R Deployment Overview

4. Earthquake
5. Terrorism incident
   a) Domestic (Oklahoma City)
   b) Foreign based terror attack (9/11)

US&R incidents often occur in conjunction with mass casualty, hazardous materials, or law enforcement incidents

4-4-5

US&R Deployment Overview

B. History
   1. Some of the first "Urban Search and Rescue" techniques were pioneered by British fire service during the "Blitz" of 1940
   2. US&R practices became common for the California fire service in the 1980's and gave rise to the National Task Force concept in the 90's

4-4-6

Initial Attack Response

A. Important for ST/TFL's to know
B. Can take place in your jurisdiction/response area

4-4-7

Initial Attack Response

C. Initial attack considerations for your agency
   1. Your department may be on its own for extended time in "initial attack" mode
   2. First consideration is the safety of your personnel
      a) Plan for your personnel to exit the station quickly, if in quarters

4-4-8

Initial Attack Response

   3. Get the apparatus and/or equipment out, if possible
   4. First tactical priority may be intelligence gathering by conducting a "windshield survey" of the first-in area
      a) Assess damage
      b) Recon
      c) Gather intelligence

During initial attack, your first actions may be just like the "triage" function at a mass casualty incident

4-4-9

Initial Attack Response

5. Radio waves are likely to be crowded with traffic; consider staying off the air for the first 30 minutes or until a roll call
6. Reestablishing organizational order from the chaos of a US&R event may be challenging

4-4-10

Initial Attack Response

D. A seismic event may cause widespread destruction and fire
   1. Remember, you may be on your own for an extended time
   2. Overpasses, bridges, highways, and communications (radio and cell phones) may be down
   3. It may be difficult for Mutual Aid forces to reach you right away

4-4-11

Initial Attack Response

4. Your operational priority in initial attack may be to "do the most good for the most people"
5. Hasty search techniques
   a) Rapid assessment
   b) Assists in size-up
   c) Helps determine priorities

4-4-12

Initial Attack Response

6. Greatest survivability will be for those who can be reached soonest – surface victims and walking wounded
7. Survival statistics of collapse victims
   a) Surface Victims
      1) 50% of total victims are rescued by spontaneous efforts and initial attack

4-4-13

Initial Attack Response

   b) Lightly Trapped
      1) Account for 30% of total victims
   c) Trapped Within Void Spaces
      1) Account for 15% of total victims
   d) Heavily Trapped
      1) Account for 5% of total victims

The longer a victim remains trapped, the less their chances for survival

4-4-14

Initial Attack Response

8. Know that the California Fire & Rescue Services Mutual Aid System will send resources to you

4-4-15

Resource Capabilities

A. Engine Strike Teams can be used effectively in a US&R environment
   1. Fires are almost always present in initial stages of a US&R event, so fire suppression might be a primary assignment

4-4-16

Resource Capabilities

2. First-in crews may have been on initial attack for 24-72 hours
3. Your assignment may be to cover behind initial attack resources

4-4-17

Resource Capabilities

B. Training, equipment, ICS US&R Typing
   1. Training
      a) Rescue Systems I (RSI)
         1) Utilized for "Basic" and "Light" levels
         2) Nationally recognized skill level
         3) Highly recommended; virtually essential for performing technical rescue tasks
         4) Necessary level for ICS Typing and OES US&R Engine staffing

4-4-18

Resource Capabilities

b) Rescue Systems II (RSII)
   1) Utilized for "Medium" and higher operational levels
c) The ability to which a Strike Team can play an effective technical role depends heavily upon the extent to which it is trained and equipped for US&R operations

One of your jobs may be to train local fire personnel or other responders RSI subjects (OJT)

4-4-19

Resource Capabilities

d) Untrained personnel can have a viable role, such as "human chain" for debris removal
   1) Consider the extent to which they can be deployed safely
e) Remember the importance of self-sufficiency of your Strike Team for the first 24-72 hours of operations, at a minimum

4-4-20

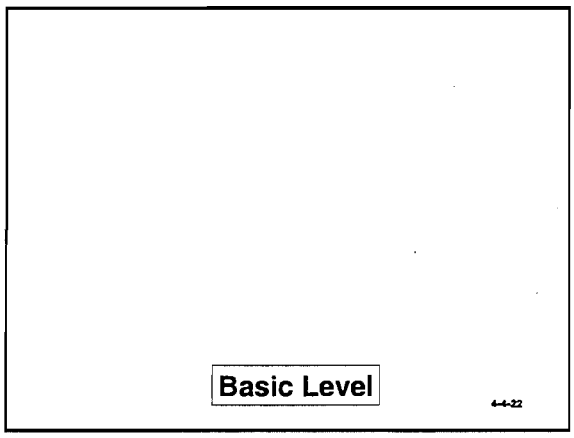
Resource Capabilities

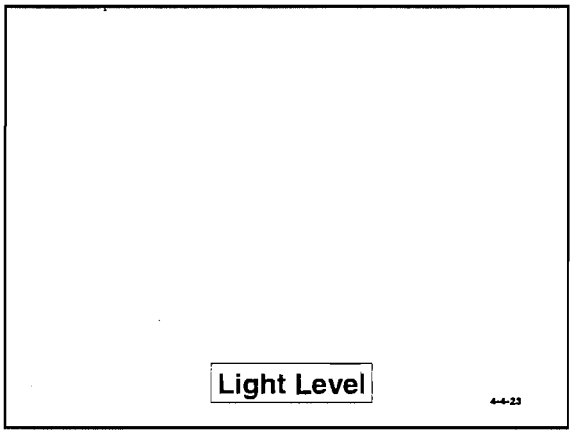
2. Equipment
   a) Typing and equipment levels

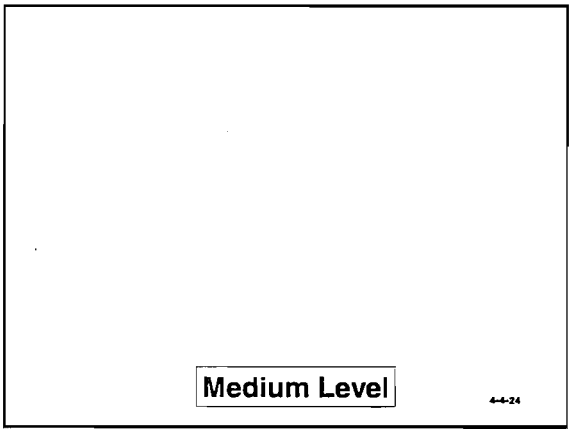
1) Basic Operational Level	Type 4
2) Light	Type 3
3) Medium	Type 2
4) Heavy	Type 1

Refer to the FOG US&R OSD, Pages 15-10 and 15-11

4-4-21


Basic Level
4-4-22


Light Level
4-4-23


Medium Level
4-4-24

Heavy Level

4-4-25

Resource Capabilities

3. ICS US&R Typing

Refer to FOG, Chapter 15, for the following definitions and explanations

a) US&R "Company" and "Crew"
b) Intermediate or "Rapid Response"
c) US&R Task Force-FEMA Emergency Support Function (ESF-9)
d) Of the 28 National Task Forces, 8 are from California
   1) They are not "FEMA" unless they are Federally activated

4-4-26

Resource Capabilities

e) Incident Support Team (IST) – FEMA (Red, White, Blue)
f) Disaster Medical Assistance Team (DMAT), Disaster Mortuary Team (DMORT) - FEMA ESF-8

4-4-27

Resource Capabilities

g) Swiftwater operations fall under US&R, but are of a specialized nature
   1) US&R Engines would probably function in support role on swiftwater incident
      - Stretching hose or rope
   2) It is critical that personnel do not enter water without Personal Flotation Devices (PFD's)

4-4-28

Organizational Structure and Political Considerations

A. In California, use of the Incident Command System is nearly universal – not so else where
   1. Modular in development, like other ICS/FIRESCOPE disciplines in the FOG
   2. The nature of US&R events and number of agencies with jurisdiction often leads to a Unified Command
   3. Law Enforcement will rightly view a terrorism incident as a criminal event

4-4-29

Organizational Structure and Political Considerations

4. Organizational structure builds progressively
   a) Initial Response
   b) Reinforced Response
   c) Multi-Group / Division Response
   d) Multi-Branch Response

Refer to FOG, pages 15-25 through 15-28

4-4-30

Organizational Structure and Political Considerations

Be aware of local sensitivities. Understand that a local fire jurisdiction will most likely view the incident possessively; US&R personnel from "outside" the host agency may often be viewed as outsiders

4-4-31

Operational Considerations

A. Safety
   1. Applicability of "LCES" to US&R response
   2. PPE
      a) Improvised
      b) Wildland PPE

4-4-32

Operational Considerations

b) Specialized
   1) Technical rescue helmets
   2) Safety boots
   3) Extrication gloves
   4) Eye protection
   5) Hearing protection

4-4-33

Operational Considerations

6) Respiratory protection
   - Dust mask
   - Air Purifying Respirator (APR)
   - SCBA
7) Flashlight / headlamp
8) Nomex (flash protection)
9) Knee pads
10) Elbow pads
11) Communication gear

4-4-34

Operational Considerations

3. Hydration
4. Sleep "plan" and crew rotation
5. Primary collapse zone
   a) Laterally, 1.5 x the height of the structure
6. Secondary collapse – aftershocks
7. Secondary explosive devices

4-4-35

Operational Considerations

8. Scene security
   a) Civil disobedience
   b) Looting
9. "Volunteer" assistance
   a) Oklahoma City's only rescuer fatality was an RN hit by falling debris
10. No eating in working area, just as in a Haz Mat incident

4-4-34

Operational Considerations

B. Specialized US&R resources
   1. US&R Technical Specialists
   2. US&R Canine
   3. Structural Engineers (especially Army Corps of Engineers)
   4. Heavy equipment – construction companies
   5. Haz. Mat. Personnel

Be prepared to see a high degree of disorganization upon your Strike Team's arrival at a US&R incident

4-4-37

Operational Considerations

C. Organizational structure
   1. With the formalized structure of IST, operational period lengths may be established, just as in an "extended attack" wildland or campaign incident
   2. Operational period length may vary depending upon the needs of the incident (i.e.. 4 hours, 12 hours)

4-4-38

Operational Considerations

D. Media – US&R incidents tend to generate a lot of media interest
   1. Media helicopters are able to film in great detail from quite a distance, even in restricted air space

4-4-39

Operational Considerations

E. Construction types

1. Light Frame
2. Heavy Wall
3. Heavy Floor
4. Pre-Cast

4-4-40

Operational Considerations

F. Collapse types

1. Lean-to collapse
2. V-shape
3. Pancake
4. Cantilever

4-4-41

Operational Considerations

G. Building marking systems

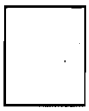
Refer to the FOG, pages 15-16 through 15-18, and review

1. Structure / hazard markings
2. Search markings

4-4-42

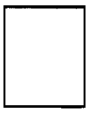
Structure/Hazards Markings

Make a large (2' x 2') square box with orange spray paint on the outside of the main entrance to the structure. Put the date, time, hazardous material conditions, and team or company identifier outside the box on the right hand side. This information should be made with lumber crayon/ chalk.



9/12/93
1310 hours
HM - nat. gas
SMA - E-1

Structure is accessible and safe for search and rescue operations. Damage is minor with little danger of further collapse.



9/12/93
1310 hours
HM – none
SMA – E-1

4-4-43

Structure/Hazards Markings

Structure is significantly damaged. Some areas are relatively safe, but other areas may need shoring, bracing, or removal of falling and collapse hazards

9/12/93
1310 hours
HM - nat. gas
SMA - E-1

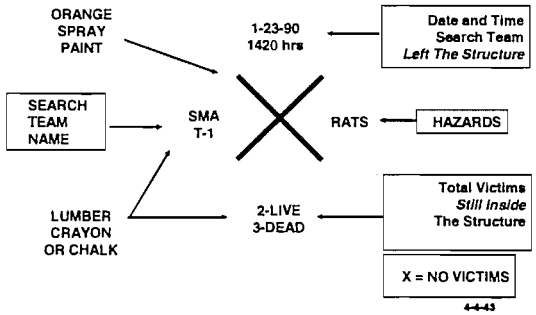
Structure is not safe for search or rescue operations. May be subject to sudden additional collapse. Remote search ops may proceed at significant risk. If rescue ops are undertaken, safe haven areas and rapid evacuation routes should be created.

9/12/93
1310 hours
HM - nat. gas
SMA - E-1

Arrow located next to a marking box indicates the direction to a safe entrance into the structure, should the marking box need to be made remote from the indicated entrance.

4-4-44

Search Markings



4-4-43

Search Markings

WHEN YOU ENTER

SINGLE SLASH
STRUCTURE OR ROOM

WHEN YOU EXIT

SECOND SLASH
STRUCTURE OR ROOM
(Identify Victims & Hazards)

4-4-46

Operational Considerations

H. Logistical considerations
   1. Respond prepared to support yourself for at least 24 hours, have
      a) Food
      b) Sleeping bags
      c) Pads and cots
      d) Change of clothes, etc.

4-4-47

Operational Considerations

2. Environmental considerations of sleeping areas
3. Initial apparatus inventories of critical supplies may run out
   a) Consider how / where to re-stock
   b) Dialog early with incident / host agency chain of command

4-4-48

Operational Considerations

4. Lumber
   a) Additional shoring and cribbing
5. Tools and hardware
   a) Bits, blades, etc.
6. Ordinary incident considerations
   a) Fuel
   b) Water
   c) Portable toilets

4-4-49

Operational Considerations

I. Victim removal and recovery
   1. Respect for dignity of the deceased
   2. Coroner and Medical Examiner
   3. Temporary "field" morgue
   4. Odor of decomposition (human remains)

4-4-50

Operational Considerations

J. Critical Incident Stress Management (CISM)
K. Ability to reconstitute lost capability of host jurisdiction's US&R / Special Operations function
L. Disengagement and Demobilization

4-4-51

Unit 4 Topic 5

Tactical Deployment Swiftwater / Flood

4-5-1

Objectives

A. Know the safety risk considerations and precautions for working around water
B. Understand the unique components of swiftwater/flood rescue size-up
C. Be familiar with flood fighting methods

4-5-2

Safety

A. Safety risk considerations
   1. Rescue self
      a) Your safety will always be your primary concern
   2. Rescue Team
      a) Full PPE for type of incident
      b) Tactical operational equipment
      c) Operations to level of training

4-5-3

Safety

3. Protect bystanders or civilians
   a) Scene control
   b) Law enforcement assistance
4. Rescue victim

4-S-4

Safety

B. Safety around the water
   1. No turnouts worn
   2. No one within 10' of the water not wearing a Personal Flotation Device (PFD)
   3. Those next to the water must wear helmets

4-S-5

Safety

4. Accountability
   a) At all times
   b) Number of personnel and locations
   c) Check-back time tables
5. Safety throw bags available and ready for deployment
6. Knives available and ready for use

4-S-6

Safety

7. DO NOT tie rescuers to the rope
8. Whistles for communications
   a) Commands
      1) 1 blast – Stop, look & listen
      2) 2 blasts – Look upstream
      3) 3 blasts – Look downstream
      4) 3 repeated blasts - EMERGENCY

4-5-7

Size Up

A. Facts
   1. Get orientation/assignment from direct supervisor
   2. Rescue
      a) Interview witnesses
      b) Determine last seen place

4-5-8

Size Up

c) Observe
   1) Obstructions and hazards
   2) Shore distances
   3) Victim Identity
      - Gender
      - Age
      - Clothing, etc.
   4) Intercept points
      - Bridges
      - Points
      - Crossings

4-5-8

Size Up

3. Time
   a) Response, size-up/plan, tactical deployment
   b) Victim exposure
4. Temperature
   1. Ambient
   2. Water

4-5-10

Size Up

B. Probabilities
   1. Movement and measurement
      a) Depth, speed and path of water
      b) Stay ahead of the problem
      c) Spotter/Safety Officer
C. Strategic priorities
   1. Locate
   2. Access
   3. Stabilize
   4. Transport

4-5-11

Size Up

D. Tactical objectives
   1. Talk
   2. Reach
   3. Throw
   4. Row
   5. Go/Tow
   6. "Helo"

4-5-12

Size Up

E. ICS Operation System
   1. Operations are unique in that specialized training and equipment are required to mitigate the incident in the safest and most efficient manner possible
   2. Personnel should only employ tactics to which they are trained

Refer to FOG US&R, Swiftwater/flood appendices

4-5-13

Size Up

F. Unified Command
   1. Multiple agencies and jurisdictions
   2. Single command post
      a) Common communications
      b) Coordination
      c) Safety
      d) Ensure maximum utilization of resources

4-5-14

Size Up

G. Dangers
   1. Force of water
   2. Victim grabbing and sinking you on rescue
   3. Low head dam, strainers, holes, rock sieves

4-5-15

Flood Fighting Methods

A. Sandbagging
   1. The use of sandbags is a simple and effective method of preventing or reducing damage from flood water or debris
   2. Two-person operation
   3. Bags only half filled
   4. Fold over the empty flap

4-5-16

Flood Fighting Methods

5. Place each bag over the folded top of the preceding bag and stomp into place before placing the next bag
6. Always finish one complete layer of sandbags before starting the next layer
7. Stagger the second layer of bags, stomping each bag into place before placing the next bag

4-5-17

Flood Fighting Methods

B. Diverting water away from homes
   1. Redirect the water
      a) Sandbags
      b) Wooden barriers
   2. Board up doors, vents and windows

4-5-18

Tactical Considerations Multi-Casualty

Unit 4
Topic 6

4-6-1

Objectives

A. Identify the types of incidents that may coincide with a Multi-Casualty Incident (MCI)
B. Identify the common ways in which a MCI develops
C. Using the standard FIRESCOPE model, explain the modular growth of a MCI
D. Identify the guidelines that dictate the progressive stages of a MCI's organizational structure

4-6-2

Multi-Casualty Overview

A. Can coincide with other kinds of incidents
   1. Haz Mat or Weapons of Mass Destruction (WMD)
   2. US&R
   3. Law enforcement
   4. Transportation accident

4-6-3

Growth / Development of a MCI

A. Growth of an incident initiates at local jurisdiction, from the bottom up
   1. Initial response / attack
   2. Each jurisdiction defines the threshold of what a MCI is
      a) Eight casualties in Alpine County may be considered a MCI
      b) Probably not so in Santa Clara County

4-4-4

Growth / Development of a MCI

3. Plans vary from one Mutual Aid Region to another
   a) It is important to know your Region's plan

4-4-5

Growth / Development of a MCI

4. State medical mutual aid ordering is accomplished through the Fire & Rescue Mutual Aid System
   a) Some plans are created by the local Emergency Medical Services Agency (EMSA)
   b) The Emergency Services Act identifies OES as the tasking authority

4-4-6

FIRESCOPE Standards

A. Despite local differences, the fire service has adopted the FIRESCOPE model
   1. FOG (Blue pages)
      a) Organizational structure
      b) Modular growth of incident

4-6-7

FIRESCOPE Standards

2. Most fire service jurisdictions have adopted the START model as the standard for triage
   a) Does the most good for the most people
   b) Unlike most medical aid calls, does not focus intensely on individual care
   c) Adopted by the California Fire Chief's Association

Once a ST/TF is formed, it typically remains available as a resource until its return, subject to re-dispatch

4-6-8

Modular Development Guidelines

A. Initial Response Organization
   1. IC handles all Command and General Staff functions
   2. First resource with appropriate communications establishes contact with the appropriate hospital and becomes the Medical Communications Coordinator

4-6-9

Modular Development Guidelines

B. Reinforced Response Organization
   1. IC designates
      a) Triage Unit Leader
      b) Treatment Unit Leader
      c) Treatment Teams
      d) Ground Ambulance Coordinator

4-6-10

Modular Development Guidelines

C. Multi-Leader Response Organization
   1. IC designates OSC
   2. OSC designates
      a) Medical Supply Coordinator
      b) A manager for each treatment category
      c) Patient Transportation Group Supervisor

4-6-11

Modular Development Guidelines

D. Multi-Group Response Organization
   1. All positions within the Medical Group and Transportation Group are filled
   2. Air Operations Branch Director assigned
   3. Air Ambulance Coordinator assigned
   4. Extrication Group Supervisor assigned

4-6-12

Modular Development Guidelines

E. Multi-Branch Organization
   1. Also referred to as "Complete Incident Organization"
   2. Full activation of ICS
   3. Multi-Casualty Branch Director coordinates with other branches
      a) Has 3 Medical Divisions (geographical)
      b) Only 1 Patient Transportation Group

4-13

Modular Development Guidelines

If a MCI has ordered a ST/TF, it is probable that local resources have been drawn down. The chief role of the ST/TFL is to become part of the organizational structure and to supply additional personnel to the incident

4-14

Unit 4
Topic 7

Independent Action
vs.
Freelancing

4-7-1

Objectives

A. Understand situations that indicate independent action may be applicable
B. Understand the considerations when taking independent action
C. Understand the contraindications of taking independent action
D. Understand the consequences of freelancing

4-7-2

Independent Action vs. Freelancing

A. There are times when an incident is moving so quickly or of such magnitude that the ICS structure is unable to keep up
B. There are times when the incident has inadequate resources and cannot appropriately assign units as they arrive

4-7-3

Independent Action

C. Some indicators that independent action may be applicable
   1. A rapidly moving fire without an appropriate ICS structure in place
   2. You arrive at your assigned location and you are unable to contact the DIVS

4-7-4

Independent Action

3. You encounter a situation that requires immediate action or has life safety implications
   a) Victims of a flood
   b) Victims trapped in a building collapse
   c) Incident within an incident
      1) Coming upon a traffic accident while en route to your assignment

4-7-5

Independent Action

D. Responsibilities when taking Independent Action
   1. Conduct a risk analysis

4-7-6

Independent Action

2. Communicate with someone within the ICS if and when possible
3. Develop a plan with clear objectives for your ST/TF
4. Establish some type of order/structure
5. Consider LCES in your planning/actions
6. Notify your AREP when possible

4-7-7

Independent Action

7. Coordinate with adjacent resources
8. Work within the scope of your ST/TF abilities and training
9. Monitor incident status and your crew's progress
10. Keep the safety of your crew as your priority
11. Communicate situation status with your ST/TF on a frequent basis

4-7-8

Independent Action

12. Always know the location and status of your resources
13. Document all actions on the ICS Form 214

4-7-9

Independent Action

E. Contraindications of taking Independent Action
   1. You have an immediate need assignment
   2. Your ST/TF does not have the appropriate skills or equipment or resources
   3. You cannot provide for the safety of your crew

4-7-10

Independent Action

4. Your actions will add to the chaos or conflict with incident objectives
5. Your actions will have adverse implications (i.e., life safety, financial)

4-7-11

Freelancing

A. Unlike Independent Action, Freelancing takes place when you act without regard to the incident needs and crew safety. There are always consequences for your actions

4-7-12

Freelancing

1. Examples of Freelancing
   a) Taking action at an incident that has a functioning command structure without authorization, coordination or control
   b) Working outside the scope of your assignment
      1) Example: Initiating firing operations without proper notification

4-7-13

The End

4-7-14

Unit – 4
Topic – 2

Entrapment Avoidance

Entrapment Avoidance

It's your call!

Wildland Fire Safety Office
U. S. Forest Service
March 2002

4-2-2

Objectives

Part 1 Decision-making

- Describe the role that LCES has in the Risk Management Process.
- Describe a protocol for negotiating an unsafe assignment.
- Define Trigger Point and Levels of Engagement.
- Given a set of fireline conditions, identify valid trigger point(s).

4-2-3

Objectives

Part 2 Recognition

- Describe a procedure for recognizing escape routes and safety zones when engaging a fire.
- Given a set of fireline conditions, estimate minimum safety zone size.

4-2-4

Objectives

Part 3 The Human Factor

- Identify human factors that contribute to fireline decision errors.
- Given a fire scenario, determine the appropriate level of engagement as conditions change.

4-2-5

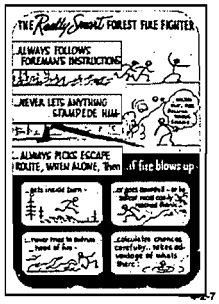
Where do we start?

- What skills do we use to avoid entrapment?
  - Ability to gain good situation awareness.
  - Ability to anticipate fire behavior.
  - Ability to select effective strategy and tactics.
  - Ability to make decisions about when to engage a fire.
  - Ability to recognize good safety zone and escape route opportunities.
- The focus of this program will be on the the last two skills.

4-2-6

Escape & Safety

- Concept of escape has been in the firefighting profession long before there were defined Rules of Engagement.
- The really smart leader of firefighters has an escape and safety contingency plan in place before deciding to engage a fire!



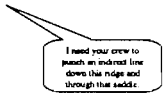
4-2-7

Entrapment Avoidance
Part 1 Decision-making

4-2-8

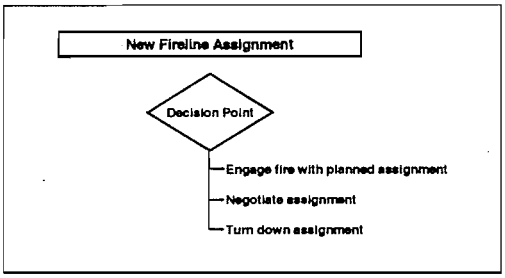
Key Decision Points

- Avoiding entrapment on the fireline is all about deciding *when and where you engage the fire.*
- Accepting a new assignment and engaging the fire with planned suppression actions.
- Continuing those suppression actions when there is a change in the fireground situation.



4-2-9

Risk Decision for Engaging a Fire



4-2-10

Rules of Engagement

- Defined Rules of Engagement have been a part of firefighting doctrine since 1958.
- For better or worse, firefighting has become more complex and so have the Rules of Engagement.

4-2-11

Risk Management

- The Risk Management Process is simply a procedural approach to using the Rules of Engagement that you already know.
- This process provides the criteria to support your decision-making on the fireline.

4-2-12

What about LCES?

- **Is LCES all you need to know?**
  LCES is one part of the Rules of Engagement.
- **How does LCES relate to the Fire Orders?**
  L,C, E, and S are the key operational actions that are in the Fire Orders.
- **What role does LCES have in the Risk Management Process?**
  LCES is the minimum level of hazard control that must be in place before making the decision to engage a fire.

4-2-13

Right to know?

- **Federal law says all workers have the right to know about the hazardous materials they work around...what questions do all firefighters have the right to know the answers to?**

  What are the hazards I face?
  Where do I go to be safe from those hazards?
  How do I get there?
  When should I go there?

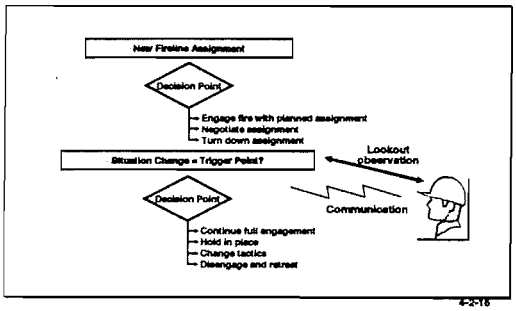
4-2-14

Is there legitimate dissent?

- **Do leaders have a responsibility to protect their firefighters from unnecessary risk?**
- **Have you ever been given a fire assignment that you thought was unsafe or excessively risky?**
- **How did you resolve that situation?**

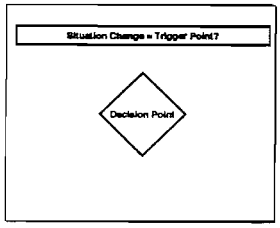
4-2-15

Risk Decision for Changing Situations



Trigger Points

- A pre-identified or anticipated event (time, place, or condition) that, when it occurs, initiates a pre-planned response.
- Hitting a Trigger Point means stop, evaluate the situation, and make a decision.
- *Step 5 - Evaluate* of the Risk Management Process.



4-2-17

Trigger Points are Anticipated

- Ask yourself "What changing factor(s) can affect our mission success and safety today?"
  - Trends in weather?
  - Changes in fuel type and terrain?
  - Tactical progress?
  - Logistical support?

4-2-18

Trigger Point examples?

Fire Environment	Fire Operations
• Wind direction switches • Rapidly dropping RH • Wind and slope come into alignment • Combination RH & wind speed threshold exceeded • Daily transition time of surface fire to torching	• Loss of lookout • Loss of communication • Escape time increases • Failure to complete fireline by a specified time of day • Air support diverted • Excessive fatigue

4-2-19

Are all Trigger Points created equal?

❖ **Trigger Points will vary by geographic area and fuel type...what things should you do on a fire so you are able to identify valid Trigger Points?**

Get a good briefing.
Seek local expertise if you don't have it.
Take weather observations on regular basis.
Find out if there are predictive tools being used.

4-2-20

EXERCISE: Using Trigger Points

- Establish Trigger Point(s) when potential exists for your fire situation to degrade.
- Insure that your situation awareness includes monitoring factors that relate to the Trigger Point(s) you set.
- Have a planned response in place for your actions when a Trigger Point is hit.
- Do not ignore a Trigger Point that has been hit!

❑ **"Trigger Point" exercise**

4-2-21

EXERCISE: Using Trigger Points

Your Assignment

- It is August 23rd and you have been dispatched as the initial attack Incident Commander for the Davis Fire.
- The fire is located in the Northern Rocky Mountains in Montana
- You have a hotshot crew and two Type 3 engines assigned to you.

4-2-22

EXERCISE: Using Trigger Points

Local Factors

- Fires you have worked here in Montana over the last couple of weeks have burned quite actively after 1400.
- Todays weather forecast:
  Max Temp near 90º
  Min RH 18-20%
  NW winds to 15 mph

4-2-23

EXERCISE: Using Trigger Points

Fire Situation

- You have arrived at the fire and have a safe anchor point to work from.
- The fire is about 3 acres.
- The fire currently has a moderate rate of spread in surface fuels.
- Time is 1030

4-2-24

EXERCISE: Using Trigger Points

What are your Trigger Point(s)?

4-2-25

EXERCISE: Using Trigger Points

One possible answer!

Using the Look Up / Down / Around indicators on pages 2-3 of the Incident Response Pocket Guide you see that:

- RH below 25% is an indicator of low fuel moisture.
- Temperatures greater than 85° indicate high fuel temperature.
- Surface winds above 10 mph are significant.
- Spotting indicates problem fire behavior.

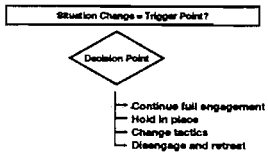
Using knowledge from previous assignments you determine that if the above conditions materialize and you don't have the fire contained by 1300, you will re-evaluate your strategy and tactics.

4-2-26

Levels of Engagement

- What do you do when a Trigger Point is hit:
  - Validate continuing with full engagement of the fire…or
  - Implement your pre-planned response.

    Contingency plan
    Plan B



4-2-27

Hold in Place

- Stop advancing or pull back a short distance.
  - Buys time to re-assess.
  - Fireline can be improved.
  - Troops can regroup.
  - Escape time can be shortened.
  - Allows for faster re-engagement.

4-2-28

Change Tactics

- Disengage from the fire, change tactics, and re-engage the fire.
  - Line location can be improved.
  - Hazardous areas can be avoided.
  - Direct versus indirect line can be considered.
  - Negotiate changes within the chain of command.

4-2-29

Disengage & Retreat

- Move directly to a safety zone.
  - Immediate and full activation of all components in the LCES system.
  - Extreme situations may require crews to drop gear in order to move faster.

4-2-30

Leader's responsibilities?

- **What responsibilities do leaders have when they initiate a change in the level of engagement on a fire?**
  - Communicate a clear change order to your firefighters.
  - Account for all your firefighters.
  - Insure your firefighters change engagement as planned.
  - Communicate the information to adjacent resources and up the chain of command.
  - Insure an experienced firefighter with a radio is the last person out during a Retreat (most probably you!).
  - Re-assess the situation and re-brief before re-engaging the fire.

4-2-31

Entrapment Avoidance
Part 2 Recognition

4-2-32

Escape Route & Safety Zone Recognition

- We have been talking about decision-making:
  - *When to engage the fire?*
  - *When to disengage?*
- How do we recognize effective escape routes and safety zones so we can make those decisions?

4-2-33

A Process to Use

- Observe the area
- Visualize fire spread
- Identify valid safety zones
- Time the escape
- Inform others
- Evaluate conditions

4-2-34

Observe

- Personally observe potential safety zones and escape routes in the work area.
- *Step 1 – Situation Awareness* of the Risk Management Process.

4-2-35

Visualize

- Build a mental picture of the fire behavior you would expect if conditions existed that would enable a crown fire to burn around your potential safety zone.
- Anticipate flamelengths.
- Anticipate convective influences.

4-2-36

Identify

- Compare the fire behavior you visualize with the size and location of potential safety zones you observe in order to identify any true safety zones available.
- We will look at safety zone selection in more detail.

4-2-37

Time

- Have someone walk and time the route from the work location to the potential safety zone(s).
- We will look at escape time in more detail.

4-2-38

Inform

- Communicate the location and path of travel to those who work for you and around you.
- Flag or otherwise mark if the escape route or safety zone is not obvious.

4-2-39

Evaluate

- You must continually evaluate your escape and safety plan to insure that it will still work.
- Time of day and fire intensity changes.
- Tactical progress and travel distance changes.
- *Step 5 - Evaluate* of the Risk Management Process.

4-2-40

What is a Safety Zone?

❖ **What are the requirements for an effective safety zone?**

Pre-planned before fire is engaged.

Sufficient size to mitigate anticipated heat impact for expected number of firefighters without fire shelter use.

Located away from hazardous terrain features.

Other hazards are mitigated (snags, rolling debris, vehicle traffic, etc).

4-2-41

Do you know where your Zone is?

❖ **What are the three primary types of safety zones? Discuss some examples and advantages/disadvantages of each.**

The black – used for direct attack…should be your first choice.

Natural features – used for direct and indirect attack.

Constructed sites – used primarily for indirect attack and urban interface fires.

4-2-42

Location, Location, Location

- Heavy fuels?
- Downwind?
- Above the fire, in a chimney, or in a saddle?

OR

- Fine fuels and burnout?
- Flank of the fire?
- Lowest ground?

4-2-43

Radiant vs. Convective Heat?

- **Convective influences can push lethal heat to surprising distances and increase safety zone size requirements...what are these influences?**

  Wind and fire whirl activity.

  Lifting effect of steep slopes.

  Channeling effect of chimneys, saddles, and narrow canyons.

4-2-44

EXERCISE: Estimating Safety Zone Size

- This model was developed by the Missoula Fire Lab.
- This model considers the heat impact from RADIANT HEAT only...thus it provides a tool to estimate MINIMUM safety zone size.

❑ **"Safety Zone Size" exercise**

4-2-45

EXERCISE: Estimating Safety Zone Size

Your Assignment

- It is October 3rd and your 20 person crew has been working on the 3000 acre Madre Fire for two days.
- The fire is located in the Coast Range of Southern California.
- Your crew is one of four handcrews assigned to the Division C.

4-2-46

EXERCISE: Estimating Safety Zone Size

Local Factors

- The fire is burning in chaparral about 10' tall.
- For the last two days you have observed 20' flame heights on upslope runs during the peak of the burning period.
- It is 0700, conditions are the same today and you are anticipating the same level of fire behavior.

4-2-47

EXERCISE: Estimating Safety Zone Size

Fire Situation

- The four crews in Division C are to construct indirect handline up a ridge to tie into a dozer line on top.
- The fire edge has not yet become established in the drainage adjacent to the proposed line location.
- You anticipate the fire will continue to make hooking upslope runs with the normal diurnal winds predicted for today.

4-2-48

EXERCISE: Estimating Safety Zone Size

Proposed Safety Zone

- You are at the anchor point which is an area at the base of the ridge that has been cleared by a dozer.
- The cleared area is flat and about 200 feet wide by about 300 feet long.
- Brush surrounds the cleared area on all sides.

4-2-49

EXERCISE: Estimating Safety Zone Size

Will it work for a Safety Zone?

4-2-50

EXERCISE: Estimating Safety Zone Size

Let's Do the Math!

Using the Missoula Fire Lab model on page 7 in the Incident Response Pocket Guide you calculate that:

- 20' flame height X 4 = 80' minimum distance separation.
- If the fire can burn all the way around the safety zone, this distance separation must be maintained on all sides, meaning a safety zone at least 160' in diameter.

Conclusion: The cleared area is a little over an acre in size and 200' wide on its narrowest side. So the minimum distance separation requirement is met on all sides for protection from radiant heat.

This assumes there is no significant convective heat source to influence your safety zone.

4-2-51

EXERCISE: Estimating Safety Zone Size

It's Never Black and White!

This is only an exercise to get you to think about safety zone criteria. Everyone painted a different mental picture of this situation based on their experience. But you all should have considered the following:

- Did you think about how much room you would need for all 80 firefighters and their vehicles?
- Did you consider location in relation to head of the fire?
- Did you consider the channeling effects of any significant topographic features?
- Did you consider convective influences of wind?

4-2-52

What is an Escape Route?

❖ **What are the requirements for an effective escape route?**

Pre-planned before fire is engaged.

Escape time allows for a positive safety margin given the fire's anticipated rate of spread.

Located so path of firefighter travel is away from the head of the fire.

No significant travel barriers (steep slopes, rocks, loose soils, dense vegetation, etc).

4-2-53

How far is it, anyway?

❖ **How do you calculate escape time?**

Someone needs to walk it and time it.

Allow for at least 150% of an individual's travel time to determine escape time for a full crew or multiple crews.

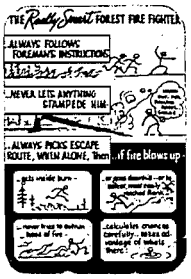
Allow even more time for effects of fatigue later in the shift.

Remember the slowest person/equipment.

4-2-54

Uphill Escape Routes

- Avoid steep uphill escape routes.
- Firefighter travel rates are significantly slower.
- Remember the smart firefighter knows that fire goes faster uphill and people go slower!



4-2-55

Safety Margin

- Your Safety Margin is simply the time you estimate it will take the fire to spread to your location....minus your known escape time.
- This number needs to be a positive number!

4-2-56

Safety Margin Paradox

- Firefighter escape time will increase during the burning period (fireline progress and fatigue)
- Fire rate of spread will increase during the burning period (typically warmer, drier, windier).
- Safety Margin will decrease!

4-2-57

Safety margin minimum?

- **How far away from my safety zone can I be and still have a positive safety margin?**

  When fire environment conditions degrade you must shorten escape time or even go to a less aggressive level of engagement. Escape times of 5-10 minutes may be required.

  When fire environment conditions improve you can increase your escape time and become more aggressive in the level of engagement. Escape times of 30-60 minutes may be acceptable.

4-2-58

Adjusting LCES

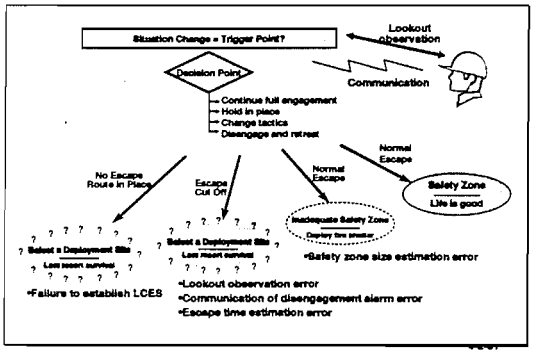
- When safety margins shrink below 5 minutes, it should be considered a standard Trigger Point.
- Conditions on fires seldom remain constant, you may need to adjust any or all parts of your LCES system several times during a shift to reflect changing conditions.

4-2-59

Entrapment Avoidance
Part 3 The Human Factor

4-2-60

Escape and Safety Decision Paths



Fires Don't Kill Firefighters

- Firefighter decision errors kill firefighters…so we're back to decision-making!
- As you have just seen 4 things can happen when you have to implement your escape and safety plan…3 of them are bad.
- Your decision-making and communication skills as a leader will determine the outcome.

4-2-62

Entrapments = Decision Errors

- **Where do entrapments most frequently occur?**
  - Indirect or downhill fireline construction
  - Small fires escaping initial attack or isolated areas of large fires
- **Who is most frequently involved?**
  - Firefighters with less than 2 or more than 15 years of experience
- **When do entrapments typically happen?**
  - During the burning period
  - The situation changes

Why do entrapments happen?

- Low experience level with local factors
- Distraction, especially due to fatigue or stress
- Hazardous attitude

The Bottom Line

- This training session was an opportunity for each of us to assess how we approach firefighter safety and a forum to learn from others.
- No rules, standards, policies, or checklists will ensure your safety on the fireline.
- Maintaining awareness of your situation and using fundamental firefighting methods are the foundation for safe and effective fireline operations.

4-2-64

Student Activity 4-2-1

Refer to student activity sheet 4-2-1

4-2-65

Student Activity 4-2-1

- Incident: High Meadows Fire
- Location: Bailey, Colorado 65 miles w/Denver
- Date: June 13, 2000
- Crew: Kern Valley IHC

Supt 1	Anthony Escobar
Capt 1A	Ron Napoles
Capt 1B	Leif Mathiesen
Squad Leader 1C	Heath Cota
Squad Leader 1D	Trenton Burnett
Firefighter	Gabe Sarzotti

4-2-66

Student Activity 4-2-1

This short case study focuses on decision-making regarding appropriate level of engagement of a fire in Colorado. This is the crew's first shift on the fire. Their assignment is to construct direct handline in order to prevent the fire spread and protect structures. They are transported to the fire by school bus and begin their work on the fireline at about 1000. The weather forecast calls for a dry cold front passage in the morning bringing northwest winds 15-20 mph behind the front; minimum RH 15-20%; maximum temps 70-72 degrees; Haines Index of 5

4-2-67

4-2-68

High Meadows Case Study Analysis Worksheet

Analysis

As you view the case study video consider the following questions and develop responses for discussion after the video is finished.

1. What information did the Superintendent communicate to his Captains based on his initial scouting actions?

2. What was the Superintendent going to do after briefing his Captains?

3. What fire behavior threshold/trigger point was discussed?

4. What relative humidity did Captain 1B get when he took weather?

5. Describe the fire behavior at the beginning of the scenario?

6. Describe the fire behavior at the end of the scenario?

7. What was Firefighter Sarzotti doing during the shift?

8. How did the crew react to the increasing fire behavior?

9. When the crew changed their level of engagement or location what key task did they perform?

APPENDIX A

OES# 6016-8A1
CDF# 7CA01000
USFS# 02-FL-11052012-115
NPS# G8000020002
BLM# BAA021001
F&WS# 10101-2-J007

AGREEMENT FOR LOCAL GOVERNMENT FIRE SUPPRESSION ASSISTANCE TO FOREST AGENCIES

Between

STATE OF CALIFORNIA, OFFICE OF EMERGENCY SERVICES;

STATE OF CALIFORNIA, DEPARTMENT OF FORESTRY AND FIRE PROTECTION

USDA FOREST SERVICE, PACIFIC SOUTHWEST REGION;

USDI BUREAU OF LAND MANAGEMENT, CALIFORNIA STATE OFFICE; and

USDI NATIONAL PARK SERVICE, PACIFIC WEST REGION

USDI FISH AND WILDLIFE SERVICE, CALIFORNIA-NEVADA OPERATIONS

THIS AGREEMENT made and entered into on **May 1, 2002,** by and between the State of California, Governor's Office of Emergency Services, hereinafter referred to as **State OES;** the USDA Forest Service, Pacific Southwest Region; the State of California, Department of Forestry and Fire Protection; the USDI Bureau of Land Management, California State Office; the USDI National Park Service, Pacific West Region, and USDI Fish and Wildlife Service, California –Nevada Operations, the latter five parties hereinafter referred to as **Forest Agencies**, under the provisions of the Act of December 12, 1975, PL 94-148, the Act of April 24, 1950 (16 USC 572), the Reciprocal Fire Protection Act, 42 USC 1856a, the Disaster Relief Act of 1974, PL 93-288,and The Federal Land Policy and Management Act of 1996,
(PL 94-579, Sec, 307(b)).

NAME

This agreement shall be entitled "Agreement for Local Government Fire Suppression Assistance to Forest Agencies", hereinafter referred to as the
"**California Fire Assistance Agreement.**"

RECITALS

1. The Federal Forest Agencies are responsible for providing a level of wildland fire protection for federal lands, as designated by Congressional action and Federal policy; and

2. The California Department of Forestry and Fire Protection (CDF) is responsible for providing a level of wildland fire protection for State Responsibility Area lands, as designated by the State Board of Forestry and Fire Protection; and

3. For efficiency and effectiveness the Federal Forest Agencies and CDF may exchange protection area responsibilities (Local Responsibility Area is not part of this agreement or included in the exchange); and

4. The State OES is responsible to provide for systematic mobilization, organization and operation of necessary fire and rescue resources of the state and its political subdivisions in mitigating the effects of disasters and to ensure that the responding agencies understand the terms and conditions of the agreement applicable to their response; and

5. The Forest Agencies, at times of severe wildfire conditions, often have need of emergency apparatus and/or personnel to provide structural fire protection or perform other tasks during control actions; and

6. The State OES and/or various local government jurisdictions have such emergency apparatus and personnel which may be available, in the spirit of cooperation, for dispatch and use through the State Fire and Rescue Mutual Aid System; and

7. It is desirable that the State OES and the Forest Agencies establish and enter into an agreement for the prudent use of such emergency apparatus and personnel; and

8. When this agreement is exercised to obtain State OES and/or local government resources, those resources will be reimbursed pursuant to this agreement; and

9. Responsibility for determining the basis for requesting assistance through this agreement rests with the Incident Command. The Incident Command is responsible for all assignments and tactical decisions for resources obtained through this agreement; and

10. The Forest Agencies will generally use local agreements prior to exercising this agreement.

11. Except for reimbursement of costs of apparatus and equipment loss or damage as provided in paragraph 23, each party to this agreement waives all claims against the other party for compensation for any loss, damage, personal injury, or death occurring in consequence of the performance of this agreement.

AGREEMENT COMMITTEE

11.1 **California Fire Assistance Agreement Committee.** A California Fire Assistance Agreement Committee (the 'Committee') shall be formed by State OES for the purpose of negotiating the terms of the California Fire Assistance Agreement, and for maintenance of the Agreement. For the purposes of coordination, the State OES Fire and Rescue Branch Chief, or the Chief's designee, shall serve as the Chairperson.

11.2 **Composition of the Committee.** The Committee shall consist of State OES, Forest Agencies, and three advisory representatives from local government fire agencies in California--one from Northern California, one from Southern California and one representing volunteer fire departments. The local government agency representatives shall be appointed by the Chairperson of the State of California Fire and Rescue Advisory Committee/FIRESCOPE, Board of Directors.

11.3 **Meetings to establish reimbursement rates and new methods of reporting or invoicing.** The Committee will meet in person annually to establish the Administrative Rate, Base Rates, and Equipment Rates to become effective upon publication of the rate letter each year, for the current calendar year. These rates will be published annually by the State OES Fire and Rescue Branch, in a "Agreement for Local Government Fire Suppression Assistance to Forest Agencies Rate Letter".

The Committee will also review the Average Actual Rates, Worker's Compensation Rates, and the Unemployment Rates on file with State OES Fire and Rescue Branch, as well as, negotiate procedural changes. The Average Actual Rates, Worker's Compensation Rates, and Unemployment Rates are subject to change throughout the year due to labor negotiation, cost of living increases and insurance rate recalculations, etc.

11.4 **Meetings to re-negotiate the Agreement.** The Committee shall schedule meetings to begin no later than 12 months before the expiration date of the California Fire Assistance Agreement for the purpose of re-negotiation. It is recommended that the Committee produce the final document for signatures no later than two months before the expiration date of the Agreement.

THEREFORE, it is agreed as follows:

DEFINITIONS

12. **LOCAL JURISDICTION** shall mean any subdivision of government, including agencies or institutions to which the State OES has, through agreement, assigned State OES-owned emergency apparatus; or who provide locally owned resources under provisions of the State Fire and Rescue Mutual Aid System.

13. **EMERGENCY APPARATUS** (hereinafter called apparatus) shall mean any vehicular apparatus provided through the State Fire and Rescue Mutual Aid System.

14. **EMERGENCY PERSONNEL** shall mean any personnel responding on or with emergency apparatus and requested overhead personnel.

15. **MOBILIZATION CENTER** shall mean an off-incident location at which emergency apparatus and personnel are temporarily located pending assignment, release or reassignment.

16. **DEMOBILIZATION CENTER/FACILITY** shall mean that location or facility established at or near an incident for the processing of apparatus and personnel prior to release to its home base.

17. **STAGING AREA** shall mean the location where apparatus and personnel are assigned to an incident for deployment on a three-minute availability status.

TERMS AND CONDITIONS

REQUESTS FOR AND RELEASE OF EMERGENCY APPARATUS AND PERSONNEL

18. Forest Agency requests for apparatus and personnel ordered pursuant to this agreement, through the State Fire and Rescue Mutual Aid System, shall be placed by following the procedures set forth in the California Fire Service and Rescue Emergency Mutual Aid Plan.

    Forest Agencies and State OES will use the Resource Order Form (Form MACS 420 and 420A or equivalent) for all requests. Forest Agencies shall not be responsible for any apparatus and personnel not confirmed by their respective order and request number(s).

19. Forest Agency release or reassignment of apparatus used pursuant to this agreement will be coordinated through the on-scene State OES Fire and Rescue officer, the local jurisdiction agency representative, or their authorized representative. Such State OES officer or representative will ensure the inspection and inventory of such apparatus prior to release to its home base in accordance with incident established inspection and demobilization procedures.

PROTECTIVE CLOTHING AND EQUIPMENT

20. It shall be the responsibility of the jurisdiction sending emergency personnel to ensure that such personnel are provided protective clothing and equipment as required by California Code of Regulations, Title 8, Section 3410, Article 10.1, Section 3401, et seq. Engines shall meet minimum ICS type standards. Exhibit B identifies minimum requirements for Type 3 Engines.

COMMUNICATIONS CAPABILITIES

21. **Strike Team/Task Force Leaders.** It shall be the responsibility of the jurisdiction sending a Strike Team/Task Force Leader to ensure that the leader has adequate communications capability. Adequate communications capability is defined as a Very High Frequency (VHF) high-band radio with a minimum of 32 channels and programmed as recommended in the Statewide Frequency Plans as published in ICS 420-1, Fire Service Field Operations Guide (current edition), Appendix A.

    Apparatus. It shall be the responsibility of the jurisdiction sending apparatus to ensure that the apparatus has common communications capability with the Strike Team/Task Force Leader. It is desirable that apparatus have adequate communications capability as defined above.

REIMBURSEMENT

22. Provisions and procedures for reimbursement by Forest Agencies for fire suppression assistance are defined in Exhibit A, Reimbursement Policy and Procedures. Each Forest Agency will provide State OES Fire and Rescue Branch with its current billing address. Reimbursement for personnel on State OES-owned apparatus shall be to local jurisdictions that provide such personnel by Apparatus Assignee agreement with State OES.

COST OF APPARATUS AND EQUIPMENT LOSS OR DAMAGE

23. A Forest Agency may reimburse a local agency for the cost of apparatus or equipment loss or damage where the loss or damage is directly caused by the fire being suppressed, and where the local agency, its employees and/or operational failures in the apparatus or support equipment are not a contributing factor to such damage or loss. Loss or damage to local agency apparatus or support equipment while enroute to or from an incident and repairs due to normal wear and tear or due to negligent or unlawful operation by the operator shall be the responsibility of the local agency providing the apparatus or equipment.

24. Loss or damage to local agency apparatus or support equipment occurring on an incident is to be reported to the incident finance section to ensure proper documentation and investigation.

25. If post incident help is needed for cost reimbursement, contact the appropriate Forest Agency, listed below:

25.1 CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION FIRES:

State Board of Control
630 "K" Street
Sacramento, CA 95814

25.2 U. S. FOREST SERVICE FIRES:

All disputes arising under this agreement against the U.S. Forest Service will be resolved under the Contract Disputes Act of 1978, as amended (41 USC 601-613), and shall be sent to:

Director
Acquisitions Management
1323 Club Drive
Vallejo, CA 94592

25.3 **NATIONAL PARK SERVICE FIRES:**

Fire Management Office
National Park Service
1111 Jackson Street, Suite 700
Oakland, CA 94607

25.4 **BUREAU OF LAND MANAGEMENT FIRES:**

Bureau of Land Management
Branch of Fire and Aviation Management
2800 Cottage Way
Sacramento, CA 95825

25.5 **FISH AND WILDLIFE SERVICE FIRES:**

Fish and Wildlife Service
California/Nevada Operations Office
2800 Cottage Way, W-2606
Sacramento, CA 95825

EXAMINATION AND AUDIT

26. Local jurisdictions, State OES and the Forest Agencies shall be subject to examination and audit for three years after the final payment under the terms of this agreement. Examination and audit shall be confined to those matters connected with the performance of this agreement including, but not limited to, the cost of administration.

APPROPRIATED FUND LIMITATION

27. Nothing herein shall be interpreted as obligating any parties herein to expend funds or as involving the United States or the State of California in any contract or other obligation for the future payment of money in excess of appropriations authorized by law and administratively allocated for the work contemplated in this agreement.

OFFICIALS NOT TO BENEFIT

28. No member of, or Delegate to Congress or Resident Commission shall be admitted to any share or part of this agreement or to any benefit to arise therefore, unless it is made with a corporation for its general benefit.

CIVIL RIGHTS

29. The extension of benefits under the provisions of this agreement shall be without discrimination as to age, handicap, race, color, creed, sex, or national origin.

NONDISCRIMINATION

30. The cooperators shall comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d through 2000d-6); (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) which prohibits discrimination on the basis of disabilities and provides for "reasonable accommodation" in hiring of persons with disabilities; (d) the Older American Act of 1965 as amended (42 U.S.C. 3056 and 6101 et. seq.); and (e) USDA 9 AR, Title VI Implementation Regulations.

PREVIOUS AGREEMENTS CANCELED

31. This agreement supersedes the Cooperative Agreement entered into on July 1, 1998 (OES# 6016-8, CDF# 7CA98603, USFS# MOU-5-98-20-038), between State OES; Pacific Southwest Region, USDA Forest Service; State of California Department of Forestry and Fire Protection; USDI Bureau of Land Management, California State Office; and the USDI National Park Service, Pacific West Region.

AMENDMENTS

32. This agreement may only be amended by written mutual consent of the parties hereto.

TERMINATION

33. This agreement shall remain in effect until December 31, 2006. It may be terminated by any one of the parties hereto upon thirty- (30) days notice, in writing, to the other parties.

CDF# 7CA01000
USFS# 02-FL-11052012-115
NPS# G8000020002
BLM# BAA021001
F&WS# 10101-2-J007

IN WITNESS WHEREOF, the parties hereto have executed this agreement:

DIRECTOR
STATE OF CALIFORNIA
OFFICE OF EMERGENCY SERVICES

By: /S/Dallas Jones
Director

Date: 5-21-02

DIRECTOR
STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY
AND FIRE PROTECTION

By: /S/ Andrea E. Tuttle
Director

Date: 5/9/02

REGIONAL FORESTER
USDA FOREST SERVICE
PACIFIC SOUTHWEST REGION

By: /S/ Jack A. Blackwell
Regional Forester

Date: 5/16/02

CALIFORNIA STATE DIRECTOR
USDI BUREAU
OF LAND MANAGEMENT
CALIFORNIA STATE OFFICE

By: /S/ Mike Pool
for California State Director

Date: 5/8/02

REGIONAL DIRECTOR
USDI NATIONAL PARK SERVICE
PACIFIC WEST REGION

By: /S/ John J. Reynolds
Regional Director

Date: 5.14.02

MANAGER
USDI FISH AND WILDLIFE SERVICE
CALIFORNIA-NEVADA OPERATIONS

By: /S/ Steve Thompson
Manager

Date: MAY 0 8 2002

CONTRACTING OFFICER
USDI BUREAU OF LAND MANAGEMENT
CALIFORNIA STATE OFFICE

By: /S/ Julia B. Lang
Contracting Officer

Date: 5/8/02

OES# 6016-8A1
CDF# 7CA01000
USFS# 02-FL-11052012-115
NPS# G8000020002
BLM# BAA021001
F&WS# 10101-2-J007

EXHIBIT A
REIMBURSEMENT POLICY AND PROCEDURES

GENERAL

The following procedures are for the use of personnel on State OES-owned emergency and associated support apparatus, local jurisdiction apparatus and support equipment, and overhead personnel. Terms established in this section shall be made binding upon local jurisdictions by State OES and shall not be subject to interpretation or rejection by the jurisdiction providing assistance.

This agreement does not supercede any other agreements for assistance between the Forest Agencies and local jurisdictions. Local jurisdictions that provide their personnel and equipment to Forest Agencies through the State Fire and Rescue Mutual Aid System and this agreement, do so on a voluntary basis, and accept the following provisions for reimbursement.

It is understood and agreed that a local jurisdiction providing personnel on State OES-owned apparatus shall obtain reimbursement for such response by billing the using Forest Agency in accordance with this Exhibit.

Reimbursement for personnel, apparatus, and support equipment will begin after the twelfth (12th) hour. There shall be no reimbursement for responses of less than twelve (12) hours duration. If the duration of the response exceeds twelve (12) hours, reimbursement for personnel, apparatus and support equipment shall cover the entire time of commitment, beginning at the time of initial dispatch from home base, to the time of return to home base. Should personnel, apparatus or support equipment be requested for assignment to a Mobilization Center for standby duty, the reimbursement period shall begin with the time of initial dispatch of said personnel, apparatus or support equipment from its home base. Additionally, there shall be only one twelve (12)-hour free period for each person, apparatus, or support equipment from time of original dispatch, regardless of number of assignments or Forest Agencies committing said personnel, apparatus or support equipment until its return to home base. The twelve (12)-hour free period shall be subject to annual review and monitoring by the California Fire Assistance Agreement Committee.

An Administrative Rate will be added to the total of the personnel, fire engine and support equipment reimbursement. The Administrative Rate is set annually by the California Fire Assistance Agreement Committee. It is the average indirect or equivalent administration percentage rate used by the Forest Agencies signatory to this agreement.

OES# 6016-8A1
CDF# 7CA01000
USFS# 02-FL-11052012-115
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PERSONNEL REIMBURSEMENT

A-1. There shall be a standard reimbursement formula for personnel, with established Base Rates applicable to all local jurisdictions, or average actual rates in lieu of the established Base Rates for those local jurisdiction personnel that currently receive wages that are higher than the appropriate Base Rate. Reimbursement will be based on the salary survey on file with State OES Fire and Rescue Branch at the time of initial dispatch. In the event salaries change during an incident, reimbursement will be at the rate on file at the time of dispatch.

A-2. These formulas and rates of payment shall constitute full reimbursement for direct costs, including back fill, to local jurisdictions relative to personnel provided. Liability for workers compensation claims and/or payment of unemployment benefits shall remain the responsibility of the responding local, state, federal agencies, and tribal fire departments, that directly employ the personnel. All data calculations shall be subject to audit by the Forest Agencies in accordance with Paragraph 26, Examination and Audit.

A-3. Reimbursement is for assignments, which require 24-hour availability without regard to calendar days. Reimbursement for fractional hours shall be taken to the next whole hour.

A-4. Reimbursement shall be made only for such personnel that have been specifically requested or approved by the Forest Agency. Any personnel not given an Order/Request number shall be considered a voluntary contribution from the responding agency and not subject to reimbursement.

A-5. Reimbursement for Fire Engine and Water Tender refurbishment and rehab may be approved by the Incident Command, up to a maximum of 2 hours, as appropriate.

Formula for Base Rate

A-6. Local jurisdictions will be reimbursed at the established Engine Company Base Rate for personnel responding on apparatus, support equipment or as overhead personnel at or below the Strike Team/Task Force Leader (Trainee) level. Strike Team/Task Force/Unit Leader level or above personnel will be reimbursed at the established Overhead Base Rate.

The established base rate reimbursement formula is

A-7. **[(B x H x 1.5) + (B x H x 1.5 x W) + (B x H x 1.5 x U)]** = Total Personnel Reimbursement in Dollars, where **B** = Established Hourly Base Rate; **H**= Total Hours on Incident; **W** = Local Jurisdiction's Workers' Compensation Percentage Rate; and **U** = State Unemployment Percentage Rate.

The Established Hourly Rate (**B**) is based on the average of the forest agencies emergency hire rates for these positions.

The Hours on Incident (**H**) are the total hours, from portal to portal, in accordance with the General section, above.

The Local Jurisdiction's Workers' Compensation Rate (**W**) is the percentage rate used by the respective local jurisdiction.

The State Unemployment Percentage Rate (**U**) is the percentage rate paid by local jurisdiction. Many fire agencies may not be paying this item.

Formula for Average Actual Rate

A-8. Local jurisdictions that have submitted Average Actual Rates to State OES Fire and Rescue Branch at or below the Battalion Chief level, shall be reimbursed using the following formula:

A-8.1 **[(A x H x 1.5) + (A x H x 1.5 x W) + (A x H x 1.5 x U)]** = Total personnel reimbursement in dollars, where **A** = Average Actual Hourly Rate; **H** = Total Hours on Incident; **W** = Local Jurisdiction's Workers' Compensation Percentage Rate; and **U** = State Unemployment Percentage Rate.

The Average Actual Hourly Rate (**A**) is the average hourly rate of all personnel in the specific rank (e.g.: Captain, Engineer, Firefighter) within each individual jurisdiction

The Hours on Incident (**H**), the Local Jurisdiction's Workers' Compensation Rate (**W**), and the State Unemployment Percentage Rate (**U**) are as defined in Formula for Base Rate, above.

A-8.2 Local jurisdictions that have submitted Average Actual Rates to State OES Fire and Rescue Branch above the Battalion Chief level shall be reimbursed portal to portal at straight time using the following formula unless the employee(s) has a local agreement certifying that they are to be paid above straight time. Those with such an agreement will be reimbursed in accordance with the formula for Average Actual Rate, in section A-8.1 of this paragraph.

[(A x H) + (A x H x W) + (A x H x U)] = Total personnel Reimbursement in Dollars where **A**= Average Actual Hourly Rate; **H**= Total Hours on Incident; **W**= Local Jurisdiction's Workers' Compensation Percentage Rate; and **U**= State Unemployment Percentage Rate.

The Average Actual Hourly Rate (**A**) is the average hourly rate of all personnel in the specific rank (e.g.:, Chief, Deputy Chief, Assistant Chief) within each individual jurisdiction.

The Hours on Incident (**H**), the local Jurisdiction's Workers Compensation Rate (**W**), and the State Unemployment Percentage Rate (**U**) are as defined in the Formula for Base Rate, above.

Engine Company and Water Tender Staffing

A-9. Engine company staffing shall not be less than three (3) or a reimbursable maximum of four (4). Forest Agencies will reimburse based on the actual classifications responding, not to exceed one company officer, one apparatus operator, and one or two firefighters. Water Tender staffing shall be a reimbursable maximum of two (2) apparatus operators.

Strike Team/Task Force Leader (Trainee)

A-10. Forest Agencies shall provide reimbursement for personnel requested by the Forest Agencies to coordinate (strike team/task force leaders) or otherwise support the local jurisdiction, or State OES-owned apparatus used on incidents. A Strike Team/Task Force may, at the discretion of the local agency, include a Strike Team/Task Force leader trainee as a reimbursable member of the unit. The trainee will be covered under a Strike Team/ Task Force order-request number and will be identified on a separate OES F-42. The Strike Team/ Task Force leader trainee should check in with the Planning Section or an Incident Training Specialist. The Strike Team/Task Force Leader Trainee shall travel with the Strike Team/Task Force in a vehicle from the existing Strike Team/Task Force and will not be reimbursed for the use of a separate Trainee vehicle. Personnel filling Strike Team/Task Force leader (trainee) positions shall be certified at the Strike Team/Task Force leader (trainee) level per Wildland Fire Qualification NWCG 310-1 Sub System Guide, or the California Incident Command Certification System (CICCS)

A-11. All trainees will follow the qualification process in place at the incident.

Overhead Personnel

A-12. Personnel responding to a Forest Agency request for overhead positions shall meet the training requirements established for the ICS position to be filled (Reference: NWCG 310-1 Sub System Guide or the California Incident Command Certification System (CICCS).

A-13. Requesting Forest Agencies shall specify the mode of transportation for overhead personnel at the time of request. Transportation shall be arranged and paid by the Forest Agency.

Transfer to Other Operational Areas

A-14. Local government apparatus, personnel and support equipment requested pursuant to this agreement cannot be transferred from one State OES Operational Area to another without the

responding jurisdiction's approval. The using Forest Agency shall secure approval for such redirection through the State Fire and Rescue Mutual Aid System.

OES Support

A-15. State OES Agency Representatives assigned to major incidents may need to have an OES Support/Communications Unit to facilitate coordinating the mutual aid resources assigned to the incident. Staffing level for this resource shall be limited to a maximum of 2 persons. Staff reimbursement will be based on the appropriate rate.

APPARATUS AND SUPPORT EQUIPMENT REIMBURSEMENT

State-Owned OES Apparatus and Support Equipment

A-16. State OES shall assume operational costs, including necessary motor fuels and lubricants used in State-owned OES apparatus while responding to and returning from Forest Agency incidents.

A-17. State OES assumes the normal cost of repair or damage to State OES-owned apparatus, which may result from use under the terms of this agreement.

Local Agency Apparatus and Support Equipment

A-18. Reimbursement - Fire Engines and Water Tenders: Shall be in accordance with the current Schedule of Equipment Rates established pursuant to Section 420 of the Disaster Relief Act, PL 93-288, by the Federal Emergency Management Agency. These rates are based on engine horsepower with a 16-hour maximum allowable charge, per 24-hour period. Fire Service Water Tenders will be reimbursed using Fire Engine rates.

Reimbursement - Support Equipment and Privately Owned Vehicles

A-19. Forest Agencies shall reimburse local jurisdictions for use of local jurisdiction support equipment or private vehicles provided in conjunction with requested personnel. Reimbursement shall be calculated on a daily basis for local jurisdiction support equipment and on a per mile basis for privately owned vehicles at the rate established by the Committee for the type or category of vehicle used. Such reimbursement shall be considered as covering all costs related to use of such vehicles except as provided in the Cost of Apparatus and Equipment Loss or Damage section of this agreement, Paragraphs 23 through 25.

A-20. Local jurisdictions shall assume operational costs, including necessary motor fuels and lubricants used in its apparatus and support equipment while responding to and returning from Forest

Agency incidents. It shall be the responsibility of the responding jurisdiction to provide the necessary means of payment for such costs.

A-21. Forest Agencies will provide for motor fuel and lubricants, normal servicing costs, and minor repairs incidental to operation of apparatus including local jurisdiction support equipment while under direction and control of the requesting Forest Agency. Minor Repair is defined as any repair necessary to keep the equipment in operation on the fire, which requires not more than two hours (labor time only) for one mechanic for any one job, exclusive of obtaining parts.

A-22. In no case will a second support vehicle assigned to an individual strike team or task force be reimbursed.

Reimbursement- Personnel Rotation

A-23. When local government personnel are committed to extended assignments under this agreement, there may be a need to replace or rotate personnel. This need may be the result of labor contracts, department assignment policy, or individual emergency. Personnel under this agreement are expected to be available a minimum of 7 days before needing replacement.

Expenses that are reimbursable are limited to personnel costs and transportation costs. Reimbursement for personnel will be in accordance with general personnel reimbursement provisions of this agreement. Only replacements approved by the incident and documented with a new order/request numbers on F-42's will be processed through the OES invoicing system.

INCIDENT OFF-SHIFT REST AND SLEEPING ACCOMODATIONS

A-24. The responsible Forest Agency will provide, when practical, shaded and/or climatically maintained accommodations for off shift sleeping, rest, and recuperation for local government resources confined to the incident base. If the incident command finds it operationally feasible (i.e. Strike team remains available), to place local government resources in a commercial sleeping accommodation, it may be provided by the forest agency.

REIMBURSEMENT- STATE, FEDERAL, AND TRIBAL FIRE DEPARTMENTS

A-25. In addition to local government resources, State, Department of Defense (DOD), and Tribal Fire Departments may respond through the State of California Fire Service and Rescue Emergency Mutual Aid System.

State Agency Fire Department personnel will be reimbursed in accordance with reimbursement provisions for local jurisdictions except that the base rate provisions will not apply to inmate

firefighters. Inmate firefighters will be reimbursed at their actual straight time rate in accordance with the formula for base rate.

The authority of the State Master Mutual Aid Agreement does not cover DOD and Tribal Fire Departments. Reimbursement of DOD and Tribal Fire Departments that respond to CDF fires will be in accordance with the reimbursement provisions for local jurisdictions.

Reimbursement of DOD and Tribal Fire Departments that respond to Federal Forest Agency fires are governed by other federal agreements. In these cases OES will not produce or process reimbursement invoices for DOD and Tribal Fire Departments. DOD and Tribal Fire Departments will invoice the supported Federal Forest Agency directly in accordance with existing federal or local agreements.

REQUESTING REIMBURSEMENT

A-26. Local jurisdictions will prepare an OES Form F-42 (Emergency Activity Record) and supporting documentation at the incident, which is the basis for reimbursement due and invoice preparation. These forms are provided by State OES Fire and Rescue Branch. The Form (F-42) must be signed by a responsible officer of the jurisdiction seeking reimbursement and by the Forest Agency Incident Command to verify that the resources requested on the F-42 were authorized by the ordering agency and are approved for payment by the Forest Agency. The completed F-42 is forwarded to State OES Fire and Rescue Branch in Sacramento for processing. **FORMS F-42 NOT SUBMITTED TO STATE OES FIRE AND RESCUE BRANCH BY THE LOCAL JURISDICTION WITHIN 60 DAYS OF RELEASE FROM THE INCIDENT WILL BE CONSIDERED NULL AND VOID.**

A-27. Within 60 days of receipt of the F-42, State OES Fire and Rescue Branch will process the F-42 data into invoices (F-142) and return to the local jurisdiction for verification of billing amounts and signature. **INVOICES (F-142) NOT RETURNED TO STATE OES FIRE AND RESCUE BRANCH WITHIN 60 DAYS OF RECEIPT FOR VERIFICATION OF BILLING AMOUNTS AND SIGNATURE WILL BE CONSIDERED NULL AND VOID.**

A-28. Upon return receipt and verification of the invoice (F-142) by the local jurisdiction, State OES Fire and Rescue Branch will forward the invoice (F-142) to the appropriate Forest Agency within 30 days along with a copy of the F-42 as the source document.

A-29. The Forest Agency will remit payment to the local jurisdiction within 60 days of receipt of invoice (F-142) from OES.

A-30. In the event the Forest Agency has changed an invoice (F-142), the Forest Agency will provide a disbursement voucher to OES and the local jurisdiction, which identifies the payment being made, and the reason for the change.

A-31. The Forest Agency will provide copies of payment schedules to OES for invoices (F-142s) the Forest Agency has paid within 60 days of remittance to the local jurisdiction. State OES Fire and Rescue Branch will reconcile the payment schedules against outstanding invoices (F-142s) on a monthly basis.

A-32. Inquiries from the Forest Agencies regarding amounts billed will first be addressed to the State OES Fire and Rescue Branch as soon as possible, as the first step in a joint resolution process.

A-33. The Terms and Conditions and Exhibits in this agreement may necessitate new methods of reporting and invoicing. All proposed changes to this agreement, or associated business processes shall be approved by the Forest Agencies that are parties to this agreement.

A-34. Reimbursement for apparatus, personnel and support equipment shall be made directly to the local jurisdiction providing the apparatus, and **NOT** to individual crew members, support, or coordinating personnel.

FEDERAL AGENCY ELECTRONIC FUND TRANSFER

A-35. Some federal agencies may require payment of funds via Electronic Fund Transfer. The appropriate forms required will be forwarded to the local agency as needed/directed by the federal agency.

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F&WS# 10101-2-J007

EXHIBIT " B"

ICS ENGINE STANDARDS

As orders for Type 3 Engine Strike Teams have increased, and as local interface problems have been identified, many local government fire agencies have acquired Type 3 Apparatus.

Keep in mind that the above stated standards are minimum requirements. Just because an engine meets the minimum standards on the chart does not necessarily mean that it can carry out the mission of Type 3 Apparatus. An example would be a full sized Type 1 Engine that has the extra 1½" and 1" hose added so it can meet type 3 standards.

A typical Forest Agency Type 3 Engine has a number of features that enhance it's capability to operate on narrow, steep or unimproved roads to allow the efficient application of water or other agents. These features include:

Short Wheelbase
High Ground Clearance
High Angle of Approach & Departure
Auxiliary motor Powered Pump to allow Pump & Roll
Unit # on Roof
2x4 or 4x4
Class A Foam
Progressive Hose lay Packs
Lower GVW than a Type 1 or 2
Wildland Hand Tools
Portable Pump
Chainsaw
Fuses or drip torch
Hard suctions for drafting
Back Pumps

The Forest Agencies have the expectation that when a Local Government Type 3 strike team arrives at an incident it can perform all of the missions that their own Type 3's can. This may or may not be true, depending upon the training that the Local Government crews have taken. Specifically, Type 3 Engine crews should be adequately trained in the following:

Wildland Strategy & Tactics
Wildland Fire Behavior
Wildland Hose Lays
Wildland Fire Safety
Backfiring
Hand Line Construction
Structure Triage
Prepping a Structure

Forest Agencies are expecting all local government Type 3 strike teams to be capable of going where Type 3's were designed to go and doing what Type 3 crews are trained to do.

California Fire Services User's Guide To:

• Disaster Declarations

• Agreements for Cooperation

KEY TERMS

- Mutual Aid
  - Assistance By Hire
    - Local Agreements
      - Cooperative Fire Protection Agreement (4 Party Agreement)
        - Direct Protection Area (DPA)
          - Cooperative Agreement For Local Government Fire Suppression Assistance (5 Party Agreement)

INTENT

This document is designed to familiarize the fire agencies statewide with various means of sending and receiving aid to wildland fire incidents and some examples of how reimbursement may or may not occur. This is not intended to define the only means by which this may occur or to set policy on these issues.

DISASTER DECLARATIONS

There are several levels of disaster declarations and each level presents different possibilities of response, fiscal responsibilities and reimbursements (if any).

Local Declaration. A local disaster can be declared by the local governing body, such as but not limited to the Mayor, City Council, County Board of Supervisors. A local declaration will suspend the rules with respect to bidding of short-term contracts for services required to assist in mitigating the emergency and provide temporary relief from the California Environmental Quality Act (CEQA) and other items as specified in your local ordinances. Should this be the highest level of declaration, there is no reimbursement from the next level of government.

Gubernatorial Declaration. Prior to the Governor of the State declaring a disaster, the local government must show evidence that local resources are expended and that the capabilities of the resources will not provide timely relief. Declarations from the Governor may provide qualifying State funds to local governments and assisting agencies for overtime and mileage cost directly attributable to the responses. At this level of declaration, the State may reimburse 75% of the eligible costs and other expenses, the remaining 25% is the fiscal responsibility of the local government.

Presidential Declaration. Prior to a Presidential Declaration of Disaster being issued the same basic criteria must be met by the State. A Presidential Declaration may provide qualifying Federal funds to State and local governments. The funds may provide a wide variety of relief, depending on the extent and types of disaster. At this level of declaration, the Federal Government may reimburse 75% of costs associated with overtime, mileage, and other expenses directly attributable to esponses. The State is responsible for reimbursing 75% of the remaining 25% (18.75%) and the local government is responsible for the remaining 6.25%.

Agreements for Cooperation

It's in the best interest of both State, Federal, and local government agencies to cooperate to achieve objectives of common interest and concern. The concept of a functionally integrated fire protection system, involving Federal, State and local government resources, is the most effective method of delivering fire protection where life, property and natural resource values are at risk.

There is an array of agreements at various levels of governments and between agencies that allow for and provide assistance during times of emergencies. These agreements may provide assistance in the form of ***MUTUAL AID***, where assistance is rendered free of charge (non-reimbursable, generally a short duration assignment) or ***ASSISTANCE BY HIRE*** where the assistance will be paid for (reimbursed) by the user.

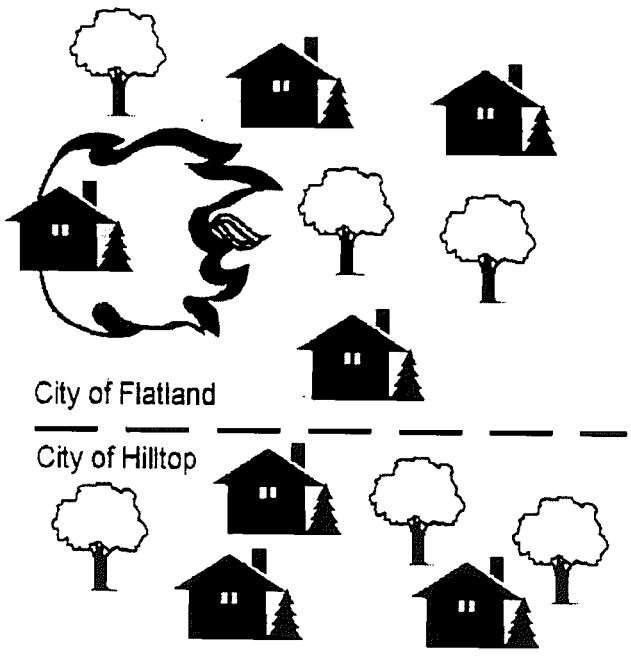
LOCAL AGREEMENTS are voluntary agreements between two or more local entities that describe the initial responses to incidents occurring within adjoining areas or in areas of close proximity. The agreements will determine whether the responses are mutual aid, or assistance by hire.

The ***COOPERATIVE FIRE PROTECTION AGREEMENT***, referred to as the ***4 PARTY AGREEMENT***, is an agreement between the California Department of Forestry and Fire Protection, U.S. Forest Service, Bureau of Land Management and the National Park Service (collectively known as Forest Agencies). The Forest Agencies acknowledge that differences exist between agency missions, but that each will represent the other agency's interests and must possess the recognition, knowledge and understanding of each other's mission objectives, authorities and policies. Wildland fires on intermingled or adjacent lands, managed by State and Federal Agencies, present a threat to the lands of the other. State and Federal Agencies have recognized a need to assist each other on suppression of wildland fires on lands adjacent to each other. These lands are commonly referred to as ***DIRECT PROTECTION AREA (DPA)***. Basically, DPA is described as an area delineated by boundaries regardless of statutory responsibility and the protection is assumed by administrative units of either the Federal Agencies or the State. The agency with the direct protection responsibility, known as the Protecting Agency, has assumed both fire suppression and fiscal responsibilities as agreed.

However, at times of severe wildland fire conditions the Forest Agencies may have a need of local government apparatus to provide structural protection or to supplement their respective agency-controlled resources to aid in the suppression effort. The ***COOPERATIVE AGREEMENT FOR LOCAL GOVERNMENT FIRE SUPPRESSION ASSISTANCE***, referred to as the ***5 PARTY AGREEMENT***, is the instrument that endorses this cooperation. The agreement makes California Office of Emergency Services and/or various local government jurisdictions emergency apparatus, in the spirit of cooperation, available for dispatch and use through the STATE FIRE & RESCUE MUTUAL AID SYSTEM, to the Forest Agencies. Reimbursement begins 12 hours after the initial dispatch and is retroactive to the time of the initial dispatch. If the duration of the assignment is less that 12 hours, there is no reimbursement.

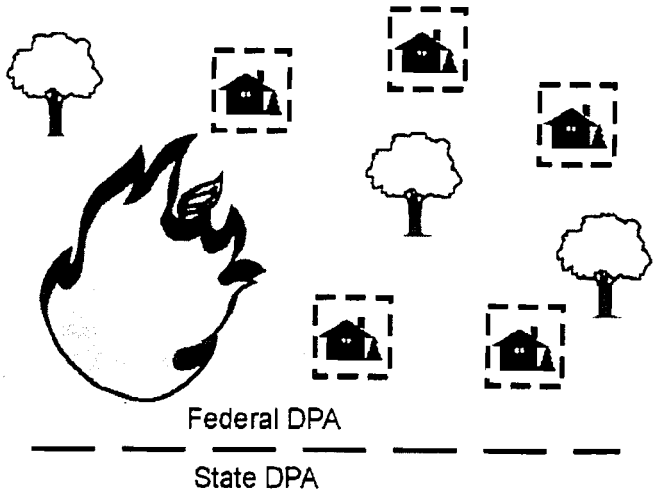
In other words, the 5 PARTY AGREEMENT allows the Forest Agencies to tap into the pool of available resources through the STATE FIRE & RESCUE MUTUAL AID SYSTEM. In the truest of terms Forest Agencies are not signatory to the STATE FIRE & RESCUE MUTUAL AID SYSTEM, and do not actively participate by providing resources but are frequent users of the systems.

THE FOLLOWING SIX SCENARIOS DO NOT SET PRECEDENT.
Each real incident will have its own unique decisions.



The Cities of Hilltop and Flatland are adjacent neighbors. A structure fire in Flatland, close to the boundary with Hilltop, has spread into the surrounding wildlands of the city LRA. ***The location of the incident is covered by a local Voluntary Mutual Aid Agreement developed by both cities during joint emergency operations planning.*** Both cities respond with significant fire fighting resources to deal with the threat. There is no involvement from wildland (forest) agencies. Eventually the wildland fire is successfully controlled before actually burning into Hilltop's jurisdiction. The City of Hilltop incurred unbudgeted expenditures associated with their response to assist their neighbor. This expense happened in spite of the fact that Hilltop did not suffer any loss within their area. ***The City of Hilltop was not reimbursed for these unplanned costs.***

Mutual Aid at the local government level, occurs daily throughout the State. This process is designed to provide assistance from one neighboring jurisdiction to another, related to numerous fire service activities. The premise is that no community has the resources sufficient to cope with all emergencies for which potential exists. In the spirit of cooperation Hilltop assisted Flatland without reimbursement. Next time it may be the other way around.



The scattered houses are on SRA land totally within the Federal DPA. The Federal agency (FED) has wildland fire protection responsibility for all federal lands, private lands in this area are SRA. The county fire department (CTY) has structure protection responsibility in this area. The fire is managed by a Unified Command with county fire department concerns being met by participating as a member of this Unified Command. The IC's jointly agreed to order five (5) strike teams of engines for structure protection through the Unified Ordering Point to assist in perimeter control. The strike teams come under the 5 Party Agreement. The strike teams are reimbursed under this agreement by the federal agency who ordered them. Any County fire department resources responding as part of these strike teams are not reimbursed.

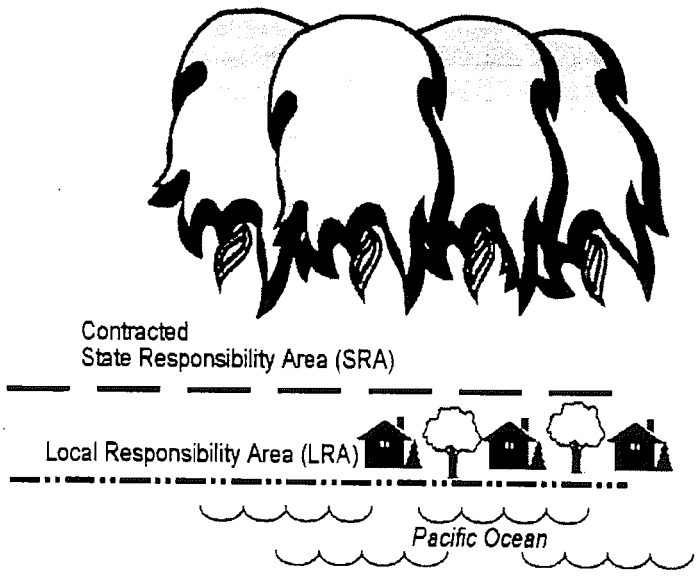
Example of the request for 5 strike teams would be Incident #FED-12345, Request FED-E-10 through FED-E-14 for 1 each S/T Engine Type 1 or Type 2 per request number.

Sunshine City is an incorporated city with its own fire department (SSC). The structures located outside the city are protected by the county (CTY), but are on SRA lands within the federal DPA. The fire is managed as a Unified Command between the federal agency, county fire, and the city. The joint decisions was for the federal agency to order one strike team of engines to protect the structures in close proximity to the wildland fire and assist with perimeter control and the city to order 10 strike teams of engines to protect the city. The federal order is through the 5 Party Agreement, and the city order is under State Master Mutual Aid Agreement. The one strike team is reimbursed by the federal agency and the 10 strike teams are furnished at no cost to the city. The county resources that assist in the effort will not be compensated by the Federal agency.

Example of the federal request for 1 strike team would be Incident #FED-12345, Request FED-E-10 for 1 each S/T Engine Type 1 or Type 2 per request number.

Example of the city request for 10 strike teams would be Incident #FED-12345, Request SSC-E-11 through SSC-E-20 for 1 each S/T Engine Type1 or Type 2.

(In this scenario it is important to recognize that it is a unified command and it was a joint decision for the city to order the engines to protect the city through State Master Mutual Aid.)



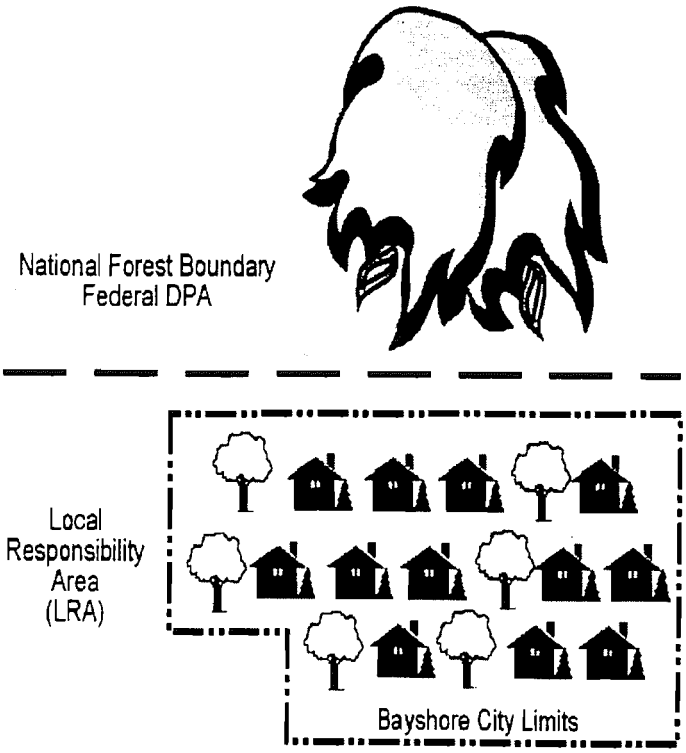
CDF has six (6) contract counties (LAC, KRN, ORC, VNC, SBC, & MRN) to provide wildland fire protection for State responsibility lands in their counties.

A fire is burning SRA land in Los Angeles County (LAC) and an area of LRA needs protection. The CDF Agency Representative and the Incident Commander have negotiated that 5 strike teams of engines will be ordered under Master Mutual Aid and 5 strike teams of engines ordered under the 5 Party Agreement.

Example of the request for 5 strike teams of engines, Master Mutual Aid, is Incident #LAC-1234, Request LRA-E-1 through LRA-E-5 for 1 each S/T Engine Type 1 or Type 2 per request number.

Example of the request for 5 strike teams of engines, 5 Party Agreement, is Incident #LAC-1234, Request SRA-E-6 through SRA-E-10 for 1 each S/T Engine Type 1 or Type 2 per request number.

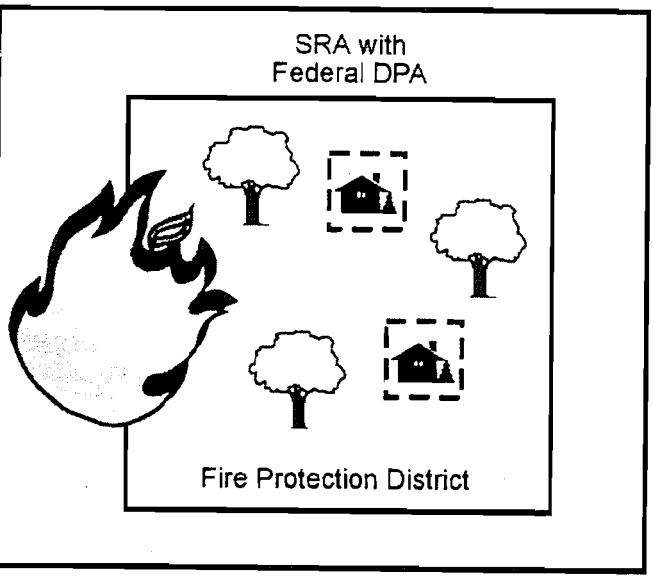
(Local government resources ordered by Forest agencies for assistance may not always be under the provisions of the 5 Party Agreement. Resources may be provided to the Forest Agencies through local Assistance by Hire or Mutual Aid agreements.)



The City of Bayshore (BAF) is an incorporated city and contracts with the County for structural fire protection. The Bayshore city limits stop at the USFS Direct Protection Area (DPA) boundary. A wildland fire starts on Forest Service land protected by the Forest Service (FED). The fire spreads rapidly and is threatening the City of Bayshore. A unified command is established between the Forest Service and the County Fire Department (CTY). A joint decision by the Incident Commanders is made to order 10 strike teams of engines for structure protection through the 5 Party Agreement for perimeter control. Because of the threat and risk to the Bayshore City LRA, there is joint IC's agreement to share the cost of the 10 strike teams equally, 50%/50%.

Example of the federal request for 5 strike teams of engines would be Incident #FED-12345, Request FED-E-10 through FED-E-14 for 1 each S/T Engine Type 1 or Type 2 per request number.

Example of the county request for 5 strike teams of engines would be Incident #FED-12345, Request BAF-E-15 through BAF-E-19 for 1 each S/T Engine Type 1 or Type 2 per request number.



A wildland fire is burning on SRA lands within Federal DPA. The fire is also within a Fire Protection District. Forest Agencies normally will not enter into a Unified Command with a Fire Protection District unless there is an agreement to share costs; or if there are other reasons for the Fire Protection District to enter into a unified command.

Incident Command has made a decision to order resources through the 5 Party Agreement consistent with Forest Agency's agreements of structure protection on SRA lands. Local agency resources ordered under the 5 Party Agreement will be reimbursed within the terms of the agreement. If the Fire Protection District chooses not to be a part of the Incident Command and they order local government resources via independent dispatch channels the costs of those resources will not be the responsibility of any agency involved in the management of the incident.

This document is <u>not</u> policy. It is each fire agencies responsibility to understand the many procedures of providing and receiving assistance. The financial obligations when involved with emergency/disaster responses are variable. If you have other questions you should contact your agency administrators.

McNALLY FIRE

CA-SQF-1888

INCIDENT ACTION PLAN

DAY OPERATIONAL PERIOD

0600-1800

AUGUST 2, 2002

INCIDENT OBJECTIVES

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
McNALLY FIRE	08/01/02	2100

4. OPERATIONAL PERIODS (DATE/TIME)
08/02/2002 DAY 0600-1800

5. GENERAL CONTROL OBJECTIVES FOR THE INCIDENT (INCLUDE ALTERNATIVES)

1. PROVIDE FOR FIREFIGHTER AND PUBLIC SAFETY UTILIZING THE "10 STANDARD FIREFIGHTING ORDERS AND "18 WATCH OUT SITUATIONS" AND INCORPORATING LOOKOUTS, COMMUNICATIONS, ESCAPE ROUTES AND SAFETY ZONES.
2. KEEP THE McNALLY FIRE: EAST OF WESTERN DIVIDE HIGHWAY AND EAST OF NEEDLES LOOKOUT; SOUTH OF KERN RIVER; WEST OF BEACH RIDGE; NORTH OF BAKER PEAK AND CORRAL CREEK.
3. MINIMIZE IMPACT TO COMMUNITIES AT RISK INCLUDING: JOHNSONDALE, CAMP WHITESETT, PYLES BOYS CAMP, CARVER CAMP, FAIRVIEW, HORSE MEADOW, WEST MEADOW/ DANNER MEADOW, PONDEROSA, AND BEACH MEADOWS.
4. PROTECT GIANT SEQUOIA GROVES, RECREATIONAL FACILITIES, WATERSHED VALUES, AND HIGH VALUE OBJECTIVES WITHIN THE GIANT SEQUOIA NATIONAL MONUMENT.
5. MINIMIZE THE IMPACT TO THE GOLDEN TROUT HABITAT.
6. PROTECT HISTORIC AND PREHISTORIC AND CULTURAL PROPERTIES AND RESOURCES
7. PROVIDE TIMELY, ACCURATE INFORMATION TO CANNELL MEADOW, TULE- HOT SPRINGS AND MT. WHITNEY RANGER DISTRICTS, AREA RESIDENTS, PERMIT HOLDERS, AND OTHER INTERESTED PUBLICS.

6. WEATHER FORECAST FOR OPERATIONAL PERIOD:

SEE ATTACHED

7. GENERAL SAFETY MESSAGE

CODE OF CONDUCT FOR FIRE SUPPRESSION:

Fire fighter safety comes first on every fire every time.

The 10 standard Fire Fighting Orders are firm..we don't break them; we don't bend them. Every fire fighter has the right to know that his or her assignment are safe.

8. ATTACHMENTS (* IF ATTACHED)

[X] ORGANIZATION LIST (ICS 203)	[X] MEDICAL PLAN (ICS 206)	[X] WEATHER
[X] ASSIGNMENT LIST (ICS 204)	[X] INCIDENT MAP	[X] SAFETY
[X] COMMUNICATION PLAN (ICS 205)	[ ] TRAFFIC PLAN	[X] HUMAN RESOURCES

ICS 202 3-80	9. PREPARED BY (PLANNING SECTION CHIEF)	10. APPROVED BY (INCIDENT COMMANDER)
	/S/ Chris Lyle	/S/ LARRY HUMPHREY

ORGANIZATION ASSIGNMENT LIST	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
	McNALLY FIRE	8/01/02	2100

POSITION	NAME
5. INCIDENT COMMANDER AND STAFF	
INCIDENT COMMANDER	Larry Humphrey
DEPUTY	Jeff Whitney
SAFETY OFFICER	Pete Kahon/ Paul Boucher Joe Brock (T)
INFORMATION OFFICER	Jim Paxon/ D.Randall
LIAISON OFFICER Law	Jim Clawson

6. AGENCY REPRESENTATIVES	
AGENCY	NAME
USFS	Judy Schutza / Del Pengilhy
CHP	Bob Romine
CDF	Mike Green / Ted VanDeVort
OES	Bill Bondshu
INYO NF	Garry Oye

7. PLANNING SECTION	
CHIEF	Chris Lyle
PSC1(T)	Ann Marx
RESOURCES UNIT	Nicole Montoya/ Jim Ferguson (T)
SITUATION UNIT	Jeff Hink
DOCUMENTATION UNIT	Jim Cooley
DEMOBILIZATION UNIT	Connie Lane/J.Clayton(t)
TECHNICAL SPECIALISTS	Dave Wilson/ K. Mitch V. Smith/C.Kline
IMET	Cindy Bean
FIRE BEHAVIOR	Dave Bautista
HUMAN RES. SPECIALIST	Paul Maubach
STATUS CHECK-IN	Diane Carol-Cobb/
DATA IRSS/RESL(T)	Michelle Ryerson-Grett
TRAINING	Brian Power
FIRE BEHAVIOR	D. Bautista/ D. Coryn

8. LOGISTICS SECTION	
CHIEF	Ed Ryan
DEPUTY	Ray Kingston
a. SUPPORT BRANCH	
DIRECTOR	
SUPPLY UNIT	Jack Gothard
FACILITIES UNIT	Thomas Chacon
GROUND SUPPORT UNIT	Milt Fusselman
b. SERVICE BRANCH	
DIRECTOR	
SECURITY	Lance Johnson
COMMUNIC UNIT	Dan Wills/ B. Pardee/ T. Lyons
MEDICAL UNIT	Warren Templeton/D.J. Lopez
FOOD UNIT	John Grenz

4. OPERATIONAL PERIOD (DATE/TIME)
08/02/02 DAY 0600-1800

9. OPERATIONS SECTION	
CHIEF	Buck Wickham/Russ Copp(T) DAY Roy Hall/Denny Nelson (T) NIGHT
DEPUTY	

a. DIVISIONS/GROUPS **DAY**		
DIVISION/GROUP	A/B	Mike Mackenzie/ Mark Steele (t)
DIVISION/GROUP	C/E/G/H	Donna McCain/ Delbert Wellin (t)
DIVISION /GROUP	K	
Branch Director	**East**	**Mike Behrens**
DIVISION/GROUP	M	Dennis Crew
DIVISION/GROUP	O	John Cruthers
DIVISION/GROUP	Q	Rob Martin/ Frank Harper(t)
DIVISION/GROUP	S	
DIVISION/GROUP	Z/T	Brent Woffinden

DIVISION/ GROUPS **NIGHT**		
DEPUTY		
DIVISION/GROUP	A/B/	Glenn Odell
DIVISION/GROUP	C/E/G/H	
DIVISION/GROUP	S	Rick Lupe
DIVISION/GROUP	T/Z	Bob Schimke
DIVISION/GROUP		

AGENCY REPRESENTATIVES	
LACF	Vince Pena
CCC	Jim Teegardin
CDC	Greg Sims
TCSO	John Benas
S. Cal Edison BIA Pacific Region	Randy Zurn Gerald Jones
RESOURCE ADVISOR INYO NF RESOURCE ADVISOR SQF	Caulder Reid Teresa Benson/ P. Miller/ M. Stieler/ B. Ffernes

D. AIR OPERATIONS BRANCH	
AIR OPERATIONS BR. DIR.	Clay Templin/ Pete Schwab (D)
AIR ATTACK SUPERVISOR	Cliff Claridge / Tim Peterson / Frank Hayes
AIR SUPPORT SUPERVISOR	Rance Irwin
HELICOPTER COORDINATOR	
AIR TANKER COORDINATOR	

10. FINANCE SECTION	
CHIEF	Kathy Vensel
DEPUTY	Carol Salo
TIME UNIT	Jennifer Dolan
PROCUREMENT UNIT	Greg Martinez
COMPENSATION/CLAIMS UNIT	Laura Davis
COST UNIT	Susan Lee

1. BRANCH	2. DIVISION/GROUP	ASSIGNMENT LIST
	A/B	

3. INCIDENT NAME	4. OPERATIONAL PERIOD
MCNALLY	DATE August 02, 2002 *DAY* TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)**

DIVISION/GROUP SUPERVISOR MIKE MACKENZIE/ MARK STEELE(T)

BRANCH DIRECTOR _____

AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
DALTON IHC	RANDY UNKOVICH	20	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
MILL CREEK	PETE COX	19	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STCR 9480G	KEN HORN	38	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STCR 9473G	DAVID DRUM	37	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STCR 9488G	GARY MILANI	31	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STCR 9395G	FRANK MORALES	40	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STEN 6631C	MATT MCELEMENTS	27	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STEN 5800B	MARK MCDOWELL	16	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STEN 1656C E28	MARK COURSON	25	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STEN 1657C	WILL SPYRINSON	27	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STCR 9375G	JOAQUIN SILOS	33	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
BLM DOZERTENDER 5750L E145 DOZS: 3183 & (3182O/S)	KEITH BARKER	5	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
WT E32	GREG HOLT	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
WT E278	DARRIN LITTLE	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
SOF2	SCOTT MCDONALD	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
SOF2	MARTY OGAN	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
ARCH	KIM CUEVAS	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
ARCH	STEVE GALBRAITH	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800

FALC	JERRY LINCH	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FALC	SCOTT MYERS	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FALC	JESSE KEARNS	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FALC	DANIEL DUNN	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FELB	LARRY CASTRO	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
DOZB	RANDY JOHNSON	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
TFLD	STEVE BENOUT	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800

7. CONTROL OPERATIONS

•**CONTINUE TO MOP-UP AND HOLD BURN OUT.**

8. SPECIAL INSTRUCTIONS

•MAINTAIN LCES AT ALL TIMES.

•UTILIZE HAZARD TREES SOP.

•CAUTION AROUND FALLERS

•CAUTION AROUND DOZERS.

•**MAINTAIN WORK REST RATIO.**

•**KEEP SPEED DOWN**

•SLOW DOWN ON ROADS.

•FOOD AND GARBAGE SECURE FROM BEARS.

•WATCH FOR POISON OAK AND AVOID SAP AND SMOKE.

-WASH HANDS BEFORE EATING.-

DRINK PLENTY OF WATER TO PREVENT DEHYDRATION. ☺

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 168.0500 TX 168.0500		CH-1	GROUND TO AIR		RX 165.3250 TX 165.3250	PRIMARY	CH-11
							RX 168.4500 TX 168.4500	SECONDARY	CH-12

PREPARED BY (RESOURCES UNIT LDR.)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya	/S/ Chris Lyle	01 AUG 02	2200

1. BRANCH	2. DIVISION/GROUP	ASSIGNMENT LIST
	C/E/G/H	

3. INCIDENT NAME	4. OPERATIONAL PERIOD
MCNALLY	DATE AUGUST 02, 2002 *DAY* TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)**

BRANCH DIRECTOR _____

DIVISION/GROUP SUPERVISOR DONNA MCCAIN/ DELBERT WELLIN (T)

AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
CNF TIGERS	ROBERT GOMEZ	20	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
KNP #2	PAT MORGAN	20	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STEN 6601C	CHARLIE STUMP	28	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
STEN 5603C E98	VAN ARROYO	27	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
WT E56	FRANK SCHLITZ	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
WT E263	ROY DELAROSA	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
SOF2	SCOTT MCDONALD	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
SOF2	MARTY OGAN	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FELB	DON SIEMENS	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FALC	RAY KNOX	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800
FALC	NATE STICE	1	N	JOHNSONDALE @ 0600	JOHNSONDALE @ 1800

7. CONTROL OPERATIONS

- **CONTINUE MOP-UP 100 FT**
- **FINALIZE REMOVAL OF HAZARD TEES.**
- **REHAB OF DOZER AND HANDLINES.**

8. SPECIAL INSTRUCTIONS

- MAINTAIN LCES AT ALL TIMES.
- UTILIZE HAZARD TREES SOP.
- CAUTION AROUND FALLERS
- CAUTION AROUND DOZERS.
- **MAINTAIN WORK REST RATIO.**
- KEEP SPEED DOWN *SLOW DOWN ON ROADS.*
- FOOD AND GARBAGE SECURE FROM BEARS.
- WATCH FOR POISON OAK AND AVOID SAP AND SMOKE.

-WASH HANDS BEFORE EATING.-

DRINK PLENTY OF WATER TO PREVENT DEHYDRATION. ©

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 168.2000 TX 168.2000		CH-2	GROUND TO AIR		RX 165.3250 TX 165.3250	PRIMARY	CH-11
							RX 168.4500 TX 168.4500	SECONDARY	CH-12

PREPARED BY (RESOURCES UNIT LDR)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya	/S/ Chris Lyle	01 AUG 02	2200

1. BRANCH	2. DIVISION/GROUP	ASSIGNMENT LIST
	K	

3. INCIDENT NAME	4. OPERATIONAL PERIOD
MCNALLY	DATE AUGUST 02, 2002 ***DAY*** TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)** DIVISION/GROUP SUPERVISOR

BRANCH DIRECTOR AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
UNSTAFFED					

7. CONTROL OPERATIONS

8. SPECIAL INSTRUCTIONS

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL					GROUND TO AIR	RX 165.3250 TX 165.3250	PRIMARY	CH-11	
						RX 168.4500 TX 168.4500	SECONDARY	CH-12	

PREPARED BY (RESOURCES UNIT LDR.)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya	/S/ Chris Lyle	01AUG02	2200

ICS 204

1. BRANCH	2. DIVISION/GROUP	ASSIGNMENT LIST
	M	

3. INCIDENT NAME	4. OPERATIONAL PERIOD
MCNALLY	DATE AUGUST 02, 2002 ***DAY*** TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF BUCK WICKHAM/RUSS COPP(T) — DIVISION/GROUP SUPERVISOR DENNIS CREW

BRANCH DIRECTOR — AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
FOBS	THOMAS VANHOMER	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
FOBS (T)	TODD DIXON	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
SOF2	ARMANDO RIOS	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
SOF2	JON JONES	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800

7. CONTROL OPERATIONS

•SCOUT AND RECON LINE LOCATION TO CONTINUE LINE GTW.

8. SPECIAL INSTRUCTIONS

•MAINTAIN LCES AT ALL TIMES.

•UTILIZE HAZARD TREES SOP.

•MAINTAIN WORK REST RATIO.

•KEEP SPEED DOWN

•SLOW DOWN ON ROADS.

•WATCH FOR POISON OAK AND AVOID SAP AND SMOKE.

-WASH HANDS BEFORE EATING.-

DRINK PLENTY OF WATER TO PREVENT DEHYDRATION. ☺

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 173.9625 TX 173.9625		CH-5	GROUND TO AIR	RX 165.3250 TX 165.3250	PRIMARY	CH-11	
						RX 168.4500 TX 168.4500	SECONDARY	CH-12	

PREPARED BY (RESOURCES UNIT LDR.)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya	/S/ Chris Lyle	01AUG02	2200

ICS 204

1.BRANCH **EAST BRANCH**	2. DIVISION/GROUP O	**ASSIGNMENT LIST**

3. INCIDENT NAME

MCNALLY

4. OPERATIONAL PERIOD

DATE August 02, 2002 *DAY*
TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)**

DIVISION/GROUP SUPERVISOR JOHN CRUTHERS

BRANCH DIRECTOR **MIKE BEHRENS**

AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
LOS PADRES IHC	STAN STUART	19	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
LAGUNA IHC	DENNIS BALDRIDGE	18	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
REDDING IHC	RBERT HOLT	21	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
CRANE VALLEY	MARK SMITH	19	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
RINCON #6	FRANKIE HARPER	21	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZER E122 TRANS E123	MID STATE RENTAL	2	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZER 5290 K TRANS *NEED E#*	*NO INFO GIVEN*	?	?	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZER E103 TRANS E104	BOB WARD	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZER E124 TRANS E125	ALAN GRIMSTAD	2	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
WT E276	HULSEY & FRISBEE	2	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
WT CARVER E46 4000 GAL	MIKE MORGAN	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FALC	GARY QUICK	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FELB	STEVE WILSON	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FALC	RICHARD WHITENER	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FALC	GEOFF SHUTT	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FALC	STEVE TRESIDDER	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FALC	STEVE GREEN	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FELB	LOU SCIOCCHETTI	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FELB	DAVE SHEKELL	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
STRUCTURE PROTECTION	DEAN STEWARD	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
STRUCTURE PROTECTION	BOB ARTHUR	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
ARCH	KATHLEEN JERNIGAN	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
ARCH	STEVE GRANHAM	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
ARCH	RICHARD JENKINS	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800

DOZB	MIKE GRIMM	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZB	MIKE RITCHEY	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
STDZ STDZ (T)	CHUCK GLINES DAVE MACKLIN	2	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FOBS	THOMAS VANHOMER	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FOBS(T)	TODD DIXION	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
SOF1	JIM DELLAMONICA	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
SOF2	DAVID HILL	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800

7. CONTROL OPERATIONS

•PREP LINE, BURN AS NEEDED AND HOLD.

•LINE ALL SLOPS AND SPOTS.

8. SPECIAL INSTRUCTIONS

•MAINTAIN LCES AT ALL TIMES.

•UTILIZE HAZARD TREES SOP.

•CAUTION AROUND FALLERS

•CAUTION AROUND DOZERS.

•MAINTAIN WORK REST RATIO.

•KEEP SPEED DOWN

•SLOW DOWN ON ROADS.

•FOOD AND GARBAGE SECURE FROM BEARS.

•WATCH FOR POISON OAK AND AVOID SAP AND SMOKE.

-WASH HANDS BEFORE EATING.-

DRINK PLENTY OF WATER TO PREVENT DEHYDRATION. ☺

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 173.9875 TX 173.9875		CH-6	GROUND TO AIR		RX 165.3250 TX 165.3250	PRIMARY	CH-11
							RX 168.4500 TX168.4500	SECONDARY	CH-12

PREPARED BY (RESOURCES UNIT LDR.)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya	/S/ Chris Lyle	01 AUG 02	2200

1. BRANCH **EAST BRANCH**	2. DIVISION/GROUP Q	**ASSIGNMENT LIST**

3. INCIDENT NAME

MCNALLY

4. OPERATIONAL PERIOD

DATE AUGUST 02, 2002 *DAY*
TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)**

DIVISION/GROUP SUPERVISOR ROB MARTIN/ FRANK HARPER (T)

BRANCH DIRECTOR **MIKE BEHRENS**

AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
HORSE SHOE MEADOW IHC	ROBERT BENNETT	20	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
GROVELAND	MIKE LANIER	19	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
VALYERMO	RON HEINIG	19	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
MORMON LAKE IHC	ROBERT AUZA	20	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800-
VANDENBERG IHC (T)	MARK SMITH	21	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
MEDOCINO IHC	DAREN DALRYMPLE	19	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
STEN 6631C	MATT .McCLEMENTS	27	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
STEN 9430C	JERRY MORGAN	20	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZER E118 TRANS E119	DAVID BENNETT	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
'OZER E132 ANS E133	JOHN DOFFLEMYER	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZER 9418L E03 TRANS E#? 2 DOZ 2 TRANS 1 DZTNDR	BOB STONE	6	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
WT 261	ALAN GRIMSTEAD	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
WT E374	JAY MARKS ALECO	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
ARCH	ANDRE BROGAN	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
ARCH	BILL MATHEW	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
DOZB	JASON MORRIS	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
SOF2	KEN FRENCH	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
SOF2	CHUCK SCHOENDIENST	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FOBS	MITCH READ	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800
FOBS	MIKE HELD	1	N	TROY MEADOW SPIKE CAMP @ 0600	TROY MEADOW SPIKE CAMP @ 1800

7. CONTROL OPERATIONS
- **PREP LINE, BURN AS NEEDED AND HOLD.**
- **LINE ALL SLOPS AND SPOTS.**

8. SPECIAL INSTRUCTIONS
- MAINTAIN LCES AT ALL TIMES.
- UTILIZE HAZARD TREES SOP.
- CAUTION AROUND FALLERS
- CAUTION AROUND DOZERS.
- **MAINTAIN WORK REST RATIO.**
- **KEEP SPEED DOWN**
- SLOW DOWN ON ROADS.
- FOOD AND GARBAGE SECURE FROM BEARS.
- WATCH FOR POISON OAK AND AVOID SAP AND SMOKE.

-WASH HANDS BEFORE EATING.-

DRINK PLENTY OF WATER TO PREVENT DEHYDRATION. ☺

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 154.2800 TX 154.2800		CH-7	GROUND TO AIR	RX 165.3250 TX 165.3250	PRIMARY	CH-11	
						RX 168.4500 TX 168.4500	SECONDARY	CH-12	

PREPARED BY (RESOURCES UNIT LDR.)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya Nicole Montoya	/S/ Chris Lyle	01AUG 02	2200

ICS 204

1. BRANCH: **EAST BRANCH** | 2. DIVISION/GROUP: S

ASSIGNMENT LIST

3. INCIDENT NAME: MCNALLY

4. OPERATIONAL PERIOD: DATE AUGUST 02, 2002 *DAY*; TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)**

DIVISION/GROUP SUPERVISOR

BRANCH DIRECTOR **MIKE BEHRENS**

AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
UNSTAFFED					

7. CONTROL OPERATIONS

8. SPECIAL INSTRUCTIONS

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 168.6000 TX 168.6000		CH-3	GROUND TO AIR	RX 165.3250 TX 165.3250	PRIMARY	CH-11	
						RX 168.4500 TX 168.4500	SECONDARY	CH-12	

PREPARED BY (RESOURCES UNIT LDR.): Nicole Montoya *Nicole Montoya*

APPROVED BY (PLANNING SECTION CHIEF): /S/ Chris Lyle

DATE: 01AUG02

TIME: 2200

ICS 204

1. BRANCH	2. DIVISION/GROUP	ASSIGNMENT LIST
EAST BRANCH	Z/T	

3. INCIDENT NAME

MCNALLY

4. OPERATIONAL PERIOD

DATE August 02, *DAY*

TIME 0600 - 1800

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF **BUCK WICKHAM/RUSS COPP(T)**

DIVISION/GROUP SUPERVISOR BRENT WOFFINDEN

BRANCH DIRECTOR **MIKE BEHRENS**

AIR TACTICAL GROUP SUPERVISOR CLIFF CLARIDGE / TIM PETERSON /FRANK HAYES (T)

6. RESOURCES ASSIGNED THIS PERIOD

STRIKE TEAM/TASK FORCE RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
LA CO. #2	*STEPHEN DAVIS*	22	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
FRESNO #1	JERE MILLER	19	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
SPRINGVILLE CREW	ROBERT SANDERS	20	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
BRECKEN RIDGE #8	STEVE GRIFFIN	20	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
SAN CARLOS #63	RANDALL JORDAN	20	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
STCR 1182 G	TOM MILLER	31	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
STEN 6662C	BRAD TAYLOR	?	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
STEN6430C	RANDY SANDOVAL	21	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
WT HOLT E134	GREGG HOLT	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
WT E323	JESS WITTEN	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
WT E400	?	?	?	KERNVILLE ICP 0600	KERNVILLE ICP 1800
STEN 1617C	PAT RUSSELL	21	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
DOZER E126 TRANS E127	GUY VAN GAASBEEK	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
STEN	BOB BENTE	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
FELB	STEVE WILSON	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
FELB	GARY CUNNINGHAN	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
SOF2	PETE STEWART	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800
SOF2	GLEN MCCLOUD	1	N	KERNVILLE ICP 0600	KERNVILLE ICP 1800

7. CONTROL OPERATIONS
•**PATROL AND MOP-UP.**
•**BEGIN REHAB.**

8. SPECIAL INSTRUCTIONS
•MAINTAIN LCES AT ALL TIMES.
•UTILIZE HAZARD TREES SOP.
•CAUTION AROUND FALLERS
•CAUTION AROUND DOZERS.
•**MAINTAIN WORK REST RATIO.**
•**KEEP SPEED DOWN**
•SLOW DOWN ON ROADS.
•FOOD AND GARBAGE SECURE FROM BEARS.
•WATCH FOR POISON OAK AND AVOID SAP AND SMOKE.
-WASH HANDS BEFORE EATING.-
DRINK PLENTY OF WATER TO PREVENT DEHYDRATION.

9. DIVISION/GROUP COMMUNICATIONS SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL				SUPPORT	LOCAL			-
	REPEAT					REPEAT			
DIV/GROUP TACTICAL		RX 173.9125 TX 173.9125		CH-4	GROUND TO AIR		RX 165.3250 TX 165.3250	PRIMARY	CH-11
							RX 168.4500 TX168.4500	SECONDARY	CH-12

PREPARED BY (RESOURCES UNIT LDR.)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME
Nicole Montoya	/S/ Chris Lyle	01 AUG 02	2200

ICS 204

FIRE WEATHER FORECAST

FORECAST NO. 20

NAME OF FIRE: McNally **PREDICTION FOR:** Day **SHIFT**

UNIT: Sequoia National Forest **SHIFT DATE:** Friday, Aug. 2, 2002

TIME AND DATE
FORECAST ISSUED: 2200 PDT 8/1/02

SIGNED: Cindy Bean
Incident Meteorologist

WEATHER DISCUSSION:

High pressure over the four-corners region and a trough of low pressure off the west coast will keep a southwest flow aloft over the area through the weekend. The trough will move into California Saturday and Sunday. This will increase the winds aloft over the region. Temperatures will trend down slightly the next few days with humidities edging up.

WEATHER FORECAST

TODAY

WEATHER: Mostly Sunny.

TEMPERATURES: Maximum 83-89 at 5000 feet...75-81 at 8000 feet.

HUMIDITY: Minimum 12-20 percent...except 20-30 percent around division B.

20 FT WINDS:

RIDGETOP - southwest 8-15 mph with gusts to 20 mph possible in the afternoon.

SLOPE/VALLEY - variable less than 5 mph early...becoming upslope to upcanyon 5-10 mph after 1100 PDT with occasional gusts to 15 mph. Winds becoming downcanyon 7-15 mph in the Kern River canyon after 1500 PDT.

STABILITY/INVERSION: Surface inversion lifting around 1200 PDT.

OUTLOOK FOR TONIGHT:

Smoke settling in the canyons, otherwise mostly clear. Minimum temperatures 47-55. Maximum humidities around 50 percent...except around 60 percent on the west side of the fire...especially division B. 20-foot winds variable 3-7 mph early evening...becoming downslope to downcanyon 2-5 mph after midnight. Ridge winds southwest 6-12 mph.

EXTENDED FORECAST

Mostly sunny Saturday through Monday. Temperatures trending down 1-2 degrees each day. Humidities edging up a few percent Saturday and Sunday...little change Monday. Winds continuing to be upslope/upcanyon 5-10 mph in the afternoons with occasional gusts to 15 mph. Winds may become downcanyon 7-15 mph in the Kern River canyon in the late afternoon. Winds becoming variable 2-6 mph at night. Ridge winds southwest to west 10-20 mph with gusts to 25 mph Saturday and Sunday...southwest to west 5-15 mph Monday.

FIRE BEHAVIOR FORECAST NO. 19

Name of Incident: ***McNally Fire*** Prediction For: ***Day Shift***
Forest/Location: ***Sequoia NF*** Shift Date: ***02August2002***

Time and Date Forecast Issued: ***2200 hrs PDT 01August2002*** FBA: ***DAVID B. BAUTISTA***

WEATHER SUMMARY: (*SEE ATTACHED WEATHER FORECAST*)

TEMPERATURE: Maximum 83°-89° @ 5000 ft. and 75°-81° @ 8000 ft.
RELATIVE HUMIDITY: Minimum 12-20% . . . 20-30% on Division B.
EYE LEVEL WINDS: Ridgetops: SW @ 8-15 mph gusting to 20 mph in afternoon; Slopes/Valleys: Variable <5 mph early becoming up slope to up canyon 5-10 mph after 1100 PDT with gusts to 15 mph. Winds becoming down canyon 7-15 mph in the Kern River canyon after 1500 PDT.

FIRE BEHAVIOR

GENERAL:

The fire is a topographically driven fire with a mild wind component. The fire will make minimal runs up slope as the fire burns out of drainages and then becomes a slow moving backing fire with nominal spread rates. The higher humidity levels and lower temperatures will continue to slow fire progression. Extreme fire behavior is not anticipated however, care must be exercised when working around areas containing large amounts of holdover heat. As the weather pattern evolves special attention must be paid to the changing conditions that could effect fire behavior.

SPECIFIC:

Divisions C, E, G, H: Activity in these divisions will be minimal. No extreme fire behavior is anticipated in this area. Holdover heat still holds potential should a significant weather event occur.

Divisions A, B, K, M, O, Q, S, T, Z: Fire behavior is anticipated to become active as solar heating of fuels and slight winds become an influence on the fireline. Even with the slight increase of fire activity, an opportunity exists to make progress to secure the fire perimeter. Short runs and flare-ups can be expected in response to holdover heat. The significant holdover heat makes mop-up of perimeter and inside the burn crucial. Care must be taken due to snags, stump holes, and other hazards when working around the fire perimeter.

AIR OPERATIONS: AIR OPS delayed until lifting of inversion layer.

SAFETY: Disaster is the companion of Complacency, stay focused. As Yogi Berra once said, ***"It ain't over 'til it's over."***

AIR OPERATIONS SUMMARY

Prepared By: **P. Schwab** Prep Date: **0801/02** Prepared Time: **2200**

1. INCIDENT NAME: **McNally Fire** 2. OPERATIONAL PERIOD DATE: **08/2/02** START TIME: **0600** END TIME: **2000** SUNRISE: **0604** SUNSET: **2000**

3. REMARKS (Safety Notes, Hazards, Air Operations Special Equipment, etc.):

GPS SATALITES WILL BE INTERMITTENT UNTIL AUGUST 8, 2002

Helicopter personnel to be briefed by helibase manager prior to missions: (1) Fly with lights on. (2) Maintain Good communication with ATGS to maintain separation from air tanker operations. (3) Be aware of flight conditions that include, smoky conditions, high winds with variable directions and **strong downdrafts**. Watch for **power lines.**

** Ground personnel avoid helicopter and fixed wing water and retardant drops. This includes approach and departure paths. Remember except for protection of life or property retardant needs to be 300 ' from a watercourse. Thanks for being safe and keep up the good work. Remember to drink water to avoid dehydration.

AVOID DRIVNG PAST TYPE 1 HELICOPTERS AT DIPSITES

***BE AWARE OF FATIGUE, TAKE LONGER BREAKS WHEN FLYING IN SMOKY CONDITIONS.

****Report all TFR intrusions to Air Ops, Air Support, or Helibase as soon as possible.

4. MEDEVAC AIRCRAFT: See Medical Plan

Special Notes: Temporary FAA tower will designate and control airspace at Kern Valley AP and Porterville AP.

Tower Frequencies
Kern Valley 119.775
Porterville 126.400
Taxi 124.225

**** Remember to keep speeds down or you could be demobed.

5. TFR No. 2/7459 A-93

Center Point:

35 54' 00"0 X 118 18' 00"

20 Nautical Miles

12,500 MSL

6. PERSONNEL	NAME	Phone #
AOBD	Clay Templin	602-448-1089
AOBD (D)	Pete Schwab	520-400-5874
ASGS	Rance Irwin	505-362-7027
ATGS	Tim Peterson	520-975-9738
	Cliff Claridge	480-688-5330
	Frank Hayes	928-380-5369
Kern Valley Helibase	Isidoro Solis	
Command		

7. FREQUENCY	AM	FM
Fixed Wing Air to Air		164.475
Primary Rotor Air to Air	134.875	
Secondary Rotor Air to Air	122.575	
Air/Ground Primary		165.325
Secondary		168.450
DECK		163.100

Command and tactical--- see communications plan.

*** Primary Air to Ground and Primary VHF will be utilized at beginning of shift. ATGS will assign secondary Air to Ground and Secondary VHF as needed for operations.

8. FIXED-WING Avail / Type/ Make-Model / FAA N# / Base(s)

AIRTANKERS:

Air Tankers Available: 6 Total if needed

Porterville T-10, T-16, T-25, @ 0900

Fox T-152 @ 0900

Lead Planes: Lead 5-7

ATGS AIRCRAFT:
700SR Aero commander, 55LT Cessna 414

.H2O Dip sites
Dip sites will be staffed by helitack where possible.
Kern River, Camp Whitsett, Horse Meadow

9. HELICOPTERS (Use Additional Sheets As Necessary)

FAA N#	TY	MAKE/MODEL	BASE	AVAIL	START	REMARKS	FAA #	TY	MAKE/MODEL	BASE	AVAIL	START	REMARKS
H-530	3	Bell 206L3	Kern Valley	0900	0800	Recon/HLCO	H-534	2	Bell 212	Kern Valley	0900	0800	Water Drops
H-525	3	A-Star B-3	Kern Valley	0900	0800	Recon/Medivac	H-517	2	Bell 212	Kern Valley	0900	0800	Water Drops
H-523	2	Bell 212	Kern Valley	0900	0800	Water Drops	HT-790	1	S-64E	Kern Valley	0900	0800	Water Drops
H-522	2	Bell 212	Peppermint	0900	0800	Water Drops	HT-794	1	S-64E	Kern Valley	0900	0800	Water Drops
H-520	2	Bell 212	Kern Valley	0900	0800	IA/Water Drops	HT-742	1	S-64F	Kern Valley	0900	0800	Water Drops
H-538	2	Bell 212	Kern Valley	0900	0800	IA/Water Drops	HT-747	1	S-64F	Kern Valley	0900	0800	Water Drops

10. TASK/MISSION/ASSIGNMENT (Type/Function Includes: Air Tactical, Retardant, Recon, Personnel Transport, Water Dropping, S&R, etc.)

TYPE/FUNCTION	NAME OF PERSONNEL OR CARGO (If applicable) INSTRUCTIONS FOR TACTICAL AIRCRAFT	MISSION AVAIL.	FLY FROM	FLY TO
Air Tactical	Continuous coverage over the fire	0800	Porterville	Fire
Fixed wing retardant drops	As needed, requested by Div. Sup to ATGS. Depending on topography and smoke and wind conditions reinforce and extend the retardant line in Div. B and stop 300' above Kern River.	0900	Porterville, Fresno	Fire
Rotor wing retardant/water drops	As needed, requested by Div. Sup to ATGS. Depending on smoke and topography fill in gaps in retardant line in Divs B from Baker Peak east to 300' above the Kern River. Second priority Div Q and O. or check the advance of the North end of the fire.	0900	Kern Valley	Fire
Medevac	See Medical Plan	0900	Kern Valley	Fire
Recon	As needed through out the day as approved by ops. Fire Behavior, Situation Unit recons, and commo missions are pre-approved. All others check with Ops or Air Ops.	0900	Kern Valley	Fire
IA	Available through dispatch. SWA team will respond to request for assistance sources. H-523 or H-522 will Initial attack as per dispatch order.	0900	Kern Valley Peppermint	IA
B.A.E.R Team	Recon over fire at 1000 and land at Kernville helibase to meet with Jerry DeGraff from the BAER team for a recon @ 1100.			
Mobile Retardant Base	ATGS evaluate air and smoke conditions at MRB at PM and make contact with ground support on Air to Ground.	1000	Kennedy Meadows	
Inyo N.F.	Recon 19 (N210DF) recon southern portion of the forest north of the Kern River and may enter the TFR. Will contact ATGS on victor prior to entry.			
	AOBD			

Mobile Retardant Base 36°01.324 X 118° 08.202

Camp Whitsett Dipsite 35°59.923 X 118°32.025

Pascos Meadow Helispot 35°58.348 x 118°21.952 8500'

Horse Meadow dip site/helispot 35°54.15 X 118°22.58

Troy Meadow dip site/helispot 36° 04.710 X 118° 14.058

McNally Fire Dozer Line Rehabilitation Guidelines

Equipment Guidelines:

1) Pull in Dozer berms where operability permits.

2) Backblade or smooth dozer line where practicable.

3) Spread out Cat piles (dirt and Brush piles) so that brush is free of dirt.

4) Waterbar the line to the following spacing guidelines according to slope %.

Percent slope	Feet
1 – 6	300
7 – 9	200
10 –14	150
15 – 20	90
21 – 40	50
41 – 60	25

5) Angle waterbars into the green whenever possible

6) Block Cat lines where they intersect roads with a tank trap.

Hand Crew Guidelines:

1) Limb and buck pushed over trees, brush etc., and scatter limbs and small logs on dozer line.

2) Construct hand waterbars where needed.

3) Open outlets of cat waterbars if they are plugged.

4) Angle waterbars into the green whenever possible.

SAFETY MESSAGE

Incident: McNally	Date: 8/2/02	Time: 0600

Major Hazards and Risks:
° **Driving on narrow roads, tight corners**
° **Lose rocks, and snags**
° **Snakes, bears, and deer.**
° **Dozer operations**
°

Today we will be moving the dozers off the east flank at aprox. 1000 this morning. Please try to stay off the Sherman Pass road.
There is a lot of lose material up on the hills. Look all around where you are working.
We really need to pay attention when we are out on the line for snakes. In the last couple of days we have seen a lot on the line. When the weather is overcast and the R/H is up during daylight hours is when you can find them out. At night you can expect to find them in rock piles, near large logs, or other area's that retain heat.
When working with dozers make sure you can see them, & they can see you. Get there attention before going up to the dozer.
FIRE ORDERS
Retain control at all times
WATCH OUT SITUATIONS
5. Uninformed on strategy, tactics, and hazards

Line Safety Officers

Safety Officer

M. Ogan SOF2 (T)

FOLLOW THE STANDARD FIRE ORDERS!!!
Review and think about the "18 situations".
Have a safe shift.

♫

1. Incident Name McNally	2. Date July 31, Augyst 1, 2002 Night Shift	3. Time 1800 to 0600

LCES Analysis of Tactical Application											Other Risk Analysis						
Division/Group	Indirict line	Underslung Fireline	Mid-slop Fireline	Frontal Assault	Downhill Line	Extreme Conditions	Unburned Areas	Hazardous Trees,r Rocks		LCES Mitigations	Dozer Opertions	Transportation	Communications	Structure Protection	Bears/snakes/ poison ivy	Work Rest/Shift length	Other Risk Mitigations
A/B						X		X		Hazard Tree SOPBroadcast weather changes and fire behavior over radio, LCES		X			X		Maintain Work Rest Ratio
CE GH								X				X			X		Drive Defensively/Lights On, keep vehicle speeds down
Z/T								X			X	X			X		Food & Garbage Secured from Bears/watch for snakes and poison ivy.
S																	Avoid skin contact with poison ivy or breathing smoke from burning ivy.
Q			X			X	X	X			X	X			X		
O			X			X	X	X			X	X			X		
M												X			X		
K																	

Incident Radio Communications Plan (ICS 205)	Incident Name: McNally CA-SQF-1888	Operational Period: 8/2/02 Day Shift 0600 - 1800

System/Cache	Channel	Function	Frequencies	Assignment	Remarks
CMD / TAC VHF	CH-1	TACTICAL	RX 168.0500 TX 168.0500	DIVISION A / B	Keep all radio traffic BR... and clear.
CMD / TAC VHF	CH-2	TACTICAL	RX 168.2000 TX 168.2000	DIVISION C / E / G & H	
CMD / TAC VHF	CH-3	TACTICAL	RX 168.6000 TX 168.6000	DIVISION S	
CMD / TAC VHF	CH-4	TACTICAL	RX 173.9125 TX 173.9125	DIVISION Z / T	
CMD / TAC VHF	CH-5	TACTICAL	RX 173.9625 TX 173.9625	DIVISION M	
CMD /TAC VHF	CH-6	TACTICAL	RX 173.9875 TX 173.9875	DIVISION O (OSCAR)	
CMD / TAC	CH-7	TACTICAL	RX 154.2800 TX 154.2800	DIVISION Q (QUEBEC)	
CMD / TAC VHF	CH-8	COMMAND REPEATER (C4)	RX 166.6125 TX 168.4000	Command Repeater - Linked	Sherman Peak - 9790 ft 36°00'45.76" N 118°23'29.04"W
CMD / TAC VHF	CH-9	COMMAND REPEATER (C6)	RX 168.4750 TX 173.8125	Command Repeater - Linked	Bald Mountain - 9324 ft. 36° 01' 15.15" N 118° 15' 18.02" W
CMD / TAC VHF	CH-10	COMMAND REPEATER (C3)	RX 168.0750 TX 170.4250	Command Repeater - Linked	Baker Point - 7686 ft. 35° 51' 9.33" N 118° 30' 9.02" W
CMD / TAC VHF	CH-11	AIR / GROUND	RX 165.3250 TX 165.3250	AIR / GROUND - PRIMARY -	PRIMARY Air to Ground
CMD / TAC VHF	CH-12	AIR / GROUND	RX 168.4500 TX 168.4500	AIR / GROUND - SECONDARY -	For use ONLY as assigned by AIR ATTACK
CMD / TAC VHF	CH-13	FOREST NET	Tone 136.5 RX 168.7750 TX 170.6000	Sequioa N.F. Fire Net	Tone 4 (136.5)
CMD / TAC VHF	CH-14	AIR GUARD	Tone 110.9 RX 168.6250 TX 168.6250	AIR GUARD	Air Guard for EMERGENCY contact with any aircraft.

Prepared by (Communications Unit)	Page	Date Prepared	Time
Dan Wills, COML	1	8/1/2002	2315

Incident Radio Communications Plan (ICS 205)	Incident Name: McNally CA-SQF-1888	Operational Period: 8/2/02 Day Shift 0600 - 1800

System/Cache	Channel	Function	Frequencies	Assignment	Remarks
LOG - UHF King (BK)	GRP 2 CH-3	LOGISTICS DIRECT (L2S)	RX 415.4000 TX 415.4000	LOGISTICS DIRECT - SOUTH	
LOG - UHF King (BK)	GRP 2 CH-4	LOGISTICS REPEATER (L2)	RX 415.4000 TX 411.4000	LOGISTICS RPTR SOUTH - LINKED	Bald Mountain - 9324 ft. 36° 01' 15.15" N 118° 15' 18.02" W
LOG - UHF King (BK)	GRP 2 CH-1	LOGISTICS DIRECT (L1S)	RX 414.6500 TX 414.6500	LOGISTICS DIRECT - NORTH	
LOG - UHF King (BK)	GRP 2 CH-2	LOGISTICS REPEATER (L1)	RX 414.6500 TX 410.7750	LOGISTICS RPTR NORTH - LINKED	Baker Point - 7686 ft. 35° 51' 9.33" N 118° 30' 9.02" W
CMD/TAC VHF	Hand Program	RAWS	RX 163.3500 TX 163.3500	Remote Automatic Weather Stations	Location: Code: Needles Lookout 0808 Rattlesnake 0707
VICTOR VHF-AM		AIR OPS	RX 134.8750 TX 134.8750	ROTOR WING - PRIMARY -	
VICTOR VHF-AM		AIR OPS	RX 122.5750 TX 122.5750	ROTOR WING - SECONDARY -	Use only if assigned by HELCO / AIR ATTACK
FOX VHF-FM		AIR OPS	RX 164.4750 TX 164.4750	FIXED WING	AIR OPS ONLY
FOX VHF-FM		AIR OPS	RX 163.1000 TX 163.1000	DECK	HELIBASE ONLY
		UHF LINK (L4RS)	RX 417.3000 TX 417.3000	Link between VICTOR and Helibase	Sherman Peak - 9790 ft 36°00'45.76" N 118°23'29.04"W
		UHF LINK (L7RS)	RX 417.8000 TX 417.8000	Link between Command Repeaters	UHF Link between C3 & C4 & C6
		UHF LINK (L7TS)	RX 412.2000 TX 412.2000	A/G Link to ICP	
		VHF LINK (SP)	RX 166.9000 TX 166.9000	Link between Logistics Repeaters	VHF Link between L1 & L2

Prepared by (Communications Unit)	Page	Date Prepared	Time
Dan Wills, COML	2	8/1/2002	2318

McNALLY FIRE
PHONE LIST
08/01/02

COMMUNICATIONS	760-376-1685
COMMUNICATIONS	760-376-1691
SQF DISPATCH	559 782-3120
CDF TIME	760-376-1061
ORDERING	760-376-1443
ORDERING	760-376-1417
ORDERING	760-376-1523
ORDERING FAX	760-376-1367
INFORMATION	760-376-1408
INYO N.F. INFORMATION (GIL)	323 816-1422
INYO N.F. INFORMATION (JAN)	760 873-2481
DEMOB / CHECK IN	760- 376-3100
DEMOB / FAX	760- 376-3092
FINANCE	760-376-1429
GROUND SUPPORT	760-376-3781 ext. 639
HELIBASE	760-376-3781 ext. 626
EQUIPMENT SHOP	559 799-5193
TRAINING / DOCUMENTATION / PLANNING	376-3069
GIS TRAILER	760- 376-3055
MEDICAL UNIT	760-376-3291
DIGBY'S DUPLICATING SERVICE	760-376-3290
HUMAN RESOURCES	760-376-3299
SUPPLY	760-376-3357

MEDICAL PLAN

1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED	4. OPERATIONAL PERIOD
McNally	08/01/02	2200	DAY SHIFT

5. INCIDENT MEDICAL AID STATIONS

MEDICAL AID STATIONS	LOCATION	PARAMEDICS YES	PARAMEDICS NO
ICP	McNally ICP	X	
MEDIC ONE	ROVING DIV T/Z	X	
MEDIC TWO	ROVING DIV A/B/C		X
MEDIC THREE	TROY MEADOW SPIKE CAMP. ROVING DIV M/O/Q/S	X	
MEDIC FOUR	ROVING DIV E/G/H		X
JOHNSONDALE MEDICAL UNIT	JOHNSONDALE		X

6. TRANSPORTATION

A. AMBULANCE SERVICES

NAME	ADDRESS	PHONE	PARAMEDICS YES	PARAMEDICS NO
CARE Amb. Service	11345 Kernville Rd., Kernville,CA.	760-376-2271	X	
Hall Ambulance (Air transport)	Bakersfield,CA	661-324-6551	X	
Cal City Fire Department	California City,CA	661-324-6551	X	
CHP-H-40 (Rescue/Hoist)	Fresno,CA	559-441-5444	X	

B. INCIDENT AMBULANCES

NAME	LOCATION	PARAMEDICS YES	PARAMEDICS NO
MEDIC 10	Johnsondale (STAGED)	X	
MEDIC 12	Sherman Pass/Cherry Hill (STAGED)	X	

7. HOSPITALS

NAME	ADDRESS	TRAVEL TIME AIR	TRAVEL TIME GRND	PHONE	HELIPAD YES	HELIPAD NO	BURN CENTER YES	BURN CENTER NO
Kern Valley Hospital	6412 Laurel Ave, Mtn Mesa,CA N35.38.4XW118.21.21	10 m	30m	760-379-2681 X223	X			X
Kern Medical Center (Trauma Center)	Bakersfield,CA N35.23.23XW118.58.05	35m	1:45	661-326-2667	X			X
University Medical CTR. Fresno	Fresno,CA N36.44.10XW119.45.11	20m	3hr	559-453-5111	X		X	

8. MEDICAL EMERGENCY PROCEDURES

IN THE EVENT OF A MEDIVAC LINE MEDICAL PERSONNEL IN COORDINATION WITH DIVISION SUPERVISOR WILL DETERMINE IF EVAC IS TO BE BY GROUND OR BY AIR. IF BY AIR; COORDINATION WILL BE MADE WITH AIR ATTACK, COMMOS AND DIV SUPERVISOR AS TO USE OF MEDICAL SHIP OR INCIDENT SHIP. RECEIVING FACILITY TO BE DECIDED BY TRANSPORTING MEDIC OR MEDICAL AIR TRANSPORT CREW. UPON DEPARTURE WITH PATIENT THE AIRCRAFT WILL NOTIFY DISPATCH OF DESTINATION AND ETA.

REPORT ANY INJURIES TO IMMEDIATE SUPERVISOR AND COMPS/CLAIMS.

AFTER HOURS MEDICAL ASSISTANCE MAY OBTAINED BY CONTACTING COMMOS

ICS 206 8-78	9. PREPARED BY (MEDICAL UNIT LEADER) DJ LOPEZ CEP	10. REVIEWED BY (SAFETY OFFICER) PAUL BOUCHER (SOF 1) M. Ogn SOF2(T) FOR

CIVIL RIGHTS MESSAGE

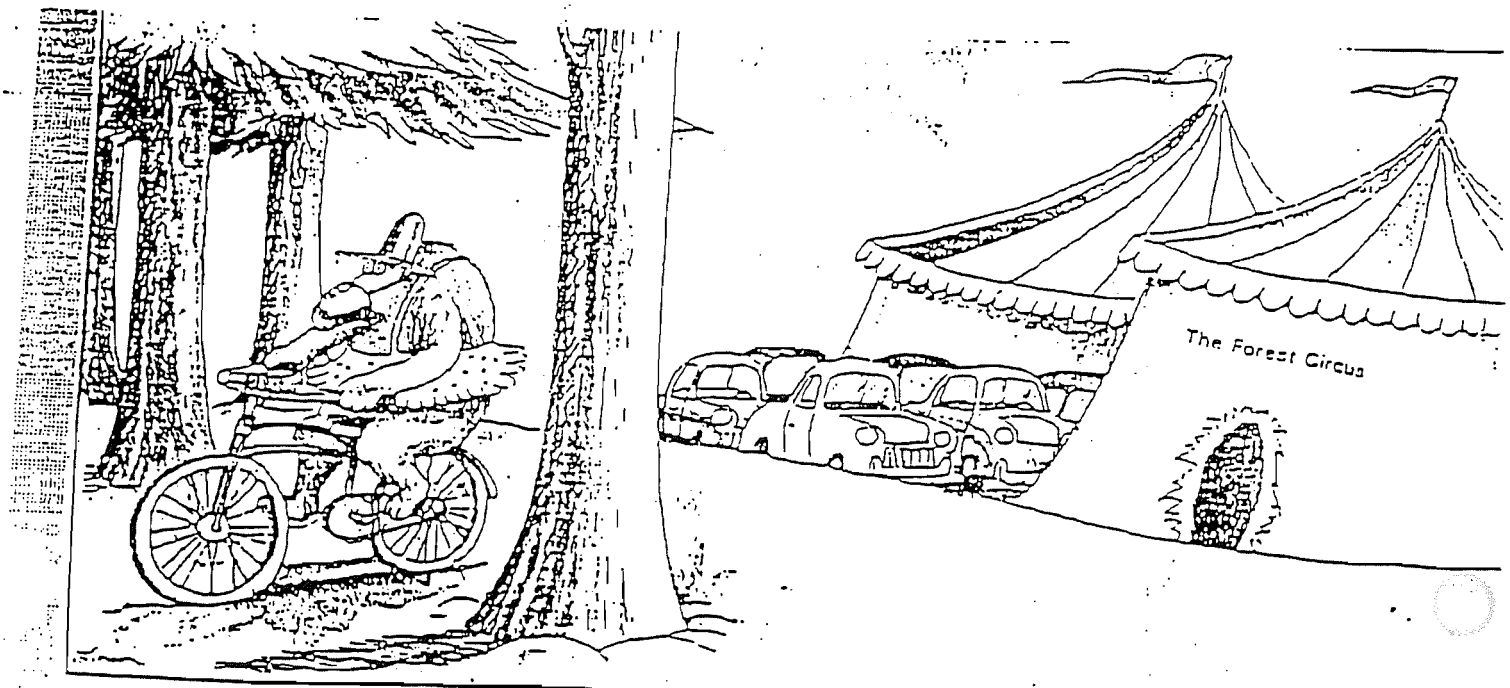
In working together, the most productive incidents are a result of maintaining and developing positive work relationships.

Over the past few days it is evident that folks on this incident are taking the time to value each other and treat yourselves with the respect you deserve. Each of you who have taken the responsibilities of doing an excellent job as well as conducting your behavior in a positive and productive manner, receives this Human Resource Specialists hearty thank you!

I can honestly say YOU HAVE made the difference and I would expect you to continue the good work.

THANK YOU!!!

PAUL MAUBACH
H.R.S.P.



SMOKEY remained free the rest of his life, although he did find it necessary to seek counseling.

McNALLY FIRE WORK REST/ GUIDELINES

(This format will be used by the appropriate Overhead and pre-approval will be sought prior to end of shift and attached to the respective CTR.)

The following guidelines constitute the measures to be employed to implement the current Work/Rest Guidelines issued by the NMAC on June 12, 2002 as a result of the 30 Mile Abatement Plan. The Incident Commander is responsible to ensure consistency in interpretation, application and documentation of the Work/Rest Guidelines policies within the Team.

Work/Rest Guidelines

All work shifts exceeding 16 hours and situations where the 2:1 work/rest ratio will not be met:

- **must be pre-approved in advance,**
- **the pre-approval documented,**
- **mitigation efforts identified in writing,**
- **the documentation signed by the Incident Commander, and**
- **the documentation included in the incident record.**

Work shifts may not exceed 24 hours unless there is an imminent threat to public and/or firefighter safety. When pre-approval is not obtained or when the Incident Commander does not concur, documentation to that effect will also be placed in the incident record. The following format will be utilized to document any extended work shift or deviation from the 2:1 Work/Rest guidelines:

JUSTIFICATION/MITIGATION MEASURES

DATE TIME INCIDENT NO: INCIDENT NAME

UNIT OPERATIONAL PERIOD

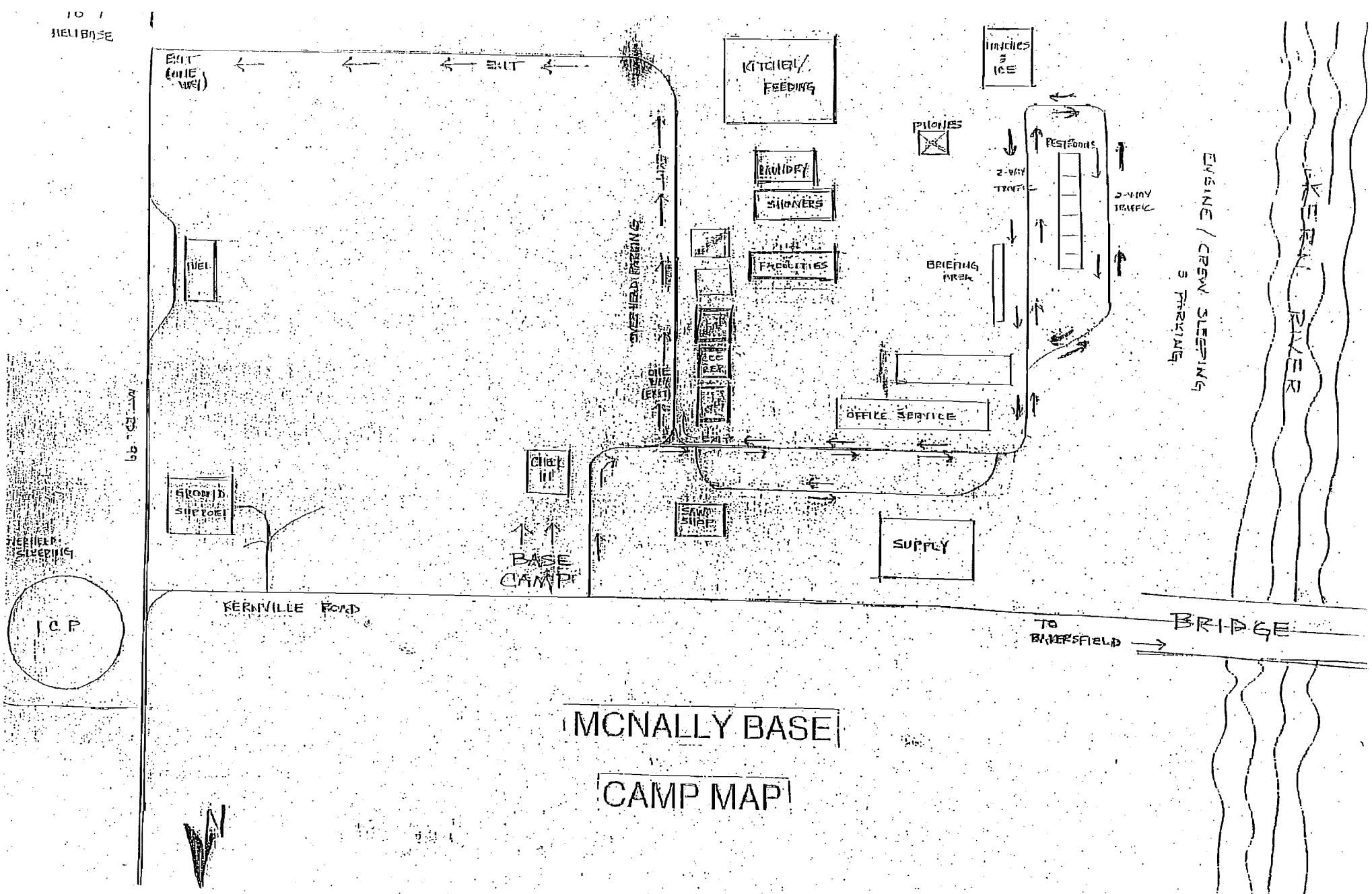
NAME OF INDIVUALS(S) OR CREW:

DESCRIPTION OF SITUATION:

MITIGATION (Actions taken to reduce impact on firefighter safety and reduce fatigue):

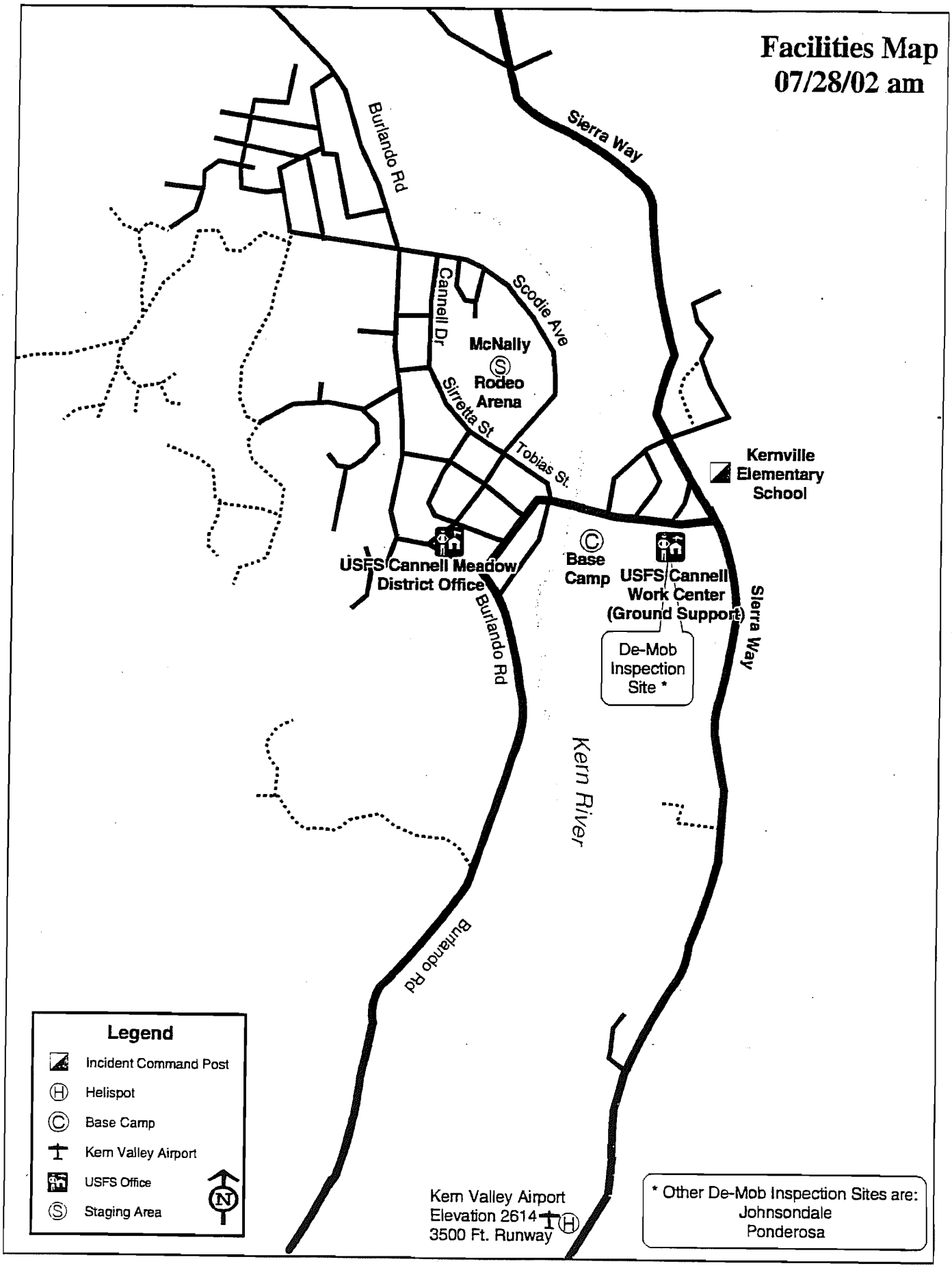
Name: Title: Date:

SIGNATURE OF LINE OFFICER, INCIDENT COMMANDER



MCNALLY BASE

CAMP MAP


Facilities Map
07/28/02 am
Burlando Rd
Sierra Way
Cannell Dr
Scodie Ave
McNally
Rodeo
Arena
Sirretta St
Tobias St.
Kernville
Elementary
School
USFS Cannell Meadow
District Office
Base
Camp
USFS Cannell
Work Center
(Ground Support)
De-Mob
Inspection
Site *
Sierra Way
Burlando Rd
Kern River
Burlando Rd
Legend
Incident Command Post
Helispot
Base Camp
Kern Valley Airport
USFS Office
Staging Area
N
Kern Valley Airport
Elevation 2614
3500 Ft. Runway
* Other De-Mob Inspection Sites are:
Johnsondale
Ponderosa

PENDING DEMOB REVISED 8/1/02 @ 2300
THIS IS YOUR TRAVEL DAY

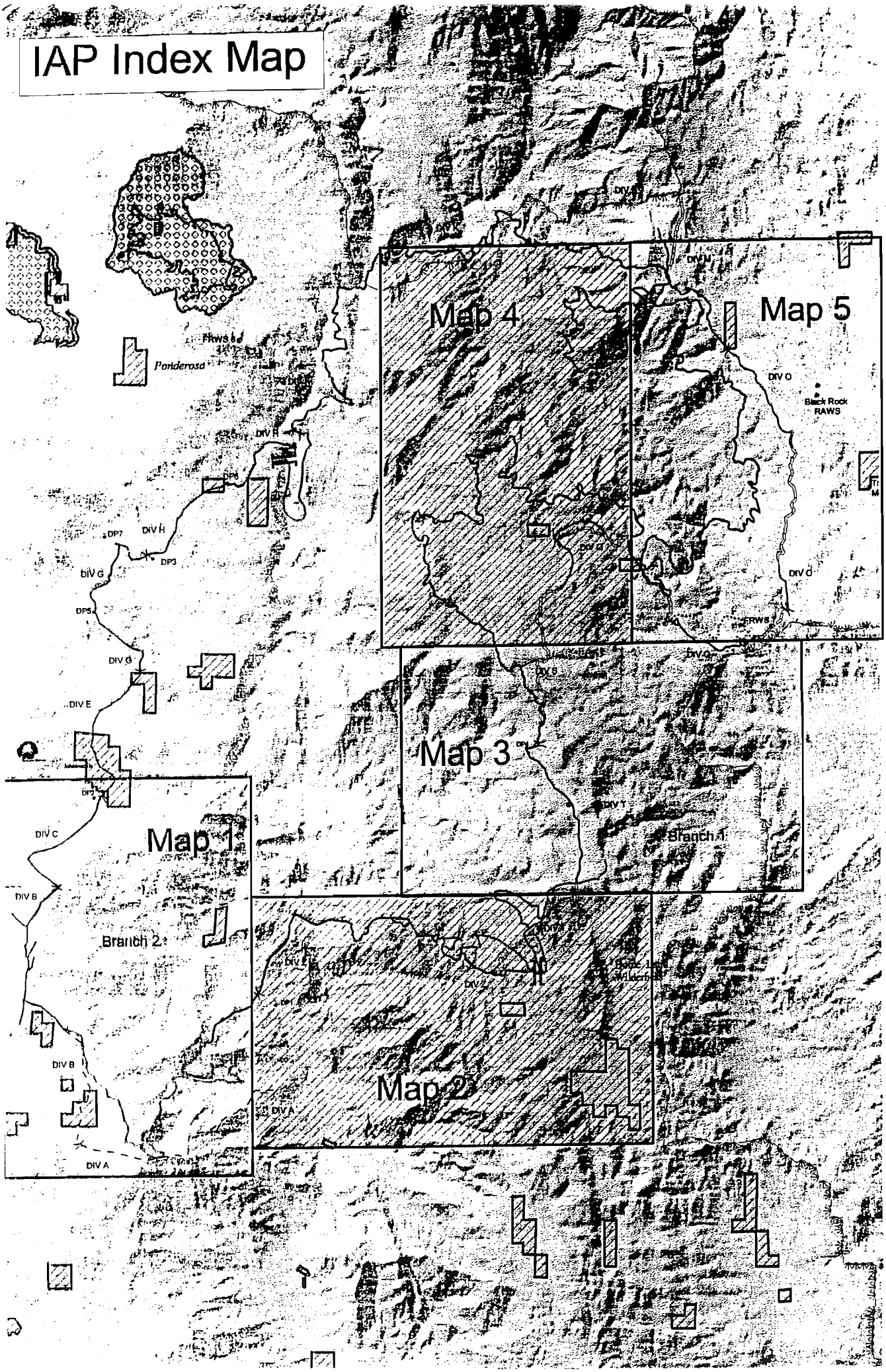
Req. Num	Resource Name	Kind/ Type	Days	Time	Demo	Travel Method	Jet	Remarks
AUGUST 2, 2002 - FRIDAY								
E-152	Tulare Water Tender	WT			0700	AOV		
E-153	Tulare Water Tender	WT			0700	AOV		
O-190	Frank McGrath	DIVS			0700	AOV		
O-468	John Wrobel	EQPM			0700	AOV		
O-279	James McMillan	MOTEL			0730	RENTAL		
C-16	Springville	TY 1 Crew			0730	AOV		
O-527	Shawn Hammes	FALC			0800	POV		
O-528	James Owsley	SWAMPER			0800	POV		
E-192	Mobile Com Unit				0815			
O-341	Steve Hentschel	DOZB			0815	AOV		
O-192	Scott McDonald				0815	AOV		
O-339	Reg Bowdler	DOZB			0830	AOV		
O-436	Clay Williams	RADO		0830	AOV			
O-435	Cody Eaves	RADO			0830	AOV		
C-33	Mohave #1	HC2			0900	AOV		
O-33	Carrol Durnell	EQTR			1200	AOV		
O-32	Cherie Klein	GIST			1200	POV		
O-78	Laurie Wright	EQTR			1800	AOV		
E-120	Peek DOZ2	DOZ			TBD	PVT		
E-105	Uriate DOZ2	DOZ			TBD	PVT		
E-116	Bartlett DOZ2	DOZ			TBD	PVT		
E-107	Larson DOZ2	DOZ			TBD	PVT		
August 3, 2002 – SATURDAY								
C-7	Los Padres	IHC			0700	AOV		
O-260	Robert Tranter	SEC1			0700	AOV		
O-246	Glenn Odell	DIVS			0715	AOV		
C-6	Dalton	IHC			0730	AOV		
O-258	Jason Ramsdell	SEC1			0730	AOV		
O-345	Bruce Harvey	DOZB			0700	RENTAL		

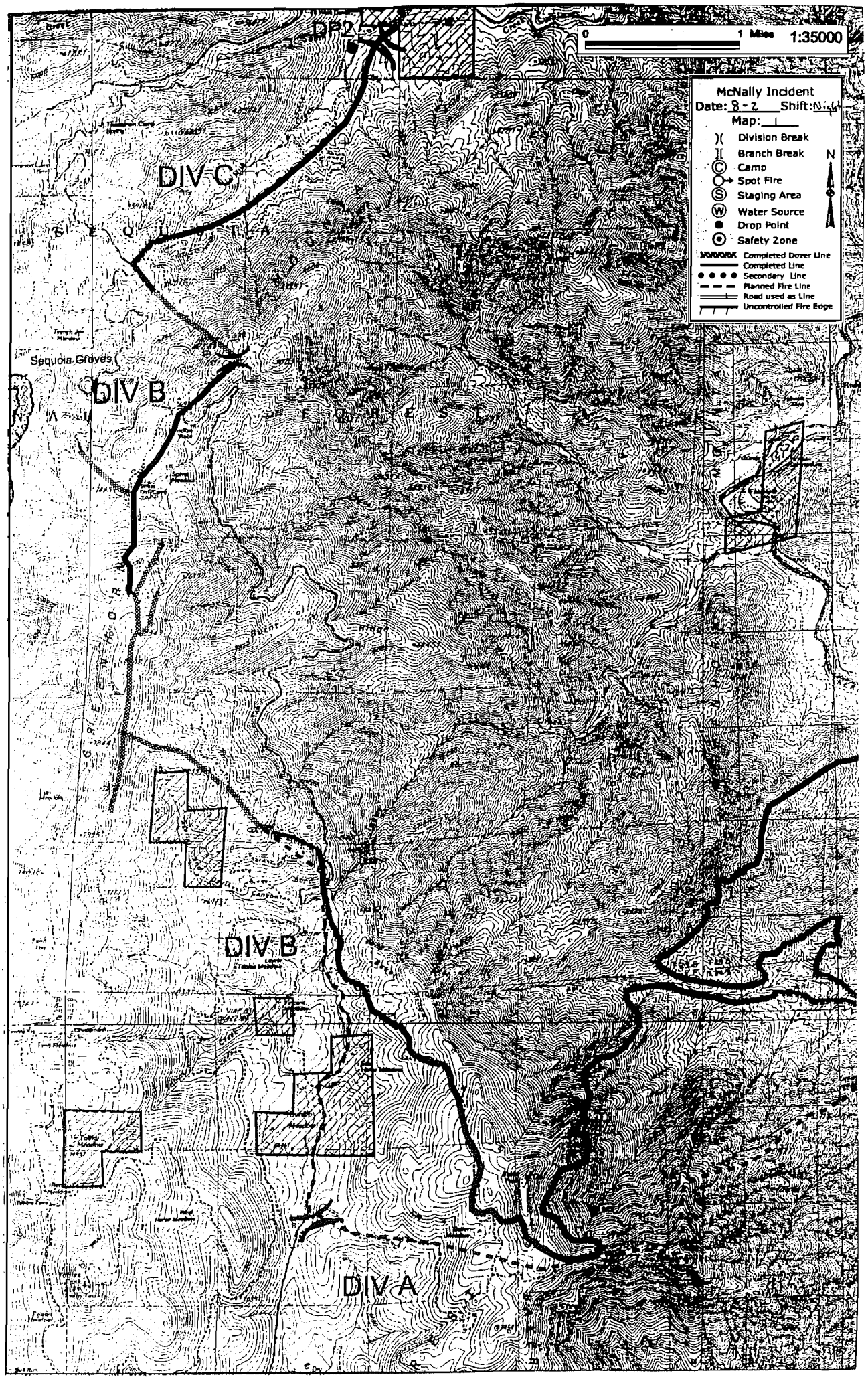
NOTE:

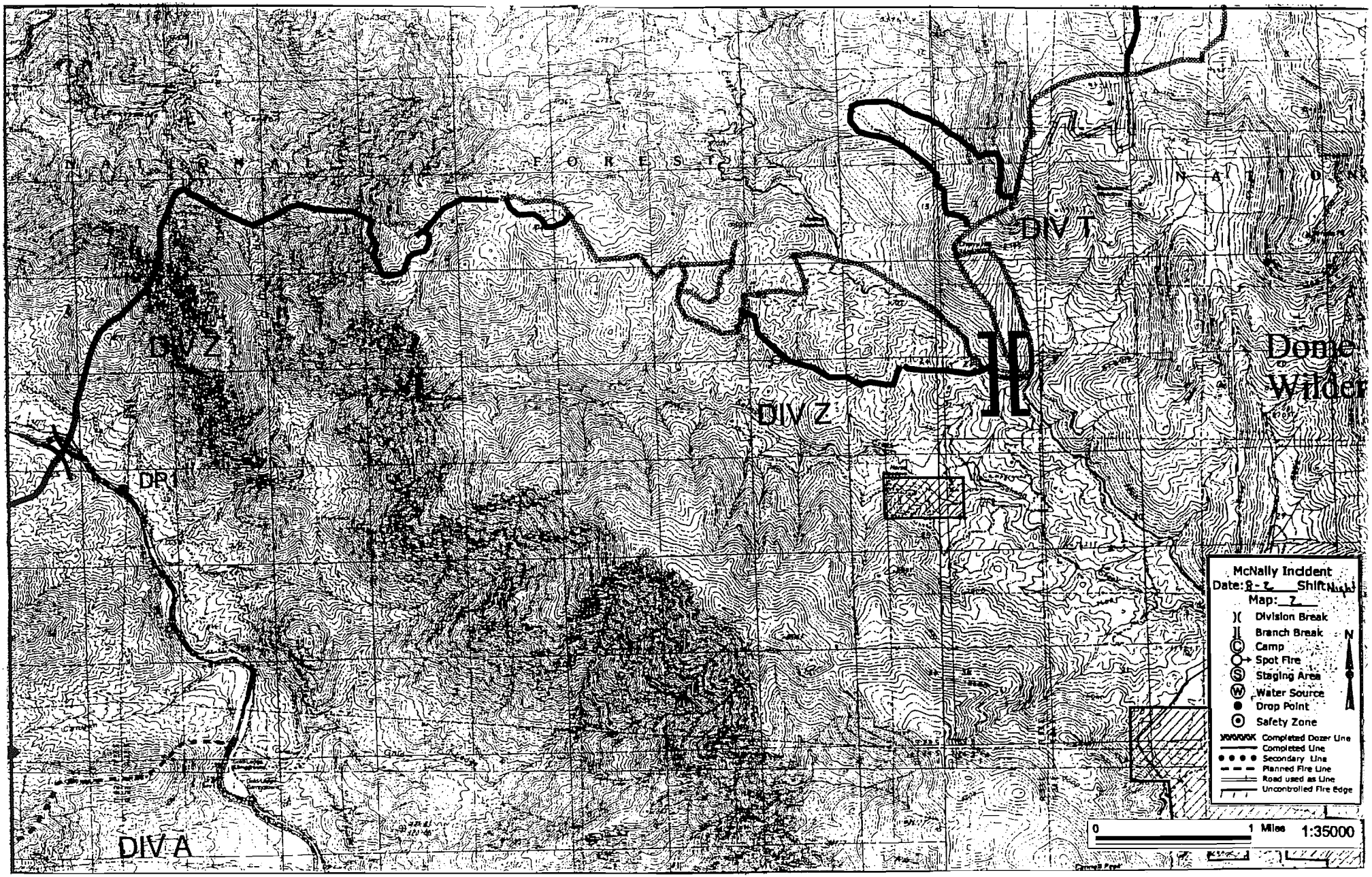
Section Chiefs will determine resources surplus to their needs and submit completed Tentative Release to DMOB at least twenty-four (24) hours in advance.

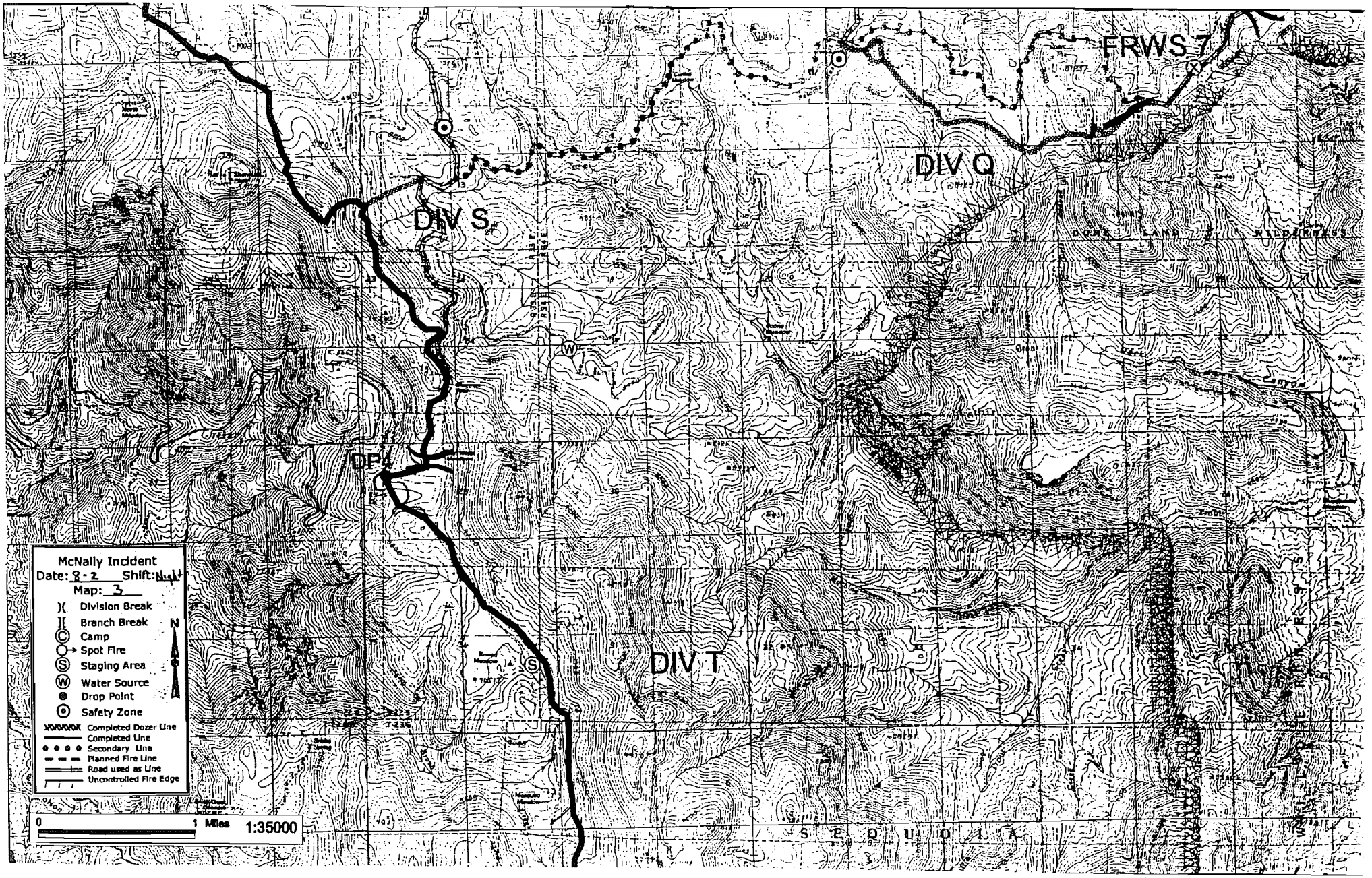
If driving, resources must be able to arrive at their home base prior to 2200 (10 p.m.) unless specifically approved by the IC.

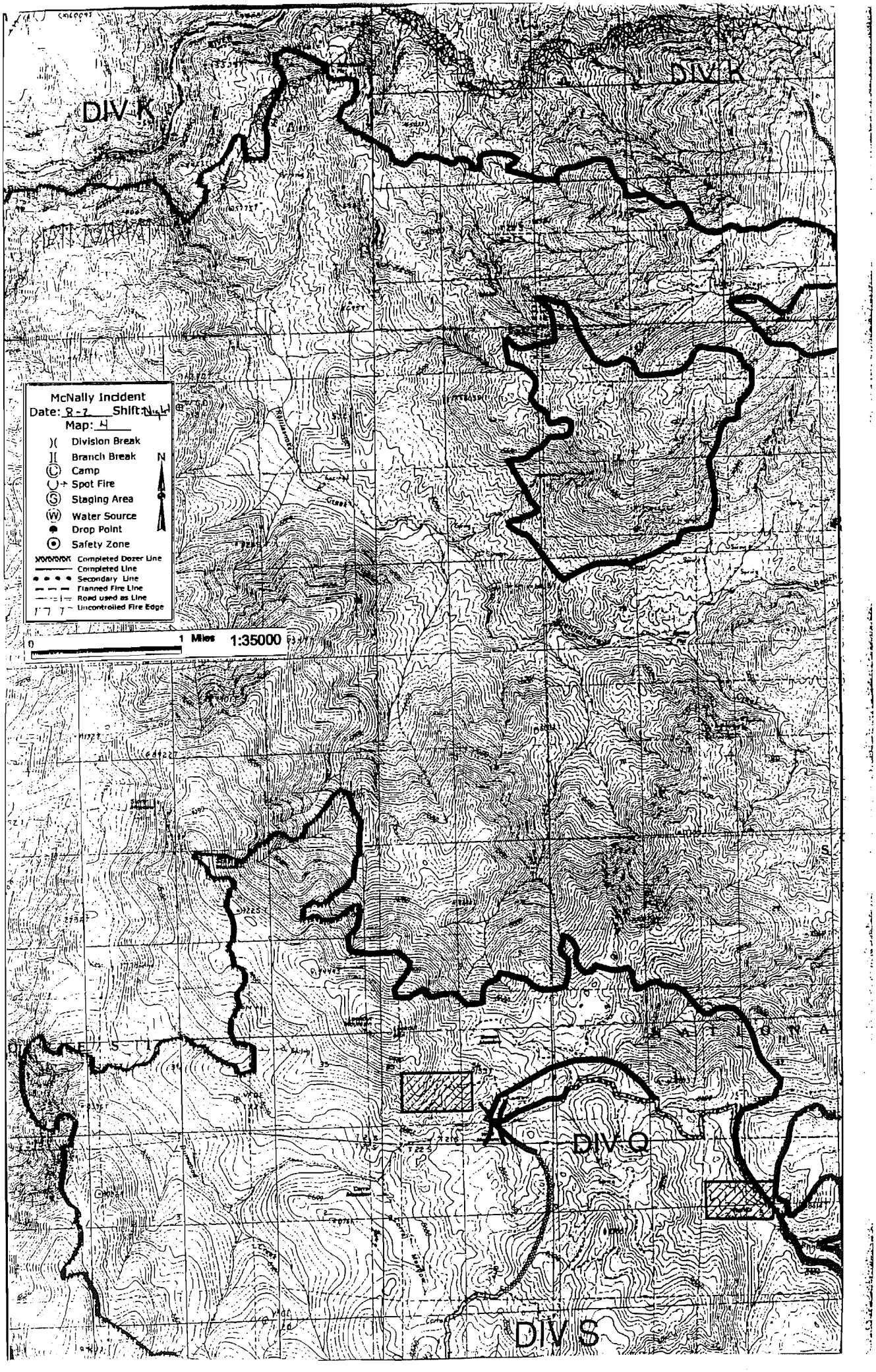
No person, except local resources, will be released without having a minimum of eight (8) hours off shift, unless specifically approved by the IC.

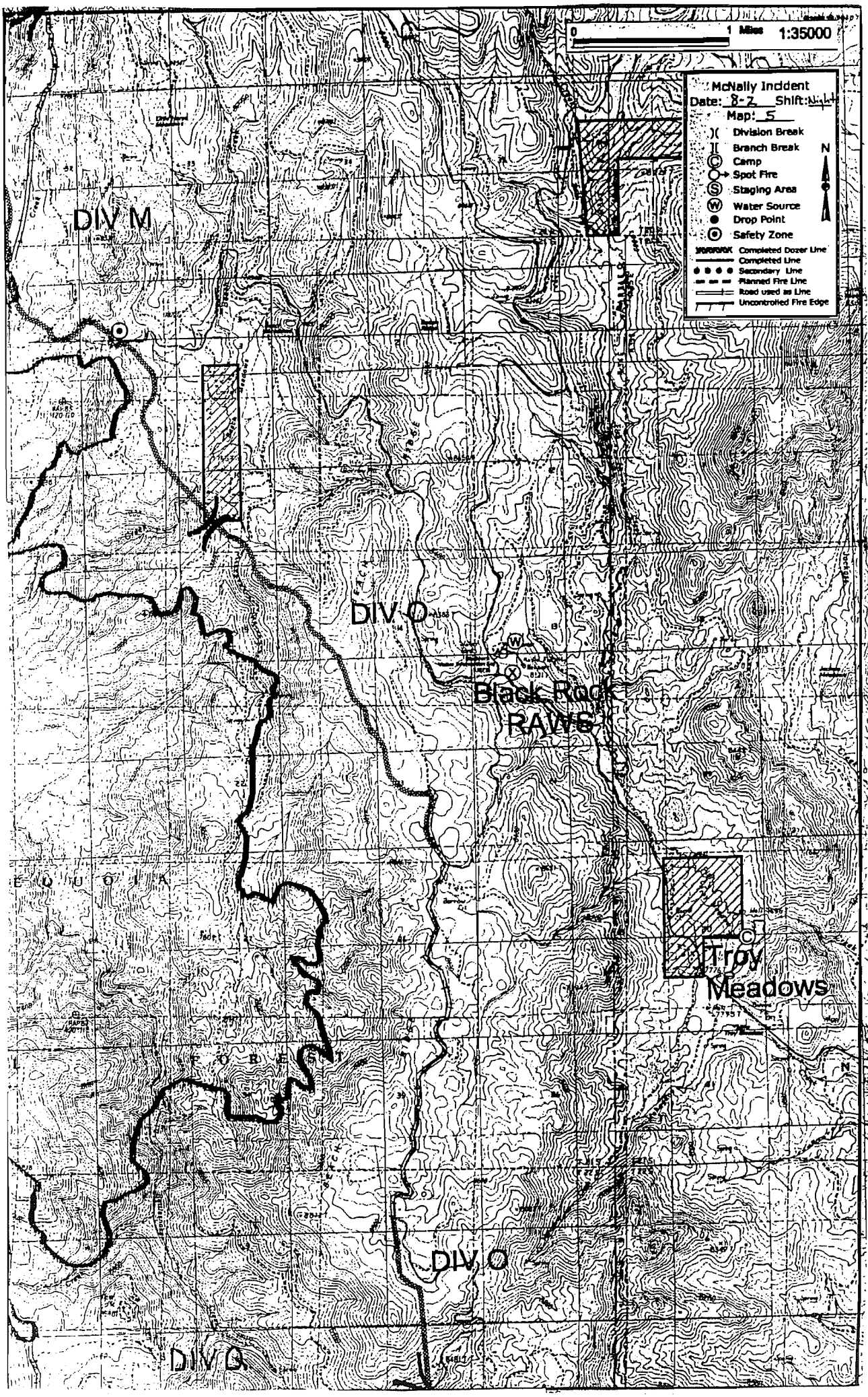

IAP Index Map
Map 4
Map 5
Map 3
Map 1
Map 2
Ponderosa
Black Rock RAWS
Branch 1
Branch 2
DIV A
DIV B
DIV C
DIV D
DIV E
DIV G
DIV H
DIV O
DIV T
DP1
DP3
DP5
DP7


DP2
0
1 Miles
1:35000
McNally Incident
Date: 8-2 Shift: N-4
Map: 1
Division Break
Branch Break
Camp
Spot Fire
Staging Area
Water Source
Drop Point
Safety Zone
Completed Dozer Line
Completed Line
Secondary Line
Planned Fire Line
Road used as Line
Uncontrolled Fire Edge
N
DIV C
Sequoia Groves
DIV B
DIV B
DIV A


DIV T
DIV Z
DIV Z
DR 1
DIV A
Donne
Wilder
McNally Incident
Date: 8-2 Shift
Map: 2
Division Break
Branch Break
Camp
Spot Fire
Staging Area
Water Source
Drop Point
Safety Zone
Completed Dozer Line
Completed Line
Secondary Line
Planned Fire Line
Road used as Line
Uncontrolled Fire Edge
N
0
1 Miles
1:35000


FRWS 7
DIV Q
DIV S
DP4
DIV T
McNally Incident
Date: 8-2 Shift: Night
Map: 3
Division Break
Branch Break
Camp
Spot Fire
Staging Area
Water Source
Drop Point
Safety Zone
Completed Dozer Line
Completed Line
Secondary Line
Planned Fire Line
Road used as Line
Uncontrolled Fire Edge
N
0
1 Miles
1:35000
SEQUOIA


DIV K
DIV R
DIV Q
DIV S
McNally Incident
Date: 8-7 Shift:
Map: 4
)(Division Break
Branch Break
Camp
Spot Fire
Staging Area
Water Source
Drop Point
Safety Zone
Completed Dozer Line
Completed Line
Secondary Line
Planned Fire Line
Road used as Line
Uncontrolled Fire Edge
N
0
1 Miles
1:35000


0
1 Miles
1:35000
McNally Incident
Date: 8-2 Shift: Night
Map: 5
Division Break
Branch Break
Camp
Spot Fire
Staging Area
Water Source
Drop Point
Safety Zone
Completed Dozer Line
Completed Line
Secondary Line
Planned Fire Line
Road used as Line
Uncontrolled Fire Edge
N
DIV M
DIV O
Black Rock
RAWS
Troy
Meadows
DIV O
DIV O

LCES and Other Thoughts

by
Paul Gleason

I have been asked to give input on wildland firefighter safety to the Fire and Aviation Staff - Safety and Training, Washington Office. First, let me say I am honored to be able to contribute at this level. The afternoon of June 26, 1990, as I knelt beside a dead Perryville firefighter, I made a promise to the best of my ability to help end the needless fatalities, and alleviate the near misses, by focusing on training and operations pertinent to these goals.

Throughout my career I have dealt with wildland fire suppression, as a Hotshot Crew supervisor, with only minor injuries occurring to those I have directly supervised. This is primarily because of two reasons, luck (which cannot be ignored) and basic lessons which I have learned from the exceptional firefighters I have had the opportunity to work with. Many of the really valuable suppression lessons I learned were prior to fire shelter requirements.

Subjective vs. Objective Hazards

A popular mountaineering text divides the alpinists' hazards into two distinct types; subjective, which one has direct control over (e.g., condition of the equipment, the decision to turn back) and objective, hazards which are inherent to the alpine environment (e.g., avalanches, rock fall). Objective hazards are a natural part of the environment. They cannot be eliminated and either one must not go into the environment where they exist or adhere to a procedure where safety from the hazard is assured.

Similarly, the wildland firefighters' hazards are either subjective or objective. Examples of subjective hazards would be working below a dozer constructing fireline or the use of improper techniques while felling a tree. The fireline supervisor has direct control over these types of hazards.

The wildland fire environment has four basic objective hazards; lightning, fire-weakened timber (standing and lying), rolling rocks and entrapment by running fires. When these hazards exist the options are to not enter the environment or to adhere to a safe procedure. I feel the key to this safe procedure is LCES. Although, the following discussion applies to all objective hazards, we will directly address fire entrapments.

LCES

LCES stands for lookout(s), communication(s), escape routes and safety zone(s). These are the same items stressed in the FIRE ORDERS and "Watchout" Situations. I prefer to look at them from a "systems" point of view, that is, as being interconnected and dependent on each other. It is not only important to evaluate each one of these items individually but also together they must be evaluated as a system. For example, the best safety zone is of no value if your escape route does not offer you timely access when needed.

A key concept - the LCES system is identified to each firefighter prior to when it must be used. The nature of wildland fire suppression dictates continuously evaluating and when necessary, reestablishing LCES as time and fire growth progress. I want to take a minute and briefly review each component and its interconnection with the others.

Lookout(s) or scouts (roving lookouts) need to be in a position where both the objective hazard and the firefighter(s) can be seen. Lookouts must be trained to observe the wildland fire environment and to recognize and anticipate wildland fire behavior changes. Each situation determines the number of lookouts that are needed. Because of terrain, cover and fire size one lookout is normally not sufficient. The whole idea is when the objective hazard becomes a danger the lookout relays the information to the firefighter so they can reposition to the safety zone. Actually, each firefighter has the authority to warn others when they notice an objective hazard which becomes a threat to safety.

Communication(s) is the vehicle which delivers the message to the firefighters, alerting of the approaching hazard. As is stated in current training, communications must be prompt and clear. Radios are limited and at some point the warning is delivered by word of mouth. Although more difficult, it is important to maintain promptness and clearness when communication is by word of mouth.

Incident intelligence (regarding wildland fire environment, fire behavior and suppression operations) both to and from Incident Management (i.e., Command & General Staff) is of utmost importance. But, I don't view this type of communication a normal component of the LCES system. Entrapment occurs on a fairly site-specific level. Incident intelligence is really used to alert of hazards (e.g., "Watchout" situations) or to select strategical operations. LCES is primarily a Division function: responsibility should be here.

Escape Routes are the path the firefighter takes from their current location, exposed to the danger, to an area free from danger. Notice that escape routes is used instead of escape route(s). Unlike the other components, there always must be more than one escape route available to the firefighter. Battlement Creek 1976 is a good example of why another route is needed between the firefighter' location and a safety zone.

Escape routes are probably the most elusive component of LCES. Their effectiveness changes continuously. As the firefighter works along the fire perimeter, fatigue and spatial separation increases the time required to reach the safety zone. The most common escape route (or part of an escape route) is the fireline. On indirect or parallel fireline, situations become compounded. Unless safety zones have been identified ahead, as well as behind, firefighter retreat may not be possible.

Safety Zone(s) are locations where the threatened firefighter may find refuge from the danger. Unfortunately shelter deployment sites have been incorrectly called safety zones. Safety Zones should be conceptualized and planned as a location where no shelter is needed, just if a shelter is deployed the location is not a true safety zone. Fireline intensity and safety zone topographic location determine safety zone effectiveness.

Again, a key concept - the LCES system is identified prior to when it must be used. That is, lookouts must be posted with communications to each firefighter, and a minimum of two escape routes from the firefighter's work location to a safety zone (not a shelter deployment site) every time the firefighter is working around an objective hazard.

Safety and tactics should not be considered as separate entities. As with any task safety and technique necessarily should be integrated. The LCES System should be automatic in any tactical operation where an objective hazard is or could be present.

LCES is just a re-focusing on the essential elements of the FIRE ORDERS. The systems view stresses the importance of the components working together. The LCES system is a result of analyzing fatalities and near-misses for over 20 years of active fireline suppression duties. I believe that all firefighters should be given an interconnecting view of Lookout(s), Communication(s), Escape routes and Safety zone(s).

Division Operations

Establishing a Lookout position in the Operations function has its merits. The Lookout(s) would be assigned directly to the Division Supervisor. They would have only one responsibility, albeit an important one. Lookouts keep one eye on the fire and the other on the Division's firefighters.

Commonly Weather Watches and Field Observers are incorrectly assigned lookout duties. Division Supervisors should solicit input from these sources for their decisions, but these positions are in the Planning Section, not Operations. Lookouts need to be identified prior to tactical deployment of suppression resources and they need to give their undivided attention to the Division's objective hazards and firefighter location.

Ideally each crew would establish lookouts in potentially hazardous situations. But, this requires the ability to identify these situations and to establish adequate (in amount and location) lookouts for the situation. Additionally, all too often crew supervisors hesitate to remove a crew member from fireline production and assigned them the position of lookout. They do not realize that the assignment of lookouts is not only their authority but also their responsibility.

Incident Management, through Operations and Planning, would identify the operation's "Watchout" Situations, divisions on which they are (or could) occur and assign qualified lookouts to the Division Supervisor.

Span of Control

Span of control depends directly on the quality of resources and their capabilities. 3-5 subordinates to each supervisor may be sufficient for a static environment when there is direct access to each subordinate; but in the active wildland fire environment experienced leadership is necessary on a tighter ratio. Jerry Monesmith presented solutions via the geographical breakdown of a division into "segments".

Crucial to any solution is the definition of "experienced." How would you define experienced?

Many reasons have been given for the lack of experience including an organization's inability for employee retention and insufficient BASIC suppression skill development.

Downhill/Indirect Firelines

The two situations that firefighters traditionally have found themselves getting into trouble are downhill and indirect fireline operations. The lessons learned on the Loop Fire ('66) developed awareness, and consequential guidelines, for downhill fireline construction. Since then downhill operations have become safer; everyone agrees the only one who works in a chimney is Santa Claus, and he does it in the dead of winter. Unfortunately, we still have a ways to go (i.e., Battlement Ck '76).

Indirect firelines are a different story. In the last half of the 1980's all the entrapments have occurred during indirect operations. Extreme fire behavior with active spotting has put more reliance on indirect strategies. With indirect fireline the firefighter finds themselves removed from the best safety zone, the burn, as well as unable to see the objective hazard.

"Floating" Division

A floating division is the planned division during an indirect operation that exists initially only on paper (a map). It is not anchored. Wildland fire suppression tactics stress the importance of beginning construction at an anchor point (point where there is the least chance of being outflanked). To safely deploy resources on a "floating" division it is extremely important that the division is initially anchored and that the anchor point is also a safety zone. Only then can resources safely begin work developing the LCES system as they progress.

The success of the operation depends on the safety of personnel and the ability to hold the fireline. It is crucial that indirect fireline location is determined after careful analysis of wildland fire behavior possibilities including that behavior which will result if the fire enters the third-dimension (crowning/spotting from both wind-driven and plume-dominated fires). All too often the full possibilities are not incorporated in location decisions.

Wildland/Urban Interface

Suppression in the wildland/urban interface presents its own unique set of problems. The choice of fireline location is often influenced by the homes which stand between the fire front and a "better" option. Often the standard tactics of anchoring at the rear (or heel) and flanking will leave improvements in the path of the wind-driven fire.

The lack of an ideal fireline location does not in itself constitute unsafe indirect strategy. The "urgency" of the operation causes a break-down in solid tactics. During interface suppression operations, maybe more than any other operation, the LCES system must be in place.

With the rapid spread rates reached by wind-driven fires only two options are available. The traditional "anchor and flank" strategy or the unorthodox protection of improvements and resources as the wildfire spreads past. The latter dictates the necessity for a "defensible space" around each improvement sufficient to serve also as a safety zone, a true safety zone. Unless

only precaution as been made the risk to defending the improvement may not be worth the operation.

Judgment Errors

John Dill, head rock climbing rescue ranger in Yosemite NP, recently made an analysis of errors in judgment made precluding an accident. He found three reasons which contributed to the accidents; ignorance, casualness and distraction. After thinking about the firefighter's environment and accidents these same reasons were found to correspond. Allow me to take a moment and help draw the correlation's.

Ignorance: Unfortunately, we still have firefighters and fireline supervisors who still end up in wildland fire situations that call for skills and knowledge beyond their level of training. I know it is stressed over and over, but the BASICS, basic wildland fire behavior, basic suppression skills, need to be learned and reviewed. Yet many of the entrapments are the result of no lookouts or an insufficient safety zone, a lack of the basics.

Casualness: The rock climber standing at the base of a couple thousand foot granite wall in Yosemite is reassured in their decision to undertake a challenging ascent because of the helicopter which is poised less than a mile from the proposed ascent. We are doing the same. The situation is viewed more casually because we have an option if the tactic fails – our fire shelter.

Another way casualness enters our environment in through the reinforcement of improper tactics since the fire does never "blowup" while we are working the fireline the first few, or several, times. But then we find ourselves entrapped because the familiar situation changes and our reliance on improper tactics just doesn't work this time.

Distraction: Often I have been told that was it not for the on-the-job training that was given by a Division Supervisor the hazard would have been noticed and tactics would have been adjusted. Distraction is a very very real problem for firefighters. Fatigue and carbon monoxide do not help with the decision making process either. Fireline personnel should be continually monitor each other and remain open to communication and others evaluation of the situation at hand.

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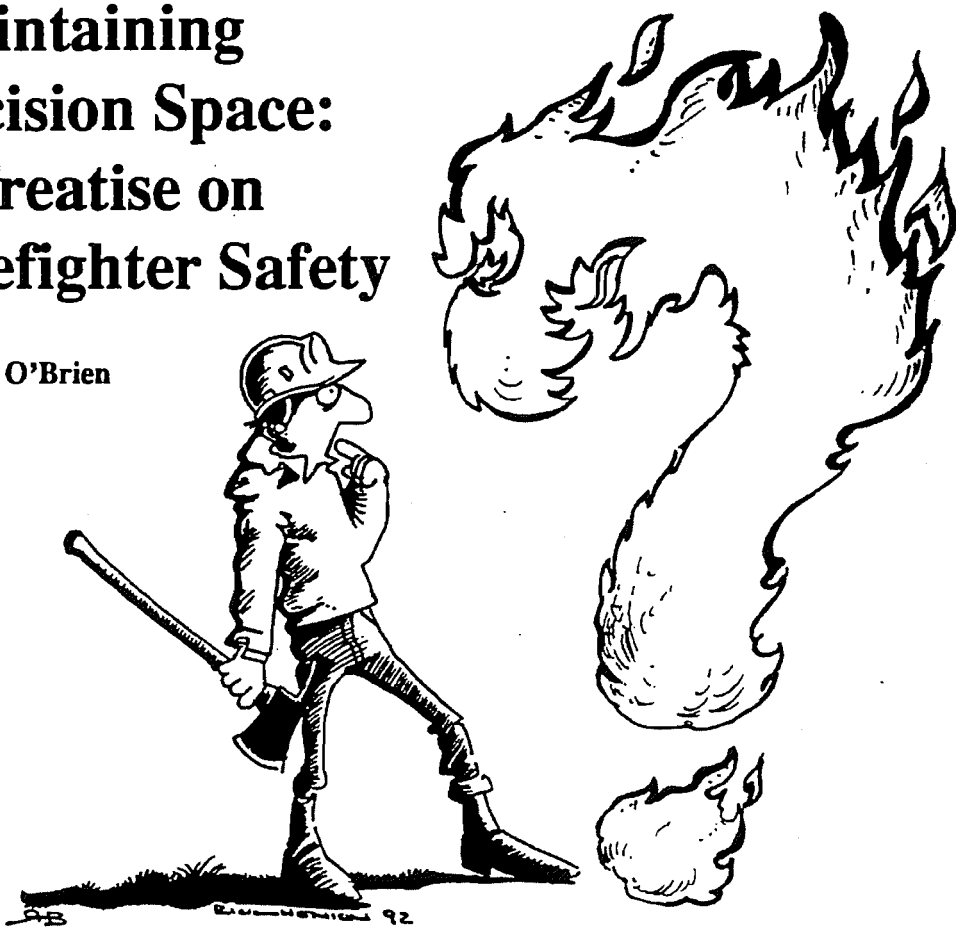
Maintaining Decision Space: A Treatise on Firefighter Safety

By Dan O'Brien



1. FIRE NOT SCOUTED AND SIZED UP

*Illustration from: 18 Situations that Shout Watch Out, © Rick Henion.**

Since 1910, over 400 deaths have occurred from wildland fire entrapments. That's five deaths *per year*. In comparison with annual highway fatality statistics, 5 deaths per year seems a relatively low number. But wildland firefighting is not a matter of random collisions between individuals under uncontrolled circumstances. Firefighters are trained from the very first to understand and plan for the hazards posed by the fire environment, and are instilled with the expectation that they are to maintain safety as their highest priority. Yet people continue to die. The 1994 season ended with 32 fire-related deaths — an unprecedented number. The need for safety awareness on the fireline echoed throughout the firefighting community, yet in 1995, by all accounts the wettest year seen in some time, two more fatalities occurred. How is it that wildfire deaths happen?

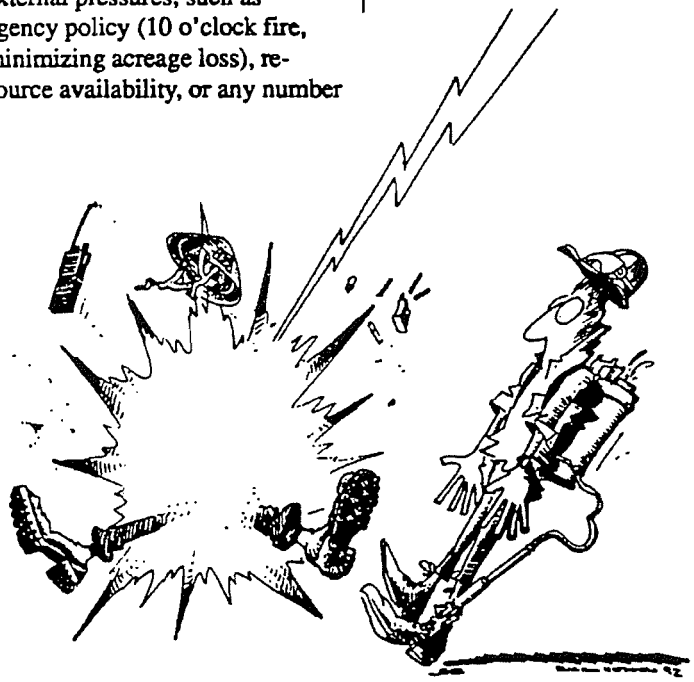
Reading through fire investigation reports, the term "unexpected" is commonly used,

* *Note: The cartoon-style illustrations in this article are by Forest Ranger Rick Henion, of the Maine Forest Service, and are part of a larger poster to be distributed to Wildfire subscribers later this year. Watch for it!*

indicating that some sort of critical data existed which was either overlooked, unknown or ignored. This would suggest the existence of a critical error or oversight in the planning process. But, throughout the life of a fire, however large or small, planning is an integral part of daily operational activities. The focus of any planning effort is to decide upon a course of action. But what goes into the action decision and the planning behind it? More decisions. Decisions on what data needs to be collected. Decisions are made on how to collect and prioritize data, how to compile and interpret it, and finally how to initiate and support an action. Once action is taken, decisions have to be made as to whether the action is effective, if modifications need to be undertaken, or if a whole new plan needs to be considered. Every action initiated, whether it is the suppression of a highly complex wildfire, buying a car, or selecting which shirt to wear in the morning, involves making decisions of one kind or another.

The space within which you make your decision is determined minimally by circumstance, and expanded by the framing and scope of the analysis of all the factors which may surround and effect the final decision. For example, if you own only one shirt and pair of pants, there really is no decision to make when it comes time to pick your wardrobe. You might also decide that since you have adequate financial resources, it would be sensible for you to purchase new clothes, thereby enlarging your decision space. By stopping and analyzing the situation prior to walking out the door, you have considered the available options, rather than simply allowing circumstance to dictate a decision for you.

Firefighting carries quite a bit more risk than selecting an ensemble, but the process of decision-making is no different. Every wildfire fatality is ultimately the result of a decision gone bad. In general terms, the reasons behind the decision that was made could be linked to one or more of the following causes: (1) Disregard for established safety precautions and procedures, either willfully, or through lack of training or experience; (2) acceptance of greater risk due to external pressures, such as agency policy (10 o'clock fire, minimizing acreage loss), resource availability, or any number of political or social pressures; and (3) failure to recognize changing conditions and make the necessary adjustments in fire operations. The additional risk created by changing conditions is not recognized or "framed" within the decision-making process, and so the decision is unknowingly made in an irrational fashion, since all the facts are not taken into account. The greatest danger from this causal factor (and from factors one and two above) comes from having a favorable outcome. This leads to (4) recognizing, yet normalizing, risk because "this is what happened last time and everything turned out fine." Decisions of this sort confuse playing the odds



4. UNFAMILIAR WITH WEATHER AND LOCAL FACTORS INFLUENCING FIRE BEHAVIOR

*Illustration from: 18 Situations that Shout Watch Out, © Rick Henion. See note *, page 36.*

with realistically managing risk. Each of these causal factors may be related to one or more of the other factors in one way or another. But in all cases, *decision space on the fire ground becomes increasingly narrowed until all options are eliminated but one.* In essence, decisions are made entirely by circumstance!

The ability of an individual to recognize the causal factors listed above varies greatly. The first and second factors are easily recognizable through the most basic safety awareness and even more obviously through any one of a number of safety "check-lists". It is my belief that most firefighters will not willingly put themselves or allow others to pressure them into accepting risk beyond a level considered to be "normal". This is the danger behind the latter two causes: the acceptance of "normal risk" in situations which in reality may pose unacceptable levels if risk.

It is my purpose to analyze the latter two causal factors and examine how the failure to recognize changing levels of risk and the normalization of risk leads to reduced decision space on the fire ground, and may potentially lead to disaster. In the process, I intend to show that:

1. The wildland fire suppression organization is inherently complex, both through its internal structure and the dynamic nature of its configuration as it changes to meet the variable complexities of the environment in which it functions;

2. Since suppression organizations are inherently complex, normalization of risk becomes a common feature of the organization, given that organizational or situational anomalies may produce a successful outcome; and

3. Individual firefighters, being the most basic component of the firefighting organization and thereby the least complex, are in the most favorable position to maintain the decision space necessary to provide for firefighter safety in the wildland fire environment.

In his book, *Young Men and Fire*, Norman MacLean makes the statement, "A tragic corollary is that not much about fighting big fires can be learned by fighting small ones." The truth in this statement lies not so much in how big fires or small fires burn, because the same physical laws govern both. It's simply a matter of magnitude between the two. The critical point lies in the way we think and act as the fire transitions, or may potentially transition, from a small fire to a big one. The way in which we make decisions will dictate the desirability of the outcome of any suppression action. It is imperative that we adapt our thinking and decision-making processes to reflect the complex nature of the changing fire ground, accounting not only for what the fire is doing, but what it will do in the future. To ignore or overlook this process of matching complexities of organization, i.e., thought and decision-making, with environment, is to invite disastrous consequences.

To adequately function within a particular fire environment, a fire suppression organization has to recognize the fire's complexity and modify its own structure to meet that complexity. This is the dynamic nature of the fire suppression business. In *South Canyon Revisited*, Karl Weick (1995, pp. 14) speaks of the concept of requisite variety, the notion of matching organization to the environment. As a wildfire grows in complexity, the amount of information to be absorbed and processed increases proportionally. An increases in fire size means a proportional decrease in the relative amount of fire area a single person can effectively manage at any one time. It becomes necessary to add additional people to the control matrix, much like adding parts to a machine. Each person has the responsibility for a particular task within the organizational structure. As the organization becomes larger, individuals with similar tasks are formed into groups, and the groups become linked as a larger component into the frame of the organizational machine. Though technically not a machine, the wildfire suppression organization — whether a particular crew, an incident management team, or the administrative and logistical support structure at the national level — becomes a complex and multi-purposed infrastructure, a fantastic piece of advanced technology. A glance at the organizational structure of a complete incident management team gives an idea of the complex structure of a wildfire suppression organization. Imagine the network responsible for fielding multiple teams across the nation, each team, in turn, supporting the firefighters for which they are directly responsible. Also imagine the suppression organizations indigenous to a particular forest

or province, which are supported by a local network of command and control, dispatch and meteorological organizations, all of which work in cooperation with the national coordinating group. Each part of this complex structure performs a particular task or series of tasks, working either sequentially or in unison, often operating in a continuous, interrelated series of feedback loops, to produce a specific overall function. Functioning properly, this organizational machine moves thousands of firefighters across the country to thousands of fires, feeds them, shelters them, and gives them purpose. Conceptually, it is not much different from the power train on an automobile: a collection of related parts working together to perform a specific function, a machine.

But what determines a fire's, and by extension, a suppression organization's, complexity? Is it a matter of size or timing or location? Is it driven by environmental factors, or human ones? In truth, it is a measure of all these things which give a fire its complexity, but the single most overriding factor is the human one: human perspective and perception. One way to look at the human factors in the complexity equation is the wildland-urban interface. Many firefighters, when asked about what a complex fire would be, immediately respond by saying "urban interface". But it has also been said that fighting fire in the urban interface should be no different than anywhere else. Houses (provided the inhabitants have been evacuated, of course) are simply another addition to the fuel complex, which should be noted and adjusted for, much like you would for windthrown or bugkilled timber. It is human value and perception which gives to these fires the added complexity. South Canyon, for instance, was a low priority fire which gained dimension and complexity when public discomfort prompted action to be taken.

Given, then, the variable nature of the fire environment, the complex infrastructure of the suppression organization at all levels, and the dynamic relationship between the two, how is it possible to understand the complexity of a fire situation, and gauge its seriousness considering all the factors involved?

In his book, *Normal Accidents*, the sociologist Charles Perrow (1984) defines systems as being either linear or complex, and being loosely or tightly coupled. A linear system is simple and straightforward. It is a spatially segregated system of sequential parts, making it easy to isolate, repair or replace a malfunctioning component. A complex system is just the opposite. It is a matrix of multiple, interacting subsystems which are designed to promote the greatest efficiency out of the least possible space. The chart below summarizes the characteristics of linear and complex systems.

Coupling is an engineering term used to describe the amount of slack or buffers a system may have built into it. Something loosely coupled would have quite a bit of flexibility and room for maneuvering. A tightly coupled system would have little or no slack built-in. Should a single

Complex and Linear System Characteristics
Source: Perrow (1984, pp. 88)

Complex Systems	Linear Systems
Tight spacing of equipment.	Equipment spread out.
Components not in production sequence.	Segregated production steps.
	Sequential production steps.
Limited isolation of failed components.	Easy isolation of failed components.
Personnel specialization limits awareness of interdependencies.	Less personnel specialization.
Limited substitution of supplies and materials.	Extensive substitution of supplies and materials.
Unfamiliar or unintended feedback loops.	Few unfamiliar or unintended feedback loops.
Many control parameters with potential interactions.	Control parameters few, direct and segregated.
Indirect or inferential information sources.	Direct information sources.
Limited understanding of some processes.	Extensive understanding of all processes.

component or multiple components of the system fail simultaneously, it will have direct impacts on every other component of the system, often in an unstoppable, runaway fashion. Loosely and tightly coupled systems are summarized in the chart below.

Characteristics of Loose & Tight Coupling
Source: Perrow (1984, pp. 96)

Tight Coupling	Loose Coupling
Delays in processing not possible.	Processing delays possible.
Invariant sequences.	Order of sequences changeable.
Only one method to achieve a goal.	Alternative methods available.
Little slack possible in supplies, equipment and personnel.	Slack in resources possible.
Buffers and redundancies are designed in and deliberate.	Buffers and redundancies available but not necessarily required.
Substitutions of supplies, equipment, personnel limited and designed-in.	Substitutions available.

The purpose of listing the characteristics of linear/complex systems and tight/loose coupling is not to try and prove that wildland fire suppression is one or the other, *but rather that it has characteristics which fall into all of these categories*. It is this kind of variability which makes the system difficult to understand and at the same time gives it tremendous flexibility. Moreover, it shows that firefighters may have the ability to create decision space when the perception is that there is none. Unfortunately, the reverse is also true.

Perrow graphically illustrates the complexity and coupling of a particular technology by placing them on an "Interactions Chart" which has complexity on one axis and coupling on the other. Moving to the right side of the grand square increases system complexity; likewise, moving to the top of the square tightens the coupling. On this chart, Perrow places everything from the Department of Motor Vehicles to nuclear power plants, positioning them not in empirical terms, but rather by their relative complexity and coupling. I believe the same sort of graphic representation can be used to determine the seriousness and complexity of wildfire situations, especially given the dynamic nature of the system. Figure 1 illustrates this point.

Within the figure are four general descriptions of fire situations: a combination of low through extreme fire behavior and the number of variables, known and unknown which may have an impact on the fire's outcome. By variables I am alluding to the remoteness or proximity of human interaction with the fire, plus the magnitude of those interactions. I have plotted fires within the quadrants in their representative locations for their complexity and coupling. The actual placement of these fires is relative and highly dependent on the experience and attitude of the individual. The point of the chart is to show the changing nature of the fire environment, physically and mentally. A fire is considered tightly coupled if one aspect or characteristic of the fire, environmentally or organizationally, has immediate and dramatic effects on every other facet in the system associated with that fire. An example would be a brush fire in a dry season with rapid rates of spread, or the breakdown of the massive mobilization of personnel and equipment during a period of critical resource need. Repercussions are immediate and far reaching. A loosely coupled fire would be exactly the opposite. A fire gains complexity as the interrelated web of variables begins to grow. A fire may shift slowly across the face of the square as the life of the fire extends through time, given seasonal and climatic change. It may also shift suddenly, with a change of reference or decision-frame. An example of this is the plot of the South Canyon fire, both staffed and unstaffed. We respond to a given situation with an appropriately staffed suppression organization, recognizing that we are engaged in an inherently risky occupation. *How we develop and staff our organizational structures in response to changes is directly proportional to the amount of additional risk we want to accept.* By accepting additional risk, we conceptually modify our perception of the complexity and coupling of the fire with which we are dealing and respond accordingly. Or, we acknowledge the fire complexity, but staff at a lower level than what may be considered "normal", in the belief that specific mitigation measures can account

Interactions Chart: Wildfire Scenarios*

*Adapted from: Perrow, 1984: pp.97

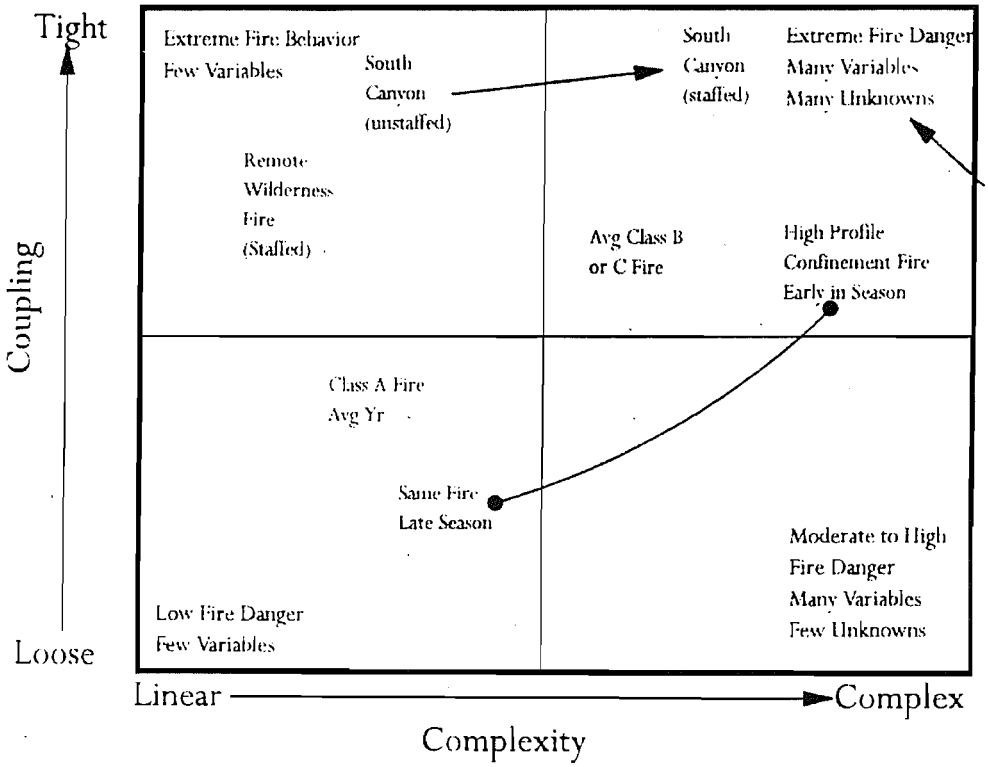


Figure 1.

for any shortcomings. Whether we organize to a level of complexity commensurate to the fire situation or not, there is the perception that we are taking some level of risk. It is this perception that risk can be accepted into a complex organization or system, planned for and potentially mitigated that leads to a certain "normalization" of risk. In some instances, it is this normalization of risk which can lead to the notion of "normal accidents".

The term "normal accident" was coined by Charles Perrow to describe the interactive complexity of some industrial designs. It is a term applied mostly to technological systems, i.e., mechanized systems, but it describes organizational systems as well:

> A normal accident is meant to signal that, given the system characteristics, multiple and unexpected interactions of failures are inevitable. This is an expression of an integral characteristic of the system, not a statement of frequency. It is normal for us to die, but we only do it once. System accidents are uncommon, even rare; yet this is not all that reassuring, if they can produce catastrophes.
>
> (Perrow, 1984; pp. 5)

Fighting fire is complex enough that we should be concerned about developing and normalizing the sorts of characteristics which make accidents inevitable. An awareness of a potential problem may not prevent an accident, but it should alert us enough so that we are not working blindly. Accidents will never be eliminated, but their occurrence can be minimized.

Firefighters recognize the fact that they work in a dangerous and potentially fatal environment. Risk is a constant companion with which they live, however reluctantly. They are trained to recognize risk, plan for it, and mitigate it to the greatest possible degree. The ability to deal with risk is generally dependent on an awareness

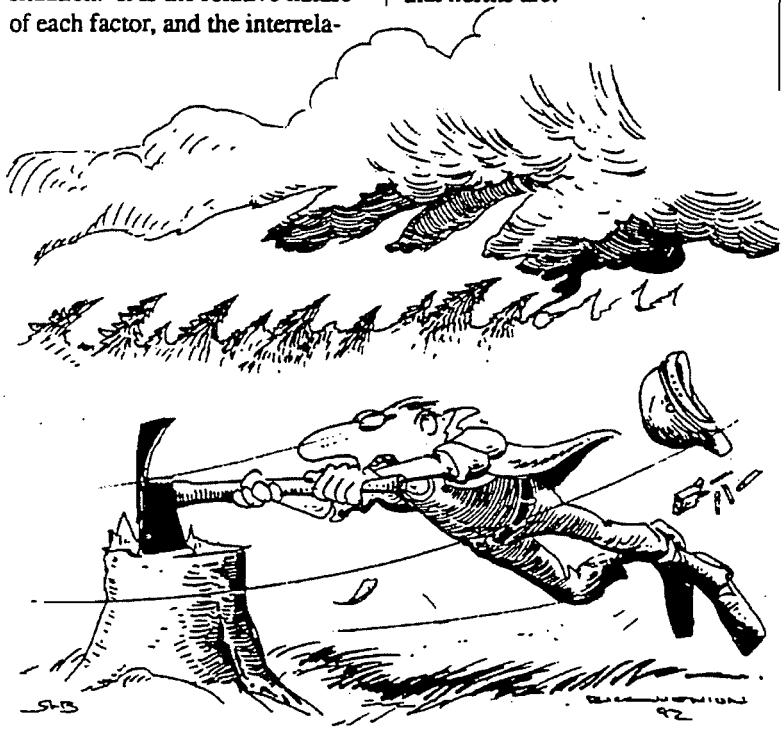
of past successes and failures or "outcome history" (Sitkin & Weingart, 1995). From this outcome history, we develop a propensity or reluctance to take on a risk; the cognitive ability (situational awareness) to recognize risk in the present and relate it to past experience and the awareness of organizational procedure and technological "fixes" with which to mitigate risk. These factors are problematic, however, in that they are very much based on how an individual or organization interprets a particular object or situation. It is the relative nature of each factor, and the interrelationship between them which often creates a built-in and unacknowledged hazard.

Certainly it is easy to understand the shock and outrage at the loss of 14 firefighters on the South Canyon Fire. But how many close calls or potential incidents have been shrugged off in the past as part of doing business? This is normative thinking, which shapes the outcome history of our organizational procedure, and the development of "normal" behavior or "norms". Diane Vaughn, in her book *The Challenger Launch Decision*, states that norms are:

> Cultural beliefs and conventions originating in the environment [that] create unreflective, routine, taken-for-granted scripts that become part of individual worldview. Invisible and unacknowledged rules for behavior, they penetrate the organization as categories of structure, thought and action that shape choice in some directions rather than others.
> (Vaughn, 1996; pp. 37)

How we judge our successes and failures plays a critical role in how we shape our future actions. Unacknowledged deviance in successful outcomes survives to potentially affect future situations. This notion is echoed in the words of one firefighter who states that "the ultimate outcome is 'successful' as measured by lack of personal injury." Historically, "safe" operations are those which have few or no accidents or injuries reported. But without paying attention to the details, it is difficult to know whether the successful outcome was achieved through good planning or plain luck. Through time, deviance and the toleration of deviance, can be incrementally absorbed into the system.

To understand this in more simplified terms, think of a complex organization as a perfectly aligned row of billiard balls. You set up with the idea that you are going to strike the cue ball with enough force and precision that when it collides with the first ball, the billiard ball at the other end of the row will strike a target placed directly across the table from it. The first shot occurs exactly as planned and the billiard ball strikes the target. Having set up the experiment again, your second shot is



15. WIND INCREASES AND/OR CHANGES DIRECTION

Illustration from: 18 Situations that Shout Watch Out, © Rick Henion. See note [8], page 36.

off just enough to send billiard balls careening all over the table, but the one ball you are concerned with *still strikes the target.* Was the experiment a success?

Taken at face value, situational awareness seems rather straightforward: we use our senses to take in and process information, formulate what the problem is that we are facing, relate it to our training, experience and the objective we want to achieve, and decide on a course of action. But consider the nature of training, experience and objectives. Are they commensurate with the task at hand? Is the problem being framed in the correct fashion? Does the individual have the capacity to qualify the information being taken in, and to know if it is being processed correctly? Lack of training directly affects our ability to perform cognitively. If you don't know what to look for, you can't be sure what you're seeing. Experience is helpful, but can also be suspect, if it is based solely on outcome history, without an overtly critical analysis of past performance. With training and experience, we come to regard ourselves as "experts" in our field, and become comfortable with the fact that we can deal with problems. In *South Canyon Revisited,* Karl Weick (1995, pp. 9) makes the statement: "Fire fighters are in most danger of fireline accidents either in their first 2 years or after 10 to 15 years of experience. Young firefighters are vulnerable because of their inability to recognize hazardous situations. The more experienced firefighters are vulnerable because they presume they've seen it all, they have less openness to new data, thus the validity of their model decreases. The *unexpected* gets them." An analysis of NASA engineers and managers after the Challenger explosion led Diane Vaughn to much the same conclusion:

> Implied in the term "expert" is some technical skill, gained either by experience, professional training, or by both, that differentiates the professional from the lay assessment of risk. Also implied is that professionalism will somehow result in a more "objective" assessment than that of the amateur. But professional training is not a control against the imposition of particularistic worldviews on the interpretation of information . . . The result is that highly-trained individuals, their scientific and bureaucratic procedures giving them false confidence in their own objectivity, can have their interpretation of information framed in subtle, powerful and often unacknowledged ways.
>
> (Vaughn, 1996; pp. 63)

14.WEATHER IS GETTING HOTTER AND DRIER

*Illustration from: 18 Situations that Shout Watch Out, © Rick Henion. See note *, page 36.*

Safety is of paramount importance to wildland firefighters. From the tragedy at Mann Gulch to the present, safety has grown and evolved procedurally and technologically. Each tragedy fire has added another chapter to the book of safety, as a means of preventing the next one. Fire behavior training, fire clothes, fire shelters, all of these are legacies of fatality fires. But each added safety

precaution carries with it a measure of risk.

The insidious side of safety procedure and technology is that it essentially incorporates risk into the organization, while at the same time trying to reduce it. Like redundancies built into spacecraft systems, items like fire clothes and fire shelters, and procedures like the standard fire orders are an admission that accidents are likely to happen within our organizational system, and that we need to build in these mitigation measures just to be safe. This is true of any safety procedure in any safety organization. This is not to say that it isn't a good idea to have these things, because it is. The question we constantly need to ask of ourselves is this: When safety procedures and technology are put to the test and function as expected, did the system work as planned, or did the system fail in some way since the safety precautions had to be used in the first place? A related question is: Did the safety systems function as they were supposed to, or did they simply happen to serve the purpose?

Another aspect of safety technology is the assumption that once a risk is identified and "eliminated", the system is inherently safer. But this isn't necessarily the case. A term called "risk homeostasis" is used to describe an instance when changes are made to a system to make it safer, but in fact they don't. This is accredited to a fundamentally human tendency to compensate for increased margins of safety by taking greater risks. Malcolm Gladwell, in his New Yorker article "Blowup", describes an experiment done in Munich, Germany, where anti-lock brake systems were installed on a fleet of taxicabs to measure their effectiveness in reducing accidents. What they found was exactly the opposite of what they expected:

> The A.B.S. systems were not used to reduce accidents; instead, the drivers used the additional element of safety to enable them to drive faster and more recklessly without increasing their risk of getting into an accident. As economists would say, they "consumed" the risk reduction, they didn't save it.
>
> (Gladwell, 1996)

Do firefighters consume their margin of safety obtained by personal protective equipment and procedural guidelines? Some firefighters I have spoken with deny that this occurs. Others maintain that it is a widespread practice. Either way, it is something which must be considered in the decision-making process.

Decision-making begins by mentally framing the decision that needs to be made, i.e., ordering and prioritizing all the factors that are important to making the decision. Once the decision is framed, a certain amount of intelligence gathering takes place involving the factors which are ordered within the decision frame. When sufficient intelligence is gathered, a conclusion is drawn from the data collected, and the decision is made. This is a simplistic overview of the decision-making process.

Ignoring for the moment the psychological and sociological pressures of making the "right" decision, let's take a step back and put the decision into the broader context of the decision-maker's past history, present perception, and with the added element of risk. The decision-maker begins by analyzing the present situation, acknowledging the factors which are appropriate to his or her particular frame. Once this intelligence gathering is complete, the decision-maker relates the decision to outcomes of past similar events. The propensity for the decision-maker to take risks is based largely on whether their outcome history has trended towards success or failure. Linking the past trends with the similarity of the present, the decision maker then develops a mental (or sometimes mathematical) probability of succeeding in his or her current endeavor. The outcome is the risk decision. Figure 2 outlines this process.

The dynamics of the process can be variable. Our discussion earlier on risk and risk normalization revealed the relative nature of individual cognition and objectivity of past successful outcomes. Given that decisions are made up and down the complex structure of an incident management team, area commands, coordinating groups and agency bureaucracies, and that each decision-maker at each level maintains distinct perspectives, cognitive skills and outcome histories, it is somewhat awe-inspiring that the mobilization and employment of resources which occurs yearly takes place in such a routine fashion. Training, experience and communication play major roles

A Simple Model for Risk Decision Making*

*Adapted from: Sitkin & Weingart, 1995

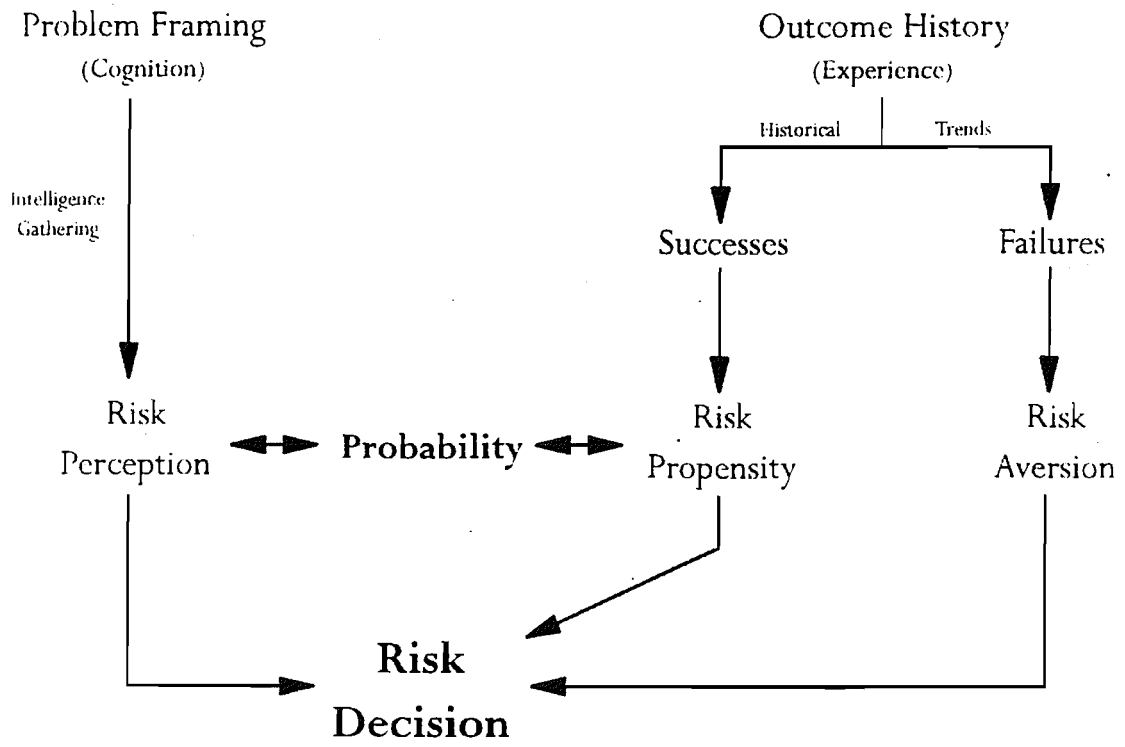


Figure 2.

in all this. But the business end of the entire structure — the whole purpose for having the organization in the first place — is to support the firefighter on the ground. On the fireline is where the real risk of firefighting takes place. Since the inherent risk of firefighting, i.e., the risk to personal safety, occurs primarily within the fire environment, and realizing that organizations are susceptible to unforeseen and unacknowledged failures, does it not seem sensible that the ultimate focus of safety awareness and preservation of decision space should occur at the level of the individual firefighter?

The firefighter is the first and last link in the suppression organizational structure. Field intelligence is obtained by the firefighter and fed back up the chain of command, where it is processed, realigned and then fed back down the chain to the firefighter in the form of an operational plan. But anyone who has played the game of "telephone" knows that information undergoes permutations as it is passed from one person to another. What one person hears is not necessarily what another says. This obviously changes the value of field intelligence and the subsequent operational plan which comes back from the command structure. The passage of time, so critical in the dynamic environment of fire, also works to invalidate plans. It is therefore critical that individual firefighters maintain an ability to cognitively function at all times on the fireline, to constantly revisit and update past decisions in order to maximize the decision space in which they can operate. But what exactly is decision space, and how do you obtain it?

Decision space is the amount of space or number of options with which you have to make a decision. This space is minimally

defined by circumstance, and maximized by the scope, depth and integrity of the analysis supporting the decision. Generally, the better (and more proactive) the analysis, the greater the number of options available. The first step in recognizing the amount of decision space you have, is to determine where your starting point is. To graphically present this, refer to Figure 3.

Intuitively, it should be obvious that the preferred location within the square would be down in the lower, left hand corner. As you move up or to the right, the situation steadily worsens. But the critical point on the chart is the upper right hand corner. This is the place where the fewest options exist. It stands to reason that by plotting your fire within the square, the distance remaining between your plotted fire and the upper right hand corner of the square is an indication of the amount of decision space you have allocated for your particular suppression operation. This does not have to be done empirically, nor should it be. *It is merely a graphic representation of the mental processes which should be at work long before a booted foot hits ever hits the fireline.* Ideally, we should strive to keep our suppression actions as close to the lower left-hand corner of the square as possible.

But merely plotting the fire (mentally or otherwise) upon the Interactions Chart is not enough to preserve or guarantee decision space. Like fire complexity, decision space is not fixed in any one place or time. To maintain a certain distance from disaster, firefighters must have an awareness of the environment and

Interactions Chart: Wildfire Decision Space*

*Adapted from: Perrow, 1984: pp. 97

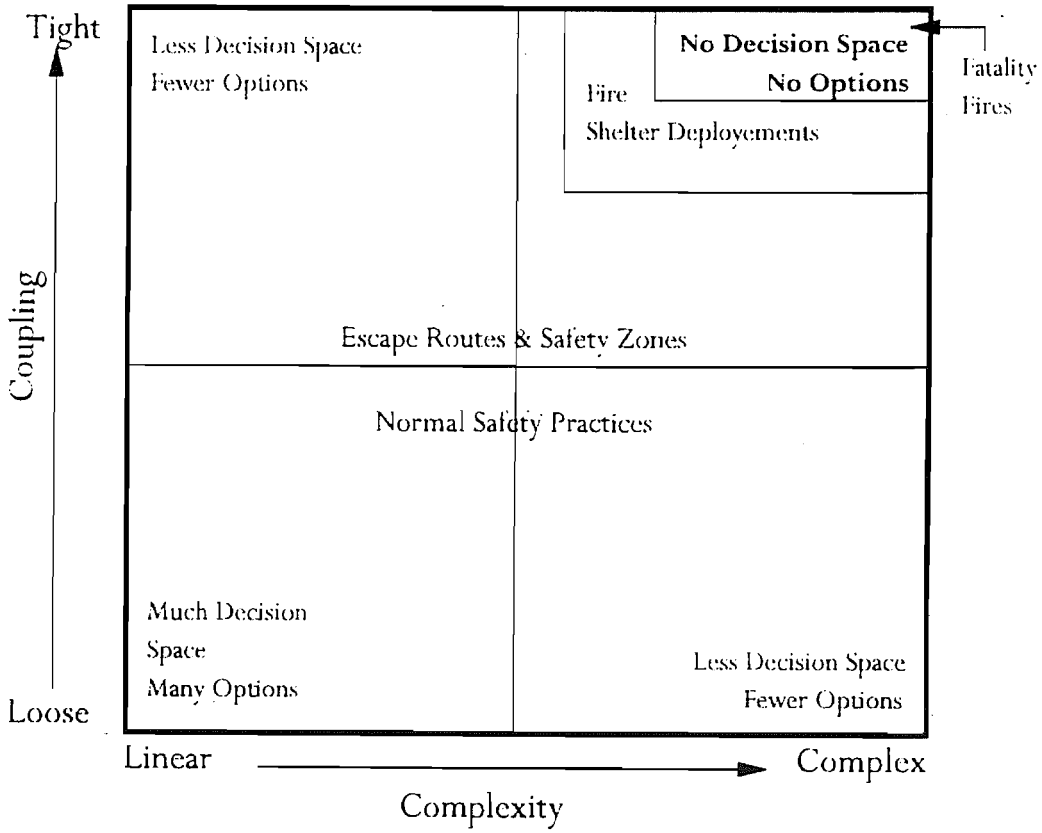


Figure 3.

themselves, and must constantly evaluate all the factors involved in maintaining decision space. Think of this in terms of a line composed of many segments, drawn from the point at which the fire is plotted on the Interactions Chart to the upper right-hand corner. Each segment of the line represents a different factor which has some bearing on the ability of a firefighter to perform safely: physical and emotional well-being, training, experience, knowledge of the existing fire environment, and so on. All of these factors work together to keep uncertainty at bay. But the nature of each line segment is by no means static. Each has the ability to lengthen, shorten, or disappear altogether, depending upon its applicability in the existing environment. For instance, knowing that fire runs rapidly through dry grass gives a certain length to the segment assigned to fire behavior. Knowing the grass will be driest at 2 p.m., just prior to high winds hitting the fire, gives considerably more length to the segment. It is the sum of the length of all the segments which defines the decision space in which the firefighter functions. The greater the length of the overall line, the more decision space that is available. More importantly, it is the perception that a segment exists when in fact it does not, that rapidly narrows the available decision space and leads to potential disaster.

One of the advantages humans have managed to maintain (so far) over machines is our inherent ability to observe, analyze, formulate and adapt to ever changing situations. Imagination and creativity have allowed us to survive as a species in a multiplicity of environmental conditions, from the depths of the oceans to the vacuum of space. It is this same imagination and creativity that gives us tremendous flexibility in ever changing environments, such as those that are encountered on the fireline. No decision is permanent because it was made at a single point in time, under a single set of circumstances. With the passage of time, situations change. It is for this reason that Escaped Fire Situation Analyses and burn plans for Prescribed Natural Fires are revalidated on a daily basis — to make sure that the decision that was originally made is still the correct one. The firefighter on the line must do the same thing with every critical decision that is made through the course of a day. This does not need to be a laborious, over-analysis of trivial details, or a constant fretting over making the "right" decision. It does require the cognitive ability to recognize change, the imagination to envision the potential effects of change, and the intellect and courage to respond in an appropriate manner. By staying heads up, by revisiting decisions, by recognizing, communicating and acting upon details, we oversee the dynamics of each of our particular line segments, and will be capable of understanding how near or far disaster may be looming. It is through this sort of analysis that decision space is maintained.

There is no single how-to method for fighting fire in the wildland. It would be a mistake to assume that there is an overarching, one-size-fits-all method of safety and accident prevention. To say that things will be done "by the book" is not enough to insure a safe operation, because a new page is written for the book after each tragedy occurs. Safety rules and technology, while helpful, are static over the short term and cannot respond effectively to situations which are outside their scope. It is individual human intellect, and the ability to adapt, to be flexible and respond to change at a moment's notice, that will ultimately pay off in the short and the long term. It is the human factor which allows us to operate "outside" of the machine, outside the technological framework which is so susceptible to the normalization of risk and runaway accidents.

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A Method for Evaluating the Effectiveness of Firefighter Escape Routes

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Abstract. A general method of comparing escape route effectiveness in any terrain using any fire prediction method is presented. Information gathered from the South Canyon fire that burned in Western Colorado during July, 1994 and the Mann Gulch Fire that burned in central Montana during August, 1949 is used to estimate the average rate of travel of firefighters over rough terrain. This information is compared against predicted fire spread rates to gauge escape route effectiveness as a function of terrain slope, wind speed and fuel type. Type I, II and III track driven tractor travel rates are include in the analysis. It is intended that this analysis be used by firefighting crews to evaluate safety zone effectiveness for their specific situations. It is also envisioned that the method could be used by fire operations specialists to assess relative risk associated with alternate firefighting tactical options.

Introduction

The firefighting community is reminded of the importance of selecting adequate safety zones and escape routes all too often. Tragically, this reminder frequently happens due to the injury or death of fellow firefighters. Recently a relatively simple rule for estimating the size of safety zones was presented (Butler and Cohen 1998). The rule-of-thumb stated that the safety zone radius be at least 4 times the maximum observed or expected flame height. Unfortunately it may not be possible to find or build safety zones that are large enough and easily accessible from every location along a fireline. If firefighters do not carry the black with them, it is possible that they will be working some distance from their designated safety zone. It then becomes even more critical that they evaluate the effectiveness of their escape route relative to potential fire behavior.

In the course of completing a fire behavior case study of the South Canyon Fire (Butler and others, 1999) it became apparent to the authors that very little if any information existed for objectively evaluating firefighter escape route effectiveness. Beighley (1995) discussed the necessity for evaluating our personal "risk thresholds" in the context of the safety margins. He introduced the concept of "Safety Margins" and defines them as the difference between the time it takes a firefighter to reach a safety zone and the time it takes the fire to reach the same safety zone. A positive safety margin implies that the firefighter can reach the safety zone before being overrun by the fire, a negative safety margin implies that the fire catches the firefighter before he reaches the safety zone. Beighley's "safety Margin" seems to provide an appropriate framework in which escape route effectiveness can be assessed. This study presents a method that could be used to quantify escape route effectiveness. The study consists of two parts. In the first part presents a method and the data used to quantify that rate at which firefighters travel over rough terrain. The second part presents a method for evaluating safety zone effectiveness using firefighter travel rate data and fire spread rate information. It is hoped that the analysis method described herein can be used by firefighting crews to evaluate safety zone effectiveness for their specific situations. It is also envisioned that the method could be used by fire operations specialists to assess relative risk associated with alternate firefighting tactical options.

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Part I-Firefighter Travel Rates

In the following, two fire case studies are evaluated to obtain information on the rates at which firefighters can travel over rough terrain.

South Canyon Fire July 6, 1994

The following information was taken from the South Canyon fire behavior case study (Butler and others, 1998).

Lightning ignited the South Canyon Fire on a ridge on the afternoon of July 2, 1994. For the next 48 hours, the fire burned downslope in the leaves, twigs, and cured grasses covering the ground surface. By 1200 hours on July 4 the fire had burned approximately 3 acres. It continued to spread downslope, covering approximately 50 acres by the end of July 5. Fire activity consisted of low intensity downslope spread with intermittent flare-ups and short duration upslope runs in the fire's interior. The fire covered approximately 127 acres by morning on July 6.

On July 6 the fire continued to burn downslope through the surface fuels. At approximately 1520 hours a dry cold front passed over the area. Winds in the bottom of the canyon below the fire were estimated to be from the south (upcanyon) at 30 to 45 miles per hour. About 1555 hours several upslope fire runs occurred in the grass and conifers on a west-facing slope near the southwest corner of the fire's interior. Shortly after the crown fire runs, witnesses observed fire near the canyon bottom, directly west down the slope from the ridge where the fire had started. Pushed by the upcanyon windsthe fire in the drainage spread rapidly north. As this fire spread north and east, fuel, slope, and wind conditions combined to cause sustained fire spread through the live green Gambel oak canopy. The fire began burning as a high-intensity fast-moving continuous front. Steep slopes and strong west winds triggered frequent upslope (eastward) fire runs toward the top of the ridge. A short time later the fire overran and killed 14 firefighters. Figure 1 shows the west flank of Hellsgate Ridge, where the 14 firefighters were trapped and died. The firefighters were

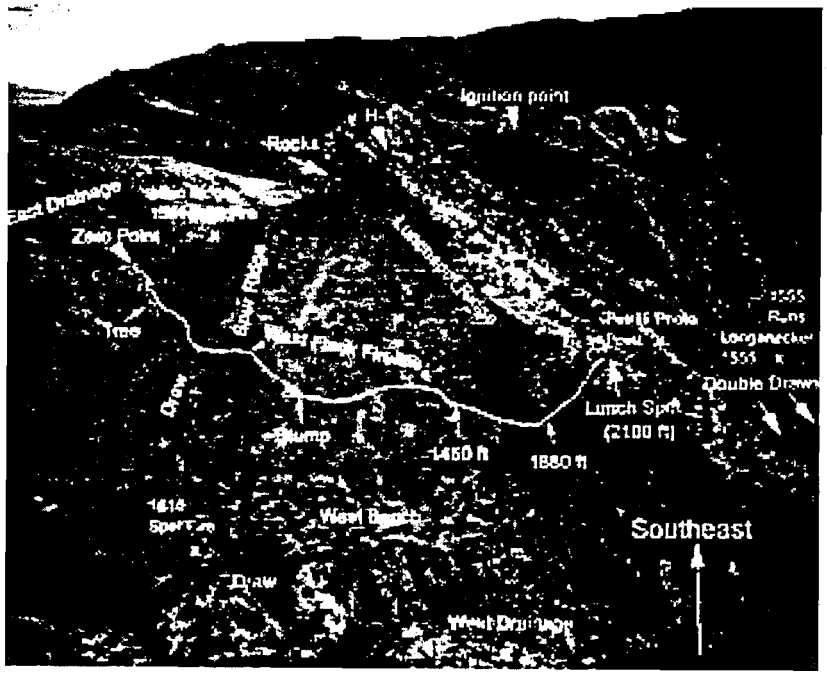


Figure 1—Photograph of South Canyon Fire site (taken by J. Kautz USFS).

trapped in two separate groups. Twelve were caught hiking up the fireline to the designated safety zone (fig. 1). The 2 other firefighters were caught and died while trying to reach a rocky outcropping. In both cases the firefighters were not able to reach their safety zones before the fire caught them.

By 1607 all of the crews were moving toward their safety zones. The west flank fireline led diagonally off the top of a ridge to the southwest, down and across a west facing slope. 13 firefighters had been working on the lower portion of the line, when the decision was made to go to safety zones, they began hiking up the fireline toward the ridge top. The 13 firefighters on the fireline along the west flank of the fire were about 850 ft down the fireline. The trail they were hiking up varied from nearly flat to about a 20 percent slope. Their rate of travel was approximately 2.3 to 5.7 ft/s (1.5 to 3.9 mi/h) over the rough but relatively flat portions of the fireline they were using as an escape route. The fire was about 1300 ft southwest of the crew and was spreading at 3 to 7 ft/s (2 to 4.8 mi/h). The crew hiked over a few short but steeper sections (10 to 30 percent uphill slopes) where their rate of travel decreased to 2 to 4 ft/s (1.4 to 2.8 mi/h). Shortly after 1610 they started up the last steep pitch in the fireline (30 to 50 percent slope) their rate of travel decreased further to between 1 and 3 ft/s (0.7 to 2 mi/h). The fire was now 500 to 700 ft below them and was spreading at 6 to 8 ft/s (4 to 5.4 mi/h). A separate group of two helitack crewman traveled as fast as 6.9 ft/s (4.7 mi/h) over the approximately flat terrain near the top of the ridge.

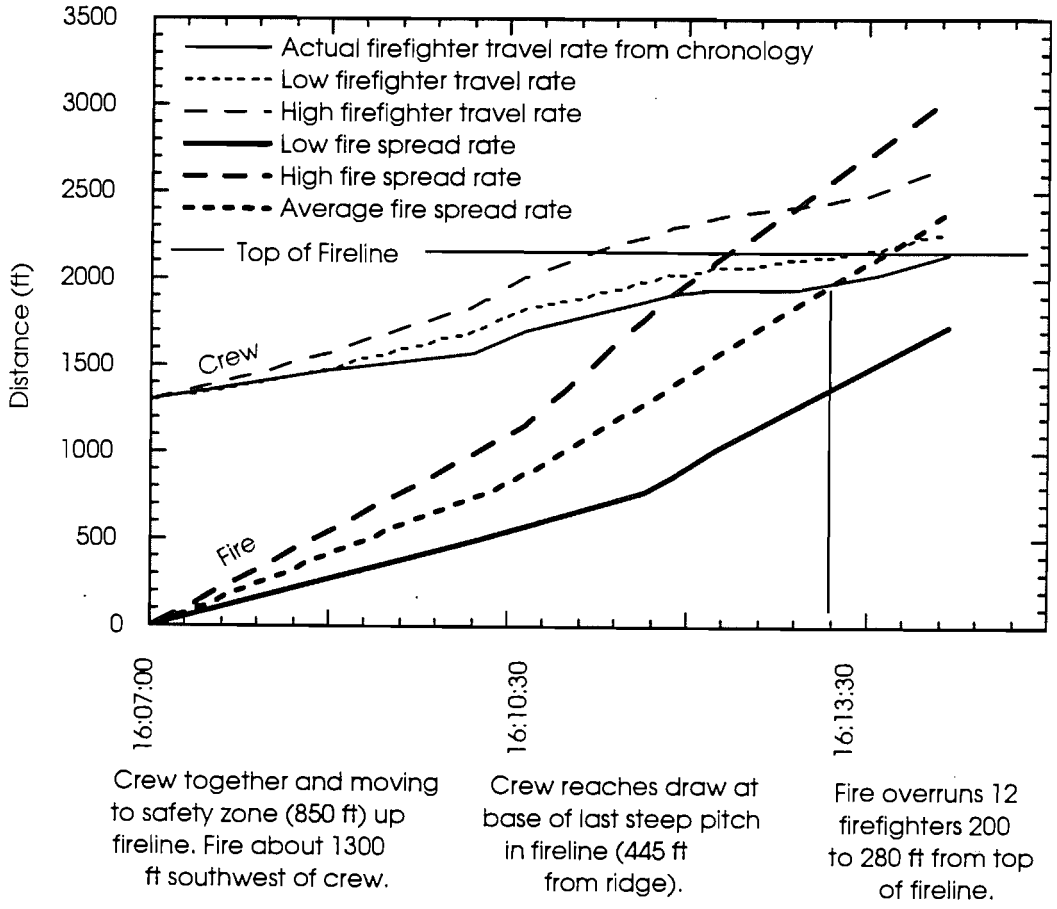


Figure 2--Fire spread rates and firefighter travel rates during blowup of South Canyon Fire(adapted from Butler and others, 1998).

At approximately 1613 the fire caught 12 of the 13 firefighters hiking up the fireline. One firefighter made it to the top. Two other firefighters died while attempting to deploy their fire shelters in a narrow draw.

Figure 2 shows the fire spread and firefighter travel rates during the afternoon of July 6, 1994. The 13 firefighters hiking up the fireline were moving uphill. Some sections of the trail exceeded 50 percent slope. The rates at which Type-1 firefighters can move over rough terrain are known (Sharkey 1994) and depend in large part on slope steepness. Firefighter travel rates over the fireline shown in figure 1 varied from as high as 5.4 ft/s on the nearly flat sections to as low as 1.0 ft/s on the 55 percent slopes. These were estimated from physiological factors and verified by actually retracing the crew's movements.

Mann Gulch Fire August 5, 1949

The following is a short summary of chronology and events that occurred on the Mann Gulch fire (Rothermel 1993).

The Mann Gulch fire started near the top of a ridge between Mann gulch and Meriwether Canyon approximately 20 miles north of Helena, Montana. Mann Gulch is a funnel shaped canyon, the narrow portion near the Missouri River is about one quarter mile wide. Vegetation on the south facing slope (located on the north side of Mann Gulch) was mature 60 to 100 year old ponderosa pine. The north facing slope was covered with 15 to 50 year old Douglas-fir, ponderosa pine, and juniper. Along the river was a stand of 60 to 80+ year old Douglas-fir. The lower portion of the canyon was covered with substantial shrub undergrowth which gave way to scattered timber and grass in the drier areas farther up the canyon. A crew of smokejumpers were dispatched to the fire and arrived on the site at about 1610. The jump plane encountered heavy turbulence at normal drop altitude and was forced to climb before dropping the crew's gear. After assembling their gear the crew started hiking down the canyon toward the river. Winds at this time were blowing up the canyon at 20 to 30 mi/hr with gusts to 40 mi/hr. Spot fires burning in the heavy timber and brush understory near the mouth of the canyon caused the crew to turn back up the canyon at approximately 1745. The spot fires developed into a crown fire that began spreading up the hill at 1.2 to 2 ft/s. The slope at the point were the crew turned back up the canyon was about 44 percent. As the fire burned into the less dense timber and grass its rate of spread increased to 3 to 4.4 ft/s. The crew were following a route that led uphill and across the slope at an average grade of 18 percent. They did not have a trail to follow and were hiking over broken and loose rock. Air temperatures were at least 97°F, possibly hotter. Their average rate of travel was 3 ft/s. Realizing they were in trouble, at approximately 1753 the crew dropped their tools. The fire was 75 to 100 yd down the slope below them. At 1755 Dodge (the crew foreman) lit an escape fire, the rest of the crew continued up the slope.

Estimates based on witness statements and fire behavior calculations indicate that from this point the crew traveled as fast as 6.5 ft/s. The four crew members that covered the most distance may have traveled nearly 7.5 ft/s, an amazingly fast travel rate (the equivalent of an 8 or 9 minute mile) over rough terrain up a 20 percent or greater slope. The fire caught and killed all but three of the firefighters within a couple of minutes after burning past the foreman who had lain down in the middle of the burned area left by his escape fire. Figure 3 is adapted from Rothermel (1993) and presents the fire progression and firefighter movements in a form similar to that shown in figure 2.

Discussion

These are just two examples of situations wherein safety margins proved inadequate. Several similarities exist between these two fires. In both cases relatively intense and fast moving fire developed downslope below the firefighters. These fires began burning up the slope under the influence of upslope winds. Both groups attempted to exit the area over rough trails and terrain. Both escape routes led uphill.

The 13 firefighters on the west flank of the South Canyon Fire traveled at an

average rate of 4 ft/s (2.7 mi/h) over the rough but relatively flat portions of the fireline they were using as an escape route. Their average rate of travel decreased to 3 ft/s (2 mi/h) on the 10 to 30 percent uphill slopes and 2 ft/s (1.4 mi/h) on the even steeper (30 to 50 percent) slopes.

The smokejumper crew on the Mann Gulch Fire traveled across and up the slope (Rothermel estimates that their route followed about a 20 percent uphill rise across the slope) at a rate of 2.8 ft/s (2 mi/h). At the point where the crew dropped their tools and probably realized that they were in trouble, their rate of travel increased to between 6 and 8 ft/s (4 to 5.6 mi/h). While this last rate is possible for a short period of time it is probably not sustainable by most firefighters for any significant distance when traveling uphill over rough terrain.

These two cases suggest that average sustainable travel rates for firefighters over rough but flat terrain average about 4.4 ft/s (3 mi/h) with faster rates as high as 7 ft/s (about 5 mi/h) given stable footing. As the slope steepens the firefighter's rate of travel decreases proportionally. For a relatively low slope (i.e. 10 to 20 percent) an average rate of travel is 3 ft/s (2 mi/h). The average sustainable rate decreases to 2 ft/s (1.4 mi/h) when the slope is 20 to 40 percent. For steep conditions (slopes of 40 percent or greater) the information presented in this study indicates that firefighter travel rates will be 1 ft/s or less.

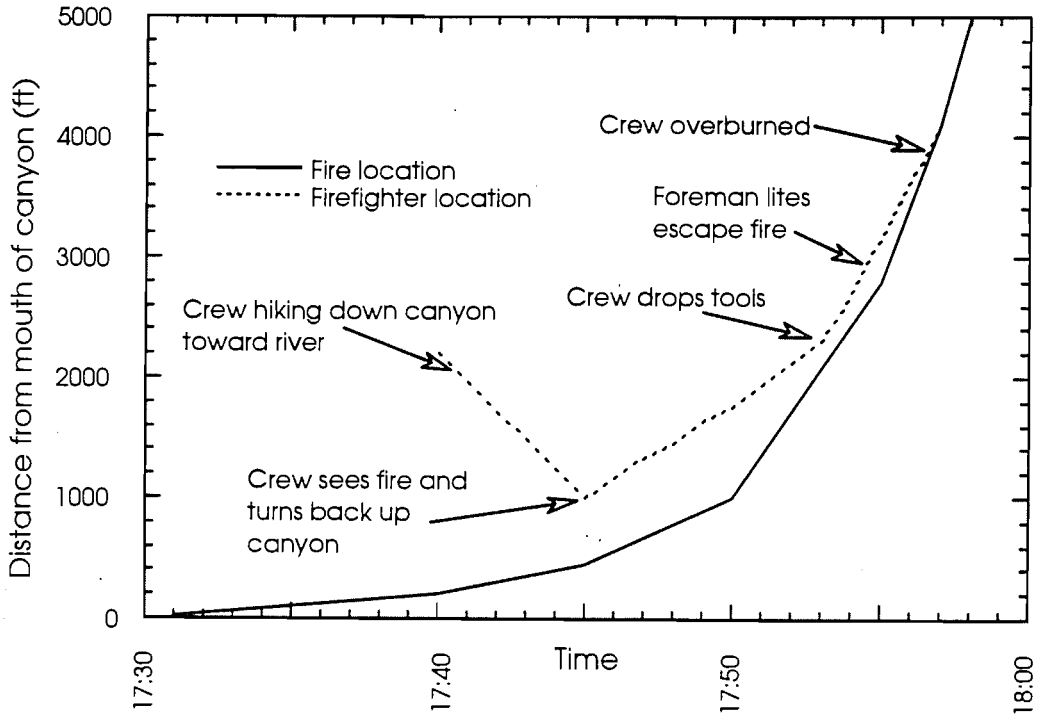


Figure 3--Firefighter movement and fire movement and location on the Mann Gulch Fire (adapted from Rothermel 1993).

Part II-Escape Route Effectiveness

The second part of this study compares the firefighter travel rate information obtained from Part I against fire spread rates. These comparisons are used to assess the conditions that may lead to negative Safety Margins. The analysis is applied to two sets of conditions, the first set may be considered moderate summer

burning conditions, the second set is more characteristic of extreme drought in the western United States. The analyses are shown graphically in figures 4A-D and 5A-D.

Bulldozers are used on many fires to build firelines. Past firefighter entrapments have occurred when bulldozer operators were not able to outrun the fire. The speed at which type I, II and III bulldozers can travel over terrain has been documented (Fireline Handbook 1960 and 1969; Phillips, George and Nelson 1988; and Linane 2000a). In addition to comparing firefighter travel rates against predicted fire spread rates, Figures 4 and 5 include bulldozer travel rates as a function of slope.

For this study fire spread rates were calculated using the BEHAVE fire prediction system (Andrews 1986). Other systems could be used. We calculated fire spread rates for each of the thirteen standard fuel models over a range of slopes, wind speeds, and two different sets of fuel moisture values. It is assumed that the fire and firefighter are equidistant from the safety zone.

Moderate Burning Conditions

The first comparison was made for what may be considered moderate summer burning conditions: 0, 10, 20, and 30 mi/h (measured 20 ft above vegetation level) upslope wind speeds (midflame winds are also shown on the graphs), 8, 9, 10 percent for the 1, 10 and 100 hour dead fuel moisture contents respectively, and a live fuel moisture content of 100 percent. The process was repeated four times, once each for slopes of 0, 20, 40 and 60 percent. The thirteen models were separated into three categories: grass, shrub, and timber/slash. Figure 4 presents the fastest upslope fire spread rate from each fuel category at each upslope wind speed and the average firefighter travel rates as a function of slope. We also calculated the rates of spread for crown fires based on the model presented by Rothermel (1991).

Safety margins were defined earlier. Using the information shown in figures 4A-D it is possible to evaluate safety margins for each of the four fuel categories over a range of wind speeds and slopes.

Grass: Figure 4A compares fire spread rates in grass fuels. The data suggest that for fires spreading on flat terrain (slope < 10 percent) or downslope in grass under the influence of winds blowing less than 22 mi/h the Safety margin is positive for firefighters. When the fire is burning over moderate slopes (20 to 40 percent) and the firefighters must exit uphill a positive Safety Margin occurs only for fires subjected to winds blowing less than 15 mi/h. In the case of fires burning up steep slopes and uphill escape routes a positive Safety Margin occurs only for very low (less than 5 mi/h) or calm winds. At slopes less than 40 percent, bulldozers can travel much faster than firefighters. The data shown in figure 4A indicate that safety margins for bulldozers moving over flat terrain in grassy fuels are positive in winds of 30 to 40 mi/h. As the slopes increase to 40 percent or more the conclusions are the same as presented in the preceding paragraph.

Shrubs: Figure 4B suggests that for fires burning in shrub fuels over flat terrain (slope > 10 percent) positive safety margins occur only when the wind speeds are less than 15 mi/h. For moderate slope, uphill fire spread, and uphill escape routes positive safety margins occur only when the wind is less than about 10 mi/h. If the fire is spreading up steep slopes the safety margin positive only for low or calm winds.

Slash/timber surface fire : When the fire is burning in the surface fuels beneath timber or in slash figure 4C suggests that a positive safety margin is possible on slopes up to 60 percent and winds up to 30 mi/h.

Crown Fire: Figure 4D presents the predictions for crown fires burning in summer drought conditions. When the fire is burning over flat terrain a positive safety margin occurs only for winds less than 25 mi/h. When the fire is spreading up moderate slopes a positive safety margin occurs for winds less than 15 mi/h. If the fire is spreading up steep slopes the safety margin is negative for all but low or calm winds. When the escape route and fire are upslope in steep terrain (40 to 60 percent) the safety margin is negative even under calm conditions.

Type I and II bulldozers traveling over terrain with slopes less than 10 percent will travel faster than the fire as long as the winds are less than 30 mi/h. Type I dozers move slower and winds must be less than 25 mi/h to achieve a positive safety margin. When traveling over slopes of 20 to 40 percent the safety margin is positive only if winds are less than 10 mi/h.

Table 1 presents these data in tabular form. The shaded cells represent the conditions at which the fire's rate of spread exceeds the expected firefighter travel rate.

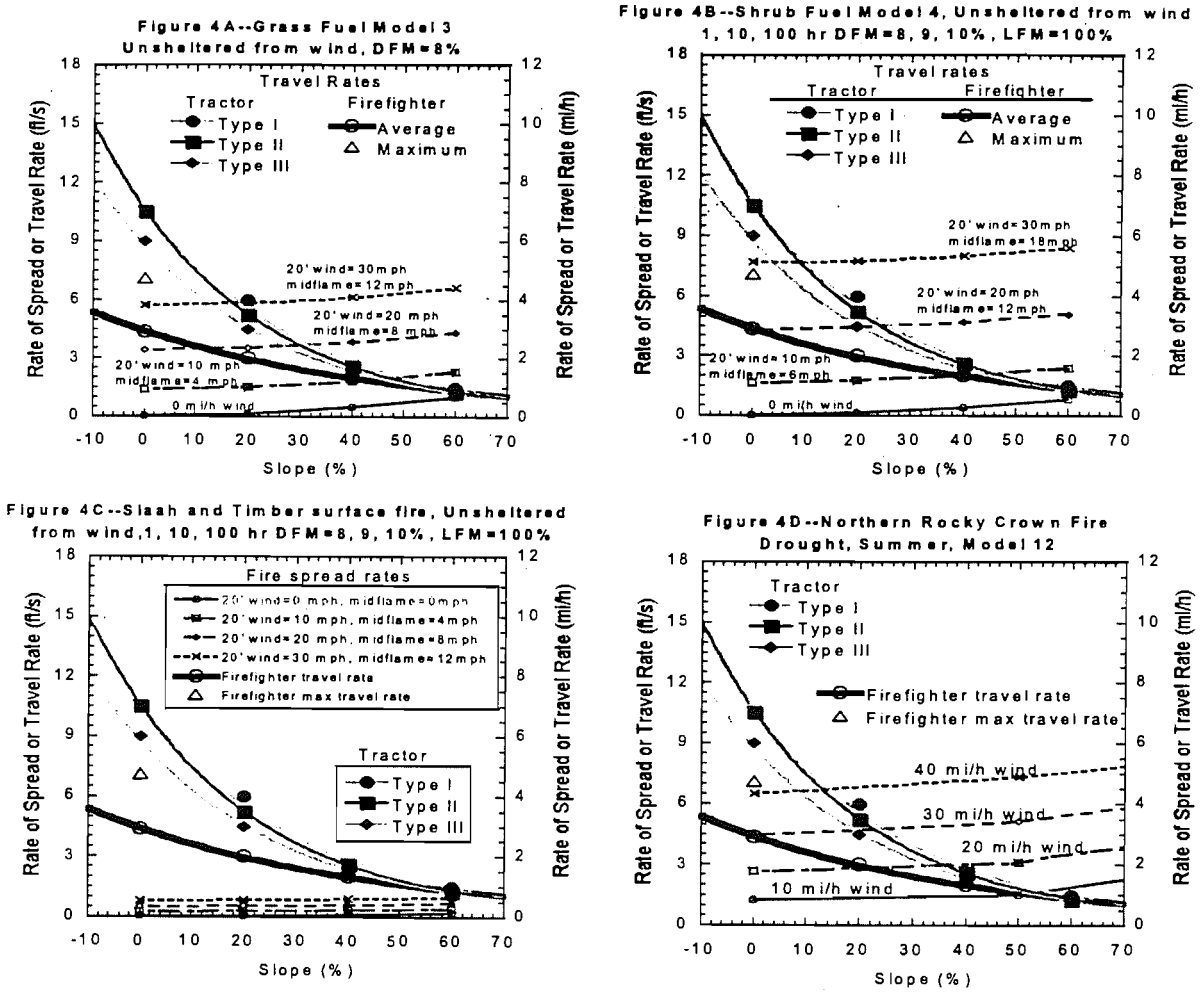


Figure 4--Exponential fits to the average firefighter travel rates derived from the South Canyon and Mann Gulch Fire case studies are shown by the heavy black lines. Maximum uphill fire spread rates obtained from the BEHAVE fire modeling system for various wind speeds are shown by the data points on the narrow lines (winds measured at 20 feet and midflame are shown). The fuel types were grouped into five categories, the grass fuels (4A), the shrub fuels (4B), the slash fuels (4C), the timber understory fuels (4C), and the crown fire fuels (4D). The slash and timber understory fuel fire spread rates were nearly identical and thus were lumped together in figure 4C. The maximum firefighter travel rate (depicted by the triangular symbol) was taken from the Mann Gulch case study. Dead fuel moisture contents (1, 10, 100 hour time lag fuels) for the calculations were 8, 9, and 10 percent respectively and live fuel moisture content was 100 percent. Crown fire calculations were made assuming drought summer conditions.

Severe Burning Conditions

A second set of fire spread calculations were conducted assuming fuel moistures that more closely resemble severe drought late summer burning conditions in the southwestern United States (Linane, 2000b). Fine dead fuel moisture contents of 4, 5, and 6 percent (1, 10, 100 hr time lag fuels respectively) and live fuel moisture content of 50 percent were used. Figure 5 presents the fastest upslope fire spread rate from each fuel category at each upslope wind speed and the average firefighter travel rates as a function of slope. We also calculated the rates of spread for crown fires, assuming severe drought late summer conditions (Rothermel 1991). Table 2 presents these results in tabular form.

Grass: Fire spread rates for the grass and shrub fuels were 50 to 80 percent faster than those for the moderate fuel moisture conditions. The data (see fig. 5A) indicate that for fires burning downslope or over flat terrain (0 to10 percent) in grassy fuels a positive safety margin exists only when the winds (measured 20 ft above the vegetation) are less than about 18 mi/h. As the slope increases to 20 percent a positive safety margin occurs only when the winds are less than about 12 mi/h. When burning up moderate slopes (20 to 40 percent) the safety margin is positive only when the winds are less than about 5 mi/h.

Table 1-Firefighter Travel Rate versus Fire Spread Rate for Dry Conditions

Slope (%)	FF Rate of Travel (ft/s)	Wind speed (mi/h)	Fire spread rate, Flame length, Safety zone minimum size											
			Grass[1]			Shrubs[2]			Crown Fire[3]			Surface Fire Beneath Tree Canopies[4]		
		20'	R/S (ft/s)	FL (ft)	SZ (ft)	R/S (ft/s)	FL (ft)	SZ (ft)	R/S (ft/s)	FL (ft)	SZ (ft)	R/S (ft/s)	FL (ft)	SZ (ft)
Flat (0)	4	0	.07	3	12	.07	5	20	.1	10	40	.03	4	16
		10	1.4	11	44	1.6	21	84	1.3	70	280	.2	10	40
		20	3	16	16	4	33	132	3	145	580	.5	14	52
		30	6	20	80	8	42	168	5	220	880	.8	17	68
Low (10-20)	3	0	.1	4	16	.1	7	28	.2	20	80	.05	5	20
		10	1.5	11	44	1.7	21	84	1.4	75	300	.2	10	40
		20	4	16	64	4	33	132	4	150	600	.5	14	52
		30	6	21	84	8	42	168	5	225	900	.8	17	68
Moderate (20-40)	2	0	.4	7	28	.3	11	44	.2	25	100	.1	6	24
		10	1.8	12	48	1.9	23	92	1.7	80	320	.3	11	44
		20	4	17	68	5	34	136	4	160	640	.6	14	56
		30	6	21	84	8	43	172	6	235	940	.8	17	68
Steep (40-60)	1	0	.9	9	36	.7	15	60	1.1	55	220	.2	9	36
		10	2	13	52	2	28	112	2	100	400	.4	12	48
		20	4	18	76	5	35	140	4	175	700	.6	15	60
		30	7	22	88	8	44	176	6	250	1000	.9	18	72

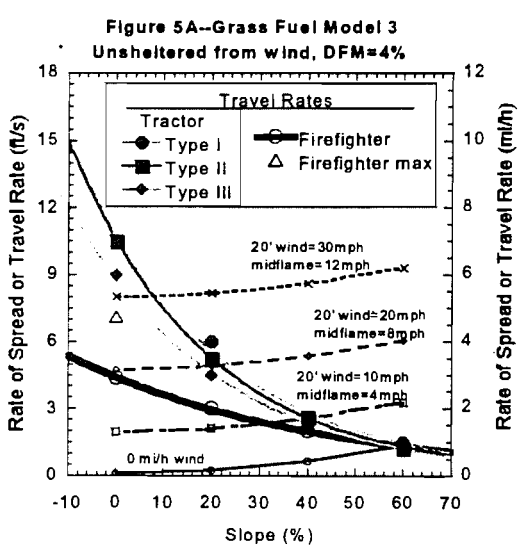
SAFETY MARGIN= (FIREFIGHTER TRAVEL RATE) - (FIRE RATE OF SPREAD)

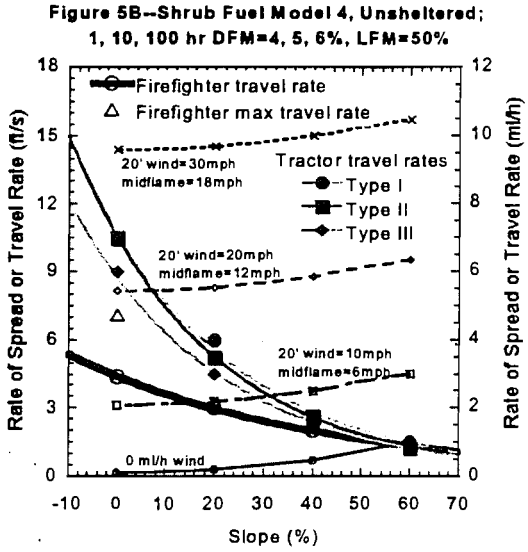
Shaded areas represent a negative safety margin.

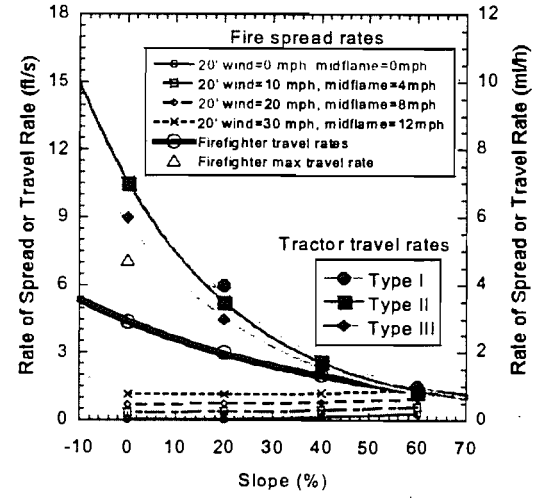
*Conditions are as follows: 1, 10, and 100 hour dead fuel moisture content=8, 9, 10%. Live fuel moisture content= 100%. For the Crown Fire Modeling late summer severe drought characteristics were used. The models that produced the most severe conditions are used. R-S is fire rate of spread, F-L is calculated flame length, SZ is safety zone radius.

[1]Fuel Model 3; [2]Fuel Model 4; [3]Fuel Model 12 and maximum rate of spread; [4]Fuel Model

Shrubs: The data for shrub type fuels are shown in figure 5B. These conditions and fuel type resulted in the highest overall fire spread rates. The data suggest that when the fire is burning over flat terrain the safety margin is positive only if the winds are less than approximately 12 mi/h. If the fire and escape route follow an uphill slope of 10 to 20 percent the safety margin is positive only for winds less than 8 mi/h. For fires and uphill escape routes on moderate slopes (20 to 40 percent) the safety margin is positive only if the winds are less than 4 mi/h. And if the fire and uphill escape route are on a steep slope (40 to 60 percent) the safety margin is negative even in calm winds.







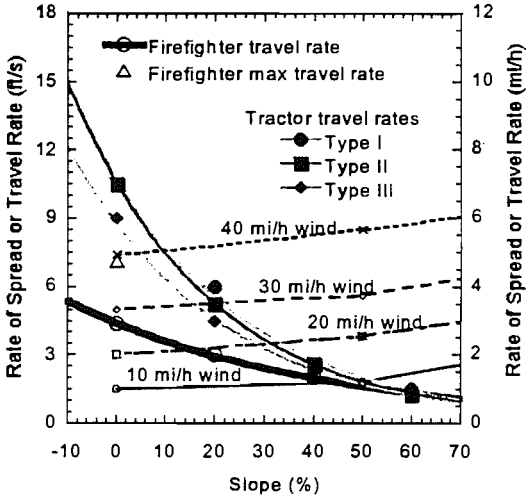


Figure 5--Exponential fits to the average firefighter travel rates derived from the South Canyon and Mann Gulch Fire case studies are shown by the heavy black lines. Maximum uphill fire spread rates obtained from the BEHAVE fire modeling system for various wind speeds (measured 20 feet above the vegetation and also at mid flame) are shown by the data points on the narrow lines. The fuel types were grouped into five categories, the grass fuels (5A), the shrub fuels (5B), the slash fuels (5C), the timber understory fuels, and the crown fire fuels (5D). The slash and timber understory fuel fire spread rates were nearly identical and thus were lumped together in figure 5C. The maximum firefighter travel rate (depicted by the triangular symbol) was taken from the Mann Gulch case study. Dead fuel moisture contents (1, 10, 100 hour time lag fuels) for the calculations were 4, 5, and 6 percent respectively and live fuel moisture content was 50 percent. Crown fire calculations were made assuming late summer severe drought conditions.

Positive safety margins for type I and II bulldozers on flat terrain are achieved only when winds are less than about 20 mi/h. At 40 percent slope the safety margin is positive only if winds are less than 5 mi/h. Even in calm winds the safety margin is negative at slopes greater than 55 percent.

Table 2-Firefighter Travel Rate versus Fire Spread Rate for Severe Conditions

Slope (%)	FF Rate of Travel (ft/s)	Wind speed (mi/h) 20'	Fire spread rate, Flame length, Safety zone minimum size											
			Grass[1]			Shrubs[2]			Crown Fire[3]			Surface Fire Beneath Tree Canopies[4]		
			R/S (ft/s)	FL (ft)	SZ (ft)	R/S (ft/s)	FL (ft)	SZ (ft)	R/S (ft/s)	FL (ft)	SZ (ft)	R/S (ft/s)	FL (ft)	SZ (ft)
Flat (0)	4	0	0.1	3	12	0.1	7	28	0.1	10	40	0.04	5	20
		10	2	14	56	3	31	124	1.3	70	280	0.4	12	48
		20	5	20	80	8	48	192	3	145	580	0.7	17	68
		30	8	26	104	14	62	248	5	220	880	1	21	84
Low (10-20)	3	0	0.2	5	20	0.3	10	40	.2	20	80	0.1	6	24
		10	2	14	56	3	31	124	1.5	75	300	0.4	13	52
		20	5	21	84	8	48	192	4	150	600	0.8	17	68
		30	8	26	104	15	62	248	5	225	900	1	21	84
Moderate (20-40)	2	0	0.7	8	32	0.7	16	64	.2	25	100	0.2	8	32
		10	3	15	60	4	33	132	2	80	320	0.5	14	56
		20	5	21	84	9	49	196	4	160	640	0.8	18	72
		30	9	27	108	15	63	252	6	235	540	1	22	88
Steep (40-60)	1	0	1.4	12	48	1.5	22	88	1.1	55	220	.3	11	44
		10	3	17	68	4	36	144	2	100	400	0.6	15	60
		20	6	23	92	9	51	204	5	175	700	1	19	76
		30	9	28	112	16	65	260	6	250	1000	1	23	92

SAFETY MARGIN= (FIREFIGHTER TRAVEL RATE) - (FIRE RATE OF SPREAD)

Shaded areas represent a negative safety margin. Conditions are as follows: 1, 10, and 100 hour dead fuel moisture content=4, 5, 6%. Live fuel moisture content=50%. For the crown fire modeling late summer severe drought characteristics were used. R-S is fire rate of spread, F-L is calculated flame length, SZ is minimum safety zone separation distance. [1]Fuel Model 3; [2]Fuel Model 4; [3]Fuel Model 12 and maximum rate of spread; [4]Fuel Model

Slash and timber surface fire: When slash and timber fuels are burning in severe drought conditions (fig 5C) the safety margins are positive for winds up to 30 mi/h and slopes less than 50 percent.

Crown Fires: Figure 5D presents the calculations and data for crown fires. The fire spread calculations from Rothermel's (1991) model and were made assuming late summer severe drought conditions. These data suggest that when the fire is spreading over relatively flat terrain the safety margin is positive as long as the winds pushing the fire are less than 25 mi/h. However as the slope increases to 30 percent, winds of 15 mi/h can result in negative safety margins. For slopes greater than 40 percent the safety margin should be considered negative even in low or calm winds.

For flat terrain, type I and II bulldozers maintain a positive safety margin if the winds are less than 40 mi/h. A positive safety margin for type III dozers requires winds to be less than 35 mi/h. Similar information at other slopes can be derived by examining the data present in figure.

Summary

Certainly many cases could be found that illustrate, often with tragic consequences, instances wherein firefighter safety margins were inadequate. Often the failure can be attributed to unexpected and rapid changes in fire behavior. Unfortunately, as Beighley (1995) states "firefighter's risk thresholds .... always have a degree of uncertainty because of inadequate or deteriorating information." This short analysis illustrates the fact that firefighters slow down while moving uphill and fires speed up. But the larger and more important issue is that the method demonstrated never provides a objective vehicle for assessing firefighter risk.

Appendix A contains a blank table similar to Tables 1 and 2. It is expected that firefighter crews could use information gathered from personal observations, Fire Behavior Analysts, or observations by others who have worked in similar fuels and conditions, to estimate fire spread rates in the different fuels that might be encountered as a function of slope, fuel moisture content, and wind speed. Once the fire spread rate information is completed and the crew has established that the firefighter travel rates are representative of their capabilities the table could be used to evaluate safety zone and escape route effectiveness with respect to potential fire behavior over a given burning period. It is anticipated that the method described herein could also be used by Fire Incident Management Teams when completing form 215A to evaluate the effectiveness of alternative safety zone and escape route options.

This study emphasizes the importance of firefighters constantly evaluating their position relative to that of the fire and the time that it would require them to reach their designated safety zone should the fire suddenly change direction and/or rate of spread. Methods of avoiding such situations are covered in the ten standard orders, the eighteen watchout situations, and LCES (Lookouts, Communications, Escape Routes, and Safety Zones Recognizing and predicting when threatening fire behavior changes are more likely to occur can allow variations in rates of escape (i.e. escape route length). The more uncertain the understanding and knowledge of the potential fire behavior the greater the safety margin should be. The evaluation method presented above assumes that the fire and the firefighter are the same distance from the safety zone. It is hoped that in most cases the fire would be significantly farther from the safety zone than the firefighter, this would increase the cases wherein a positive safety margin occurs. However, in some situations the reverse could be true in which case there is greater possibility that safety margins would be negative.

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Appendix A—Escape Route Analysis Table

Slope (%)	Type 1 Firefighter Rate of Travel (ft/s)	20' Wind Speed (mi/hr)									
			Rate of Spread (ft/s)	Flame length (ft)	Minimum Safety Zone Size*	Rate of Spread (ft/s)	Flame length (ft)	Minimum Safety Zone Size*	Rate of Spread (ft/s)	Flame length (ft)	Minimum Safety Zone Size*
Flat (0)	4	0									
		10									
		20									
		30									
Low (10-20)	3	0									
		10									
		20									
		30									
Moderate (20-40)	2	0									
		10									
		20									
		30									
Steep (40-60)	1	0									
		10									
		20									
		30									

SAFETY MARGIN= (FIREFIGHTER TRAVEL RATE) - (FIRE RATE OF SPREAD)

*Safety zone size is the minimum recommended distance between a firefighter and a fire. (Safety zone size = 4 x the flame length or flame height)

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Fire Environment Size-up:

Human Limitations VS. Superhuman Expectations

by Jim Cook

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In August, 1994, an article appeared in The Missoulian newspaper that shook an already stunned wildland firefighting profession. In this article, Quentin Rhoades, a Forest Service smokejumper, stated that, at the highest skill levels in the wildland firefighting business (hotshots and smokejumpers), it is common practice to violate the "10 Standard Fire Orders." Reaction to this article was swift and furious, from the firefighter level to Washington offices. Many felt Rhoades' comments were just bravado from a macho fringe, while others agreed that the "10 Standard Fire Orders" did not always work in the real world.

My initial reaction was intense disagreement with Mr. Rhoades' opinion. I said that 10 years of experience, primarily initial attack on small fires, was not a valid experience base for him to make such a generalized statement. I recalled time spent more than 20 years ago memorizing the Fire Fighting Orders to recite to a Fire Control Officer during inspection time. I thought about my old yellow Fire Fighting Orders decal stuck inside my hardhat and felt it had held me in good stead during

my career. But slowly the thought built in the back of my mind that maybe Mr. Rhoades was one of the few willing to admit that the 'Emperor has no clothes.'

I still disagree with the underlying rationale of sacrificing safety guidelines for tactics to keep every fire small. The danger a fire poses to firefighters is not a function of fire size, rather it is a function of time and location that firefighters choose to engage the fire. But I do agree with Mr. Rhoades regarding the validity of using our current *10 Standard Fire Orders* and the *18 Watch Out Situations*.

In the months after the South Canyon Fire, I began to think carefully about how I applied the Fire Safety Guidelines on fire assignments: the *10 Fire Orders*, the *18 Watch Outs*, the *4 Common Denominators*, the *Downhill/Indirect Line Construction Guidelines*, and *LCES*. Did I use them all on each and every shift? Could I recall them from my long-term memory into working memory with non-stop radio chatter and a few spot fires distracting me? Were they organized in some manner that would help me use them in a procedural way? The answer to all these questions was NO!

Sometimes Tradition Lets Us Down

Questions like these encouraged me to analyze what firefighters really do to size-up an assignment when they walk onto the fireline. Examining my own size-up approach further made me realize how much of what is involved is intuitive. It took some time and thought to break down the steps that I use to size-up the fire environment and decide if a given assignment is safe. From the perspective of someone who values the traditions of this business, I found the results somewhat unnerving.

At the risk of being ostracized from the fire world, I have to say that the *10 and 18* as they are presently structured were not in my size-up approach. Was it because the *10 and 18* are so well embedded in memory that I don't even know when I am thinking about them? Maybe, but I doubt it. A more plausible explanation is that the overwhelming number of guidelines learned were mentally condensed into an essential schema that enable me to perform the task of fire environment size-up.

In the mid 1980's the *Standard Fire Fighting Orders* were converted into a mnemonic device and the *13 Situations That Shout Watch out!* were expanded and made into a checklist in order to encourage their use as job aids (National Wildfire Coordinating Group, 1987). However, the *10 Standard Fire Orders* and the *18 Watch Out Situations* that evolved both fail as job aids because they do not provide a concise, sequential guide for sizing up a fire assignment. They also fail in another very important way. The human mind can only comprehend seven, plus or minus two, concepts or inputs when engaged in a task. This is known as Miller's Law, and was determined during research done for the U.S. Army in the early 1950's by George A. Miller (1956). The *Fire Safety Guidelines*, as they are currently structured, exceed that limitation.

They also fail in another very important way. The human mind can only comprehend seven, plus or minus two, concepts or inputs when engaged in a task.

A quick overview of the various *Fire Safety Guidelines* reveals a tangle of nearly 50 directives that range from critical risk mitigation procedures to vague statements concerning attitudes and leadership. Let's look at a few examples:

- The *LCES* system (Gleason, 1991) is now a stand alone item. It covers three *Fire Orders* (6, 7, & 8) and three more *Watch Outs* (3, 7, & 12). Is this duplication necessary? Ask yourself which is easier to remember and apply?

- Three more *Fire Orders* (3, 4, & 5) tell you to gather information and instructions. If those are orders, why then are three *Watch Outs* (4, 5, & 6) needed to tell you to be wary if you don't gather information and instructions?

- One *Fire Order* (3) tells you to recognize weather conditions but no *Fire Orders* mention fuel or terrain conditions. Do you adequately assess the rest of the fire environment when you use the *Watch Outs* (14, 15, & 16) and the *Common Denominators* (2, 3, & 4)?

- The last two *Downhill/Indirect Guidelines* (8 & 9) simply tell you to use the *Fire Orders* and *Watch Outs*. Shouldn't they have been considered prior to using the *Downhill/Indirect Guidelines*?

- Providing for safety first, maintaining control, keeping calm, and acting decisively are all desirable traits (*Orders* 1, 9, & 10). But is it reasonable to expect a few brief sentences to be an effective method for imparting those traits to an individual? Are all the current guidelines truly useful for developing a decision making process to use in field or can they be shaped into a more concise system?

Lessons From the Dinosaurs

After reflecting on my own non-standard size-up process, a job analysis of others in the business seemed like the logical next step. A human factors technique that is often used in a job analysis is to have best performers describe or demonstrate how they perform a job. To do this type of analysis, ten hotshot crew supervisors with ten or more years experience supervising their crews were surveyed. These old hands, or "dinosaurs" as they are respectfully called by some, were asked to describe how they size-up a given fire assignment for safety. The term "size-up" in this instance was defined as the process and cues used to assess the fire environment and make the decision to commit their crew to a given assignment. Each supervisor surveyed was asked to describe their size-up process independently. This was most definitely an informal survey with a small sample size. However, the analysis does provide us a very good starting point to examine how fire size-up is accomplished by those who perform the job most often.

The most striking result of this analysis was the brevity of each supervisor's size-up process. Averaging a little over 8 steps, each was easily written out on a single piece of paper with room to spare. A second item of note was that only two of the respondents identified the use of the *10 Fire Orders* and *18 Watch Outs* in their size up process. A third respondent identified the use of Carl Wilson's 4 Common Denominators (1974) in their size-up.

A synthesis of the survey responses revealed four common elements that were emphasized by the group. First, develop an awareness of the current fire situation through information gathering efforts. This information gathering can be referred to as situational awareness (Klein, Calderwood, and Clinton-Cirocco, 1988). Second, assess the work assignment for hazards. The hazards considered were both environmental conditions and tactical situations. Third, establish a safe work environment. The *LCES* system was identified by nine respondents as a primary mechanism for achieving this objective. Fourth, almost every respondent described a definite conscious decision point for committing or not committing their crew to the given assignment.

There were several items not included in these four common elements that may be of interest.

. . . we can distill these techniques into a model which enables new or part-time firefighters to develop their situational awareness skills in order to more effectively size-up the fire environment.

First, half of the respondents identified "time of day" as playing a role in their size-up process. Additionally, four of the respondents alluded to decisions based on experience in one way or another. One individual described it as matching the new situation to a similar one from the past as a way of recognizing known hazards and successful tactics from the past. Another described this as a mental base map image of the fire environment with overlays of various fuel types, weather conditions, and terrain built from past experiences.

Finally, the two most experienced individuals in the survey each had observations worth repeating here. One simply said "Always go into a situation thinking escape and safety." The other had this to say: "It is much easier now to give up on an assignment, even after putting in many hours, than it was 20 years ago."

A Model for Discussion

Fire environment size-up is a primary job skill for the individuals surveyed, a task they may perform on a nearly daily basis during the fire season. However, for those individuals involved in fire as a collateral duty, it is a skill they utilize perhaps only a few days or weeks each year. As such, it may not be a highly developed job skill. Obviously, one cannot teach the experience that the dinosaurs have accrued over the years. But we can distill these techniques into a model which enables new or part-time firefighters to develop their situational awareness skills in order to more effectively size-up the fire environment.

The model that follows was developed from the results of the survey described previously. It is a four step process that can be used as a blueprint for a standard protocol or decision support system. The criteria used to design this model were:

1. Guide users through the correct sequence of a procedure in order to accomplish a task.

2. Reduce demand on the working memory required to accomplish a task so more attention can be devoted to perceptual needs.

3. Be generated from a job analysis.

The model's four step process incorporates several job aid checklists and provides a procedural guide for their use (see Table 1). The *Look Up, Look Down, Look Around Indicator* checklist is used in its current form. The *LCES* system

Table 1. The Fire Environment Size-up Model.

STEP 1 SITUATION AWARENESS
Obtain Information
*Tactical Instructions
*Communications
*Weather Forecast
*Previous Fire Behavior
*Known Hazards
*Local Factors

Scout the Fire

STEP 2 RISK ASSESSMENT
Estimate Expected Fire Behavior
JOB AID: *Look Up/Down/Around Indicator List*

Identify Watch Outs
JOB AID: Tactical *Watch Outs* (see Table 2)
JOB AID: Urban/Wildland *Watch Outs* (see Table 2)

Identify Other Safety Hazards

STEP 3 RISK MANAGEMENT
Establish Anchor Point and *LCES* - MANDATORY

Establish Other Risk Management Measures - AS NEEDED
JOB AID: *Downhill Checklist* (see Table 2)
Address Other Identified *Watch Outs*/Hazards

STEP 4 DECISION POINT
Has the work environment been made safe?
YES - Next question NO - Reassess situation
Do the strategy and tactics make sense to you?
YES - Next question NO - Reassess situation
Has a briefing been given with feedback opportunity?
YES - Initiate action NO - Reassess situation

RE-CHECK PROCESS AFTER ANY SITUATION CHANGE

is central to how the model approaches risk management. The *18 Watch Outs*, the *Urban/Wildland Watch Outs*, and the *Downhill/ Indirect Guidelines* have been redesigned to enable the user to apply them as true job aid checklists (see Table 2).

A close look at the model will show that all of the Fire Orders, Watch Outs, Downhill Guidelines, Common Denominators, and LCES are covered in the four step process or in the job aids. There are many hard won lessons learned that have been built into our current Fire Safety Guidelines. The intent here is to retain those lessons while integrating them into a system more readily applied in the field.

There is a growing recognition for the need to change the *Fire Safety Guidelines* (Braun and Latapie, 1995; Harbour, 1995; Human Factors Workshop, 1995; Putnam, 1995; and Weick, 1995). There are probably as many ideas for restructuring the *Fire Safety Guidelines* as there are Red Cards, but particular weight should be given to the methods used by our most experienced firefighters. This model is offered not as a finished product, but as a starting point for further discussion. It is a synthesis of experience from dozens of fire seasons and thousands of fires. It is about meeting superhuman expectations while living with human limitations.

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Table 2. Redesigned Fire Safety Job Aids.

TACTICAL WATCH OUTS

1. Building fireline downhill (see *Downhill Checklist*)
2. Building underslung fireline.
3. Building indirect fireline or unburned fuel remains between you and the fire.
4. Attempting frontal assault on the fire.
5. Terrain and/or fuels make escape to safety zones difficult.
6. Suppression resources fatigued or insufficient.
7. Night time operations.
8. Remote location operations.
9. Urban interface operations (see *Urban/Wildland Watch Outs*)

Each of these *Watch Outs* requires that you establish risk management measure(s).

URBAN/WILDLAND WATCH OUTS

1. Poor access and narrow one way roads.
2. Bridge load limits.
3. Inadequate water supply.
4. Wood construction and wood shake roofs.
5. Natural fuels 30 feet or closer to structures.
6. Structures located in dangerous terrain features surrounded by flashy fuels types.
7. Chaotic suppression actions or panic during public evacuation.

Each of these *Watch Outs* reduces your ability to safely defend structure(s).

DOWNHILL CHECKLIST

1. Assignment has been scouted.
2. Supervising overhead can see the fire or have direct contact with a lookout who can see the fire.
3. Fireline is anchored at the starting point.
4. Fire is not present directly below starting point.
5. Fireline is not in a chute or chimney.
6. Crew(s) or scout(s) are working the bottom of the fire and communication has been established with them.

Use direct attack if possible; if not, consider firing from the anchor point as line construction progresses.

Reprinted from the AMERICAN FIRE JOURNAL, April 1996

RPD on the Fireground

How to Avoid the Blank Screen Syndrome

Larry C. Miller, Ops. Chief Deputy, Los Angeles County Fire Department

I recently took a weekend trip to San Diego. As I passed the nuclear power station at San Onofre, I found myself thinking: Wouldn't it be something to be first-in on a runaway reactor that spreads from the containment building and digs a quarter-mile hole on its 8,000-mile journey to China?

Yes, how cheated I would feel if I was off duty when the meltdown came. Can anyone identify with this?

Or say it's your first day as a new battalion chief. As you drive through your new district, you pass a refinery. You think: Wow, what if there were a fire in a cat cracker on my very first shift!

Or how about the recent train/ haz mat wreck in San Bernardino County, CA? Did anyone else out there say: It sure would have been exciting to be first-in on that one— would I have dazzled my peers with some fancy footwork!

The first-due company and battalion officers that did respond to that incident may well have said: "Thank goodness I'm on duty today!" Wouldn't most of us react that way? After all, we're fully prepared....aren't we?

Even new company officers or battalion commanders usually feel that, since they ranked high on the list and were chosen over other qualified candidates, they must be more than ready to command any emergency....right?

It's only natural that the first thing we want as new company officers or battalion commanders is to be tested so we can prove to our peers, crews and, yes, even ourselves that we have been sent to earth by God as a gift to firefighting.

Sure, there are probably a lot of things that we are gifted at when it comes to firefighting. But I just mentioned nuclear, petro-chemical and haz mat control. How about multi-casualty incidents, highrise and wildland fires, structure collapse, flooding, swiftwater rescue, USAR, civil disturbance, air crash, shipboard fires, auto extrication, bio-chemical, EMS and plain old structure fires? And of course, there's electrical— my personal favorite is fighting something I can't see.

Honestly, does anyone reading this article truly feel comfortable commanding any one of these incidents, no matter how many years of fire service experience they have? No way!

The point is that no one feels comfortable about everything the modern firefighter is responsible for knowing. The reason for this lack of confidence is that firefighting is not an inherited skill; it is not inborn. Simply put, it is acquired through experience.

None of us is born with the skills to be a firefighter. They are all learned.

Nonetheless, right from the first shift, most of us expect to perform as if it all came naturally. One of the few benefits of age—and the wisdom that sometimes accompanies it—is the ability to look back at where we came from and be honest in assessing the journey. It took me 26 years to realize and admit this.

To some, this realization will take some of the pressure off. For others, it will pour it on. Only an honest self-assessment will determine which is the case.

Upon being promoted to company officer, almost everyone is scared to death. If they aren't, they should be.

Believe it or not, the best company officers and battalion commanders are at least uncomfortable for their entire career! This shouldn't be surprising, because there is plenty out there to be uncomfortable about.

Any one of the incidents listed at the beginning of this article could happen on any night in nearly any district. So how comfortable can anyone be with so much to learn and so little time to learn it?

RECOGNITION-PRIME DECISION-MAKING

In 1988, the U.S. Army Research Institute for the Behavioral and Social Sciences commissioned a study leading to Technical Report 796 from Klein Associates of Ohio. The objective of "Rapid Decision

Making on the Fire Ground" was to understand how military officers make decisions under extreme time pressures when lives and property hang in the balance.

Since, at that time, there had not been a major conflict since Viet Nam, the Army wanted to know how they could best train their officers to make quick decisions under combat conditions. First, they needed to know how quick, effective decisions are made.

After Klein Associates reviewed the different occupations that possibly share decision pressures, they found that (surprise!) fire service incident commanders face the same decision pressure on a daily basis as a military combat officer.

The study went on to examine experienced fire company officers in order to determine just how they made rapid decisions. Dr. Klein, the founder of Klein Associates, derived from these studies what he thought was a radical hypothesis: Experienced company officers did not use the conventional laboratory or university model of analytical decision-making. This involves reviewing all the pros and cons of many possible solution to choose the correct course of action.

Dr. Klein discovered that company officers faced with an emergency incident usually didn't have enough time to completely analyze all the possible options. Instead, they invested what little time they had on sizing up the situation rather than choosing among options of what to do.

Initially, Klein was surprised to find that experienced company officers did not select from several options, but instead identified a situation as typical of incidents they had experienced before. Then they would act on this experience by recognizing what to do without even considering a second option.

In other words, under time pressure, experienced officers produced a more "intuitive" approach to problem solving. However, few consistently selected one particular option of attack over others. Instead, they used a matching process—rather than calculation—to achieve a decision.

When faced with extreme time pressure, the officers conjured up mental pictures instead of words to compare the incident at hand to a prototype or picture they had in their minds. When a memory picture matched the incident (which the first picture did 80 percent of the time), they implemented the course of action that worked before.

If the officer encountered an incident that didn't match any previous experience, he would come up with a mental picture he thought was closest to what he was seeing. The officer would quickly play out the corresponding course of action in his mind and, if it worked, he would go with it. If not, he would mentally alter the course of action, using a process called "mental stimulation," until the problem was solved.

Dr. Klein called this process "Recognition–Primed Decision–Making," or RPD. To understand it, think of the mind as holding a big slide carousel. New slides are placed in this carousel by experience, whether real or created. These slides/experiences can be drawn from later.

As a basic example, say a company officer gave an order to go to the truck and get the gas-powered smoke ejector. The crew member who received the order instantly calls up a picture of what the smoke ejector looks like. Despite the array of various equipment on the truck, he has no problem fetching the piece of equipment that resembles the picture he has in his mind.

It also helps that, on the way to the truck, he pictured which compartment the ejector was in to reduce the hunt.

Obviously, even this simple slide picture was not there from birth, but put there through experience. This is the same mental process that goes on when responding to an emergency that will require tactical decisionmaking. The mind projects a slide picture of the closest experience to the present incident.

What all of this tells us is that we may not know how to handle all the incidents listed in the beginning of this article. It is not surprising that we may be uncomfortable attacking a fire in a nuclear reactor, a petroleum cat cracker fire or even a train derailment with hazardous materials. We simply may not have the slides in our carousel to deal with these incidents.

So, when the new guy pulls up to that first fire and stumbles, he or she shouldn't feel bad—the slide carousel is probably not fully developed yet. This also explains why a great wildland IC may stumble at a highrise incident. His slide carousel is whirling through a panoply ofwildland slides, but there's an empty section labeled "Highrise."

Returning from our first room and contents fire as a new company officer, most of us realized that things could have gone a whole lot better. And most of us made some decisions differently at the next fire.

Our minds can also change the slide carousel, so we can compare the last incident to the next similar incident and take action based on the experience gained. When the same type of fire occurs again, the slide

carousel presents the similar picture—and the course of action that will be successful. Hence the term "Recognition Primed Decislon.

It takes skill to recognize situations as typical, and correctly using the prototypes or slide pictures is enhanced by experience. The ability to know if "X" applies is dependent on situational awareness. i.e., experience.

It is never enough to simply teach rules to a novice and expect to make him or her an expert. For example, a sign that a roof is near failure is often described to new firefighters as a "spongy" feeling. So the first time they set foot on a lightweight, panelized roof, most rookies think it's about to fail.

In fact, what they're feeling is the typical bounce of a good roof assembly. It will take many walks on many different types of roof assemblies and possibly many fires under an experienced company officer to supply the critical cues appropriate to roof collapse to the new firefighter's slide carousel.

CRITICAL CUES

Critical cues are the signs and symptoms that help with a correct diagnosis. Examples of critical cues are those things that company and battalion officers evaluate in an initial size-up, such as:

- *Life Hazards*
- *Special population (elderly, disabled, prisoners)*
- *Smoke (color, amount,location)*
- *Fire (color, amount, location, duration)*
- *Structure (house, factory, office, vehicle)*
- *Construction (age, composition)*
- *Weather*
- *Time of day*
- *Resources (available, needed, special needs)*
- *Product involved*
- *Signs of structural failure*
- *Water supply*

New officers may make "cheat sheets" or command boards to help with early size-up and decision-making, but as experience is gained, the cheat sheets are consulted less and less.

The experienced officer makes the size-up in a more intuitive way, without much active thought. If you ask the experienced officer to recite the list of what factors he/ she considered, the officer will take longer to express them than a rookie will. This is because the experienced officer observes the fire and compares it to the slides in the mental carousel. When a match is found, he or she gives the correct, time-tested orders.

This is not meant to disparage the use of cheat sheets or command boards. They can serve as useful reminders of items that may otherwise be overlooked or act as an assist on incidents that are not common in the district— where the slide library may be a little weak.

In conjunction with the previous statement that the experienced officer may have trouble articulating the steps in his/her decision-making process, let me relate a personal example.

I was a paramedic for 12 of my 26 years in the fire service. I responded to dozens of full arrests, and my carousel is pretty full of relevant slides. But when it comes time to pass the CPR exam, I have to go back and study all the "dance steps," because the raters are more interested in the exact process I use than the outcome!

Also, the exam process very seldom resembles the site, sounds and circumstances of a real incident. Therefore, the slides in my carousel don't relate particularly well to a hypothetical situation.

Most of us are frustrated by the annual changes to CPR procedures after some new doc decides that "X" number of ventilations prior to starting CPR are better than whatever last year's number was. And let's not forget those constantly changing compression rates. Are these process changes really better for the outcome of the patient, or are they just designed to throw our carousels out of whack?

This is why training officers should avoid getting too carried away with the exact steps in the process. Instead, concentrate on the ideal outcome of tactical objectives on the fireground.

It's okay to teach novices step-by-step methods to achieve a proper outcome, but more experienced crews need to be given performance standards that state the desired result, critical safety considerations and absolute do's and don'ts. It's better to skip the exact foot and hand placements.

So many improvements in our art can be missed if firefighters aren't given the latitude to experiment with new ways of doing things. Crews that are held to rigid step-by-step procedures for performing a tactical objective on the drillground may not take the initiative to overcome fireground problem that weren't covered in the drill manual.

FILLING THE CAROUSEL

There are many worthwhile training methods that will help load the slide carousel with pertinent pictures. Examples include hands-on training and live-fire recreations where ideal actions are practiced.

Another good idea is to obtain buildings in the district that are going to be torn down and use them to practice everything from search and rescue to forcible entry, ventilation, salvage, and fire attack. (Of course, practice only ideal performance for emulation at a real incident.)

Simulators are another good idea. Simulators create the time pressure that an IC faces at a real incident. This forces RPD, the "intuitive" model of decision making.

Success at the simulator comes from making it typical of incidents encountered in the jurisdiction. If proper mitigation is applied, the IC must "win" the exercise.

Also, read trade journals. Study fires other departments have faced, and discuss their actions. Watching videos of incidents will help stock pictures in the mental carousel. The crews should discuss them to help build better decision-making.

It is also good to train in context. This means always training in actual combat mode.

Pre-planning—"chalk talking" incidents that could occur in the jurisdiction is also helpful. Get the crew involved on every shift.

Learn from people with a full carousel—experienced people. This doesn't just mean those with a lot of time on the job, but those who continually train to make themselves better and strive for ideal performance. These people are usually pretty easy to identify—they may even be subordinates.

Slide pictures have a tendency to fade over time, so if you don't use them, they may not be there when they are needed. This is a most important consideration for chief officers who find themselves spending more time working in-boxes than incidents. Anyone who is still responsible for commanding the Big One had better be involved with the preparations for it.

For novices: Don't wait to fill the slide carousel with experience gained at actual incidents. This risks losing the whole carousel— and the projector with it!

Finally, please give the new guy a break! Even great ICs can be reduced to quivering wrecks when working outside their usual environment.

Most importantly of all, never be afraid to admit your carousel is empty. This is the first step to getting it filled.

For additional reading on the subject of Rapid Decision Making, see: "Naturalistic Decision Making: Implications for Design," April 1993, Gary Klein, Ph.D. Klein Associates Inc., Dayton, OH (Ordering info: CSERIAC Prog. Office, 2255 H St., AL/ CFH/CSERIAC, Bldg. 248, Wright-Patterson AFB, OH 45433)

"Decision Making in Action: Models and Methods," edited by Orasanu, Calderwood and Zaambok. (Ordering info: Ablex Publishing Corp., 355 Chestnut St., Norwood, NJ 07648)

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In the Past

Municipal fire departments have become more involved with structure protection in Wildland/Intermix fires. This has caused the Fire Department to re–evaluate it's tactics in this area.

Typically a municipal department will pull a preconnect line, roll out a trunk line or utilizes donut rolls to protect a structure. These methods involve a small amount of time to put in service but require a lengthy pick up time. The introduction of lightweight single jacketed forestry hose has helped but a quick and efficient way to break down, roll up, reposition, and set up at new structure was still needed.

A New Solution

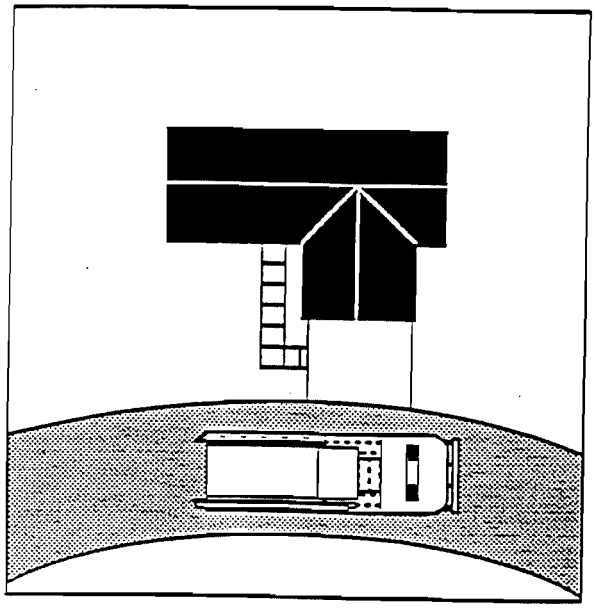
Many methods are being used to reload forestry hose. Putting of the hose on top of the hose cover or wrapping it around the hose reel guides in a figure eight are two fairly commom practices. These are fairly quick, but entanglement and the risk of injury are present. Removing the hose from these positions present complications as well. During a training session on just such hose evolutions Firefighters developed a new method. This method shown here has proved faster, safer and more organized than other methods developed to date.

Considered herein are the tactical requirements that necessitate quick pick-up, loading and relocation to another assignment with rapid deployment capability, in most fast moving wildfires. This new method allows the hose to be laid on the ground, charged and advanced, advanced dry, or payed off the shoulder With practice deployment and pick-up times are in the one minute time frame.

Other Considerations

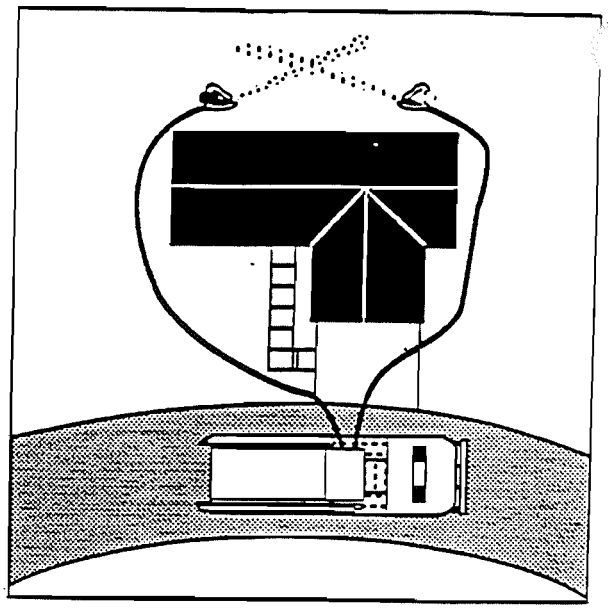
Always be alert for situations that shout "Watch Out"! Know what is happening in your area as well as the fire in general. Don't commit your resources on a loser and fight fire aggressively, providing for safety first.

STEP 1



Position apparatus with an escape route available. If the drive is not open on both ends then backup to the structure for quick egress. *Always use a back-up person.*

STEP 2



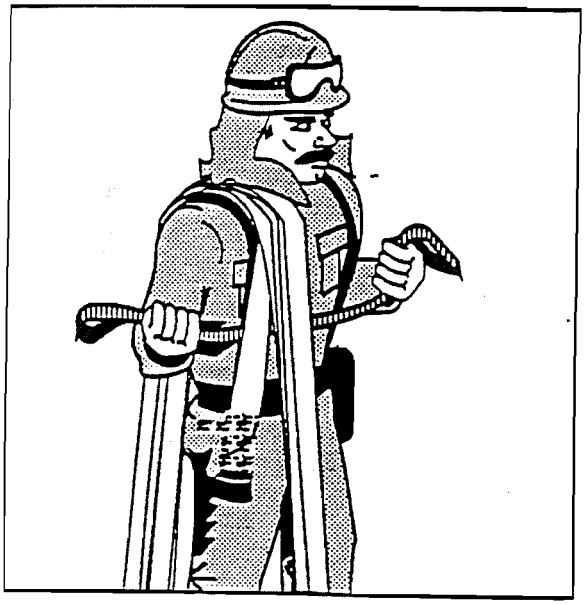
Two firefighters shall deploy 1 1/2" Forestry Hose around both sides of the structure. Streams should be able to cross at rear of structure. *Using your depts. S.O.P.*

STEP 3

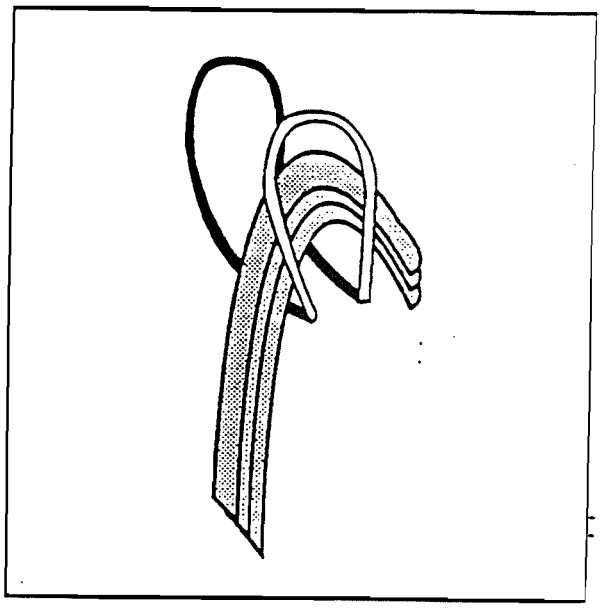
On engineer's signal to shut down, both firefighters will bleed lines. Shoulder load hose with nozzle next to chest.

Meanwhile, the engineer disconnects lines from discharge outlets to facilitate draining the hose.

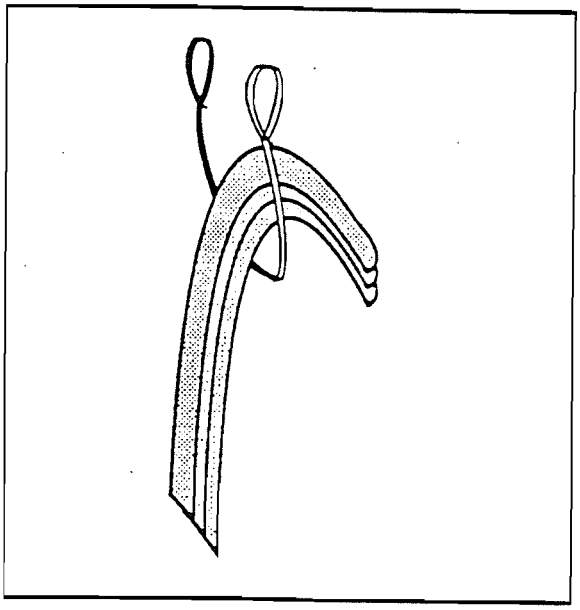
STEP 4



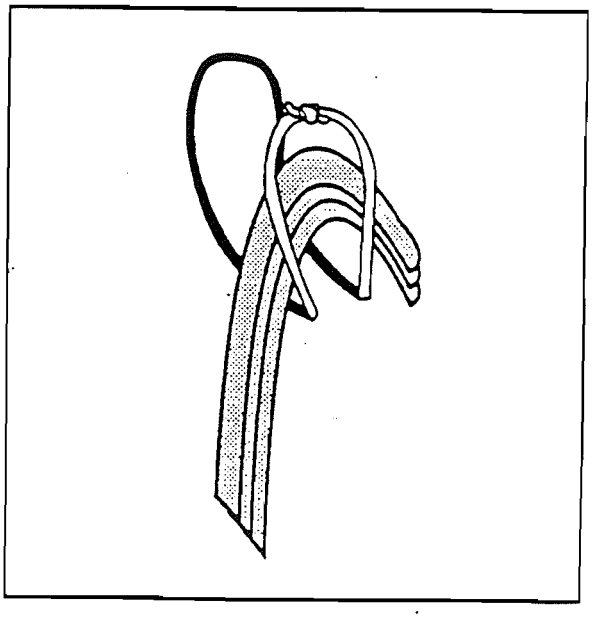
After the hose has been fully shoulder loaded, the firefighter must secure the bundle with a strap. *Hose strap sling, or single length with loops. See additional drawings this page*



Sling

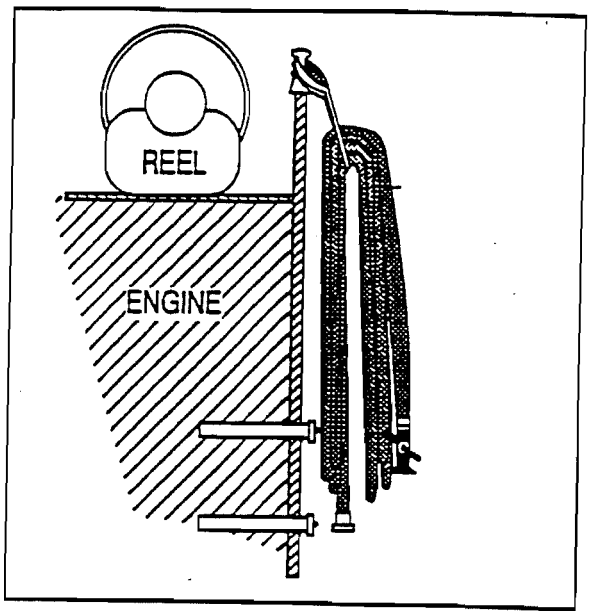


Single strap with loops



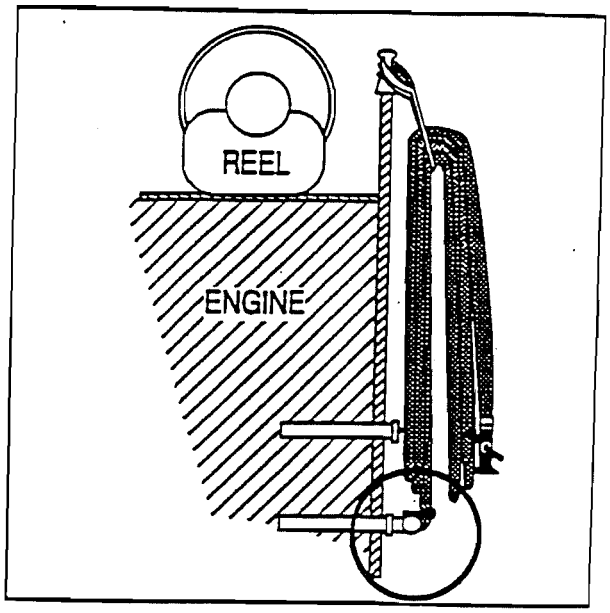
Single strap bended together

STEP 6



Hang bundled hose from roller guides or other stable projection on apparatus.

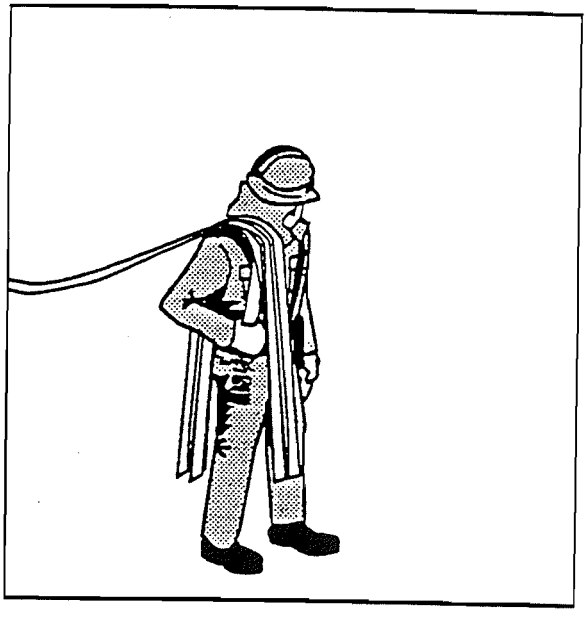
STEP 7



After the hose has been secured, the engineer shall re-couple them to the gated wye at the pump panel.

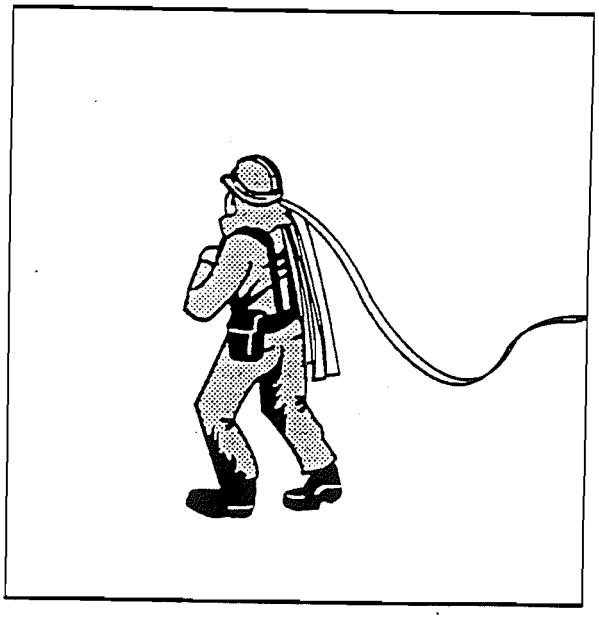
Unit is now available for assignment. Follow remaining steps for proper deployment procedure.

STEP 8



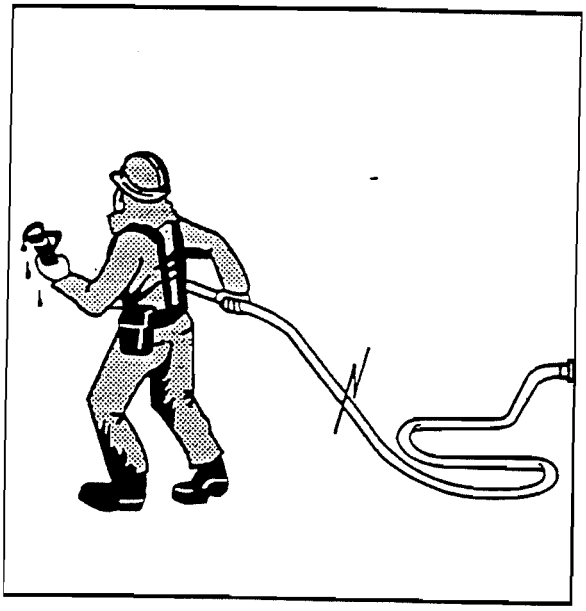
Upon arrival at the next structure the ~~firefighter reloads the hose on his/her~~ shoulder, nozzle in front next to body.

STEP 9



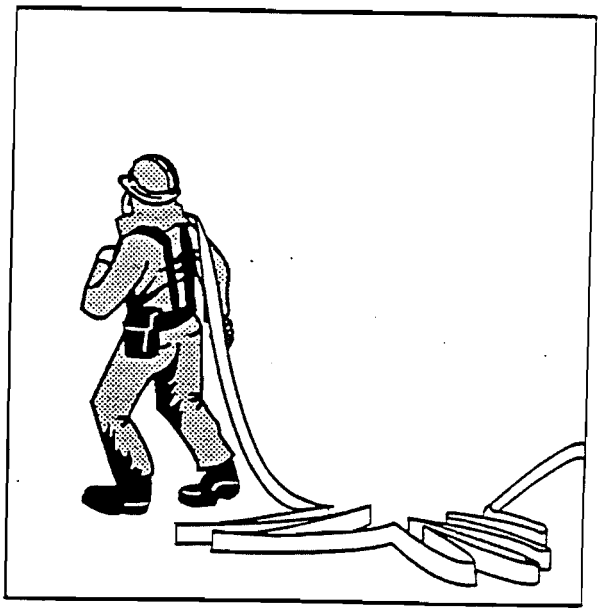
The hose is simply payed out as the ~~firefighter advances and the line is~~ charged upon extension..

STEP 10



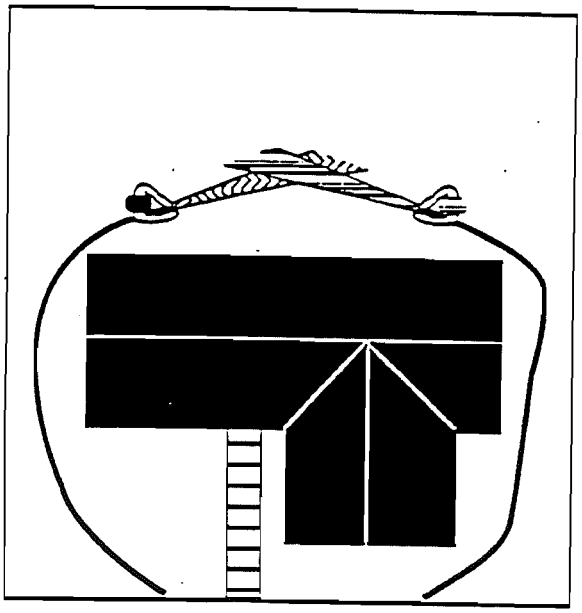
An alternative method is to place the hose bundle on the ground at the unit and advance a working line towards the fire.

STEP 11



Another method involves placing the bundle near the apparatus and advancing a dry line from that point.

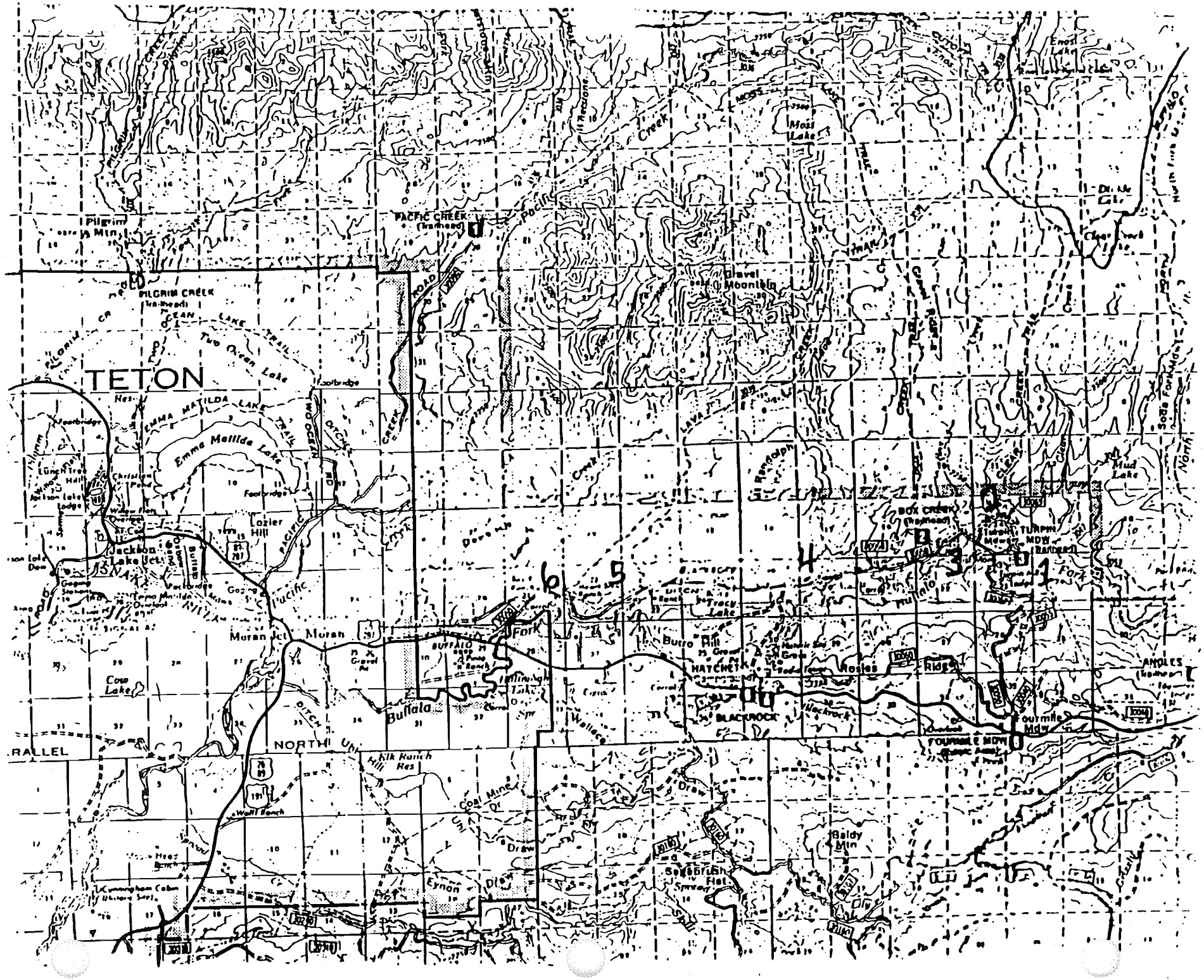
STEP 12



Make sure you are positioned so that the two streams can cross at the rear of structure to ensure effective protection.

Buffalo Canyon

Structure Protection Plan



TETON
PACIFIC CREEK
(Trailhead)
PILGRIM CREEK
(Trailhead)
Pilgrim Mtn
Two Ocean Lake
Emma Matilda Lake
Jackson Lake Jct
Lozier Hill
Moran Jct
Moran
Buffalo
Fork
Cow Lake
NORTH
RALLEL
Elk Ranch Res
Coal Mine Dr
Eynon
Draw
Wallace
Butro Hill
HATCHET
BLACKROCK
Rosies
Ridge
Fourmile Mdw
FOURMILE MDW
ANGLES
BOX CREEK
(Trailhead)
TURPIN MDW
(Trailhead)
Mud Lake
Soda Fork Mdw
Gravel Mountain
Moss Lake
Enos Lake
Clear Creek
Randolph
Tracy Lake
Baldy Mtn
Sagebrush Flat
Wolf Ranch
Cunningham Cabin
6
5
4
3
1

TACTICAL AREAS

The Buffalo Canyon Structural Protection Plan is designed to quickly and safely place forces to save structures. The plan is divided into the following tactical areas:

1. Turpin Meadow Lodge Area
2. Turpin Meadow Summer Homes
3. Mid Canyon Area
4. Hear 6 - 6 - Atkinson Motel Area
5. Buffalo Valley Estates
   Box K Ranch Area
   Evergreen Estates Area

Maps

Each area is marked 1-6 on a forest map. Each individual area is laid out on a tactical map.

The road into each area is flagged coded.

1. Yellow - homes on road
2. Blue - water supply
3. Hot Pink - Haz Mat, i.e., propane tanks or fuel storage

If there is no flagging on a road, there are no structures on it.

CONTENT

Each segment area can be used individually it contains:

1. Maps
2. General Information

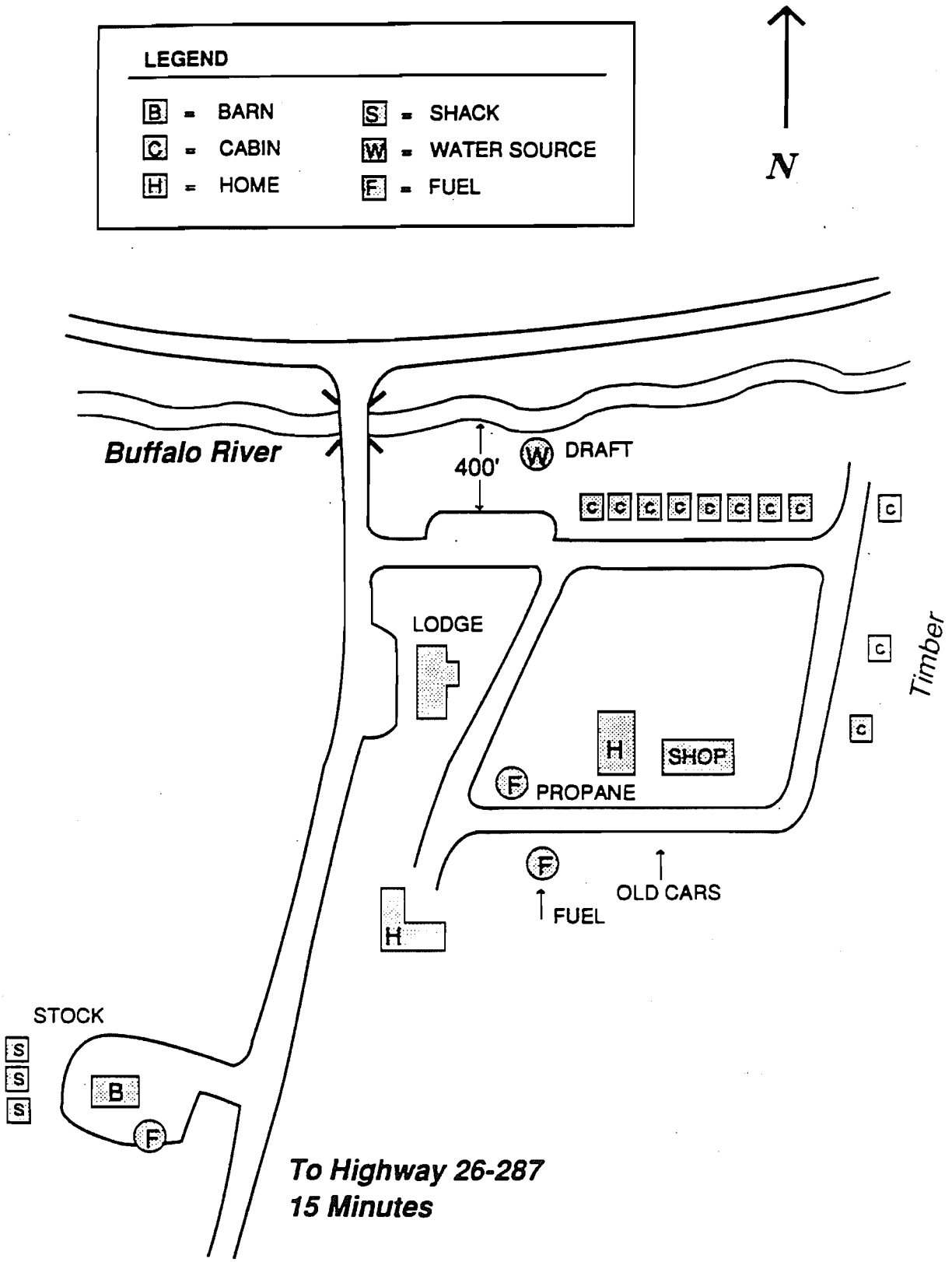
PRE-PLAN

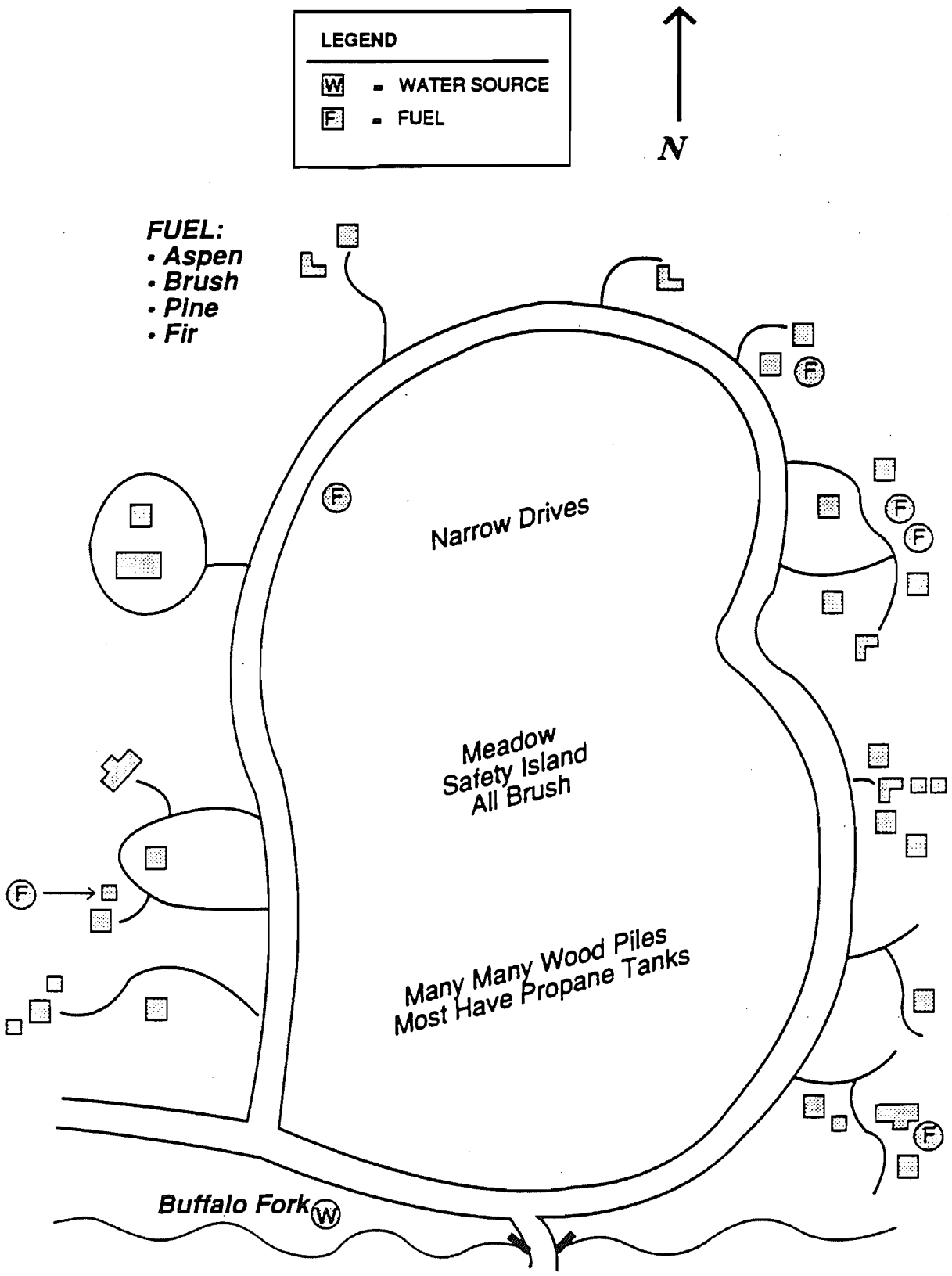
Discuss this plan with each company under your command. Each strike team leader should have a copy.

HELPFUL HINTS

1. Always stay mobile
2. Back your engine in so you can get out fast
3. Coil a short 1-1/2" charged line with fog nozzle on your engine for safety and quick knock down
4. Don't make long lays
5. Check roads before the fire hits
6. Check each home for defense: move wood piles; close windows and doors
7. Leave home lights on inside and out day and night
8. Place owners ladder at a corner of home on least fire threat side
9. Coil and charge garden hoses
10. Check and mark Haz Mats, i.e., LPG-Fuel
11. If a home becomes well involved, LEAVE IT, yes leave it and move on to one you can save
12. ALWAYS wear your SAFETY GEAR
13. Fire fighter safety and survival is always our number one priority

GOOD LUCK


LEGEND
B = BARN
C = CABIN
H = HOME
S = SHACK
W = WATER SOURCE
F = FUEL
N
Buffalo River
400'
W DRAFT
C C C C C C C C
C
LODGE
H
SHOP
F PROPANE
C
C
Timber
F
FUEL
OLD CARS
H
STOCK
S
S
S
B
F
To Highway 26-287
15 Minutes


LEGEND
W - WATER SOURCE
F - FUEL
N
FUEL:
• Aspen
• Brush
• Pine
• Fir
Narrow Drives
Meadow
Safety Island
All Brush
Many Many Wood Piles
Most Have Propane Tanks
Buffalo Fork

MID-CANYON AREA

General: This area is 7.6 miles in on Buffalo Canyon Road. It contains some 25 homes; however, only the structures on the north side of the road area are at risk. South side homes are in the clear and would take little effort to protect. North side homes are near the road and back into the brush line.

Water Supply: Water tenders, draft from Neville's pond and creek crossing just west of the area.

Tactics: Fire out behind homes and hold fire north of road.

Equipment: 2 S.T. Engines (any Type) - 1 Hand Crew - 1 Water Tender

Probability for Success: Good

HEART 6 - ATKINSON MOTEL AREA

General: This area is 1.5 miles in on the Buffalo Canyon Road. Both the Heart 6 and motel are right next to the road with good fuel clearance. The area contains 27 structures and stock pens. Dangerous fuel storage 1000+ gas with tin garage at Atkinson's (flagged) and many propane tanks.

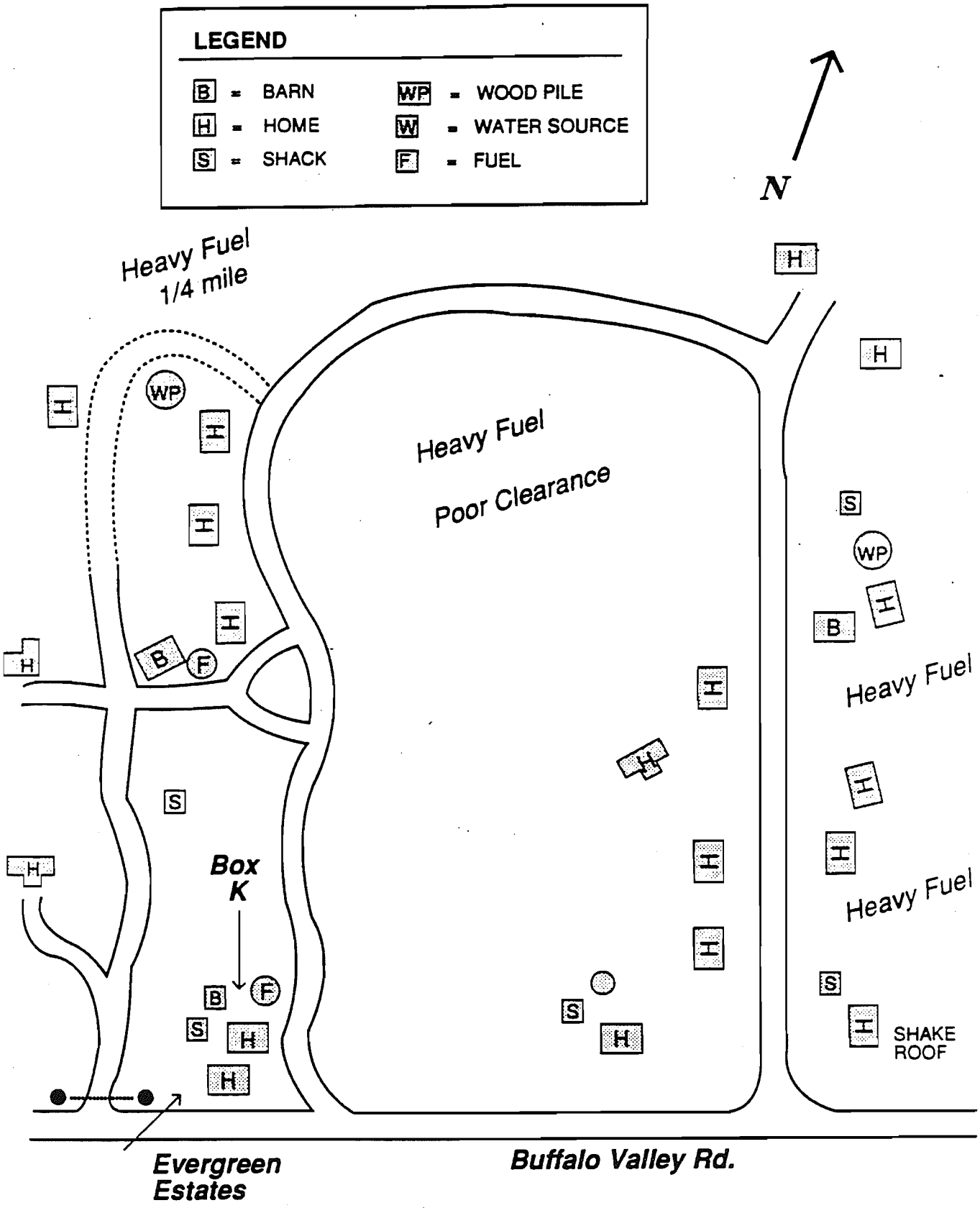
Water Supply: Water tenders and a 1,000 stock tank at Atkinson's.

Tactics: Fire out slowly and have engines stand by.

Equipment: 2 S.T. Engines (any Type) - 1 Water Tender - 1 Hand Crew

Probability for Success: Good

Buffalo Valley Estates / Box K / Evergreen Estates



The following article was taken from the Journal of the National Association for Search and Rescue, Volume 16, Number 4, December 1998, pages 25-26. Credit is due Captain Tim Rogers for authoring the article.

Tactical Decision Making for Swiftwater Emergencies

by Tim Rogers, Captain, Charlotte Fire Department, Charlotte, North Carolina

During the last two decades, emergency service agencies throughout North America have been busy training for, and responding to, flood and swiftwater emergencies. Whether it be during training or response activities, one of the toughest lessons for personnel to learn is when to use a certain tactic for a given problem in order to accomplish the incident's strategic goals. This is especially true when water emergencies are at best sporadic, and experience is not a tool from which to draw upon.

During water rescue and recovery operations, most rescuers would agree that locate, access, stabilize, and transport are goals most often used strategically while talk, reach, throw, row, go/tow, and helo are objectives most often used tactically. As each strategic priority is encountered, there are common considerations that will ultimately influence tactical decision making. While these considerations are not by any means conclusive, the incident manager and other personnel should realize the potential positive or negative impact that each may have. Personnel should then identify and anticipate, or size-up, these influences and then prepare and/or equip themselves accordingly.

By applying my fire service experience as an officer to water-related training and emergencies, I have found that by taking a moment to size-up the problem, much as I would do at a fire-related event, it creates the much needed bridge between my strategic goals and tactical objectives. In other words, "I know what I need to do and how I will do it, now I know why I am doing it this way." During the last 5 years I have worked to develop such a bridge, in a checklist format, that could be utilized by response personnel regardless of their discipline. This checklist forms the acronym TEMPO and, regardless of the size, nature, or frequency of water related events, personnel can quickly identify the existing and potential conditions that will more realistically determine which tactics will be the most appropriate and effective. The elements of TEMPO follow.

Time and Temperature

There are three elements of time in every rescue or recovery: activation, set- up, and completion. In many cases, responding personnel lose 4 to 6 minutes of time during communication transmission from reporting party to dispatch. Add to that your average response time. The essential questions are, how long has this victim been exposed to

this environment and at what temperature prior to my arrival, and how long might he/she remain exposed after my arrival?

Due to the rapid cooling effect that water has on the body_25 times the rate of air in still water and 250 times the rate of air in moving water_and due to the time that the victim has been exposed in this medium, rescuers should be prepared to rescue a victim who has lost the ability to help themselves. Over the years, I have seen rescuers throw ropes to victims who were profoundly hypothermic. Imagine trying to catch and hold onto a 3/8" rope while shivering! Should you resort to a throwing rescue, consider using a tool that allows the victim use of gross faculties.

Time and temperature must also be considered when exposing rescuers to the same elements as victims. How long can the rescuer perform effectively at this temperature?

Energy and Equipment

Rescuers must consider the impact that moving water will have on the victim, themselves, and, while often forgotten, the equipment that they may have selected to use. A lack of understanding, and appreciation for, the dynamics of this environment has been the downfall of many rescue attempts. Cubic feet per second (cfs), feet per second (fps), load and load potential, as well as flow shape should hold the most weight when making tactical decisions that involve boats and/or swimming rescues.

Rescuers should now determine what equipment is most appropriate to effect the rescue or recovery. Does the equipment fulfil the needs of the problem or does the problem overwhelm the ability of the equipment and, in many cases, the ability of personnel to safely operate it? Where can I find the equipment I do need and the personnel to operate it? If you think you might need something, call for it early.

The first four elements of TEMPO are the most relative. That is, when a victim is exposed to a greater depth, more of their body is being cooled, more energy is placed directly upon them, and any equipment used to rescue them is impacted as well. The reverse also applies. Rescuers are not immune to the effects of these same elements. I have seen more than one cold, tired, and injured rescuer who eventually had to be rescued themselves after the john- boat they were certain they could operate flipped! Therefore, equipment selection must be suited to the needs of the victim while simultaneously allowing rescuers to operate within their capabilities as dictated by the dynamics of the event.

Movement and Measurement

Determining the depth, speed, and path of travel of water during emergency operations is especially critical m the urban environment. During moving water emergencies that involve a moving victim, rescuers must get and stay ahead of the problem. A downstream spotter/safety team and upstream spotter/gatekeeper should be put in place prior to the beginning of rescue or recovery activities. A site spotter/recorder should be utilized when staffing permits or when scene dynamics require it. The site spotter determines and monitors water temperature, depth, and speed, and informs the incident manager of any significant changes.

Rescuers should be well aware of any downstream hazards and make the necessary adjustments to their potential action plan. One solution is to relocate the extraction point. Rescuers should identify the upstream path of travel and/or water supply, the downstream path of travel, as well any existing or potential hazards at the emergency scene. Simply ask the following three questions and make the necessary adjustments. Where is the water coming from and what may be coming with it? Where is the water going? What is the water doing at the rescue site?

In the urban environment, below ground storm water management systems may be overwhelmed by continual rainfall. These systems, when full or blocked, may demonstrate little movement and can create pond-like or bodies of water in the middle of streets and yards. However, when either the rainfall ceases or the blockage is removed these systems will perform as designed-moving water rapidly down an intended path. Therefore, extreme caution should be exercised when performing searches, rescues, or evacuations in areas that contain storm water openings.

Plan the Personnel

Rescuers, and especially incident managers, should be intimately familiar with the skills and abilities of on-scene personnel and assign task functions accordingly. This knowledge should be acquired during training evolutions involving water rescue activities. After the boat flips is a lousy time to find out that one of your team members can't swim. Any action plan is only as good as the personnel who are trying to administer it.

Once any plan is developed, it must be communicated to everyone who is directly or indirectly involved in the rescue effort. Incident managers must realize that water emergencies are multi-agency and often multi-jurisdictional events and act accordingly. Actually, two action plans should be developed and communicated. The first plan pertains to the rescue or recovery of the victim. The second plan pertains to the rescue of personnel should the first plan fail.

Any pre-plan information that may assist the incident manager or rescuers should be utilized at this time. The preplan may include access locations, additional resources, hazard locations, and locations where rescue or recovery operations would be the most effective. The use of maps, hopefully designed specifically for this type of emergency, can also be utilized.

Operate and Observe

Now that the size-up has been completed, the tactical application that best suits the situation, the victim, and the capabilities of the rescuers can be put into action. Since each of the event elements have been clearly identified, the tactical objectives, or solutions, have been identified as well. However, continue to observe and set reasonable time frames to accomplish these objectives. Are things going as planned and if not, why? Remain flexible.

With some practice you will find that these size-up elements become second nature. You will also find that the speed at which you go through this checklist will continue to increase with each application. However, the most important thing that you will find is that you will become much more aware of your surroundings, the situation, the needs of the victim, and the capabilities of your team as well as yourself, all of which ultimately determines the tactic that is best suited to effect the rescue or recovery.

References

Bechdel, Les, and Ray, Slim. River Rescue, second edition. Boston, MA:

Appalachian Mountain Club, 1989.

Ohio Department of Natural Resources, Division of Watercraft. River

Rescue. Columbus, OH: 1980.

Ray, Slim. Swiftwater Rescue. Asheville, NC: CFS Press, 1997.

Charlotte Fire Department, Operations Division. Operations

Manual_Tactical Orders. Charlotte, NC: 1997.

APPENDIX B

STRIKE TEAM ENGINE & CREW DATA SHEET

Rev 2/2001 J.Marquis

Engine Data: Lic. number:_____ ICS Engine Type: ❑1 ❑2 ❑3 ❑4
Home Agency:_____ 3-Letter:_____ Unit Designator:_____
Vehicle Make:_____ Engine Horsepower: _____ GVW:_____ Mileage:_____
4-Wheel Drive ❑yes ❑no Fuel: ❑diesel ❑gas Water Tank: _____ gallons
Main Pump GPM:_____ Pump & Roll Capable: ❑yes ❑no Drafting Capable: ❑yes ❑no

Communications Capabilities: Cell Phone: _____Pager: _____
❑WF-1 154.280 ❑WF-2 154.265 ❑WF-3 154.295 ❑CalCord 156.075 ❑CA Travel Net 169.125
Frequency Capabilities of: Field Programable
On-Board Radio: _____ ❑yes ❑no
Portable Radio(s) _____ Qty____ ❑yes ❑no

Class-A Foam Capability: ❑CAFS ❑Proportioner ❑Eductor ❑Batch Mix ❑none
Foam Concentrate Qty:_____ gal. Foam Nozzles: ❑Low Expansion ❑Med. Expansion

Hose Qty: Pencil: _____ 1"_____ thread type: ❑pipe ❑NS 1½ " SJRL_____
1½ " DJRL _____ 1¾ "_____ 2 ½" / 3"_____ LDH: _____ Suction: _____

Equipment: ❑Ground Ladder(s) Qty:____ Length(s):_____ ❑Drip torch ❑Fusees
❑Chain Saw - Bar length:_____ ❑Floto Pump ❑Portable Pump ❑Portable Tank
❑Brush Nozzles ❑1½ " to 1" In-Line T's ❑Forester's Hose Clamps ❑Headlamps
Tool Qty: McLeod____ Pulaski____ Round Pt. Shovel____ EMS: ❑ALS ❑ILS ❑BLS
Other/Specialized Equip: _____
Drinking Water:_____ day(s) supply Rations:_____ day(s) Sleeping Bags qty:____

Safety: ❑ Wildland PPE for each crew member (fire shelter, shirt, pants, gloves, helmet with face protector, goggles, boots (high top, all leather, lace-up, sewn lug sole)
❑ Structure PPE for each Type-1 crew member (turnout coat & pants, boots, helmet, hood, gloves) ❑ SCBA qty:_____

Crew Data	Company Officer	Crew Member	Crew Member	Crew Member
Name				
SocSec # (last 4)				
E-Mail Address				
Phone				
Medical Problems				
Emerg. Contact/Ph				
ICS Qualifications				
EMS Cert. Level				
Other				

APPARATUS CHECK SHEET

Apparatus ID:_____ Odometer Reading:_____ Date:_____

- ❑ Air Compressor
- ❑ Air Lines
- ❑ Air Tanks
- ❑ Alternator
- ❑ Aux. Generator
- ❑ Battery
- ❑ Body
- ❑ Brakes, Parking
- ❑ Brakes, Service
- ❑ Coolant Level
- ❑ Clutch
- ❑ Doors
- ❑ Drive Shaft
- ❑ Engine/inspection
- ❑ Exhaust System
- ❑ Frame
- ❑ Front Axle
- ❑ Fuel Tanks
- ❑ Gauges/Dash
- ❑ Gauges/Pump Panel
- ❑ Heater/Defroster
- ❑ Horn(s)
- ❑ Lights
  - Head/Tail/Park
  - Brake/Turn
  - Dash/ Panel
  - Clearance
  - Backup
  - 4-way Flasher
  - Emergency/Red
- ❑ Mirrors
- ❑ Oil level (Engine)
- ❑ Primer Oil Level
- ❑ Pump, Main
- ❑ Pump, Booster
- ❑ Radiator/Hoses
- ❑ 2-way Radio
- ❑ Rear Axle
- ❑ Reflectors
- ❑ Safety Equip.
  - Fire Extinguisher
  - Flares/Triangles
  - First Aid Kit
- ❑ Suspension
- ❑ Starter
- ❑ Steering
  - Power Steering Oil Level
- ❑ Tires
  - Pressure
  - Condition
- ❑ Transmission
- ❑ Wheels/Rims
- ❑ Windows
- ❑ Windshield Wipers
- ❑ Equipment (missing or broken)
  - Hose
  - Hand tools
  - Supplies etc.
- ❑ Other (Describe)

Remarks/Detail:_____

_____

_____

_____

_____

❑ Condition of the above vehicle is satisfactory

Operator's Signature:_____

❑ Above defects have been corrected
❑ Above defects need to be corrected prior to operation of the vehicle
❑ Above defects need to be corrected by Ground Support Unit

Mechanic's Signature:_____

STRIKE TEAM LEADER
LINE ASSIGNMENT WORKSHEET

ASSIGNMENT

What:

Where:

When: Update DIVS at:

Other:

SITUATION

Overview:

Weather current/predicted:

Fire Behavior current/predicted:

Time-Tag constraints:

Topographic Features/Hazards:

Reminder- Update Situation Unit Leader after each assigned operational period

ORGANIZATION

DIVS: Designator: Frequency: Cell Phone:

Adjoining Forces	Leader	Coordination Issues	Frequency	Cell
1)				
2)				
Relief:				

Other:

RESOURCES

Water Supply Sources:

Assigned Aircraft: Frequency:

Logistical Support Needs: Drop Point:

Other:

SAFETY

Known Hazards:

Lookout(s) ID: Location: Frequency:

Safety Zones:

Other

Rev 2/2001 J.Marquis

STRIKE TEAM LEADER

SUPPLY REQUISITION RECORD

STRIKE TEAM #_____ UNIT RECEIVING SUPPLIES:_____

ITEM	QTY	JUSTIFICATION	DATE OUT	DATE IN

NOTES:

REV 2/2001 JWM

EMERGENCY ACTIVITY RECORD (Revision 6/2000)

1. Agency Designator					2. Strike Team/Task Force #								3. Incident Order Number										4. Incident/Request Number									
State		3 Letter ID			3 Letter ID		Number			Ltr			State		3 Letter ID			Number					3 Letter ID			ID		Number				

5. Dispatch Information:

Incident Name: _____

Reporting Location: _____

To: ☐ Incident ☐ Comptak ☐ Mobilization Center (Not Staging Area)

Committed to Incident: Time (24 hr): _____ Date: _____

Return from Incident: Time (24 hr): _____ Date: _____

Redispatched: Time (24 hr): _____ Date: _____

6. Redispatched Information: (Start new F-42 if redispatched)

NEW Incident Order Number						NEW Request Number				
State		3 Letter ID			Number	3 Letter ID			ID	Number

7. Overhead Information: ST(TF) Leader / ST(TF) Leader (Trainee) / Overhead Trainees REQUIRE a separate OES F-42 and "O" Request Number

☐ Strike Team Leader or Task Force Leader ☐ Strike Team Leader or Task Force Leader (Trainee)

☐ Overhead Position (ICS Title): _____

8. Support Vehicle Information: ST(TF) Leader / Overhead / Support Vehicle

Vehicle Ownership: ☐ Agency ☐ Privately Owned Vehicle ☐ CDF/OES Vehicle

License or VIN: _____

(Check One Only) ☐ Sedan ☐ Van ☐ Pick-up 2x4 ☐ Pick-up 4x4

☐ S.U.V. Other: _____

9. Privately Owned Vehicles Only:

Beginning Odometer:	Ending Odometer:	Total Miles:

10. Equipment/Resource Information:

Unit No.: _____ Radio Call Sign: _____ ☐ CDF/OES Vehicle

Fire Engine or _____ Type: ☐ 1 ☐ 2 ☐ 3 ☐ 4
(i.e. Water Tender, Air Crash Rescue, etc.)

License or VIN/Serial #: _____ Engine Horsepower: _____

11. Personnel Information:

Number of Personnel on Apparatus: _____

Name (Last Name First)	Classification/Rank	Last 4 Digits of SSN	CDF

12. Comments: (Deviation, Assignments, Reassignments, Equipment Breakdowns, Crew Size Change, Etc.)

Date/Time	

13. Responding Agency Information:

Agency/Department Name:

Signature: _____ Title: _____

Printed Name:

14. Incident Information:

☐ CDF ☐ USFS ☐ BLM ☐ NPS ☐ Other

Time Unit Signature: _____ ICS Position/Title: _____

Printed Name:

Distribution: WHITE: OES Fire and Rescue, 2800 Meadowview Road, Sacramento, CA 95832-1499 (916) 262-1685 PINK: Incident Finance Section GOLDENROD: Responding Agency

OSP 01 56971 PLEASE PROVIDE EXPLANATION OF ANY CHANGES OR CORRECTIONS, PRINT NAME, TITLE AND SIGN OES F-42 (Rev 6/2000)

INSTRUCTIONS FOR THE EMERGENCY ACTIVITY RECORD (FORM-42)

1. AGENCY DESIGNATOR: The State Two-Letter Designator will need to be completed for the first two blocks as follows (CA, NV, AZ, OR). The next three blocks are for your department's Three-Letter Identifier as listed in the Field Operations Guide (FOG) ICS 420-1, Appendix B. Do NOT use the Operational Area (County) code (XLA, XOR).

2. STRIKE TEAM/TASK FORCE NUMBER: Unique identifier for each Strike Team/Task Force assigned at time of dispatch. (Example: OES-1801-A, XAL-2004-A)

3. INCIDENT ORDER NUMBER: A unique identifier assigned to each incident. Assigned at time of incident occurrence, includes the two-letter State Designator. (Example: CA-ANF-14321)

4. INCIDENT REQUEST NUMBER: A unique identifier for the resource requested for the incident.

5. DISPATCH INFORMATION: "Incident, Name and Reporting Location is the name and location of the incident. "Complex" is the term applied to a series of large fires or incidents in close proximity. "Mobilization Center" is an off-incident location where personnel and equipment are temporarily located pending assignment, release or reassignment.

   COMMITTED: Time and Date resource responded to the incident, complex or mobilization center. Use military time.
   RETURN: Time and Date resource will arrival at its final destination. Use military time.
   REDISPATCHED: If resource was redispatched to another incident/mobilization center before returning to home station, do not fill in return time. Indicate Time and Date redispatched, new incident & request numbers, and start a new OES F-42. Note: This information is vital to process payment. Ensure all information is correct. Use military time.

6. REDISPATCHED INFORMATION: REQUIRED if a resource is redispatched. Enter the new order and request number and start a new OES F-42 with the new order and request numbers.

7. OVERHEAD INFORMATION: Required for overhead/STL/TF positions. If the Overhead box is checked please use the ICS position title. Each overhead/trainee positions require a separate F-42 and request number.

8. SUPPORT VEHICLE: To be completed by Leader/Overhead/Support personnel that required the use of a support vehicle at the incident. Payment is based on the type. Be sure to check the appropriate boxes for your vehicle. The "other" box is to be used when the vehicle being described is not covered by the listed boxes (i.e. utility, etc.). The other information required in this section is the agency that owns the unit, the License or VIN, and if the vehicle is owned by CDF or OES.

9. PRIVATELY OWNED VEHICLE INFORMATION: Enter the beginning odometer reading at the time of commitment and the ending odometer reading at the time of return or redispatch from the incident. Enter the totals miles traveled. Payment is based on mileage.

10. EQUIPMENT RESOURCE INFORMATION: Complete all the information requested. Use the Field Operations Guide (FOG) ICS 420-1, Chapter 11, for reference as to the typing of Engines/Rescue/Equipment. Please remember that not all equipment has a license plate number, therefore, a VIN or if no VIN then a serial number will be required on equipment without a plate number. Payment is based on Horsepower of equipment.

11. PERSONNEL INFORMATION: Enter the number of personnel claimed. List the name and rank of all personnel, including the last 4 digits of their social security number. Identify CDF personnel as Schedule A (Sch A), Schedule B (Sch B) or Paid Call Fire Fighter (PCF).

12. COMMENTS: Use this section to provide general information about how your resource was utilized on the incident (e.g. division assignments), and to describe any out-of-service status such as unit/equipment breakdown. If additional comment space is required, attach an ICS-214 Unit Log.

13. RESPONDING AGENCY INFORMATION: To be completed by the resource responding.

14. INCIDENT INFORMATION: This must be signed by the time unit or designated personnel.

PLEASE PROVIDE EXPLANATION OF ANY CHANGES OR CORRECTIONS, PRINT NAME, TITLE AND SIGN

STATE OF CALIFORNIA
DEPARTMENT OF FORESTRY AND FIRE PROTECTION
FIRE CREW ACTIVITY RECORD
FC-33A (REV. 5/92) (MSW 6/99)

FIRE CREW ACTIVITY RECORD

Doc. No. _____

ACTIVITY INFORMATION

UNIT:

INC. NAME:

ORDER NO: REQ. NO.: YEAR:

CREW ACTIVITY

ORG: CREW NAME & NO:

LEADER'S NAME: NO. IN CREW:

DISPATCHED		ARRIVED		RET HOME		TOTAL CREW HOURS
DATE	TIME	DATE	TIME	DATE	TIME	

VEHICLE

VEHICLE TYPE

RADIO NO. I.D. OR X NO.:

MILES TO	MILES ON	MILES RET.

ODOMETER

END:

START:

TOT. MILES:

SPECIAL EQUIPMENT

TYPE OF EQUIPMENT	NO. OF EQUIP. DAYS	TOTAL HOURS

PAYROLL NAME

BILLABLE HOURS	
REG.	PREM

TOTAL BILLABLE HOURS

ACTIVITY RECORD

DATE	NO OF PERSONS (1)	ON SHIFT (A)	OFF SHIFT (B)	SHIFT HOURS (B-A)	BILLABLE HOURS REG	BILLABLE HOURS PREM	SHIFT ASSIGNMENT (Job and Location)	VEH MILES	SPEC EQUIP TYPE NO.	SPEC EQUIP TYPE HOURS
							TRAVEL TO ACTIVITY			
							TRAVEL FROM ACTIVITY			
(1) Explain changes in number:		TOTAL BILLABLE SHIFT HOURS:					TOTALS			

REMARKS: (Regions, Tools, Sleeping Bags, etc., used or lost)

Time Recorder

Incident Base Finance Chief

DISTRIBUTION: WHITE, YELLOW, (Home Camp), PINK (Finance Section Chief)

CREW TIME REPORT

(1) CREW NAME		(2) CREW NUMBER
(3) OFFICE RESPONSIBLE FOR FIRE	(4) FIRE NAME	(5) FIRE NUMBER

(6)	(7)	(8)	(9)		(10)	
RE-MARKS NO.	NAME OF EMPLOYEE	CLASSIF-ICATION	DATE Military Time ON	OFF	DATE Military Time ON	OFF

(11) REMARKS

(12) OFFICER-IN-CHARGE (Signature)	(13) TITLE (Officer-in-Charge)
(14) NAME (Person Posting to Emergency Time Report)	(15) DATE

13.6 Exhibit 04

INSTRUCTIONS FOR COMPLETION OF CREW TIME REPORT, SF-261

Time shall initially be recorded on Crew Time Report, SF-261, see Exhibits 05 or 06, and transferred to the Emergency Firefighter Time Report, OF-288. An exception to this procedure could be where casuals are hired for one operational period and their on-shift time is recorded directly onto an OF-288. In this instance, the supervisor must sign the OF-288.

A CTR is prepared for each operational period as outlined below. Time must be reported in an accurate, legible fashion. At the end of the operational period, the original is given to the Time Unit. A copy is retained by the supervisor.

1. Crew Name. Use crew name or name of single resource.

2. Crew Number. Enter assigned crew number.

3. Office Responsible for Fire. Enter Incident Agency (appropriate federal, state, or local office).

4. Fire Name. Enter assigned incident name.

5. Fire Number. Enter incident order number, not "P" number (e.g., MT-LNF-016).

6. Remarks No. Enter number that corresponds to Remarks in Section 11.

7. Name of Employee. Self-explanatory.

8. Classification. Enter appropriate pay classification (AD-1 through AD-5, GS, WG, etc.).

13.6 Exhibit 04 - Continued

INSTRUCTIONS FOR COMPLETION OF CREW TIME REPORT, SF-261

9. Date. Enter month/day (8/3) in Date Block. Under Military Time Heading, enter military clock time for each period of on-shift time during the operational period.

10. Date. If the operational period involves two days, use column 10 as instructed in Number 9 above.

11. Remarks. Enter any pertinent information such as injury, discharge, transfer, position change, hazard/environmental differential, compensable meal break, etc. Include Remarks No. from Item 6.

12. Officer-in-Charge. Signature of incident supervisor.

13. Title. Officer-In-Charge. Self-exp lanatory (ICS position).

14. Name. Signature of person recording time on the Emergency Firefighter Time Report, OF-288.

15. Date. Date time recorded on OF-288.

13.6 - Exhibit 05

CREW TIME REPORT, SF-261
Method 1

(1) Crew Name: Blackwell R.D. Engine			(2) Crew Number			
(3) Office Responsible for Fire: Vale District BLM		(4) Fire Name: Sun Creek	(5) Fire Number: OR-VDO-092			
(6)	(7)	(8)	(9)		(10)	
Re-Marks No	Name of Employee	Classification	Date 8/8 Miltiary Time On	Off	Date Military Time On	Off
H	S. Burns	GS	0600	1900		
H	A. Brown	GS	0630	1900		
I	R. Wyatt	WG	0700	0930	T	

(11) Remarks

H - Hazard for uncontrolled fireline duty; unable
To take meal break
I - Wyatt traveled to incident to replace
F. Johnson who was injured on 8/6.
E - Env. Diff 25% for uncontrolled fireline
Duty; unable to take meal break

(12) Officer-in-Charge (Signature)	(13) Title (Officer-in-Charge)	
Chris Port	*Div. Supv.*	
(14) Name (Person posting to Emergency Time Report: *Michael Bell*		(15) Date: 8/8/XX

261-101

Standard Form 261 (5/78)
Prescribed by USDA-USDI (NWCG Handbook No.2)

13.6 - Exhibit 06

CREW TIME REPORT, SF-261
Method 2

(1) Crew Name			(2) Crew Number			
SRV # 2			#2			
(3) Office Responsible for Fire		(4) Fire Name	(5) Fire Number			
Payette NF		Airer Road	ID-PNF-030			
(6)	(7)	(8)	(9)		(10)	
Re-Marks No	Name of Employee	Classification	Date 8/8 Miltiary Time		Date Military Time	
			On	Off	On	Off
	H. Castille	AD-4	2000	2400	0001	0800
	V. Reyes	AD-3				
	S. Hernandez					
2	J. Tracheta					
	A. Charez	AD-2	AD-2			
	F. Smith					
	J. Cadero					
	J. Cavez Jr.					
1	R. Fernandez					0600
	H. Valdez					0800
	G. Gusman					
3	Jose Valdez					0130
(11) Remarks						
1 - Fernandez quit. No return travel or Transportation authorized.						
2 - Tracheta to transfer to SRV # 4 at end of Shift.						
3 - J. Valdez injured and transported to hospital Arrived hospital 0130. Admitted.						
(12) Officer-in-Charge (Signature)			(13) Title (Officer-in-Charge)			
Joey LaRoecoa			Div. Supv.			
(14) Name (Person posting to Emergency Time Report					(15) Date	
Laurie Walters					8/4/XX	

261-101

Standard Form 261 (5/78)
Prescribed by USDA-USDI (NWCG Handbook No.2)

INCIDENT PERSONNEL PERFORMANCE RATING	*INSTRUCTIONS:* The immediate job supervisor will prepare this form for each subordinate. It will be delivered to the planning section before the rater leaves the fire. Rating will be reviewed with employee who will sign at the bottom.

THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE

1. Name	2. Fire Name and Number
3. Home Unit *(address)*	4. Location of Fire *(address)*

5. Fire Position	6. Date of Assignment From: To:	7. Acres Burned	8. Fuel Type(s)

9. Evaluation

Enter **X** under appropriate rating number and under proper heading for each category listed. Definition for each rating number follows:

0 - Deficient. Does not meet minimum requirements of the individual element.
DEFICIENCIES MUST BE IDENTIFIED IN REMARKS.

1 - Needs to improve. Meets some or most of the requirements of the individual element.
IDENTIFY IMPORVEMENT NEEDED IN REMARKS.

2 - Satisfactory. Employee meets all requirements of the individual element.

3. - Superior. Employee consistently exceeds the performance requirements.

Rating Factors	Hot Line				Mop-Up				Camp				Other specify)			
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
Knowledge of the job																
Ability to obtain performance																
Attitude																
Decisions under stress																
Initiative																
Consideration for personnel welfare																
Obtain necessary equipment and supplies																
Physical ability for the job																
·ty																
Other *(specify)*																

10. Remarks

11. Employee *(signature)* This rating has been discussed with me			12. Date
13. Rated By *(signature)*	14. Home Unit *(address)*	15. Position of Fire	16. Date

Strike Team/Task Force Leader	Strike Team/Task Force Leader	Strike Team/Task Force Leader	Strike Team/Task Force Leader
Operational Briefing ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures	**Operational Briefing** ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures	**Operational Briefing** ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures	**Operational Briefing** ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures
Strike Team/Task Force Leader	**Strike Team/Task Force Leader**	**Strike Team/Task Force Leader**	**Strike Team/Task Force Leader**
Operational Briefing ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures	**Operational Briefing** ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures	**Operational Briefing** ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures	**Operational Briefing** ▪ Control objectives with alternatives ▪ Basic incident strategy ▪ Operational periods ▪ Weather ▪ Communications ▪ Incident maps ▪ Travel routes and procedures ▪ Resources assigned ▪ Lines of authority ▪ Safety considerations ▪ Evacuation signal ▪ Emergency procedures

Significant Event or Injury Checklist

- Nature of event
- Location
- Magnitude
- Personnel involved (no names over radio)
- Initial action taken
- Subsequent action to be taken

Response Briefing

- Dispatch information
- Travel information
- Safety information
- Logistical considerations
- Chain of command
- Expectations
- Situation Status

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- Expectations
- Situation Status

What is a Critical Incident?

A ***Critical Incident*** can be defined as ANY situation faced by an emergency service person that causes him or her to experience unusually strong emotional reactions, or overwhelms the individual's ability to cope and function. The stress reaction may be experienced immediately at the scene or at some later time. Examples of ***Critical Incidents*** include, but are not limited to:

- *Incidents involving children*
- *Line-of-duty death or injury to emergency service worker*
- *Suicide of a department member*
- *Trapped victims/loss of life following prolonged and extraordinary rescue efforts*
- *Mass casualty incidents*
- *Incidents involving close friends or family members*
- *Serious injury or death of a civilian resulting from emergency response activity*
- *Any incident that produces signs and symptoms of Critical Incident stress*

Signs of Critical Incident Stress

Everyone reacts to a **Critical Incident** in his or her own way. Some present at the incident will have no reaction at all, signifying that this incident is not their Critical Incident. However, some of the most common reactions include the following:

- *Re-experiencing the event (flashbacks)*
- *Heightened awareness*
- *Nausea*
- *Loss of appetite*
- *Difficulty Sleeping*
- *Nightmares*
- *Exhaustion or hyperactivity*
- *Guilt and remorse*
- *Depression/anxiety*
- *Anger or irritability*
- *Numbing, withdrawal, isolation*
- *Decline in job performance*
- *Memory loss, confusion, easily distracted*
- *Marital or family problems*
- *Grief*
- *Obsessive thoughts of the incident*
- *Loss of sense of humor*
- *Feeling of vulnerability*
- *Increased use of alcohol or drugs*
- ***CHEST PAIN/DIFFICULTY BREATHING - require immediate medical attention***

Critical Incident stress reactions may occur immediately, or may occur in the hours, days, weeks, or months following the incident. It is important that you remember that your reaction to the incident is a **NORMAL** reaction to a powerful abnormal event.

Ways to deal with Critical Incidents

- Realize that you are not alone, others are experiencing reactions to the incident. Don't hesitate to call for support.
- Remember that your reactions are **NORMAL.** You are not "weak" or losing your mind.
- Remember that it is **OKAY NOT TO BE OKAY.** You have been through a powerful experience.
- Keep your life as routine as possible. Avoid making any major life decisions at this time.
- Do, however, make a lot of choices about daily activities. Doing so can return a sense of control.
- Keep busy, Structure your time. Spend time with people, especially those who have experienced the incident with you.
- Spend time with your family. Discuss your thoughts and reactions with your spouse or the special person in your life. Talking about the incident is the best way to heal.
- Watch your diet. Avoid sugar and caffeine. Eat regular and balanced meals. Increase your intake of fruits and vegetables.
- Avoid alcohol and drugs. Any relief felt will be short-lived, and your feelings afterward will be more extreme than before.
- Alternate strenuous exercise and relaxation for the first 24 to 48 hours.
- Do not hesitate to call for a "Peer Support" team member to assist you, any time of the day, if you need to talk.
- Attend a **Critical Incident Stress Debriefing session.**

STATE OF CALIFORNIA

VEHICLE ACCIDENT REPORT

STD. 270 (REV. 8/97)

CCIDENT PREVIOUSLY REPORTED TO ORIM? (If ES, give details)

☐ YES ☐ NO

THIS REPORT MUST BE MAILED WITHIN 48 HOURS AFTER ACCIDENT (ACCIDENTS INVOLVING INJURY SHOULD BE FIRST CALLED OR FAXED TO ORIM AT (916) 376-5302 - FAX (916) 376-5277).

**** CONFIDENTIAL INFORMATION ****

DO NOT RELEASE TO OTHER PARTIES WITHOUT CONSENT OF THE OFFICE OF RISK AND INSURANCE MANAGEMENT

DISTRIBUTION:
ORIGINAL - OFFICE OF RISK AND INSURANCE MANAGEMENT, 1325 J STREET, SUITE 1800, SACRAMENTO, CA 95814
COPY: STATE GARAGE (DGS pool vehicle only)
COPY: STATE DRIVER

PAGE _____ **OF** _____

STATE DRIVER

NAME		AGE	EMPLOYING DEPARTMENT	AGENCY BILLING CODE
DRIVER'S LICENSE NO.	ACCIDENT DATE	TIME	OFFICE ADDRESS	AGENCY DOCUMENT NO. (Optional)
WAS VEHICLE BEING USED ON OFFICIAL STATE BUSINESS? *(If NO, attach explanation)*	☐ YES ☐ NO			
APPROXIMATE DATE DRIVER LAST COMPLETED STATE DEFENSIVE DRIVER TRAINING	Mo/Yr ☐ NOT TAKEN		JOB TITLE	BUSINESS TELEPHONE

STATE VEHICLE

VEHICLE LICENSE NUMBER	VEHICLE YEAR, MAKE MODEL	VEHICLE OWNER ☐ DEPT. OWNED ☐ DGS POOL ☐ RENTAL ☐ EMPLOYEE OWNED	DEPT. VEHICLE NO. (Optional)
BRIEFLY DESCRIBE DAMAGES TO STATE VEHICLE	ESTIMATED REPAIR COST	IF DEPARTMENT OWNED OR RENTAL, ENTER OWNER'S NAME	

ACCIDENT DETAILS *(See Reverse for Diagram and Description)*

ACCIDENT LOCATION *(Address/Area.)*	ROAD CONDITIONS
	WEATHER CONDITIONS
(City/State)	TRAFFIC CONDITIONS
(County)	HOW FAST WERE YOU DRIVING / EST. SPEED OF OTHER CAR

POLICE REPORT MADE ☐ YES ☐ NO
AGENCY ☐ CHP ☐ OTHER
NAME AND ADDRESS OF INVESTIGATING AGENCY

OTHER VEHICLE

DRIVER'S NAME	AGE/DOB	VEHICLE LICENSE NUMBER	VEHICLE YEAR, MAKE, MODEL	NO. OF PASSENGERS
DRIVER'S LICENSE NUMBER	HOME TELEPHONE / WORK TELEPHONE	REGISTERED OWNER		
DRIVER'S ADDRESS *(Street, City, State, Zip Code)*		OWNER'S ADDRESS	HOME TELEPHONE / WORK TELEPHONE	
BRIEFLY DESCRIBE DAMAGES TO OTHER VEHICLE OR PROPERTY		NAME AND ADDRESS OF OTHER PARTY'S INSURANCE COMPANY		

INJURED

NAME	AGE	ADDRESS	HOSPITAL
NAME	AGE	ADDRESS	HOSPITAL

WITNESS

NAME	TELEPHONE	ADDRESS
NAME	TELEPHONE	ADDRESS

PASSENGERS

STATE / OTHER	NAME	ADDRESS
STATE	NAME	ADDRESS
STATE	NAME	ADDRESS
OTHER	NAME	ADDRESS

STATE OF CALIFORNIA

VEHICLE ACCIDENT REPORT

STD. 270 (REV 8/97)

***CONFIDENTIAL INFORMATION ***

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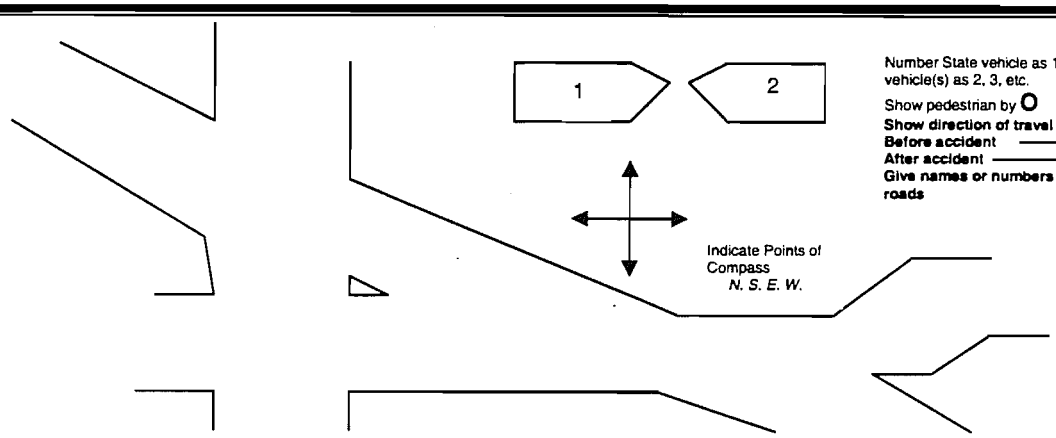
ACCIDENT DETAILS - DESCRIPTI

STATE FULLY HOW ACCIDENT occurred *(Give details, attach additional sheets if necessary)*

AC ENT DETAILS DIAGRAM



Number State vehicle as 1, other vehicle(s) as 2, 3, etc.

Show pedestrian by O

Show direction of travel as follows:

Before accident ——————

After accident ——————

Give names or numbers of streets or roads

ADDITIONAL VEHICLE/PASSENGER(S)

VEHICLE

DRIVER'S NAME		AGE/DOB	VEHICLE LICENSE NUMBER	VEHICLE YEAR, MAKE, MODEL
DRIVERS LICENSE NO.	HOME TELEPHONE	WORK TELEPHONE	REGISTERED OWNER	
ADDRESS *(Street, City, State, Zip Code)*			ADDRESS *(Street, City, State, Zip Code)*	HOME TELEPHONE / WORK TELEPHONE
BRIEFLY DESCRIBE DAMAGES TO OTHER VEHICLE OR PROPERTY			NAME AND ADDRESS OF OTHER PARTY'S INSURANCE CARRIER	

PASSENGER INJURED

NAME	AGE	ADDRESS	HOSPITAL
NAME	AGE	ADDRESS	HOSPITAL
NAME	ADDRESS		
NAME	ADDRESS		

The answers in this report contain a true and full account of the accident, and the vehicle was being operated on ficial business of the state at the time of the accident. (The reviewing officer is to explain any exception.)
tach extra pages as necessary.

Type Name and Title of Reviewing Officer

mployee Signature and Date	Reviewing Officer Signature *(Supervisor or Safety Coordinator)*	*Telephone Number of Reviewing Officer*

Disengagement Guidelines for Indirect Operations

Examination of tragedy and near-miss wildland fires reveal several common denominators. The best known are those discussed in "Common Denominators of fire behavior on tragedy and near-miss forest fires", NFES 2225, Wilson and Sorenson, 1992. This publication should be read by all firefighters and reviewed each season. In addition to the topics discussed in this publication are a few other common denominators that are also important to consider:

- Drought Conditions are often present
- Temperatures are usually 90° or higher
- Relative Humidity is usually 24% or lower
- Fine fuel moistures are less than 6%, and often 3% or 2%
- Ignition Probability is usually 80%-90%
- Frequent spotting is occurring
- A significant wind event often occurs, but little wind or slope is needed for rapid rates of spread in these weather conditions
- Minutes and seconds are usually the difference in escaping or becoming entrapped

In spite of these fairly obvious indicators firefighters still are not always identifying the appropriate time to disengage from their tactical efforts in time to avoid entrapments.

The Disengagement Guideline Chart was developed to provide the wildland firefighters with a quick reference tool to help them identify when they are pushing the envelope, and losing precious minutes needed to safely exit the area. It is also effective as a predictive tool to determine how soon Disengagement Conditions may be reached. It is hoped that by using this Chart wildland firefighters will disengage form their tactical operations sooner, thus saving lives.

This tool is intended for indirect attack operations, working in patchy burned fuels, areas where there is reburn potential, and when there is a risk of spot fires burning from below.

When **Disengage** conditions are reached firefighters **WILL** retreat by way of their escape routes to anchor points and areas of previously burned, black areas where there is no risk of reburn.

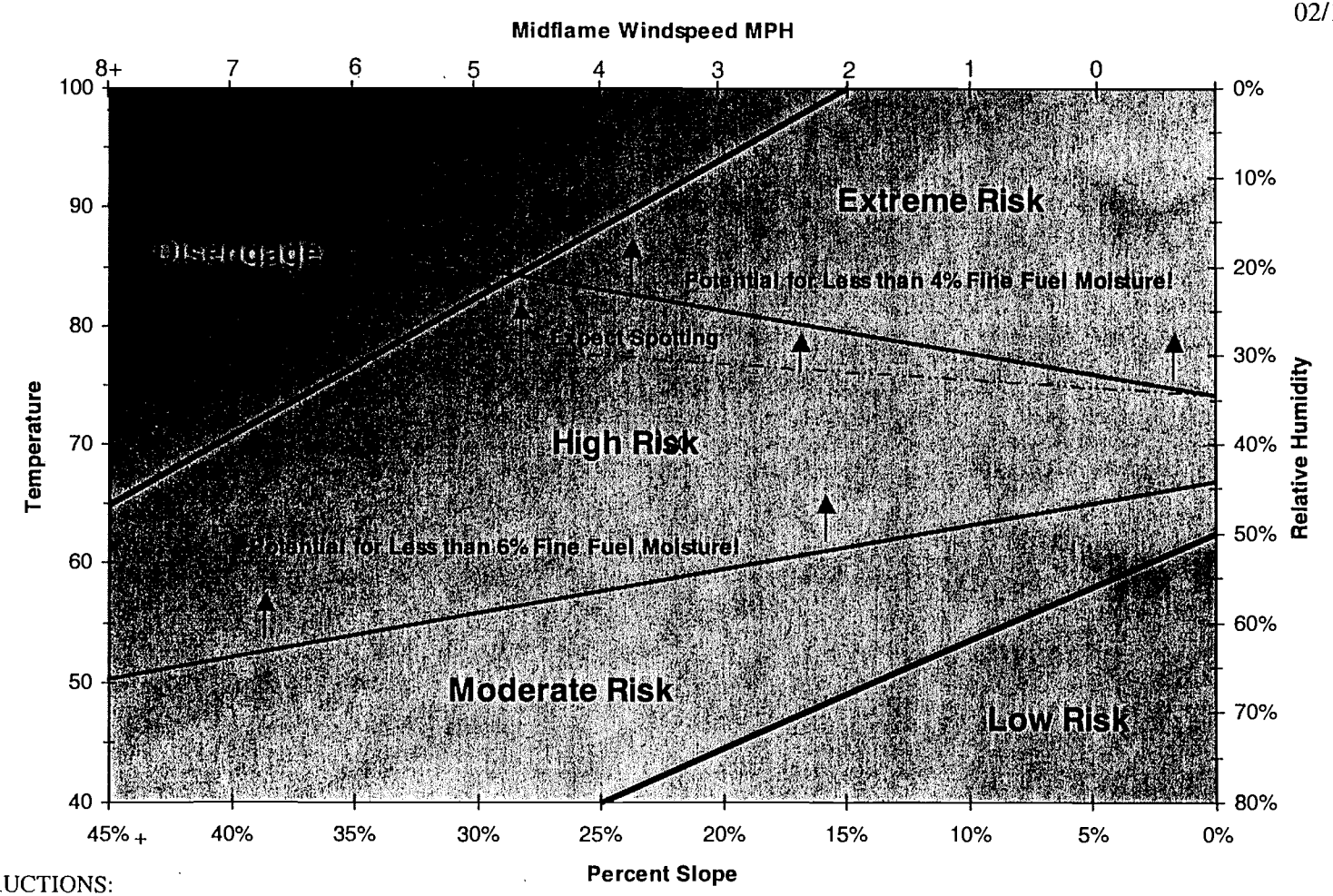
Once all firefighters have safely reached these areas they **WILL** re-evaluate the fire behavior and weather conditions and develop reengagement suppression tactics. To reengage, the Fire Orders **MUST** not be compromised. Consideration should also be given to what the probability of success of the new strategy is.

Use every time Weather is taken!

Contact Tom Leuschen with Comments
509-997-9732

Disengagement Guidelines For Indirect Operations

02/19/02



INSTRUCTIONS:

1. Draw a line from the Temp value to the RH value. 2. Draw a line from the Midflame Windspeed value to the Percent Slope value.
3. Where the lines intersect is the guideline value.

When **Disengage** conditions are reached, firefighters **WILL** retreat by way of their escape routes to anchor points and areas of previously burned, black areas where there is no risk of reburn. Once all firefighters have safely reached these areas they **WILL** re-evaluate the fire behavior and weather conditions and develop reengagement suppression tactics. To reengage, the Fire Orders **MUST** not be compromised.

'eather + Topography + Fuc = Fire Behavior

Example

Date:_____ Fire:_____ Observer:_____

Time	Relative Humidity	Temperature Wet/Dry	Wind: speed/ Direction/Gus t	Cloud Cover	Elevation	Aspect	Slope	Position on Slope	Fuel Model Or Fuels	Smoldering	Creeping Surface	Running Surface	Passive Crowning	Active Crowning	Independent Crowning	Spotting or Rolling
1430	20	52/75	5-7 SW 10	20	5830	S	40	Mid 1/3	P pine w/grass FM 9			Time: 1430				Time: 1430

What trigger points will initiate reassessment of tactics today?

Examples!

RH below 20%
Eye level wind at 7
Temp 90
Slope 30%+

Fire Activity Log

Time/Location: EXAMPLE! 1030/Water Rock Knob, Div. B: 1.5 feet flame length with 5 chains/hour ROS. 100 hour fuels burning to ash & 1000 hour fuels burning.
Time/Location:
Time/Location:
Time/Location:
Time/Location:
Time/Location:
Time/Location:
Time/Location:
Time/Location:
Time/Location:
Time/Location:

Fire Behavior Trigger Point Triangle Checklist

Version 2, February 2002

COLLAPSED STRUCTURE CHECKLIST

- **Size & Type of Structure**_____
- **Potential Number of Trapped & Injured Victims**_____
- **Construction** _____
- **Type of Collapse:** (Pancake) (Lean to floor) (Lean to cantilever) (V shape void)
- **Presence of Hazards:** Bombs-Electrical-Flammables-Gas leaks-Hazardous Materials-Water
- **Resource Order:** _____ _____ _____ _____
- **Designated Safety Officer** (NAME)_____
- **Search Squad** (Leader) _____
- **Rescue Squad** (Leader)_____
- **Medical Team** (Leader) _____

_____

(MAP)

SWIFTWATER RESCUE AWARENESS

Division Chief John R. Hawkins
Technical Rescue Coordinator
Butte Unit

As the first due chief or company officer, you respond to a reported child floating down the local rain swollen creek. The weather is terrible. It has been raining for five days and all waterways are near flood stage. You are well trained in swiftwater awareness and have some technician training but you are not at all comfortable based on the sound of the report nor do you want to make an in-water, contact rescue. All your prior training and limited in-water experience flash before your mind. These concerns and methods reduce to the following bullets:

- SIZE-UP (From Lloyd Layman):
  - Facts
  - Probabilities
  - Own situation (resources)
  - Decision (Plan or IAP or What you will do?)
  - Plan of Operations (Tactics and methods)
- FOUR COMPONENTS OF ANY RESCUE:
  - **L**: Locate the victim
  - **A**: Access the victim
  - **S**: Stabilize the victim or the situation
  - **T**: Transport the victim
- SAFETY RISK CONSIDERATIONS IN PRIORITY ORDER:
  - #1: Rescue self
  - #2: Rescue team
  - #3: Protect any bystanders or civilians. (Essentially scene control; law enforcement can be helpful)
  - #4: Rescue victim
- SAFETY AROUND WATER:
  - No turnouts worn
  - No one within 10' of water not wearing Personal Floatation Device (PFD)
  - Those next to water wear helmets
  - Exact number and location accountability of rescuers kept at all times
  - Safety throw bags ready
  - Knives ready
  - Rescuers not tied to rope
  - Whistles for communications (Commands: 1 blast- stop, look & listen; 2 blasts look upstream; 3 blasts- look downstream; 3 repeated blasts- EMERGENCY)

- SEQUENCE OF WATER RESCUES (Always work from low to higher risk):
  - Talk (Low risk. Try to talk victim to safety.)
  - Reach Low risk. Pike pole, stick, air charged hose line, etc.)
  - Throw (Low risk. Throw bag, rope, etc.)
  - Row (Moderate risk. Boat, board, etc. More dangerous. Contact rescue. Not without training.)
  - Go & Tow (High risk. Dangerous. Enter water, go to & tow victim. Contact rescue. Next to last choice. Not without training.)
  - Helo (High risk. Dangerous. Copter rescue. Contact rescue. Last choice. Not without training.) [This is no longer necessarily true. Might be safer to dangle beneath a copter than swim a class 4 rapid. With current air rescue programs, it may well be safer to fly than to swim.]
- CONSIDER ACCESS OR INTERCEPT POINTS:
  - Bridges
  - Points
  - Crossings
- DANGERS OF SWIFTWATER RESCUES:
  - Force of water is unrelenting (Once pinned by hydraulic effect, rescue becomes very difficult and dangerous).
  - Victim may grab and sink you during contact rescue attempt.
  - Low head dam recirculates water at base of waterfall catching and drowning victims and rescuers (Drowning Machines).
  - Strainers allow water to pass but hold up victims and rescuers (Debris such as rocks and logs which restrict downstream flow and act like combs).
  - Holes (Water passes down into hole sucking victim or rescuers into hole).
  - Rock sieves (Water passes through series of rocks but victim or rescuer becomes entrapped).
- COMMON SWIFTWATER RESCUE LESSONS LEARNED:
  - Train before the event. Study local history to identify future needs.
  - Unify command with responding agencies.
  - Thorough witness interrogation.
  - Unified plan and contingency plan.
  - Common tactical frequency(s).
  - Know common water access points.
  - Employ upstream protection (spotters).
  - Implement downstream protection.
  - Most rescues done within 15' of bank.
  - Wear PFD and helmet within 10' of bank.

- Never put rope around rescuer (except trained and qualified swiftwater rescue technicians who are certified in live bait rescues and have correct releasing PFD's).
- Never tension rope perpendicular across stream (tension at diagonal to allow victim contacting rope to slide to shore or victim holds rope and one side releases rope allowing victim to pendulum to shore).
- Avoid in-water, contact rescue if at all possible.

• WATER TEMPERATURE EFFECTS:

- This chart does not distinguish between moving (dynamic) or still (static) water. The following quote does appear, "A person suddenly immersed in cold water, especially that colder than 50 F, even if unhurt, immediately beings to suffer life threatening problems." Most of the winter local water temperatures average about 45 F to 50 F.

WATER TEMPERATURE	USEFUL WORK	UNCONSCIOUS
32.5 F	Less than 5 mins	Less than 15 mins
40 F	7.5 mins	30 mins
50 F	15 mins	60 mins
60 F	30 mins	2 hours
70 F	45 mins	3 hours

SOURCE: "WILDERNESS SEARCH & RESCUE," by Tim J. Setnicka, Appalachian Mountain Club, Boston, MA, 1980, ISBN 0-910146-21-7, page 447, Table 20, Effects of Water Temperature on Body:

Just before you arrive at the water rescue, you awaken from your nightly training dream to realize that your training, drill and experience have again well prepared you for the emergency facing you. Just to be sure that you correctly remembered all the tactics and methods, you find your previous training notes and refresh your brain.

With the upcoming wet season, we suggest that you all mentally and physically prepare for the possibility of performing a swiftwater rescue. Many firefighters die attempting water rescues where the above bullet points are violated and/or the rescuer has not properly prepared for difficulties at hand. Seek training if you have not had it or drill on the swiftwater training that you have already had.

Good luck and be careful.

WEAPONS OF MASS DESTRUCTION CHECK LIST
(CONVENTIONAL, NUCLEAR, BIOLOGICAL, & CHEMICAL)

INITIAL

- **Establish a command post.**
- **Secure a perimeter.**
- **Designate zones of operations.**
- **Attempt to identify agent of injury. (SAFE DISTANCE)**
- **Stabilize scene.**
- **Move uninvolved persons to a safety zone.**
- **Avoid secondary contamination.**
- **Possible secondary attack. (LOCATION)**
- **Resource order.**

SECONDARY

- **Rescue (Proper P.P.E.)**
- **Decontamination**
- **Triage**
- **Treatment**

HIGH RISE CHECK LIST

- **Personal Protective Equipment** (All Personnel)
- **Establish Command Post** (Minimum of 200 feet from structure)
- **Lobby Control Manager** (NAME) _____
- **Elevator Control**
- **Fire Alarm System Control**
- **H.V.A.C. Control**
- **Access Building Key Lock Box**
- **Resource Order** _____ _____ _____ _____
- **Maintain Resource Status**
- **Maintain Situation Status**
- **Size-Up**
- **Rescue**
- **Incident Stabilization**
- **Property Conservation**
- **Environment Conservation**

(MAP)

SPECIAL HAZARD SITUATION

- **AIR OPERATIONS** Helicopter Transport
  Bucket Drops (Type I Helicopter)
  Air Tanker Drops

- **BELOW GRADE ENTRY**
  Basement Parking
  Structure

- **RESTRICTED SPACE OPERATIONS**
  - Weakened roofs.
  - Weakened floors.
  - Weakened road structures.

- **HAZARDOUS MATERIALS**
  Moving clouds. Down
  wind. Down slope.

- **LADDERS OR AERIAL PLATFORMS**
  Operations above the incident.

- **HIGH RISE** Using Elevators.
  Working above fire floor.
  Falling debris.

- **CONFINED SPACE** Trench rescue. Tank
  rescue. Buildings with I.D.L.H.
  atmospheres.

- **SWIFT WATER** Wearing
  turnouts. Water
  flow. (F.P.S.)
  Submerged objects.

- **WILDLAND** Downhill line
  constuction. Structure
  protection. Undercut line.

OES CALIFORNIA

Governor's Office of Emergency Services

OES FIRE AND RESCUE BRANCH

California Fire Service and Rescue Emergency Mutual Aid System

STRIKE TEAM / TASK FORCE LEADER MANUAL

GRAY DAVIS
Governor

DALLAS JONES
Director, Governor's Office of Emergency Services

Rev 06/02

OES MANUAL OF PROCEDURES AND DUTIES STRIKE TEAM / TASK FORCE LEADER (ENGINE)

KIM ZAGARIS, Chief
OES Fire and Rescue Branch

Revision Editing: Jim Marquis, Gary Glotfelty, and Pat Cooney

Printing/Assembly: Sue Dubie-Holbrook

STRIKE TEAM/TASK FORCE LEADER MANUAL (ENGINE)

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STRIKE TEAM/TASK FORCE LEADER MANUAL (ENGINE)

A INTRODUCTION

This document is provided for OES and local government Strike Team/Task Force Leaders and Company Officers. It will provide guidance in the preparation and operation of your OES Strike Team at any incident. The information presented is based on past experience, recognized standards, and OES policies and procedures.

The Strike Team/Task Force has become an effective tool in the emergency management of incidents of all types. The use of Strike Teams and/or Task Forces enables the fire agency to make incident assignments on a team basis. Fire apparatus and crews, with a team leader, arrive as a team, work as a team, and are released or reassigned as a team.

ENGINE STRIKE TEAM TYPES AND MINIMUM STANDARDS

Requests for apparatus should always be by ICS Type and Kind:

KIND	Strike Team Types	Number/ Type	MINIMUM EQUIPMENT STANDARDS							MINIMUM STAFFING		
			Pump Cap.	Water Cap.	2½" Hose	1½" Hose	1" Hose	Ladder	Heavy Stream	S/T Leader	Per Single Res.	Total Pers.
ENGINES	A	5-Type 1	1000 GPM	400 Gal	1200 Ft	400 Ft	200 Ft	20 Ft Ext.	500 GPM	1	4	21
	B	5-Type 2	500 GPM	400 Gal	1000 Ft	500 Ft	300 Ft	20 Ft Ext.	N/A	1	3	16
	C	5-Type 3	120 GPM	300 Gal	N/A	1000 Ft	800 Ft	N/A	N/A	1	3	16
	D	5-Type 4	50 GPM	200 Gal	N/A	300 Ft	800 Ft	N/A	N/A	1	3	16

In the Incident Command System (ICS) terminology a "Strike Team" is defined as:

"Specified combinations of the same kind and type of resources, with common communications and a leader."

In some instances, due to the nature of an incident, Task Forces may be formed. A Task Force is defined as:

> **"A group of resources with common communications and a leader, that may be pre-established and sent to an incident, or formed at an incident."**

It is important you understand the difference between Strike Teams and Task Forces. An engine strike team is a specified number (5) and type of engines (Type I, II, III or IV), assembled for a tactical assignment on an emergency. A Task Force could be any combination of engines, mixed with other types of suppression and rescue resources. An example of a Task Force is two engines, a ladder truck, and an ambulance, with a leader.

An OES Engine Strike Team will consist of five engines, Type I or Type II, and a Strike Team Leader.

If you are a Strike Team Leader, Company officer, or a firefighter, many thoughts will flash through your mind when your department is assigned to a major emergency.

- If you do not have an OES engine assigned to your department, which engine (type) should respond?
- What personal items and clothing do you need to pack?
- Is all personal protective equipment (PPE) needed? Wildland and Structural?
- Will your strike team respond together or will you assemble at the emergency?
- Do you know where the incident is located? How will you get there?
- Do you need an Incident Order Number and Request Number?
- Can you communicate with your supervisor? Radio? Cell Phone?
- Who do you contact if you have a problem enroute to the emergency?
- On arrival, who do you report to?
- Will you need to complete special forms?
- Will an OES Assistant Chief be at the incident?

The list of questions you may ask yourself may be endless. The purpose of this document is to present the information you need to answer these questions. **Our goal is to prepare you to respond to any incident and perform the tasks you have been trained for.**

RESPONSE PREPARATION

Many fire departments in California have developed STRIKE TEAM KITS, which may be carried in a staff vehicle or on an engine. You may also wish to develop a checklist to assist you before leaving on an assignment that will require you to travel long distances and be of an extended duration.

> ***REMEMBER: It may be some time before you eat and get a place to sleep. You can get wet, dirty, and cold. Be prepared to take care of your personal needs. Being properly prepared strengthens personal confidence and security.***

NEEDS

- Credit Cards - Fuel, Personal, ATM, telephone calling card.
- Money - to be used for food, phone calls, other needs while traveling to and from the incident.
- Change of clothes, underwear, socks, and proper footwear.
- Personal items: toothpaste, toothbrush, shaving gear, toilet paper, bandanna, towel, replacement eye glasses/contact lens, etc.
- Medicine or medication, if required.
- Canteen, non-perishable food (freeze dried or MRE), canned juices, etc.
- Sleeping bag, blankets, cot, or sleeping pad.
- Safety equipment: Structural and wildland turnouts, helmet, gloves, fire shelter, goggles, boots (high top, all leather, lace-up, sewn lug sole), etc.
- Breathing apparatus (with spare bottles).
- First Aid Kit, eye-wash, aspirin, snake bite capability.
- Flash light, extra batteries.
- Portable radio (with White Fire & CALCORD frequencies), extra batteries, charger.
- Cellular telephone, pager, etc., extra batteries, chargers.
- Maps: AAA, Thomas Brothers, topographic, etc.
- Belt weather kit.
- Compass, GPS device, clipboard, tape, pencils, flagging, etc.
- Other items you may require for a long assignment.

NOTE: Don't forget the apparatus and its needs. If not carried, bring:

- Extra engine oil, transmission fluid.
- Engine drive belts.

It is important that you know the proper procedures to follow in the event problems develop while enroute or returning from a Strike Team response. Do you have the authority to purchase fuel, food, motel accommodations, or to repair apparatus and equipment? If you do not have the authority, it is important you know whom to contact for assistance. This document will address OES policies and procedures that apply to fire departments assigned an OES fire engine. In any case, if you have an emergency, contact the closest fire agency for temporary assistance. It is extremely important that you notify your Operational Area Fire and Rescue Coordinator (dispatch center) if you encounter problems on the road. They can make necessary arrangements, provide direction, and contact your department for you.

You should have these phone numbers with you at all times:

1. Operational Area Fire and Rescue Coordinator Dispatch Center

2. Regional Fire and Rescue Coordinator Dispatch Center

3. OES Fire and Rescue Branch, Sacramento, (916) 845-8711, 24-Hour Nurnber (916) 845-8911

DUTIES AND RESPONSIBILITIES

The Strike Team/Task Force leader selected to command the strike team **SHOULD BE AN EXPERIENCED CHIEF OFFICER**, knowledgeable in both structural and wildland fire control. Personnel responding to a Forest Agency request for overhead positions shall meet the training requirements established for the ICS position to be filled. (Reference: NWCG 310-1) Most fire departments, with the assistance of their Operational Area Fire and Rescue Coordinator, take part in Strike Team/Task Force Leader (Engine) training classes. Following successful completion of class, individuals may be placed on a list as a Strike Team/Task Force Leader (Engine) (or as a Trainee), if authorized by the Chief of their department. Strike Team/Task Force Leader "lists" are normally maintained by the Operational Area Fire and Rescue Coordinator's dispatch center.

The Strike Team/Task Force Leader (Engine) is Responsible for:

1. The overall safety and condition of the strike team, personnel and equipment.

2. The movement of the strike team traveling to and returning from the emergency.

3. Operational deployment of the strike team at the incident, as directed by the Incident Commander, or other member of the Incident Management Team.

4. Familiarity with strike team operations, including assembling, responding, and directing the actions of the assigned units, keeping the team accounted for at all times.

5. If the strike team is dispatched on an Initial Attack basis, assembling the units at the incident.

6. Contacting the OES Assistant Chief (your agency representative) for assistance with problems encountered on the incident, including mechanical, operational, or logistical issues.

7. Ensuring your vehicle has adequate communications capability. (See Appendix A. (Fire Service Field Operations Guide, ICS 420-1) You should have all White Fire frequencies (White 1: 154.280 MHz, White 2; 154.265 MHz, White 3: 154.295 MHz), CALCORD 156.075 MHz, or at minimum a common frequency with all engines in your strike team.

   Note: The use of CALCORD must be approved through the Telecommunications Branch, OES Headquarters, 3650 Schriver Ave., Mather, CA 95655. Contact OES Fire and Rescue Branch, Sacramento, for information and instruction booklet.

   Description: The California On-Scene Emergency Coordination System (CALCORD) is established to provide common radio frequencies to be used statewide by state and local Public Safety and Special Emergency agencies during periods of person caused or natural disasters or other emergencies where interagency and/or interdisciplinary coordination is required.

   It operates under appropriate Federal Communications Commission Rules and Regulations and is administered by the State of California through the Office of Emergency Services. The Office of Emergency Services Telecommunications Advisory Committee exercises general supervision and disciplinary control.

   CALCORD Utilization: CALCORD will be used in mobile and portable units at the scene of any emergency incident requiring coordinate action by more than one agency. These agencies must be eligible to operate in the Public Safety or Special Emergency Radio Services. It is intended that this System be used to facilitate communications when the Incident Command System is used. Use of this System will be limited to emergency operations only, with the exception of tests and drills.

8. Submitting all Apparatus Inventory (OES engine only) and Emergency Activity Record (F-42) forms for each engine company to the OES Assistant Chief at the incident. If you are unable to contact an OES Assistant Chief, submit all forms to the Operational Area Fire and Rescue Coordinator when you return to your home base. The Operational Area Fire and Rescue Coordinator will forward them through Region, OES Headquarters in Sacramento.

9. The safety of all personnel and apparatus during response, emergency operations, or while in staging areas, mobilization center, and return to home jurisdictions.

10. Maintaining positive public relations for OES, the incident, the agencies represented on your Strike Team/Task Force, and the California Fire Service.

Simply stated, the Strike Team/Task Force Leader (Engine) must have the capability and experience for managing, coordinating, and directing the actions of fire crews/companies at a wide variety of emergency situations. This includes maintaining all required records, and ensuring the logistical needs of all personnel are met during the entire activation of the strike team/task force.

A Strike Team/Task Force may, at the discretion of the local agency, include a Strike Team/Task Force leader trainee as a reimbursable member of the unit. The trainee will be covered under a Strike Team/Task Force order-request number and will be identified on a separate OES F-42. The Strike Team/Task Force leader trainee should check in with the Planning Section or an Incident Training Specialist. The Strike Team/Task Force Leader Trainee shall travel with the Strike Team/Task Force in a vehicle from the existing Strike Team/Task Force and will not be reimbursed for the use of a separate trainee vehicle. Personnel filling Strike Team/Task Force leader (trainee) positions shall be certified at the Strike Team/Task Force leader (trainee) level per Wildland Fire Qualification NWCG 310-1 Sub System Guide or the California Incident Command Certification System (CICCS)

OPERATIONAL PROCEDURES

The Strike Team/Task Force Leader will receive instructions at the time of dispatch by the Operational Area Fire and Rescue Coordinator Dispatch Center. Information should consist of the following:

I. **INCIDENT ASSIGNMENT**

A. **Incident Name, and type**, if known; i.e., "Pinecrest Fire, Interface fire with structural threat".

B. **Incident Order Number** - You will receive an Incident Order Number (example: CA-TGU-02791) if CDF, USFS, BLM, or NPS is the requesting agency. If local government is the requesting agency you may receive this number after arrival at the incident. Enter this number on the Emergency Activity Record (OES Form F-42).

C. **Request Number** - Associated with the Incident Order Number, you must receive a Request Number (example: E-202). Enter on the Emergency Activity Record (OES Form F-42).

D. **Reporting Location and Travel Route** - Obtain detailed information, if needed; i.e., "Pinecrest Staging Area, Pasadena Civil Defense Center, 2738 New York Avenue, Pasadena, California".

Westbound I-210 Freeway to Altadena Off Ramp, north to New York Avenue. Follow signs when approaching staging area. Report to Captain John Doe, Pasadena Fire Department. Check-In on arrival. Radio contact, "Pinecrest Staging, on White Fire - 154.280"

E. **Obtain Strike Team Number.** The number is your identification and will be used to track and direct all movements of your strike team, both emergency and non-emergency. (The Strike Team Number consist of a 3-letter designator; a 4-digit number, and a letter, i.e., OES 2801 A or XAL 2004 A)

For example, OES ST 1801-A, would be identified as "OES STRIKE TEAM ONE EIGHT ZERO ONE A"

DO NOT CHANGE OR ALTER THIS NUMBER; it is yours from the beginning to the end of this period of mobilization.

F. **Communication Frequency** - You will receive the radio frequency for your contact point on arrival at the incident; e.g., Staging Area 154.280 (White One) or Division A Supervisor 154.295 (White Three) for a line assignment.

II. INITIAL ATTACK, IMMEDIATE, OR PLANNED NEED

The Requesting Agency should determine whether a Code-3 response is necessary. For INITIAL ATTACK or IMMEDIATE NEED a Code-3 response is generally warranted for response within an Operational Area or to an adjacent Operational Area to PROTECT LIFE OR PROPERTY imminently threatened by the event.

If the assignment is a PLANNED NEED and will not begin until the next operational period, or a designated time subsequent to the next period, it will be determined how much time is needed for the resources to prepare and respond, and whether they will assemble at an established rendezvous point or at the incident. This will in turn determine the departure time of the resources. If time permits, it is desirable for the resources to assemble and be briefed by the Strike Team/Task Force Leader prior to arriving at the incident.

MODE	TIME FRAME	LOCATION OF INCIDENT
INITIAL ATTACK Usually a code-3 response for protection of life and property	Instantly or as quickly as possible	• Closest available mutual aid resources within operational area or adjacent operational area. • Resources will normally rendezvous ***at the incident.***
IMMEDIATE NEED May or may not be a code-3 response	Responding within 30 minutes	• Mutual aid resources respond to incident within 30 minutes from time of dispatch within operational area, adjacent or other operational area. • May or may not rendezvous prior to departure.
PLANNED NEED Normally not a code-3 response	• Planned incident arrival time determines departure time	• Mutual aid resources respond within the operational area, adjacent operational area, region or state- as needed for the next operational period or as determined by requesting agency. • Usually will rendezvous before departure and travel together

III. AT THE RENDEZVOUS POINT

Provide Strike Team/Task Force Briefing

1. Introduce you, the Company Officers, and team members.

2. Inform the team what you know about the incident, and the strike teams assignment. Determine your response route; consider time of day and fueling stops. Select one Engine Company Officer to "bring up the rear" while traveling, and to lead the Strike Team/Task Force in your absence. Identify a common radio frequency for enroute strike team communications.

3. Conduct an inspection of the strike team to determine crew size and capability, apparatus capability, special equipment carried, communication capability, etc.

   NOTE: All OES engines are equipped with an OES Fire Net Radio, which operates in conjunction with a mountaintop repeater system. Additionally, OES engines will have White frequencies and Local frequencies. Some OES engine assignees have installed their own department radio with local frequencies. Should it be necessary to communicate with an Operational Area or Regional Fire and Rescue Coordinator Dispatch Center, use the OES Fire Net radio in one of the OES engines.

4. Identification - OES Strike Team Leaders should have an OES Strike Team Leader Kit. If you do not have one contact the OES Assistant Chief assigned to the incident. The kit includes:

   a. Operations Bulletin #8 (OES Emergency Activity Record)

   b. Form F-42 (OES Emergency Activity Record)

   c. Apparatus Inventory forms (OES Form F-157), including sample

   d. Form ICS-214, Unit Log

   e. Strike Team Leader Control Record

   f. Bumper Stickers

   g. Strike Team/Task Force Leader (Engine) Manual

   This packet of information is intended to make the required record keeping easier; however, it should not hamper your primary mission if you do not receive the "kit."

5. Instruct company officers to inventory OES engines after release (or reassignment to another incident). The OES Assistant Chief, Fire and Rescue Coordinator on scene will verify inventory. The F-42 (Emergency Activity Record) must also be completed. Enter the Strike Team Number, Incident Order Number and Request Number, along with the signature and title of the requesting agency official. When completed, submit forms to the OES Assistant Chief.

At time of response, you may be requested to respond directly to a Division/Group

Supervisor for immediate assignment. The Strike Team/Task Force Leader should Check-In and obtain a briefing from the Division/Group Supervisor as soon as possible after arrival.

IV. ACTIVE ASSIGNMENT

A. Reporting Location - Obtain detailed information.

B. Incident Information - you should receive the following at time of dispatch:

1. Incident Type and Check-In location
2. Name of incident, if known
3. Incident Order and Request Number
4. Your Strike Team/Task Force number
5. Communications frequency (travel and tactical)
6. Name of person to whom you are to report and radio call number

NOTE: Use clear text (no radio codes) and common terminology in all radio transmissions.

The following is a position statement for a Strike Team/Task Force Leader. It will serve you as an operational checklist at an incident. This information is found in the Field Operations Guide, Operations Section, Chapter 6 (ICS-420-1).

The Strike Team/Task Force Leader reports to a Division/Group Supervisor and is responsible for performing tactical assignments assigned to the Strike Team or Task Force. The Leader reports work progress, resource status, and other important information to a Division/Group Supervisor, and maintains work records on assigned personnel.

- Review Common Responsibilities, found in Chapter 1 of the Field Operations Guide.
- Review assignments with subordinates, and assign tasks.
- Monitor work progress and make changes when necessary.
- Coordinate activities with adjacent strike teams, task forces and single resources.
- Travel to and from active assignment area with assigned resources.
- Retain control of assigned resources while in available or out-of-service status.
- Submit situation and resource status information to Division/Group Supervisor.
- Maintain Unit/Activity Log (ICS Form 214).

• WILDFIRE COMMAND CHECKLIST •

SIZE-UP

Major factors:
- Life hazard(s)?
- Fuel, Topography & Weather?
- Time of fire start? Type of fire?
- General Location? Where is the fire?
- What is burning? What will burn?
- Resource & Situation Status & Avail?

FIRE BEHAVIOR

Relative Humidity (RH)
- Cut in half for each 20° rise in temp
- Fires burn well < 20%; explosive <10%

Wind (Direction & velocity)
- Rate of spread doubles when wind doubles above 10 MPH

Ignition Component (IC)
- Probability of fire start; scale: 0 to 100%
- Spotting >50%; >80%, spots certain

Burning Index (BI)
- Difficulty of control in worst case
- Flame length = BI ÷ 10; scale: 0 to infinity (×)

Rate of Spread (ROS)
- ROS at head of fire, feet per min
- Doubles for each 20% increase in slope
- Doubles as wind doubles above 10 MPH

INCIDENT ACTION PLAN

• PLAN Incident
- Do Size-Up; Complete ICS Form 201
- Order & assign personnel
- Order Immediate Need resources
- Order next operational period resources
- Order support (water, feeding, foam, etc.)

• ORGANIZE Incident
- Create Branches, Divs/Grps, ST/TF
- Assign Command Staff positions

• DIRECT Incident Operations
- Give assignments & ensure understanding
- Supervise activities with key to safety

• CONTROL Incident Operations
- Compare accomplishments to planned activities
- Adjust plan, if needed; be flexible

SAFETY

Most critical factor-SEE OTHER SIDE
Wear full personal protective equipment
Possess & know how to use fire shelter

PRODUCTION CAPABILITIES

Engines-progressive Hoselay
- Min. 3 engs, 1 WT & 9 FF's per lay
- Min. 1.5" or 1.75" hose & 50 GPM
- Laterals every 200'; Ave. 4 mins/100'

Dozers-line construction
- Single pass line = 1/2 mi or 900 yds/hr
- Ask operator; use swamper
- Production varies:
  - Veg ht, topog, dozer condition, operator

Fire Crews-line construction
- 15 FF crew production per hour:
- Grass (2' ht): 900' per hr, 3' wide line
- Med brush (4.5' ht): 450'/hr, 6' wide line
- Hvy brush (6' ht): 300'/hr, 9' wide line
- Heav'st brush (9' ht): 225'/hr, 12' wide line

Air Tankers
- Type 1: 3000+ gallon capacity
- Type 2: 1800+ gallon capacity
- Type 3: 600+ gallon capacity
- Drop patterns: salvo, trail, split

Air Tanker Safety Rules
1. Move out of area if possible
2. Avoid large, old trees/dead limbs
3. Never stand up in path of drop
4. Get behind solid object
5. Lie face down, face oncoming drop, hold tool at side, spread feet, helmet-goggles down, cover face & support drop

Copter Tanker Safety Rules
1. Stay in full view of pilot
2. Approach/depart on downhill side
3. Chin strap fastened or helmet at side
4. Carry tools horizontally
5. Fasten seat belt
6. Follow instructions of pilot
7. Never throw anything from copter

Revised May 13, 2001

Wildfire Command Checklist courtesy of Division Chief John Hawkins, CDF-Butte County Fire

10 STANDARD FIRE ORDERS

FIRE WEATHER & BEHAVIOR

1. **Keep informed on fire weather conditions and forecasts.**
2. **Know what your fire is doing at all times. Observe personally, use scouts.**
3. **Base all action on current and expected behavior of the fire.**

SAFETY

4. **Have escape routes and make them known.**
5. **Post a lookout when there is possible danger.**
6. **Stay alert. Keep calm. Think clearly. Act decisively.**

COMMUNICATIONS & CONTROL

7. **Give clear instructions and be sure they are understood.**
8. **Maintain prompt communications with your firefighters, your supervisor, and adjoining forces.**
9. **Maintain control of your forces at all times.**

SUMMARY

10. Fight fire aggressively having provided for safety first.

18 SITUATIONS THAT SHOUT "WATCH OUT"

1. Fire not scouted or sized-up.
2. Fire 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 communications link with crew members or supervisor.
8. Constructing a line without a safe anchor point.
9. Building fire line downhill with fire below you.
10. Attempting a frontal assault on the fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire and not in contact with anyone who can.
13. On a hillside where rolling fire can ignite fuel below you.
14. Weather getting hotter and drier.
15. Wind increases or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zones difficult.
18. You feel like taking a nap near the fire line.

LCES

Lookouts
Must be experienced & able to determine problem
Must be able to see FF's & Fire

Communications
Must be able to tell FF's of impending problem
Must have communications

Escape Routes
Must have one & desirably two escape routes
Must lead to safety zones

Safety Zones
Areas where fire shelters not needed
Consider topographical position
Consider fire environment on zone location

COMMON DENOMINATORS OF FIRE BEHAVIOR ON FATAL & NEAR-MISS FIRES

1. Most incidents happen on smaller fires or on isolated sections of larger fires.
2. Flare-ups generally occur in deceptively light fuels, such as grass, herbs, and light brush.
3. Most fires are innocent in appearance before unexpected shifts in wind direction and or speed result in "flare ups". In some cases, tragedies occur in the mop-up stage.
4. Fires respond to large and small scale topographical conditions, running uphill surprisingly fast in chimneys, gullies, and on steep slopes.
5. Some suppression tools, such as helicopters or 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.

DOWNHILL-INDIRECT LINE CONSTRUCTION GUIDELINES

Downhill/Indirect line construction in steep terrain and fast burning fuels should be done with extreme caution. Direct attack methods should be used whenever possible. The following guidelines should be followed:

- The decision is made by a competent firefighter after thorough scouting.
- Downhill line construction should not be attempted when fire is present directly below the proposed starting point.
- The fire line does not lay in or adjacent to a chimney or chute that could burn out while a crew is in the vicinity.
- Communication is established between the crew working downhill and the crews working toward them from below. When neither crew can adequately observe the fire, communications will be established between the crews, supervising overhead, and a lookout posted where the fire's behavior can be continuously observed.
- The crew will be able to rapidly reach a zone of safety from any point along the line if the fire unexpectedly crosses below them.
- A downhill line should be securely anchored at the top. Avoid underslung line if at all practical.
- Line firing should be done as the line progresses, beginning from the anchor point at the top. The burned out area provides a continuous safety zone for the crew and reduces the likelihood of a fire crossing the line.
- Be aware of and avoid the "WATCH OUT SITUATIONS!"
- Full compliance with "THE STANDARD FIRE ORDERS" is assured.

Revised May 13, 2001

Wildfire Command Checklist courtesy of Division Chief John Hawkins, CDF-Butte County Fire

PROCEDURES AND POLICIES -- OES ENGINES

The following procedures and policies apply to OES Engines. If you have questions or doubts regarding any procedures, contact the OES Assistant Chief at the scene, or contact the OES Fire and Rescue Branch in Sacramento, at (916) 845-8711 (24-Hour number: (916) 845-8911)

1. The petroleum credit card carried on the OES engine is to be used **ONLY** for the assigned unit, and is restricted to certain purchases. (See OES Operations Bulletin #11 - *Credit Card Use*, in the OES Engine Log Book)

    - Gasoline or diesel fuel
    - Fan belts (emergency purchase only)
    - Tire repairs (emergency repair)

2. Repair of OES fire engines, in excess of $50.00, must have OES Fire and Rescue Branch approval.

3. OES fire apparatus are Type I or Type II Engines, and are commonly requested for structural protection in a wildland or urban interface fire environment. They are not designed for operations on narrow, unsafe roads, cat or brush trails. Use good judgment when deploying OES fire apparatus during emergency operations. Plan ahead.

4. Water tanks on OES fire engines **are not** to be emptied to facilitate a faster response.

5. Only qualified members of the assigned department shall drive and operate OES fire engines (agency insurance coverage).

6. OES Engine Log Books are carried on all OES Engines. Record all losses, repairs, and maintenance. When completing the OES Fire Report, attach all fuel delivery receipts and forward to OES, Sacramento, monthly.

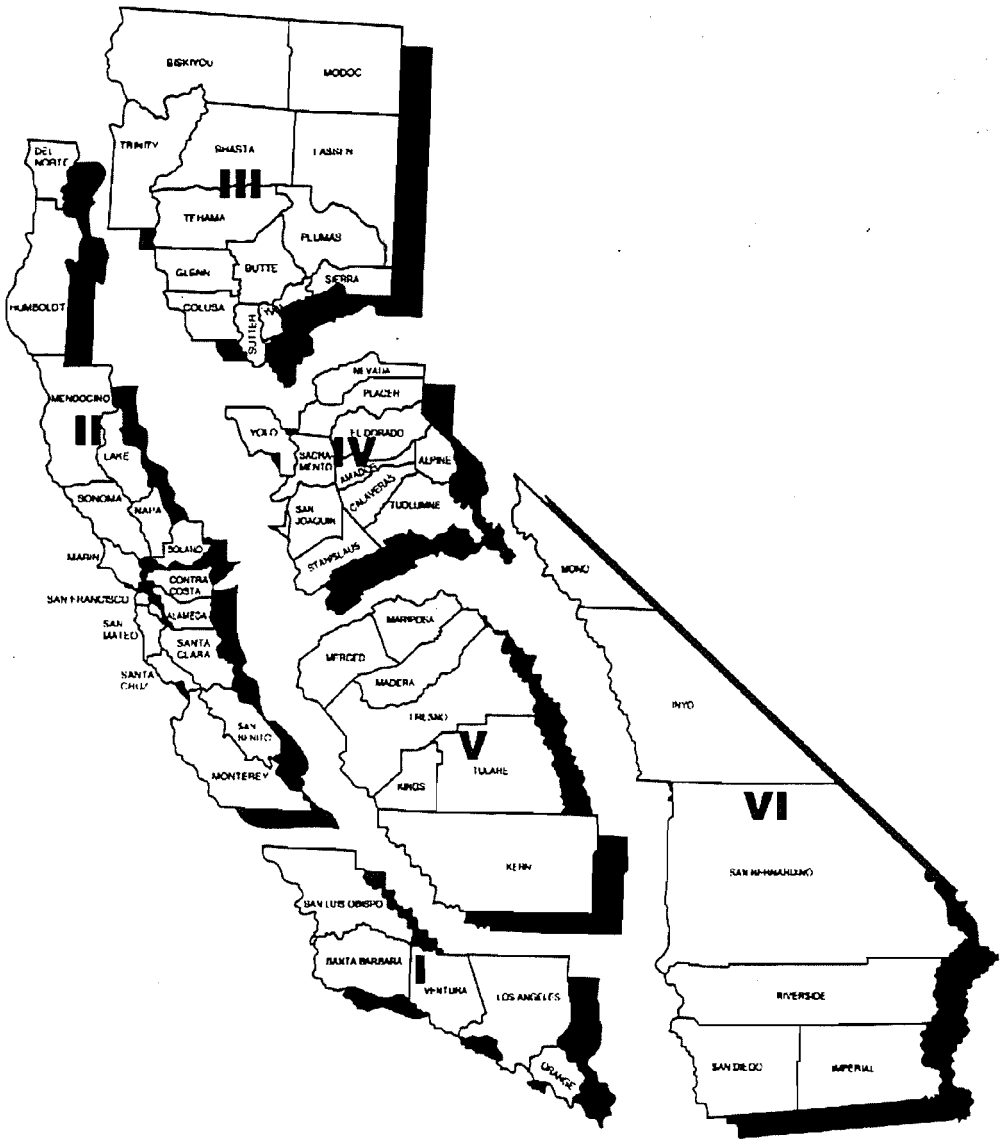
7. **WARNING** -- OES engines are heavy fire apparatus. Avoid excessive speed, especially on grades. Frequent brake application causes brake fade and the brake system will be ineffective! Have qualified maintenance personnel adjust brakes on a regular basis!

8. The purchase of tires and batteries requires approval of the OES Fire and Rescue Branch. It is acceptable to borrow (if possible) a tire or battery from a local fire agency during an emergency response. The OES Fire and Rescue Branch will replace the local fire service agency's stock as soon as possible. During a major fire emergency, tire service is normally available at or near the incident base (contact Ground Support unit).

    Your Operational Area Coordinator Phone Number:_____

    Your Operational Area Dispatch Phone Number:_____

OES FIRE and RESCUE MUTUAL AID REGIONS



OES 24 HOUR -- (916) 845-8911

ENGINE STRIKE TEAM/TASK FORCE RESPONSIBILITIES

DO NOT:

- DO NOT take lawn chairs, hammocks, large radios or TV. Pets or animals are not allowed. YOU ARE RESPONDING TO AN EMERGENCY.

- DO NOT bring non-fire related equipment on engines (i.e. mattresses, chairs, etc.) If it doesn't fit in the compartments, do not take it.

- DO NOT have major repairs done on OES engines, without OES authorization. You may have to pay the bill yourself. This includes tires and batteries. (Refer to "Procedures and Policies- OES Engines" in this manual)

• DO:

- DO provide staffing of three or four firefighters, safely belted in the cab of the apparatus. **NO PERSONNEL SHALL RIDE ON TAILBOARD**. All personnel must have full turnouts for structure fires, and all required wildland personal protective equipment. All members will wear and use PPE when appropriate. Consider double layering with cotton under garments

- DO take a change of clothing, toothbrush, soap, towel, sleeping bag, and air mattress. Rations should be carried on the engine for emergencies. Take cash, credit cards and get receipts for all purchases. Do take an ice chest for crew, to be stored in compartment. A small portable radio/TV is permissible. Bring reading material, camera, etc. (Caution, lost or damaged personal items may not be replaced or repaired by the Fire Agency)

- DO notify your OES Operational Area Dispatch Center when you are enroute and when you arrive back to your home station.

- DO treat all firefighters, officers, and the public with respect. You might not always agree to the way things are being done. Keep your eyes open and learn.

- DO contact your fire department by phone once every 24 hours. The person in charge of the engine should report to headquarters the following information:

    1) Condition of personnel
    2) Condition of equipment
    3) Location -- who or where you are assigned
    4) Length of stay or assignment, if known
    5) Relay messages to be passed on to families or staff

- DO call OES Fire and Rescue Branch Headquarters by phone or radio, at (916) 845-8711, or 24 Hours at (916) 845-8911, if a mechanical problem occurs on the way to an assignment. They will advise you how to handle the problem.

CODE OF CONDUCT
FOR STRIKE TEAMS

1. No alcohol or drugs will be transported or consumed at any time.

2. Normal radio procedures will be utilized. Radio traffic between units will be kept to a minimum.

3. This is not a vacation.

4. Know whom you are working for.

5. Limit the procurement of equipment to what is needed.

6. All equipment issued at the incident must be returned before you are demobilized. Theft of equipment is a crime.

7. Crews will maintain a state of readiness when not assigned.

8. Recreation will be limited to out-of-service hours.

9. Maintain and wear all safety clothing.

10. Wear the proper uniform while in the incident base.

11. Your actions are a reflection of your organization.

12. Do not enter any residence without the owner's permission except to fight a fire in that structure. Respect the property of the residents you are protecting.

TACTICS AND SAFETY - (This is meant to be a guide only.)

REMEMBER -- A WISE PERSON IS ONE WHO HAS LEARNED FROM HIS OWN EXPERIENCES AND THE EXPERIENCE OF OTHERS.

SUPPLEMENTARY INFORMATION NO. 1

Fire Engine Capabilities and Tactics

The following is submitted for your consideration and is taken from the Strike Team Leader Course
I-334, Supplementary Information. (rev. 6-86)

1. **THE CAPABILITY OF AN ENGINE ON A WILDLAND FIRE IS DEPENDENT ON SEVERAL THINGS; INCLUDING THE ENGINE TYPE, PERSONNEL, AND TOOL AND EQUIPMENT COMPLEMENT.**

   A. Structural or wildland and its hose complement:

      1) Single or double jacket hose

      2) Amount of 1" and 1½"

      3) Reel or hard lines

   B. Water tank capacity:

      1) 200 gal or less (type IV or Patrol)

      2) 200 to 300 gal (type III)

      3) 400 gal or more (type II or I)

      4) 650 - 900 gal (OES)

   C. Open or closed cab:

      1) An open cab is very dangerous on wildland fires. For example, there has never been a recorded instance where a firefighter was burned to death in a closed vehicle, but numerous firefighters have been burned, out in the open, or on the back of an engine.

      2) Hose bed -- is it covered and with what? (NOTE: Don't load hose bed with out of county bags, sleeping bags, etc, which could ignite from burning ambers.)

   D. Conventional or 4-wheel drive:

      1) Depending on terrain, a 4-wheel drive may be required.

2) Remember: 4-wheel drive engines may require longer travel time on the highway.

3) They are not always as readily available as structural engines.

E. Number of Personnel: You cannot expect a 3-person crew to complete a progressive hoselay in the same time as a 4 or 5 person crew.

F. Mechanical condition:

1) At times, strike teams are assigned relief engines (not first-line) limiting their capability.

2) Engines may not be equipped with adequate air cleaner protection (flying embers in paper elements -- motor quits).

3) Tires may not be adequate for off-road use.

G. Pump type:

1) Main pump (usually only for stationary pumping).

2) PTO (may by capable to pump and roll).

3) Auxiliary pump (best for pump and roll).

H. Equipment complement (number and type of hand tools)

I. Training and experience of crew members will determine the company's capability.

2. **THE TYPE OF ASSIGNMENT FOR AN ENGINE OR STRIKE TEAM WILL HELP YOU DETERMINE THE BEST-SUITED ENGINE FOR THE JOB.**

A. Mobile attack on grass fires:

1) Ability to pump and roll

2) Shorter wheel-base and high road clearance engines are generally better

B. Stationary pumping into hose lines.

1) Length of hoselay may indicate the need for a larger water tank if water supply is being shuttled.

2) Hoselay elevations may require a pump that will pump over 450 PSI pressure.

C. For primarily off-road pumping, it is generally best to use brush engines.

D. Structure protection:

1) Water tank capacity is important -- the larger, the better. For example, a strike team of OES engines can operate longer without replenishing their water because they have larger water tanks (650 - 900 gallons)

2) Depending on the terrain and the area you're working, smaller and shorter wheel-base engines may be better due to narrow winding roads and short, steep driveways.

3. FIRE ENGINE AND STRIKE TEAM TACTICS ON WILDLAND FIRES.

A. Strike teams may be dispatched to staging areas or directly to the fire:

1) On arrival at the staging area, the Strike Team Leader must check in with Staging Area Manager and/or the Check-In Recorder.

a) A staged strike team is considered an available resource and must be able to respond within **three minutes**. Keep the Strike Team together in the staging area.

b) A staged strike team is under the direct supervision of the Operations Section Chief.

2) A strike team responding directly to a fire assignment will report to a Division/Group Supervisor. The Strike Team Leader must report the Strike Teams arrival (by radio or in-person) to obtain their assignment.

B. Deployment of equipment:

1) When in a staging area, keep crews together. Park - ready to respond.

2) When assigned to fireline, engine deployment can be critical.

a) Always have an escape route.

(1) Back engines in

(2) Use buildings or natural barriers for protection.

(3) Don't park at top of draws, chimneys, or natural funnels.

b) Try to keep engines working as a team. Don't spread them out too far.

c) The Strike Team Leader should survey the area to check for special conditions or hazards.

d) Unless absolutely necessary, do not have engines lay long hoselays. This cuts mobility and could burn up a lot of hose.

C. Use of water:

1) Water conservation -- with hydrant supply.

a) Consider the effect of heavy water consumption on other lines taking water from the same main.

b) What about the adjacent water mains? Are other fire companies working out of your sight? What about residents or firefighters taking water from your supply using garden hoses?

c) Do not wet down vegetation ahead of fire; extinguish only that which is absolutely necessary. Do not waste water on shingle roofs -- they dry very fast. Wet down (Preferably with class A foam), immediately before the fire arrives, or as burnout begins.

d) Let everything burn that is not vital to fire control or not an exposure hazard to objects of value. You may not be able to protect everything. Prioritize your targets.

2) Do not lay line just because there is a lot of fire. Have a valid reason. If lines have to be left at a fast moving fire, take the fittings with your apparatus, if possible.

3) Water use with tank supply. Conserve limited supplies. Use hand tools in conjunction with a hose line when working on brush.

4) Water tender use. Where water supply is a problem, Strike Team Leaders, Division Supervisor, or Operations Chief should order sufficient water tenders to keep strike teams adequately supplied.

a) Depending on travel time and distance, one or two water tenders can usually keep a strike team supplied.

b) Water conservation is a must when working with water tenders.

D. Protecting structures (ahead of fire):

1) Close windows, garage doors, etc.

2) Leave lights on

3) Put combustible garden furniture in garage (or in the house). Place furniture so that it will not expose a structure.

4) Move wood piles away from structures.

5) Move combustible fences away from structures.

6) Chop down highly combustible shrubbery and place it where it will not expose a structure, e.g., juniper, cypress hedges, small highly combustible trees, etc.

7) Ask residents to move lace-type curtains from windows on exposed sides. Heavy drapes may be advantageous.

8) Remove all combustibles from vicinity of LPG tanks.

9) Shut off gas.

10) Shut off electricity where practical. CAUTION: Private or home water systems may rely on residential electricity to operate well pumps, etc.

11) Have civilians place stepladders, etc., on front porch or where readily visible.

12) A 24-foot extension fire department ladder can be split into two straight ladders.

13) Hook up available homeowner garden hose and test for water pressure. Use to replenish the tank supply, not fight fire.

14) Remove leaves/needles from roofs and gutters.

E. Protecting structures (when fire hits):

1) A structure seldom will burst into flames; it usually will start as a small fire in one or more spots. Some possible ignition sources are:

a) Blowing sparks trapped under shingle or shake roofs.

b) Heat or flames trapped beneath the eaves of a roof.

c) Burning debris blown through ground vents or attic vents.

d) Windows broken from heat and drafts.

e) Doors or windows left open.

f) Exposures from burning (remove if possible and desirable) objects.

(1) Shrubbery, trees

(2) Combustible garden furniture

(3) Fences

(4) Wood piles

(5) Automobiles

(6) Adjacent structures

(7) Combustible rubbish

2) Considering construction, topographical factors, equipment, available personnel, and fire travel, survey ahead of the fire and give priority to protection.

3) Some common errors:

a) Laying hose lines too far ahead of the fire or too much hose and tiring out firefighters. Meet the fire where a good stand can be made.

b) Excess fire equipment, when less equipment will handle the job.

c) Parking equipment where it is unnecessarily exposed -- park across road, behind house, etc.

d) Laying unnecessary lines.

F. Civilian motor vehicles:

1) Put in garage -- preferably heading out.

2) Close all windows.

3) Park where they are least exposed. But not in a driveway where fire apparatus could operate or hose lines could be laid. Do not park on a narrow street -- front lawn would be better, if possible.

G. Protecting structures:

1) Wet down shingle roofs and adjoining property only when ample water is available, fire is approaching, and you are sure depleting the water supply will not jeopardize adjoining areas.

2) If fire is too hot, retreat into structure temporarily, then extinguish burning exterior.

3) Do not face an intense fire without a specific purpose. Retreat to protection (behind fence, ledge, house) and go to work at a more favorable moment. Let the fire run past, then attack residual fires.

H. Keep apparatus mobile. At a fast moving fire, it is called "bump-and-run":

1) Move from structure to structure with the fire.

2) Leave a firefighter at difficult situations.

3) If the civilian owner is present, point out possible places of dangerous flare-ups before you leave.

4) Park behind a structure (from the anticipated flame front), heading out of driveway.

5) Park on roadway adjacent to structures. Choose between heading with direction of fire travel or heading towards a possible escape route.

6) When protecting structures and also making a stand along a road, make every effort to detail firefighters to prevent fires from spotting across.

7) "Fire out" (burn flammable vegetation) around structures where possible. Be aware of how your "firing out" may affect other exposures or firefighters.

I. Information for Civilians:

1) Normally, evacuation is a law enforcement function, leaving the fire department free to fight fire.

2) Encourage civilians, especially elderly or excitable individuals, to leave fire area on foot or in vehicles, if practical. CAUTION: civilian fatalities have occurred when private vehicles have been overrun by fire while exiting the area on mid-slope roads.

3) Inform civilians of the danger of running up hills, canyons, or draws ahead of moving fire.

4) Explain that, in almost all instances, a person is safe in a well-built structure when a fire sweeps past, even though it may eventually be destroyed.

5) If a civilian is determined to stay with his home, explain the value of

removing any exposures (furniture, shrubs, wood pile, etc.), how to protect himself, and how to handle a garden hose.

6) Try to impress parents/adults with the importance of keeping their family together. This reasoning sometimes assists the evacuation effort.

STRUCTURE TRIAGE

From NWCG Publication "Wildland Fire Suppression Tactics Reference Guide" NFES 1256

Structure triage is the sorting and prioritization of structures requiring protection from wildland fire. Triage can be required of anyone at any time on a wildland/urban fire incident.

The goal of triage is to do the most good with what you have and to not waste resources or time. It requires categorization or threatened structures as:

- Needing little or no attention for now
- Needing protection, but savable
- Indefensible

There are no absolute answers but five factors to help make a triage decision are:

- Firefighting safety
- The structure itself
- Surrounding fuels
- Fire behavior
- Available resources

Considering the following:

A. Firefighting Safety

1. Ingress/egress routes
   - One way/two way
   - Slope and steepness of road
   - Bridges
2. Power lines
3. Smoke/visibility
4. Hazardous materials
5. LPG and overhead fuel storage

B. Structure construction features, condition, and exposure

1. Roof
   - Combustible – wood shakes, tar paper, etc.
   - Non-combustible – title, metal, or fiberglass, etc.
   - Pitch-debris on roof or in gutters
2. Siding
   - Combustible – wood
   - Non-combustibles – metal, brick, etc.
3. Heat traps
   - Open gable
   - Vents without screens or non fire resistant screens
   - Overhanging decks
4. Windows

5. Size of building
6. Shape of building
7. Position on slope

C. Surrounding fuels

1. Size and arrangement
2. Age
3. Proximity to structure
4. Loading
5. Types
   - Resistant or flammable
   - Landscape/ornamental
   - Grass, brush, timber (palmetto, etc.)
   - Wood piles
6. Landscaping – railroad ties, wood fences
7. Defensible space, access
8. Yard accumulation
9. Flame or heat duration
10. Explosive – liquefied petroleum gas (LPG) tanks, diesel, or gas storage tanks.

D. Fire behavior

1. Rate of spread and direction
2. Topographic influence
3. Weather influence
4. Flame length
5. Spotting
6. Natural or other barriers

E. Available resources

1. Kind and type of equipment available
   - On site resources (water, equipment, ladders)
   - Location
   - When available
2. Capabilities and limitations
   - Mobility
   - Water/foam
   - Retardant

Structural Situations that Shout "Watch Out"

By Don Johnson, Rural Metro Corp. Phoenix, Arizona

1. Structures are wooden construction with shake shingle roofs
2. Access is poor, i.e. roads are twisting with sharp curves, narrow single lane roads, dead end roads, inadequate turning radius at road ends, etc.
3. You have inadequate water supplies to attach the fire.
4. Natural fuels are within 30 feet of the structures.
5. There are strong winds and erratic fire behavior is occurring.
6. Structures are located in a "chimney" or canyon situation.
7. There are panic-stricken publics in the vicinity (known or suspected).
8. Structures have open crawl spaces and contain added fuels under the structure.
9. Bridges in the vicinity are narrow and/or have light or unknown load limits.
10. There are propane tanks or elevated fuel tanks present (most rural situations have).
11. There are septic tanks and leach lines (most rural situations have).
12. There are garages with closed, locked doors.
13. The structure is burning with puffing vs. steady smoke emissions.
14. Windows of the structure are black or smoked over.
15. Windows of the structure are bulging.

SUPPLEMENTARY INFORMATION NO. 2

Wildland Hoselays

The following is submitted for your consideration and is taken from the Strike Team Leader Course
I-334, Supplementary Information. (rev. 6-86)

1. **TWO BASIC TYPES**

   A. Simple:

      1) Laid point-to-point dry, then charged when completed.

      2) Typically used as a supply line.

      3) No protection for crew when being laid.

   B. Progressive:

      1) Each length is charged as it is added.

      2) Normally put in on fire perimeter; fire is suppressed as the hoselay progresses.

      3) When needed, 1" lateral lines with tees are added every 200' to be used for subsequent mop-up.

2. **HOSE USED**

   A. 1" and 1½" single jacket hose with light alloy couplings in 100' lengths.

   B. Rolled single or double doughnut with brass and hose clamps, or on special hose packs.

3. **RULES OF THUMB**

   A. Under average conditions assign at least three engines with at least nine personnel per hose lay.

   B. Select the pumping engine based on tank capacity and pressure capability (head pressure can be critical in wildland hose lays; relay pumping might be required).

   C. Allow sufficient engines or water tenders and sufficient travel time to provide a constant supply of water:

      1) 2 min./mile for paved road

2) 4 min./mile for unpaved road

3) 15 min. for filling tank

D. Allow four to five minutes per 100' of hose for a progressive hoselay. This includes suppression time. Remember that steep terrain, thick fuel, and personnel fatigue can reduce this production rate.

E. A current study of production rates indicates that well trained crews may lay as much as 50' per minute in the initial attack stages of a fire.

F. Based on their minimum required hose complements, ICS Type 3 Engines are normally most suitable for this type hoselay.

4. HOSE LAY SAFETY

A. Avoid using booster lines and other 1" lines on extended hose lays in heavy fuels. Friction loss is too great there will be an inadequate volume of water to protect the nozzle operator in case of a dangerous intensifying of the fire. Combination nozzles providing a particulate fog pattern will add an extra measure of safety.

B. Always provide communications between the nozzle operator and the pumping engine.

C. Always have an anchor point for your hoselay. Avoid the danger and embarrassment of an outflanked line and burned hose!

FRICTION LOSS CHARTS

FRICTION LOSS - GPM TABLES

1" HOSE @ 50 PSI NP						100 PSI NP
TIP	1/8	3/16	1/4	5/16	3/8	3/8 COMB
FL 100'	1	2	5	12	25	40
GPM	3	7	12	19	28	42

1½" HOSE @ 50 PSI NP						100 PSI NP
TIP	1/4	5/16	3/8	1/2	5/8	5/8 COMB
FL 100'	1	2	3	10	25	44
GPM	12	19	28	50	81	116

2½" HOSE @ 50 PSI NP							
TIP	5/8	3/4	7/8	1	1-1/8	1¼	1½
FL 100'	1	4	7	10	17	25	50
GPM	80	117	160	209	265	325	472

FRICTION LOSS FACTORS 100' 2½" HOSE

TIP	FACTOR	50 PSI	100 PSI
7/8"	1/7 OF NP =	7	14
1"	1/5 OF NP =	10	20
1-1/8"	1/3 OF NP =	17	33
1-1/4"	1/2 OF NP =	25	50
1-1/2"	1 OF NP =	50	100

GPM METHOD 100' 2½" HOSE

GPM	100	150	200	250	300	350	400	450	500
F.L.	3	6	10	15	21	28	36	45	55

NP + FL + A ± H = EP

NP	-	TIP	-	50 PSI	COMB - 100 PSI
FL	-	2½"		2 LINES	1/4
				3 LINES	1/9
				4 LINES	1/16
		3/4"		HARDLINE	4 X FL 1" HOSE
A	-	5 PSI		25 PSI	80 PSI
		TEES		MONITOR	LADDER PIPE
		WYES STANDPIPE APPLICATOR			
H	±	100' ELEV. - 43 PSI		5 PSI/FLOOR	
		50' ELEV. - 22 PSI			

LATERALS	NP FOR 1½" HOSE ONLY FL FOR EA. LAT. + 1½" LINE
LEADER PIPES	NP, FL FOR ONE 1½" ONLY GPM FOR BOTH NOZZLES
STAND PIPES	NP, FL FOR TOP FLOOR ONLY GPM FOR EACH NOZZLE
IDENTICAL L (SEP. DISCH.)	NP, FL FOR ONE LINE ONLY

HYDRANT CAPACITY	10% DROP - CAN ADD 3 LINES 15% DROP - CAN ADD 2 LINES 25% DROP - CAN ADD 1 LINE

RELAY PUMPING	FL @ RATED ENG. GPM X L.L. IP (INTAKE PRESS 20) ± H EP

Burnout vs. Backfire – Is there a difference?

Over the years, the definition of the wildland fire terms Burnout and Backfire have become confused. To some agencies they are the same action, and the term is used interchangeably. To other fire organizations, the meanings have been reversed or changed altogether. ***Burnout and Backfire do not mean the same thing.***

Burnout: (also known as burning out or firing out) involves setting fire inside of a fire line, including scratch lines or a wet lines, to consume fuel between the edge of the control line and the fire to strengthen the fireline (create a blackline). Burning out removes the danger of fuel near the line burning at a later date when no one is around or when conditions are such that flare-ups near the line would spot across the line. Typically 'burning out' around a residential dwelling to protect it from an advancing fire, fits this description. In this case, the goal is to protect the structure by removing the available fuel between the structure and the fires edge. Burning out should reduce the threat by adding to the existing clearance already located around the structure. If no pre-fire clearance has been accomplished by the homeowner, then this will create at least a minimum clearance.

Firing out an existing road to strengthen its conversion into a wider fire line falls into this same realm. These are defensive actions. In both of these examples, firefighters are literally defending the structure or the road by burning out, and reducing the threat posed by unburned vegetation. Sometimes the wind, slope and fuel arrangements are with you and sometimes they aren't. But if the effort is not made, the chances of the fire advancing beyond those limits are great.

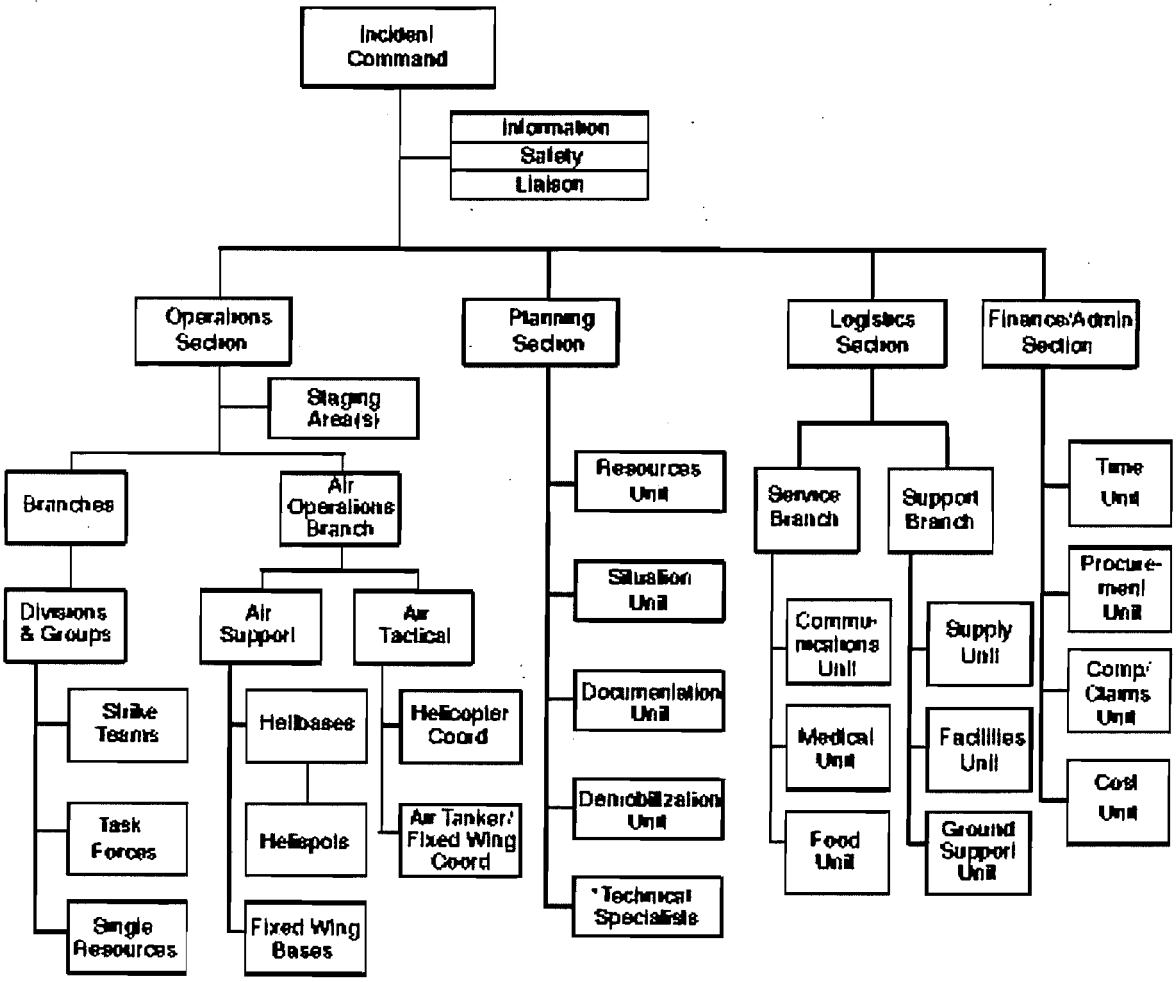
Most often, these types of operations may be performed by individual engine companies under the direction of a company officer, or by several engines under the direction of a Strike Team – Task Force Leader.

Backfire: A fire set along the inner edge of a control line, again to consume the fuel in the path of an advancing fire, or to change the direction or force of the main fire's spread. Backfires are normally conducted on a much larger scale than burning or firing out. Backfires are usually associated with pronounced topographic features, e.g. ridge tops, or are executed from wide roadways or pre-constructed firelines.

A backfire is a much more complex effort. It is considered an offensive tactic. It may involve numerous Strike Teams and may be executed by Firing Specialists. Coordination and timing is key to a safe backfire. A maneuver of this scale is well thought out in advance and approved by the Operations Section Chief. Typically, backfires are supported by fixed-wing airtankers or Type I helicopters that 'pre-treat' the unburned side of the line with retardant.

STANDARD INCIDENT COMMAND SYSTEM

INCIDENT COMMAND SYSTEM
ORGANIZATION CHART



* May be assigned wherever their services are required.

UNIT LOG ICS 214

UNIT/ACTIVITY LOG ICS-214 5-94	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPA
	Hondo Fire	10/16/00	0700

4. ORGANIZATION POSITION	5. UNIT LEADER (NAME AND POSITION)	6. OPERATIONAL PERIOD
STL	Borman, T.	0600 - 1800 hrs.

7. PERSONNEL ROSTER ASSIGNED

Name	ICS Position	Home Base
Borman, T.	S/T Leader	Napa F.D.
Bradley, G.	S/T Leader Trainee.	Napa F.D.
Engine 3372		Napa F.D.
Engine 18		Napa F.D.
Engine 11		American Canyon F.P.D.
Engine 16		Napa F.D.
Engine 17		St. Helena F.D.

8. ACTIVITY LOG (CONTINUE ON REVERSE)

TIME	MAJOR EVENTS
1500	Received briefing from Div. "C" Supervisor
1530	Briefed Strike Team on assignment
1610	Deployed Engines to structure protection assignment on
	Thompson Avenue and Elm Lane
1830	Meet with Div. "C" supervisor to plan/discuss
	firing out operations.
1915	Briefed Strike Team on firing out operations and
	cautioned all regarding precautions
	to be taken.
1950	Met with adjoining S/T Leaders to review their
	status and share information
0500	Advised by Div. "C" Supervisor to get prepared to
	be relieved.
0600	relieved by XSN ST 2376 A
0700	Arrived at Incident Base

OBJECTIVES ICS 202

OBJECTIVES ICS 202	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
	Crest	*8/20/00*	*2100*

4. OPERATIONAL PERIOD (Date/Time)

8/21/00 0600-1800

5. OVERALL INCIDENT OBJECTIVE:

1. Contain fire north of Cleghorn Canyon

2. Contain fire south of Summit Valley Recreation Development.

3. Contain fire less than 3,000 acres.

6. OBJECTIVES FOR THIS OPERATIONAL PERIOD:

1. Keep fire east of Highway 15 in Cajon Pass.

2. Keep Fire west of Cleghorn Pass and out of Silverwood State Park.

3. Protect Criden Canyon Archeological site

7. WEATHER FORECAST FOR OPERATIONAL PERIOD

Continued hot and dry. Temp mid-90's, winds s/w 15-20, fuel moisture 3.0 to 3.5, humidity around 18 percent

8. GENERAL SAFETY MESSAGE

Air operations use caution when working around transmission lines.

Rolling rocks could be a problem in the Lost Lake area.

9. ATTACHMENTS (✔ IF ATTACHED)

☐ ORGANIZATION LIST - ICS 203	☐ MEDICAL PLAN - ICS 206	☐
☐ DIV. ASSIGNMENT LISTS - ICS 204	☐ INCIDENT MAP	☐
☐ COMMUNICATIONS PLAN - ICS 205	☐ TRAFFIC PLAN	☐

ICS 202 5-94	10. PREPARED BY (Planning Section Chief)	11. APPROVED BY (Incident Commander)

OBJECTIVES ICS 202

OBJECTIVES ICS 202	1. INCIDENT NAME	2. DATE PREPARED	3. TIME PREPARED
	Crest	*8/20/00*	*2100*

4. OPERATIONAL PERIOD (Date/Time)

8/21/00 0600-1800

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9. ATTACHMENTS (✔ IF ATTACHED)

☐ ORGANIZATION LIST - ICS 203	☐ MEDICAL PLAN - ICS 206	☐
☐ DIV. ASSIGNMENT LISTS - ICS 204	☐ INCIDENT MAP	☐
☐ COMMUNICATIONS PLAN - ICS 205	☐ TRAFFIC PLAN	☐

ICS 202 5-94	10. PREPARED BY (Planning Section Chief)	11. APPROVED BY (Incident Commander)

ASSIGNMENT LIST ICS 204

1. BRANCH	2. DIVISION/GROUP	ASSIGNMENT LIST	ICS 204 (5-94)
	A		

3. INCIDENT NAME	4. OPERATIONAL PERIOD
Crest	DATE: *8-21-00*
	TIME: *2100*

5. OPERATIONS PERSONNEL

OPERATIONS CHIEF	*R. Hardy*	DIVISION/GROUP SUPERVISOR	*E. Haskins*
BRANCH DIRECTOR		AIR ATTACK SUPERVISOR NO.	

6. RESOURCES ASSIGNED THIS PERIOD

RESOURCE DESIGNATOR	LEADER	NUMBER PERSONS	TRANS. NEEDED	DROP OFF PT./TIME	PICK UP PT./TIME
XNA ST 2201 A	*Borman, T.*	*17*			
OES ST 2800 A	*Sanders, R.*	*21*			
CDF ST 9142 C	*White, J.*	*18*			
CDF ST 9180 G	*Bennett, B.*	*35*			
CDF ST 9118 L	*Mann, G.*	*5*			
KNF ST 3601 C	*Harris, W.*	*21*			

7. CONTROL ASSIGNMENT(S)

Construct and hold line from point of origin to Cleghorn Ridge. Protect housing tract south of Cleghorn Pass. Lay hose and use water drops to support hand line.

8. SPECIAL INSTRUCTIONS/SAFETY MESSAGE

ANF H-531 will support with water drops out of Lost Lake Helibase

9. DIVISION/GROUP COMMUNICATION SUMMARY

FUNCTION		FREQ.	SYSTEM	CHAN.	FUNCTION		FREQ.	SYSTEM	CHAN.
COMMAND	LOCAL	*168.100*	*Boise C-2*	*4*	SUPPORT	LOCAL	*154.295*	*Firemars*	*3*
	REPEAT	*170.450*	*Boise C-2*	*5*		REPEAT	*154.280*	*Firemars*	*4*
DIV/GROUP TACTICAL		*159.330*	*CDF*	*3*	GROUND TO AIR		*170.000*	*Boise*	*6*

PREPARED BY (RESOURCE UNIT LEADER)	APPROVED BY (PLANNING SECTION CHIEF)	DATE	TIME

DEMOBILIZATION/RELEASE

The Planning Section is responsible for the preparation of the Demobilization Plan to ensure that an orderly, safe, and cost effective movement of personnel and equipment is accomplished from the incident. The Logistics Section is responsible for implementing the plan.

1. Demobilization and release will take place in accordance with the Incident Demobilization Plan using ICS Form 221. **(Follow Demob Plan).**

2. Obtain necessary supplies to assure that the Strike Team leaves in a **"state of readiness"**. If unable to replace lost or damaged equipment, notify your OES Agency Representative and get written acknowledgment from the Incident Commander prior to leaving the incident. Return all radios and equipment on loan to you from the incident.

3. **Timekeeping:** OES Form F-42 (Emergency Activity Record) is utilized to record and substantiate activities of OES/Local Government apparatus. It is designed to record information on personnel and equipment. The OES Form F-42 **must** be completed for **any response to a Forest Agency (reimbursable) fire.**

4. **Debriefing:** Critique assignment and performance. NOTE: Some Incidents/ Agencies will require that the Incident Personnel Performance Rating form, ICS 225, be filled out for each subordinate. It will save time during Demob to check ahead to determine if Performance Ratings will be required. Notify personnel that the area/facilities should be returned to the pre-incident condition.

5. Vehicle Safety Inspections may be required before a Strike Team can be released. This takes time, plan ahead. ICS form 212 the Incident Demobilization Vehicle Safety Inspection, will be filled out by the inspector (usually an agency mechanic).

6. Instruct personnel on travel procedures to return home or to new incident. (Determine any planned stops and disassembly points).

7. Have OES Region and Operational Area notified of your release, travel route, and estimated time of arrival back home.

8. Have all apparatus notify the OES Operational Area upon their return.

DEMOBILIZATION CHECKOUT ICS 221

DEMOBILIZATION CHECKOUT		ICS-221
1. INCIDENT NAME/NUMBER	2. DATE/TIME	3. DEMOB. NO.
4. UNIT/PERSONNEL RELEASED		
5. TRANSPORTATION TYPE/NO.		
6. ACTUAL RELEASE DATE/TIME	7. MANIFEST YES NO NUMBER	
8. DESTINATION	9. AGENCY / REGION / AREA NOTIFIED NAME DATE	
10. UNIT LEADER RESPONSIBLE FOR COLLECTING PERFORMANCE RATING		

11. UNIT/PERSONNEL YOU AND YOUR RESOURCES HAVE BEEN RELEASED SUBJECT TO SIGN OFF FROM THE FOLLOWING:

(DEMOB. UNIT LEADER CHECK ✔ APPROPRIATE BOX)

LOGISTICS SECTION

- ☐ SUPPLY UNIT _____
- ☐ COMMUNICATIONS UNIT _____
- ☐ FACILITIES UNIT _____
- ☐ GROUND SUPPORT UNIT _____

PLANNING SECTION

- ☐ DOCUMENTATION UNIT _____

FINANCE/ADMINISTRATION SECTION

- ☐ TIME UNIT _____

OTHER

- ☐ _____ _____
- ☐ _____ _____

12. REMARKS

ICS 221	5-94	

DEMOBILIZATION CHECKOUT ICS 221

May, 1994 ICS-221

INSTRUCTIONS FOR COMPLETING THE DEMOBILIZATION CHECKOUT (ICS FORM 221)

Prior to actual Demob Planning Section (Demob Unit) should check with the Command Staff (Liaison Officer) to determine any agency specific needs related to demob and release. If any, add to line Number 11.

Item Number	Item Title	Instructions
1.	Incident Name/ No.	Print Name and/ or Number of incident.
2.	Date & Time	Enter Date and Time prepared.
3.	Demob. No.	Enter Agency Request Number, Order Number, or Agency Demob Number if applicable.
4.	Unit/Personnel Released	Enter appropriate vehicle or Strike Team/Task Force ID Number(s) and Leader's name or individual overhead or staff personnel being released.
5.	Transportation	Method and vehicle I.D. Number for transportation back to home unit. Enter N/A if own transportation is provided. *Additional specific details should be included in Remarks, block # 12.
6.	Actual Release Date/Time	To be completed at conclusion of demob at time of actual release from incident. Would normally be last item of form to be completed.
7.	Manifest	Mark appropriate box. If yes, enter manifest number. Some agencies require a manifest for air travel.
8.	Destination	Enter the location to which unit or personnel have been released. I.e. area, region, home base, airport, mobilization center, etc.
9.	Area/Agency/ Region Notified	Identify Area, Agency, or Region notified and enter date and time of notification.
10.	Unit Leader Responsible For Collecting Performance Ratings	Self-explanatory. Note, not all agencies require these ratings.
11.	Resource Supervision	Demob Unit Leader will identify with a check in the box to the left of those units requiring checkout. Identified Unit Leaders are to initial to the right to indicate release. Blank boxes are provided for any additional check, (unit requirements as needed), i.e. Safety Officer, Agency Rep., etc.
12.	Remarks	Any additional information pertaining to demob or release.

Incident Demobilization Vehicle Safety Inspection

Vehicle Operator: Complete items above double lines prior to inspection

Incident Name		Order No.
Vehicle: License No.	Agency	Reg/Unit
Type (Eng., Bus., Sedan)	Odometer Reading	Veh. ID No.

Inspection Items	Pass	Fail	Comments
1. Gauges and lights. See back *			
2. Seat belts. See back *			
3. Glass and mirrors. See back *			
4. Wipers and horn. See back *			
5. Engine compartment. See back			
6. Fuel system. See back *			
7. Steering. See back *			
8. Brakes. See back *			
9. Drive line U-joints. Check play			
10. Springs and shocks. See back			
11. Exhaust system. See back *			
12. Frame. See back *			
13. Tire and wheels. See back *			
14. Coupling devices. * Emergency exit (Buses)			
15. Pump Operation			
16. Damage on Incident			
17. Other			

*** Safety Item - Do not Release Until Repaired**

Additional Comments:

HOLD FOR REPAIRS	RELEASE
Date / Time	Date / Time
Inspector Name (Print)	Operator Name (Print)
Inspector Signature	Operator Signature

This form may be photocopied, but three copies must be completed.
Distribution: Original to Inspector, copy to vehicle operator, copy to Incident Documentation Unit
ICS 212 2/96

INSPECTION ITEMS

(Ref: Federal Motor Carrier Safety Regulation)

HOLD FOR REPAIRS IF:

1.Gauges & Lights	-Speedometer inoperative. (Federal Motor Carrier Safety Regulation (FMCSR 393.82) -All required lighting devices, reflectors and electrical equipment must be properly positioned, colored and working. (FMCSR 393.9)	8. Brakes	-Brake system has any missing, loose, broken, out of adjustment or worn out components. -Brake system has any air or fluid leaks. (FMCSR Appendix G, Sub. B) -Brake system has any other deficiencies as described in FMCSR Appendix G, Sub. B.
2. Seat Belts	-Any driver's or right outboard seat belt, missing or inoperative. (FMCSR 393.93) -Passenger carrying have missing or inoperative seat belts in passenger seats, Buses excepted.	10. Springs & Shocks	-Any U-bolt, spring, spring hanger or any other axle positioning part is cracked, broken, loose or missing resulting in any shifting of an axle from it's normal position. (FMCSR Appendix G, Sub. B)
3. Glass & Mirrors	-Any windshield crack over 1/4" wide. -Any damage 3/4" or greater in diameter. -Any 2 damaged areas are closer than 3" to each other. -Any crack less than 1/4" wide intersects with any other crack. (FMCSR 393.60) -Any crack or discoloration in the windshield area lying within the sweep of the wiper on either side of the windshield (FMCSR Appendix G, Sub. B) -Any required mirror missing. One on each side, firmly attached to the outside of the vehicle, and so located as to reflect to the driver a view of the highway to the rear along both sides of the vehicle. See Exceptions (FMCSR 393.80) -Any required mirror broken.	11. Exhaust	-Any leaks at any point forward of or directly below the driver and/or sleeper compartment. -Bus exhaust leaks or discharge forward of the rearmost part of the bus in excess of 6' for Gasoline powered or 15" for other then Gasoline powered, or forward of any door or window designed to be opened on other then Gasoline powered bus. (Exception: emergency exit) -Any part of the exhaust system so located as would be likely to result in burning, charring, or damaging the wiring, fuel supply or any combustible part of the vehicle. (FMCSR Appendix G, Sub. B)
4. Wipers & Horn	-Wiper blade(s) fail to clean windshield within 1" of windshield sides. (FMCSR 393.78) -Horn, missing, inoperative, or fails to give an adequate and reliable warning signal. (FMCSR 393.81)	12. Frame	-Any cracked, broken, loose or sagging frame member. -Any loose or missing fasteners including those attaching engine, transmission, steering gear, suspension, body or frame to contact the tire or wheel assemblies. -Adjustable axle assemblies with locking pins missing or not engaged. (FMCSR Appendix G, Sub. B)
5. Engine Compartment	-Low fluid levels -Loose or leaking battery -Excessive leaks -Cracked or deteriorated belts or hoses. -Any condition of impending or probable failure.	13. Tires & Tread	-Tread depth less than 4/32" on steering axle. -Less than 2/32" on any other axle. -Any body ply or belt material exposed through tread or sidewall. -Any tread or sidewall separation. -Any cut exposing ply or belt material. -Any tire marked "Not for highway use". -A tube-type radial tire without radial tube stem markings. -Any mixing of bias and radial tires on the same axle. -Any tire not properly inflated or overloaded. -Any bus with recapped tires. (FMCSR Appendix G, Sub. B) -Lock or slide rings; any bent, broken, cracked, improperly seated, sprung or mismatched ring(s). -Wheels and rims; any cracked or broken or has elongated bolt holes. -Fasteners (both spoke and disc wheels). Any loose, missing, broken, cracked, stripped or otherwise ineffective fasteners. -Any cracks in welds attaching disc wheel disc to rim. -Any crack in welds attaching tubeless demountable rim to adapter. -Any welded repair on aluminum wheel(s) on a steering axle or any welded repair other then disc to rim attachment on steel disc wheel(s) on steering axle. (FMCSR Appendix G, Sub. B)
6. Fuel System	-Visible leak at any point. -Fuel tank cap missing. -Fuel tank not securely attached to vehicle by reason of loose, broken or missing mounting bolts or brackets. (FMCSR Appendix G, Sub. B)		
7. Steering	-Steering wheel does not turn freely, has any spokes cracked, loose spokes or missing parts. -Steering lash not within parameters, see chart, in FMCSR 393.209. -Steering column is not secure -Steering system; any U-joints worn, faulty or repaired by welding. -Steering gear box is loose, cracked or missing mounting bolts. -Pitman arm loose. -Power Steering; any components inoperative. Any loose, broken or missing parts. Belts frayed, cracked or slipping. -Any fluid leaks, fluid reservoir not full. (FMCSR 393.209)		

INCIDENT PERSONNEL PERFORMANCE RATING	INSTRUCTIONS: The immediate job supervisor will prepare this form for each subordinate. It will be delivered to the planning section before the rater leaves the fire. Rating will be reviewed with employee who will sign at the bottom.

THIS RATING IS TO BE USED ONLY FOR DETERMINING AN INDIVIDUAL'S PERFORMANCE

1. Name	2. Fire Name and Number
3. Home Unit (address)	4. Location of Fire (address)

5. Fire Position	6. Date of Assignment From: To:	7. Acres Burned	8. Fuel Type(s)

9. Evaluation

Enter X under appropriate rating number and under proper heading for each category listed. Definition for each rating number follows:

0--Deficient. Does not meet minimum requirements of the individual element.
DEFICIENCIES MUST BE IDENTIFIED IN REMARKS.

1--Needs to improve. Meets some or most of the requirements of the individual element.
IDENTIFY IMPROVEMENT NEEDED IN REMARKS.

2--Satisfactory. Employee meets all requirements of the individual element.

3--Superior. Employee consistently exceeds the performance requirements.

Rating Factors	Hot Line				Mop-Up				Camp				Other (Specify)			
	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3
Knowledge of the job																
Ability to obtain performance																
Attitude																
Decisions under stress																
Initiative																
Consideration for personnel welfare																
Obtain necessary equipment and supplies																
Physical ability for the job																
Safety																
Other (specify)																

10. Remarks

11. Employee (signature) This rating has been discussed with me			12. Date
13. Rated By (signature)	14. Home Unit	15. Position on Fire	16. Date

NFES 1576 9/86 ICS Form 225

APPENDIX A

STATEWIDE FREQUENCY PLAN

This plan was developed to assist fire service agencies in buying and programming synthesized radios. Local needs (Group 1) are those channels normally used in initial attack situations. These would probably require less than 16 channels and may also include Mutual Aid White channels from Group 2. A 16-channel radio may be adequate for an engine. However, it is recommended that vehicles used by command personnel, such as strike team leaders, battalion chiefs, division chiefs, etc., should be equipped with at least a 32-channel radio. In synthesized radios, the additional channels cost very little. Command vehicles with 32-channel radios should be programmed with Group 1, 2, 3.

California Department of Forestry and Fire Protection (CDF) and Federal agencies use eight standard sub-audible tones for repeater access. Unless a radio has selectable tones or an external tone box, it would take eight channels to have complete repeater access on one of their channels. Likewise, if the radio does not have a "direct/repeat" switch, one channel is needed for each direct frequency and one for each repeat frequency pair.

While numerous frequencies can be programmed into radios, it is important to note that in order to use those frequencies your agency must be licensed for those frequencies or have a frequency use agreement or memorandum of understanding with the agency that is licensed for the frequencies. Such agreements with CDF and U.S. Forest Service are not uncommon. Such agreements still limit the use of each frequency to certain geographic areas.

This plan lists recommended groups of frequencies by priority for programming radios, i.e., Group 1 is the highest priority. In order to use any frequency use agreement or memorandum of understanding with the agency which is licensed for the frequency.

GROUP	USE	FREQUENCY
1	LOCAL: BETWEEN ALL LOCAL FIRE AGENCIES INCLUDING CITIES, COUNTIES, CDF RANGER UNITS, USFS, BUREAU OF LAND MANAGEMENT, NATIONAL PARK SERVICE	
2	WHITE FIRE 1	154.280
	WHITE FIRE 2	154.265

	WHITE FIRE 3		154.295
	*CDF NET 1	DIRECT & RX	151.355
		TX REPEAT	159.300
	*CDF NET 2	DIRECT & RX	151.265
		TX REPEAT	159.330
	CALCORD		156.075
3	*NIFC COMMAND 1	DIRECT & RX	168.700
		TX REPEAT	170.975
	*NIFC COMMAND 2	DIRECT & RX	168.100
		TX REPEAT	170.450
	*NIFC COMMAND 3	DIRECT & RX	168.075
		TX REPEAT	170.425
	*NIFC TAC 1		168.050
	*NIFC TAC 2		168.200
	*NIFC TAC 3		168.600
	*CALIFORNIA TRAVEL NET	DIRECT & RX	169.125
		TX REPEAT	168.325

Note: NIFC Command 1, 2, 3 and NIFC TAC 1, 2, 3 are required for permission to use California Travel Network.

4 Air to Ground Frequencies - these frequencies are to be used by ground units in emergencies to communicate with aircraft, e.g., when ground crews are being overrun by fire or are going to be hit by a water or retardant drop. These frequencies are also used by those responsible for coordination with aircraft.

USFS Air to Ground	170.000

	CDF Air to Ground		151.220
	BLM Air to Ground		167.950
	U.S. Forest Service Region 5 (California) Tacticals		
	U.S.F.S. TAC 4		173.9125
	U.S.F.S. TAC 5		173.9625
	U.S.F.S. TAC 6		173.9875
5	Frequencies necessary to interface with CDF on a regional basis (coordinate with CDF Region Office).		
6	OES 1 (Simplex)		154.160
	OES 2		154.220
	*WHITE FIRE 3 REPEAT	RX	154.295
	(FIREMARS)	TX	153.830
7	ALL CDF FREQUENCIES		
	ALL OTHER LOCAL FIRE SERVICE FREQUENCIES		
	FREQUENCIES FOR ALL NATIONAL		
	FORESTS IN CALIFORNIA		
	OTHER BLM AND NPS		

*NOTE: STATE OF CALIFORNIA AGENCIES (E.G., CDF & OES) AND FEDERAL AGENCIES USE THE FOLLOWING TWELVE STANDARD TONES FOR REPEATER ACCESS AND MUST BE INCLUDED FOR REPEATER USE. RECEIVERS MUST BE PROGRAMMED FOR CARRIER SQUELCH (NO TONES).

1. 110.9	2. 123.0	3. 131.8	4. 136.5
5. 146.2	6. 156.7	7. 167.9	8. 103.5
9. 100.00	10. 107.2	11. 114.8	12. 127.3

The CALIFORNIA TRAVEL NETWORK is also known as- - "TRAVEL NET", "CTNT", "CALLING NETWORK", and "REGION 5 TRAVEL NETWORK."

The Califomia Department of Forestry and Fire Protection in an agreement with the U.S. Forest Service, have jointly developed a radio net for travel use. In 1988 CDF signed a shared use agreement with the U.S.F.S. to authorize CDF to use U.S.F.S. licensed Frequencies. Currently there are a combined total (CDF-USFS) 25 mobile relays and 29 control stations statewide.

The Travel Net is designated for use by resources enroute to, or from an outside of their home unit or forest. Staging areas and base camps can use this Net for initial check in purposes.

STRIKE TEAMS OR PERSONNEL DISPACTCHED OUT OF THEIR LOCAL AREA ARE TO MONITOR THE TRAVEL NET WHILE ENROUTE TO ASSIGNED INCIDENT OR MOBILIZATION CENTER/STAGING AREA.

All CDF/USFS mobile radios are to have the capability to transmit and receive Travel Network freq. Direct TX 169.125, and Repeat TX 168.325 RX 169.125

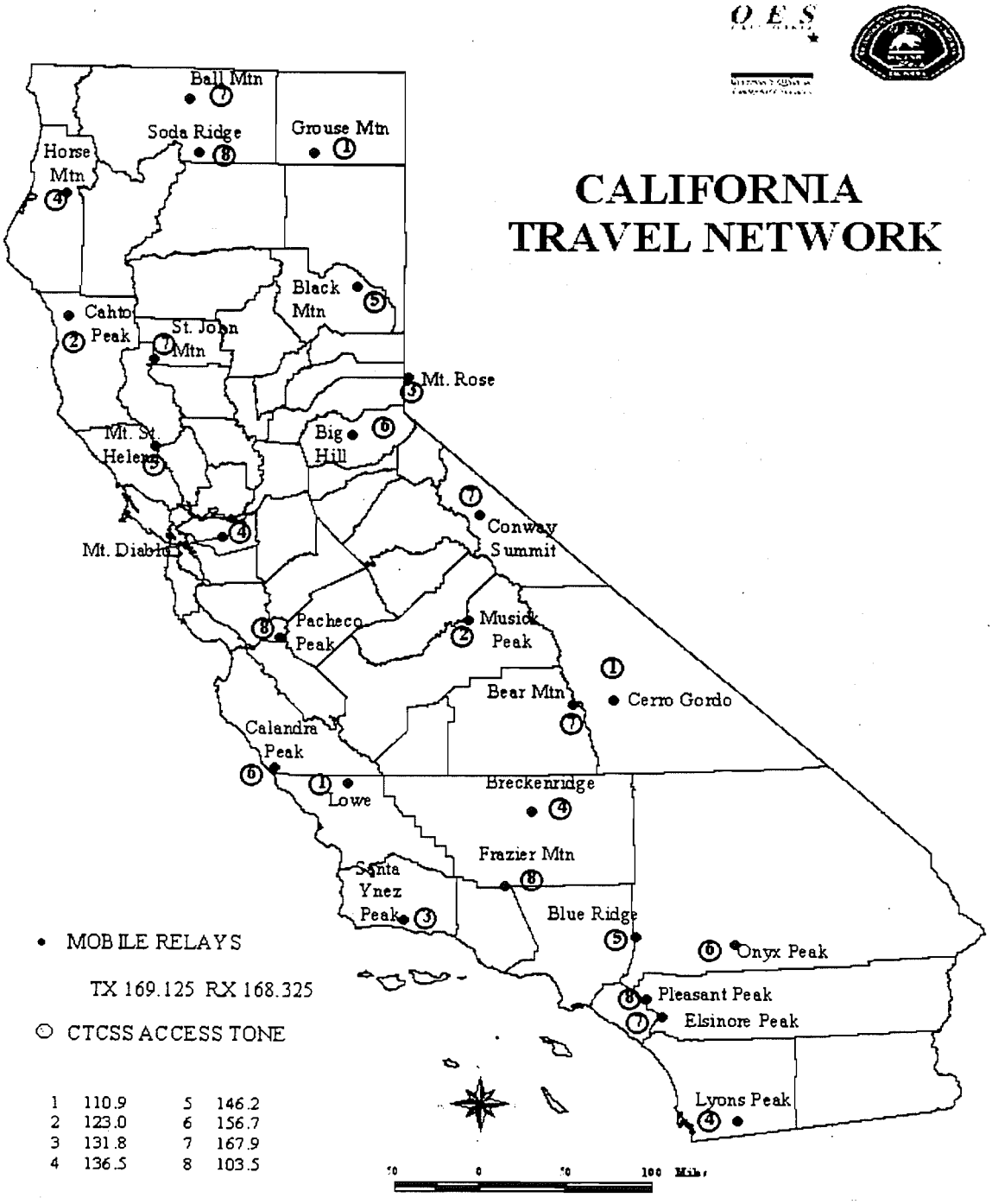
THIS FREQUENCY IS RESTRICTED FROM ALL TACTICAL USE AND ROUTINE ADMINISTRATION COMMUNITCATIONS.

Authorized uses are:

a. Emergency vehicle-to-dispatch communications.
b. Emergency car-to-car communications
c. Initial call, recall, and redirection of personnel and equipment. (emergency resource monitoring)
d. Contact channel during long distance assignments.

The attached map shows all mobile relays, control stations, and CTCSS tones. Most CDF and USFS Dispatch consoles are equipped with control stations to communicate via repeater to mobiles

APPENDIX B


O E S
CALIFORNIA
TRAVEL NETWORK
Ball Mtn
Soda Ridge
Grouse Mtn
Horse Mtn
Black Mtn
Cahto Peak
St. John Mtn
Mt. Rose
Mt. St. Helena
Big Hill
Conway Summit
Mt. Diablo
Pacheco Peak
Musick Peak
Bear Mtn
Cerro Gordo
Calandra Peak
Lowe
Breckenridge
Frazier Mtn
Santa Ynez Peak
Blue Ridge
Onyx Peak
Pleasant Peak
Elsinore Peak
Lyons Peak
• MOBILE RELAYS
TX 169.125 RX 168.325
○ CTCSS ACCESS TONE
1 110.9
2 123.0
3 131.8
4 136.5
5 146.2
6 156.7
7 167.9
8 103.5

APPENDIX C

STATE OF CALIFORNIA

GRAY DAVIS, Governor

GOVERNOR'S OFFICE OF EMERGENCY SERVICES
Fire and Rescue Branch
P.O. Box 419047-9047
Rancho Cordova, CA. 95741-9047
Phone (916) 845-8711
Night-Weekends: (916) 845-8911
Fax: (916) 845-8396
E-Mail: OES_Fire@oes.ca.gov

June 6, 2002

OES Fire Regional and Operational Coordinators

Please share the contents of this letter with all Regional and Operational Area personnel, especially with Division/Group Supervisors and Strike Team/Task Force Leaders.

At times, during structure protection assignments, fire personnel may need to consider entering unoccupied and/or evacuated dwellings. The following guidelines must be applied by Strike Team/Task Force Leaders to fire crews working on these assignments:

- The Strike Team/Task Force Leader has been given permission by the property owner to enter the structure. That permission and the owners contact information must be documented on the ICS 214.
- The dwelling is in imminent danger from an approaching fire and entry is warranted to conduct appropriate protective measures: i.e. closing windows, removing flammable curtains, closing doors, etc.
- The crew must take refuge inside dwelling to retreat from the fire.

It is expected that all fire personnel granted permission to enter a dwelling will treat the property with due respect, and conduct themselves in a professional manner. Failure to adhere to these basic concepts in the past has resulted in legal action.

All entries into any dwelling must be recorded on the Company and Strike Team/Task Force Leader Unit Log (ICS 214) and reported to the Division/Group Supervisor as soon as operationally feasible.

We have an obligation to the citizens we protect to respect their property, and to maintain the Public Trust we have earned.

Thank you for your continued support of the Fire and Rescue Mutual Aid System, and your efforts to share this important information.

Sincerely,

KIM ZAGARIS, Chief
Fire and Rescue Branch

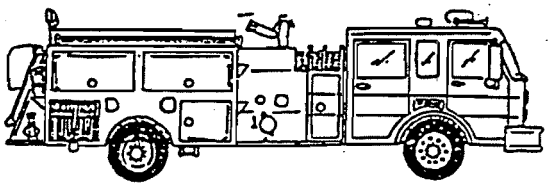
c: File

KL/Bea

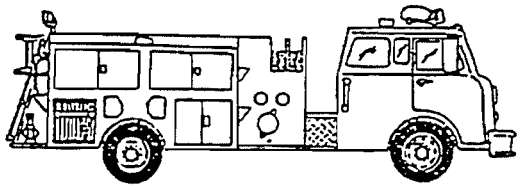
APPENDIX D

Minimum Equipment Engine Standards by ICS Engine Type

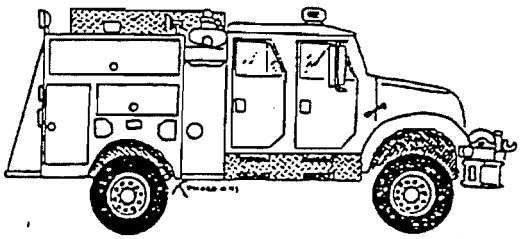
Type One Engine Company
- 1,000 gpm
- 400 gallon tank
- 1,200 ft. 2 ½" hose or larger
- 400 ft. 1 ½" or 1 ¾" hose
- 200 ft. 1" hose
- 20 ft. extension ladder
- 500 gpm heavy stream
- 4 personnel



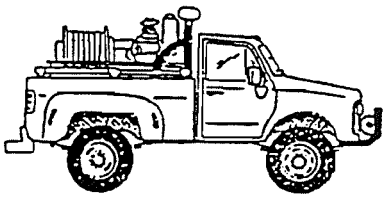
Type Two Engine Company
- 500 gpm
- 400 gallon tank
- 1,000 ft. 2 ½" hose or larger
- 500 ft. 1 ½" or 1 ¾" hose
- 300 ft. 1" hose
- 20 ft. extension ladder
- 3 personnel



Type Three Engine Company
- 120 gpm
- 300 gallon tank
- 1,000 ft. 1 ½" hose
- 800 ft. 1" hose
- 3 personnel



Type Four Engine Company
- 50 gpm
- 200 gallon tank
- 300 ft. 1 ½" hose
- 800 ft. 1" hose
- 3 personnel



Graphic courtesy of Fire Publications, Inc., & Phillip L. Queens, Fighting Fire in the Wildland Urban Interface

ICS ENGINE STANDARDS

As orders for Type 3 Engine Strike Teams have increased, and as local interface problems have been identified, many local government fire agencies have acquired Type 3 Apparatus.

Keep in mind that the above stated standards are minimum requirements. Just because an engine meets the minimum standards on the chart, does not necessarily mean that it can carry out the mission of Type 3 Apparatus. An example would be a full sized Type 1 Engine that has the extra 1 ½" and 1" hose added so it can also meet Type 3 standards.

A typical Forest Agency Type 3 Engine has a number of features that enhance it's capability to operate on a narrow, steep, or unimproved roads and to allow the efficient application of water or other agents. These features include:

Short Wheelbase
High Ground Clearance
High Angle of Approach & Departure
Auxiliary Motor Powered Pump to allow Pump & Roll
Unit # on Roof
2X4 or 4X4
Class A Foam
Progressive Hose Lay Packs
Lower GVW than a Type 1 or 2
Wildland Hand Tools
Portable Pump
Chainsaw
Fusee's or drip torch
Hard suctions for drafting
Back Pumps

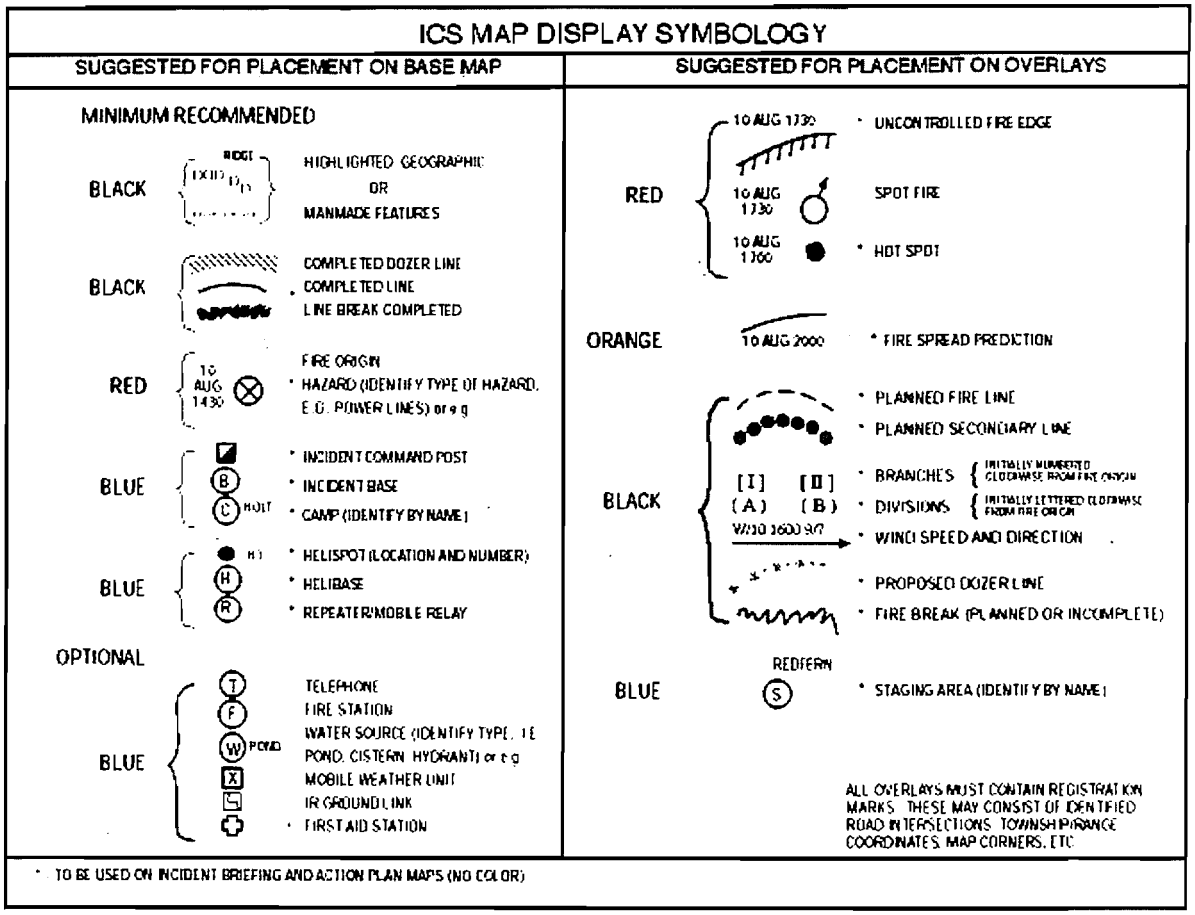
The Forest Agencies have the expectation that when a Local Government Type 3 strike team arrives at an incident, it can perform all of the missions that their own Type 3's can. This may or may not be true, depending upon the training that the Local Government crews have taken. Specifically, Type 3 Engine crews should be adequately trained in the following:

Wildland Strategy & Tactics
Wildland Fire Behavior
Wildland Hose Lays
Wildland Fire Safety
Backfiring
Hand Line Construction
Structure Triage
Prepping a Structure

As overall suppression costs go up and as the reimbursement rate for strike teams also goes up, Forest Agencies are expecting all local government Type 3 strike teams to be capable of going where Type 3's were designed to go and doing what Type 3 crews are trained to do.

APPENDIX E

ICS Map Display Symbology



APPENDIX F

Backfire Authority Memorandum

Memorandum

RECEIVED
MAY 17 1989
OES FIRE & RESCUE

To : Mr. Kim Zagaris
Office of Emergency Services
2800 Meadowview Road
Sacramento, CA 95832-1499

Date : May 12, 1989
F-31

Telephone: ATSS ( ) 445-9445
( )

From : Department of Forestry and Fire Protection

Subject: 1000 CIVIL DEFENSE & EMERGENCIES OTHER THAN FIRE
1050 State Office of Emergency Services
Authority for backfiring during wildland fire suppression operations

You requested information about CDF authority for backfiring during wildland fire suppression operations. You also wanted to know if a local government cooperator had the same backfiring authority as CDF.

Public Resources Code (PRC) Section 4113 charges CDF officers to prevent and extinguish forest fires. PRC 4118 states "The burning of growing, dead, or downed vegetation is for a public purpose if the department has determined that the burning of such vegetation is necessary for the prevention or suppression of forest fires." PRC 4426 elaborates further and states "A person shall not set a backfire, or cause a backfire to be set, except under the direct supervison or permission of a state or federal forest officer, unless it can be established that the setting of such backfire was necessary for the purpose of saving life or valuable property." I think it is clear that CDF and federal officers have backfiring authority but must certainly exercise care and good judgement in this activity.

Regarding an OES cooperator's authority to backfire, I think it is clear they have authority when directed by CDF, or when it is necessary to protect life and valuable property. I do not think they have authority to go about the countryside setting backfires without direction or cause. Under those conditions I think they would be acting in bad faith and may be grossly negligent. Certainly we would not allow local government cooperators to fight fire without proper supervison.

Government Code (GC) Section 850 et seq. outline general fire service liability for departments and employees. In particular, Sec. 850.4 immunizes public entities and employees for any injury caused in fighting fires. It is my understanding that this section has been interpreted many times in court cases that a firefighter is not liable for actions unless the person acts in bad faith or is grossly negligent.

I have reviewed the OES/CDF/USFS tri-party agreement, and the State Master Mutual Aid Agreement and they are silent on the liability issue.

After researching this matter I think our local government cooperators can backfire when directed by CDF, or a federal fire officer, and when they need to use it as a tactical method to protect life and valuable property.

Please call me at 445-9445 if you have any questions.

Gary Brittner
Division Chief
Cooperative Fire Services

STRIKE TEAM LEADER

DISPATCH WORKSHEET

Date: Time Dispatched:_____ Name of Incident:_____

Incident Order #_____ Request # E - _____ Strike Team #_____

Situation:_____

Requesting Agency:_____ Dispatch Phone #_____

Reimbursement: ☐Mutual Aid (Non-Reimbursed) ☐5-Party Agreement (Reimbursed)

Response: ☐Initial Attack ☐Immediate Need ☐Planned Need - Depart Time:

Rendezvous Point:_____ Time:_____ Map Ref: _____

Incident Reporting Location:_____ Time:_____ Map Ref: _____

COMMUNICATIONS:

Travel Frequency: _____
Staging Frequency: _____
Base/Check-In Frequency: _____
Command Frequency: _____
Tactical Frequency: _____

Phone Numbers (cell, pager, OES, etc.)

_____
_____
_____
_____
_____

ASSIGNED UNITS: S/T/L Trainee:_____

ENG #	A.1 CAPTAIN	AGENCY	3-LTR	TYPE	FUEL	PUMP	TANK	FOAM	4WD	PUMP&ROLL

TRAVEL ROUTE:_____

_____

_____Planned Stops:_____

NOTES:_____

_____

Rev 5/2001 J Marquis

B STRIKE TEAM BRIEFING CHECKLIST

- ❑ **STL's General Message and Incident Update**
  - ❑ Introduce self, STL Trainee, and identify "Asst. STL" (most experienced engine captain)
  - ❑ Provide brief overview of known incident information and assignment
  - ❑ Work ethic, professionalism, human relations expectations

- ❑ **Communications**
  - ❑ Identify cell phone numbers, travel and tactical radio frequencies
  - ❑ Determine radio designators for engines/captains, STL, and STL (T)
  - ❑ Radio traffic will be kept brief, professional, and to a minimum
  - ❑ Information will normally be exchanged up and down via Captains' Meetings and chain of command. ***Exception:*** *immediate and/or unresolved safety issues*
  - ❑ Distribute portable radios/batteries if available/needed

- ❑ **Engine Readiness**
  - ❑ Full water tank
  - ❑ Rig for probable assignment*
  - ❑ Identify engines
    - ❑ Strike team designator in upper right corner of windshield with white shoe polish applicator
    - ❑ Engine designator/Captain's name lower right corner of windshield

- ❑ **Safety**
  - ❑ Review known or probable incident hazards, emphasizing LCES
  - ❑ Engine protection line* & 100 gallon reserve rule
  - ❑ Identify EMS resources on team
  - ❑ Fire shelters in the cab, PPE donned*
  - ❑ Affirm crew evacuation signals and procedure (e.g. where to reform, PAR procedure)

- ❑ **Travel Procedures**
  - ❑ Response urgency, including appropriate use of code-3
  - ❑ Travel route, planned stops, reporting location
  - ❑ Keep formation tight; slowest engine in front, Asst. STL engine bringing up the rear
  - ❑ Advise when approaching quarter fuel during travel, at least half fuel at time of deployment
  - ❑ Fuel payment procedure

- ❑ **Operations**
  - ❑ Briefly review essential elements of anticipated tactics (e.g. structure protection, progressive hose lay, running attack), emphasizing water conservation and mobility
  - ❑ Identify members having special experience/qualifications, e.g. Hot Shot, sawyer, mechanic
  - ❑ Assignments will primarily be based on crew experience, capability, and readiness
  - ❑ No freelancing. Captains will advise me when their assignments are completed or if they are receiving conflicting orders from Division Supervisor, etc.
  - ❑ Staging means 3-minute ***maximum*** ready time, ***all the time***
  - ❑ Accountability and behavior expectations during unassigned time
  - ❑ I'll try to work with Staging and the Resource Unit to get us in the game, but no guarantees
  - ❑ All supply requisitions will go through the STL or designee
  - ❑ If anyone is unable to commit to this assignment for at least 96 hours, advise as soon as possible.

- ❑ **Closing Comments/Questions**

*may postpone until approaching incident

APPENDIX C

A Publication of the
National Wildfire Coordinating Group

Sponsored by
United States
Department of Agriculture

United States
Department of the Interior

National Association of
State Foresters

NATIONAL INTERAGENCY INCIDENT MANAGEMENT SYSTEM

TASK BOOK FOR THE POSITION OF

STRIKE TEAM LEADER CREW (STCR) ENGINE (STEN) DOZER (STDZ) TRACTOR/PLOW (STPL)

(POSITION PERFORMANCE ON A WILDLAND OR PRESCRIBED FIRE ASSIGNMENT REQUIRED)

PMS 311-11 **March 1999**
NFES 2312

TASK BOOK ASSIGNED TO:
INDIVIDUAL'S NAME, DUTY STATION, AND PHONE NUMBER **TASK BOOK INITIATED BY:**
OFFICIAL'S NAME, TITLE, DUTY STATION, AND PHONE NUMBER
LOCATION AND DATE THAT TASK BOOK WAS INITIATED

The material contained in this book accurately defines the performance expected of the position for which it was developed. This task book is approved for use as a position qualification document in accordance with the instructions contained herein.

EVALUATOR

DO NOT COMPLETE THIS UNLESS YOU ARE RECOMMENDING THE TRAINEE FOR CERTIFICATION

VERIFICATION / CERTIFICATION OF COMPLETED TASK BOOK FOR THE POSITION OF

_____

FINAL EVALUATOR'S VERIFICATION

I verify that all tasks have been performed and are documented with appropriate initials.

I also verify that_____

has performed as a trainee and should therefore be considered for certification in this position.

_____

FINAL EVALUATOR'S SIGNATURE AND DATE

_____

EVALUATOR'S PRINTED NAME, TITLE, DUTY STATION, AND PHONE NUMBER

AGENCY CERTIFICATION

I certify that_____

has met all requirements for qualification in this position and that such qualification has been issued.

_____

CERTIFYING OFFICIAL'S SIGNATURE AND DATE

_____

CERTIFYING OFFICIAL'S NAME, TITLE, DUTY STATION, AND PHONE NUMBER

Additional copies of this publication may be ordered from:

National Interagency Fire Center
ATTN: Supply
3833 S. Development Avenue
Boise, Idaho 83705

NATIONAL WILDFIRE COORDINATING GROUP
POSITION TASK BOOK

Position Task Books (PTB) have been developed for designated positions within the National Interagency Incident Management System. Each PTB lists the performance requirements (tasks) for the specific position in a format that allows a trainee to be evaluated against written guidelines. Successful performance of all tasks, as observed and recorded by an evaluator, will result in a recommendation to the agency that the trainee be certified in that position.

Evaluation and confirmation of the trainee's performance of all the tasks may involve more than one evaluator and can occur on incidents, in classroom simulation, and in other work situations. **Designated PTBs require position performance during which the majority of required tasks are demonstrated on a single wildland or prescribed fire. Some positions require that specific tasks be performed on a wildland fire. Performance of these tasks on other kinds of incidents is NOT qualifying.** It is important that performance be critically evaluated and accurately recorded by each evaluator. All tasks must be evaluated before recommending certification. All bullet statements within a task which require an action (contain an action verb) must be demonstrated before that task can be signed off.

A more detailed description of this process, definitions of terms, and responsibilities are included in the Wildland and Prescribed Fire Qualification Guide 310-1. A brief list of responsibilities also appears below.

RESPONSIBILITIES:

1. The **Home Unit** is responsible for:

   - Selecting trainees based on the needs of the home unit and higher levels.
   - Ensuring that the trainee meets the training and experience requirements included in the Wildland and Prescribed Fire Qualification Guide 310-1.
   - Initiating PTBs to document task performance.
   - Explaining to the trainee the purpose and processes of the PTB as well as the trainee's responsibilities.
   - Providing opportunities for evaluation and/or making the trainee available for evaluation.
   - Providing an evaluator for local assignments.
   - Tracking progress of the trainee.
   - Confirming PTB completion.
   - Determining certification per local policy.
   - Issuing proof of certification.

2. The **Trainee** is responsible for:

   - Reviewing and understanding instructions in the PTB.
   - Identifying desired objectives/goals.
   - Providing background information to an evaluator.

- Satisfactorily demonstrating completion of all tasks for an assigned position within three years.
- Assuring the Evaluation Record is complete.
- Notifying home unit personnel when the PTB is completed and providing a copy.
- Keeping the original PTB in personal records.

3. The **Evaluator** is responsible for:

   - Understanding the Wildland and Prescribed Fire Qualifications System.
   - Being qualified and proficient in the position being evaluated.
   - Meeting with the trainee and determining past experience, current qualifications, and desired objectives/goals.
   - Reviewing tasks with the trainee.
   - Explaining to the trainee the evaluation procedures that will be utilized and which objectives may be attained.
   - Identifying tasks to be performed during the evaluation period.
   - Accurately evaluating and recording demonstrated performance of tasks. Satisfactory performance shall be documented by dating and initialing completion of the task. Unsatisfactory performance shall be documented in the Evaluation Record.
   - Completing the Evaluation Record found at the end of this PTB.

4. The **Final Evaluator** is responsible for:

   - Signing the verification statement inside the front cover of the PTB when all tasks have been initialed and if the trainee is recommended for certification.

5. The **Incident Training Specialist** is responsible for:

   - Identifying incident evaluation opportunities.
   - Assuring that trainees have met prerequisites.
   - Identifying and assigning a qualified evaluator that can provide a positive experience for the trainee, and making an accurate and honest appraisal of the trainee's performance.
   - Providing PTBs to approved trainees on the incident when home unit was unable to provide them.
   - Documenting the assignment.
   - Conducting progress reviews.
   - Conducting a close-out interview with the trainee and evaluator and assuring that documentation is proper and complete.
   - Notifying trainee's home unit.

QUALIFICATION RECORD

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
MOBILIZATION 1. Inspect assigned resources for: • Qualifications of personnel. • Personal protective equipment (PPE). • Establish and maintain personnel accountability. • Type(s) of equipment/tools and operating condition. • Communication capability.	O		
2. Survey assigned units for radio frequencies and ID numbers.	O		
3. Report strike team status to agency dispatcher or supervisor. (Include any units that fail to arrive or fail readiness inspection).	O		
4. Brief assigned unit leaders and determine route of travel, en route logistical needs (fuel, food, etc.). Determine proper formation, communications, and en route check points.	O		
5. Direct units during travel to check-in point. Follow correct agency procedures in event of breakdown or accident en route.	O/R		

*Code: O = task can be completed in any situation (classroom, simulation, prescribed fire, daily job, etc.)
I = task must be performed on an incident (flood, fire, prescribed fire, search & rescue, planned event, etc.)
W = task must be performed on a wildland fire incident
/R = Rare event—the evaluation assignment may not provide opportunities to demonstrate performance. The evaluator may be able to determine skills/knowledge through interview or the home office may need to arrange for another assignment or a simulation.
RX = task must be performed on a prescribed fire incident

QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
INCIDENT ACTIVITIES			
6. Attend operational period briefing prior to assignment.	I		
7. Obtain briefing from supervisor. • Request and receive briefing from supervisor regarding initial instructions concerning work activities, who, what, when, where, and why. • Review and compare tactical assignment with incident objectives to determine feasibility of assignment. List problems that may be encountered. Discuss conclusions with supervisor. • Request clarifying information or resolution from immediate supervisor as required. • Obtain Incident Action Plan (IAP) when available.	I		
8. Ensure assigned resources arrive at assignment location.	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
9. Plan tactical action on assigned area based on objectives of IAP, division/group assignments (ICS Form 204), and fire behavior outputs. • Match resource capability with needed tasks. • Identify what impacts modified suppression objectives will have on resource assignments. • Determine situations that might modify tactics. • Identify effective use of assigned resources. • Identify and assess values to be protected and assign resources.	W/ RX		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
10. When at assigned work location, brief and assign tasks to resources based on IAP objectives, division/group assignments, and resource capabilities. • Brief Single Resource Bosses using information from IAP. - Safety (Standard Fire Orders, Watch Out Situations, LCES, and Urban Interface Watch Out Situations). - IAP objectives and division/group control assignments. - Work standards, expectations, and Employee Code of Conduct. - Weather (in conjunction with IAP). - Communication (in conjunction with IAP). - Expected fire behavior. - Explain organization. • Describe mopup practices and standards. • Discuss minimum impact suppression principles.	W/ RX		

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W = task must be performed on a wildland fire incident
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RX = task must be performed on a prescribed fire incident

QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
11. Coordinate activities with adjacent Strike Team/Task Force Leader(s) and single resources. • Contact adjoining resources. • Make list of supervisors of adjoining resources. • Inform adjoining resources of status. • Receive status of adjoining resources. • Determine communication channels with adjoining resources from IAP. • Maintain communication with assigned resources.	I		
12. Monitor progress/work during operational period by: • Receiving reports from subordinate supervisors, based on your briefing and work expectations. • Conducting personal observations based on your work expectations. • Inspecting and locating line in advance of line construction. • Assessing values to be protected.	I		

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RX = task must be performed on a prescribed fire incident

QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
13. Determine and provide for assistance or corrections to assigned work task(s) during operational period. • Identify needs for corrections in work tasks to meet standards and safety policy. • Identify fatigue producing factors and take corrective measures. • Contact Division/Group Supervisor, etc. to review tactical observations and IAP. • Compare objectives vs. accomplishments. Determine with crew. • Identify need for additional assistance, logistical support and replacements due to slow progress or unexpected events. - Identify types of resources; air, etc. • Determine assistance, logistical support, and replacements required to implement correction action. Evaluate recommendations from subordinate supervisors; e.g., split assignment with another division. • Assign qualified personnel to scout line in critical areas.	I		

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RX = task must be performed on a prescribed fire incident

QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
14. Use tactics applied to structure protection. • Size up the situation and identify associated risks for current assignment. - Identify usable tactics for current resources. - Request specialized resources if applicable. • Safely and effectively utilize the resources available based on capabilities and limitations.	W/R		
15. Submit situation and resource status information to supervisor. • Inform supervisor of any change in conditions or events based on amended or adjusted work assignment or assigned resources. • Request additional resources, logistical support, and/or replacements through supervisors based on IAP, briefings, and discussions. • Hazards or special considerations identified in the IAP or Unit Log. • Report special events.	I		
16. Brief relief resources on: • Progress during operational period. • Reference points or geographic features. • Hazards or special considerations.	I		

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RX = task must be performed on a prescribed fire incident

QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
17. Establish communication links. • Provide radios and radio frequencies for all strike team increments. • Establish communication with supervisors and adjoining resources.	I		
18. Ensure transportation needs are met as specified in the IAP. • Coordinate any additional transportation needs through the Ground Support Unit Leader. • Inform supervisor if transportation needs can not be met.	I		
19. Brief assigned personnel on procedures for traveling to staging area.	O		
20. Check in with Staging Area Manager.	O		
21. Determine and obtain logistics needs.	I		
22. Maintain assigned resources for required three minute dispatch status.	O		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
23. Brief supervisors. • Meet with supervisors and establish out-of-service status and standards. • Provide supervisors with area layout and logistic support locations.	O		
24. Contact interagency resource representative.	O		
25. Contact resource unit. • Provide update status and location of assigned resources. • Establish and confirm out-of-service time frame. • Establish contact or communication procedures.	O		
DEMOBILIZATION 26. Confirm demobilization instructions with supervisor at incident.	I		
27. Inspect units and personnel to ensure that they are ready to leave in a state of readiness (rest, repairs, tools, fuel, etc.).	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: STRIKE TEAM LEADER

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
28. Distribute time reports to individual resources.	O		
29. Assemble strike team for briefing and departure. • Determine travel routes and en route logical needs. Determine travel information, communication, and check points.	I		

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INSTRUCTIONS for EVALUATION RECORD

There are four separate blocks allowing evaluations to be made. These evaluations may be made on incidents, simulation in classroom, or in daily duties, depending on what the position task book indicates. This should be sufficient for qualification in the position if the individual is adequately prepared. If additional blocks are needed, a page can be copied from a blank task book and attached.

COMPLETE THESE ITEMS AT THE START OF THE EVALUATION PERIOD:

Evaluator's name, incident/office title, and agency: List the name of the evaluator, his/her incident position (on incidents) or office title, and agency.

Evaluator's home unit address and phone: Self explanatory

#: The number in the upper left corner of the experience block identifies a particular experience or group of experiences. This number should be placed in the column labeled "Evaluation Record #" on the Qualification Record for each task performed satisfactorily.

Location of Incident/Simulation: Identify the location where the tasks were performed by agency and office.

Incident Kind: Enter kind of incident, e.g., wildland fire, prescribed fire, search and rescue, flood, etc.

COMPLETE THESE ITEMS AT THE END OF THE EVALUATION PERIOD:

Number and Type of Resources: Enter the number of resources and types assigned to the incident pertinent to the trainee's task book position.

Duration: Enter inclusive dates during which the trainee was evaluated. This block may indicate a span of time covering several small and similar incidents if the trainee has been evaluated on that basis, i.e., several initial attack fires in similar fuel types.

Management Level or Prescribed Fire Complexity Level: Indicates ICS organization level, i.e., Type 5, Type 4, Type 3, Type 2, Type 1, Area Command or prescribed fire complexity level (low, moderate, high).

NFFL Fuel Model: For wildland fire and prescribed fire experience, enter number (1-13) of the fuel model(s) in which the incident occurred and under which the trainee was evaluated.

Grass Group	1. Short Grass (1 foot)	**Timber Group**	8. Closed Timber Litter
	2. Timber (grass & understory)		9. Hardwood Litter
	3. Tall Grass (2-1/2 feet)		10. Timber (litter understory)
Brush Group	4. Chaparral (6 feet)	**Slash Group**	11. Light Logging Slash
	5. Brush (2 feet)		12. Medium Logging Slash
	6. Dormant brush-Hardwood Slash		13. Heavy Logging Slash
	7. Southern Rough		

Recommendation: Check as appropriate and/or make comments regarding the future needs for development of this trainee.

Date: List the date the record is being completed.

Evaluator's initials: Initial here to authenticate your recommendations and to allow for comparison with initials in the Qualifications Record.

Evaluator's relevant red card rating: List your certification relevant to the trainee position you supervised.

Evaluation Record

TRAINEE NAME _____ TRAINEE POSITION _____

#1	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
			to		

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

_____ The individual has successfully performed all tasks for the position and should be considered for certification.

_____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.

_____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.

_____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Recommendations:_____

_____

Date:_____ Evaluator's initials:_____ Evaluator's relevant red card (or agency certification) rating:_____

#2	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
			to		

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Recommendations:_____

_____

Date:_____ Evaluator's initials:_____ Evaluator's relevant red card (or agency certification) rating:_____

Evaluation Record
(Continuation Sheet)

TRAINEE NAME _____ TRAINEE POSITION _____

#3	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
			to		

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

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_____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Recommendations:_____

_____

Date:_____ Evaluator's initials:_____Evaluator's relevant red card (or agency certification) rating:_____

#4	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
			to		

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

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Recommendations:_____

_____

Date:_____ Evaluator's initials:_____Evaluator's relevant red card (or agency certification) rating:_____

A Publication of the
National Wildfire Coordinating Group

Sponsored by
United States
Department of Agriculture

United States
Department of the Interior

National Association of
State Foresters

NATIONAL INTERAGENCY INCIDENT MANAGEMENT SYSTEM

TASK BOOK FOR THE POSITION OF

TASK FORCE LEADER (TFLD)

(POSITION PERFORMANCE ON A WILDLAND OR PRESCRIBED FIRE ASSIGNMENT REQUIRED)

PMS 311-10 **March 1999**
NFES 2311

TASK BOOK ASSIGNED TO:
INDIVIDUAL'S NAME, DUTY STATION, AND PHONE NUMBER **TASK BOOK INITIATED BY:**
OFFICIAL'S NAME, TITLE, DUTY STATION, AND PHONE NUMBER
LOCATION AND DATE THAT TASK BOOK WAS INITIATED

The material contained in this book accurately defines the performance expected of the position for which it was developed. This task book is approved for use as a position qualification document in accordance with the instructions contained herein.

EVALUATOR

DO NOT COMPLETE THIS UNLESS YOU ARE RECOMMENDING THE TRAINEE FOR CERTIFICATION

VERIFICATION / CERTIFICATION OF COMPLETED TASK BOOK FOR THE POSITION OF

_____

FINAL EVALUATOR'S VERIFICATION

I verify that all tasks have been performed and are documented with appropriate initials.

I also verify that_____

has performed as a trainee and should therefore be considered for certification in this position.

_____

FINAL EVALUATOR'S SIGNATURE AND DATE

_____

EVALUATOR'S PRINTED NAME, TITLE, DUTY STATION, AND PHONE NUMBER

AGENCY CERTIFICATION

I certify that_____

has met all requirements for qualification in this position and that such qualification has been issued.

_____

CERTIFYING OFFICIAL'S SIGNATURE AND DATE

_____

CERTIFYING OFFICIAL'S NAME, TITLE, DUTY STATION, AND PHONE NUMBER

Additional copies of this publication may be ordered from:

National Interagency Fire Center
ATTN: Supply
3833 S. Development Avenue
Boise, Idaho 83705

NATIONAL WILDFIRE COORDINATING GROUP
POSITION TASK BOOK

Position Task Books (PTB) have been developed for designated positions within the National Interagency Incident Management System. Each PTB lists the performance requirements (tasks) for the specific position in a format that allows a trainee to be evaluated against written guidelines. Successful performance of all tasks, as observed and recorded by an evaluator, will result in a recommendation to the agency that the trainee be certified in that position.

Evaluation and confirmation of the trainee's performance of all the tasks may involve more than one evaluator and can occur on incidents, in classroom simulation, and in other work situations. **Designated PTBs require position performance during which the majority of required tasks are demonstrated on a single wildland or prescribed fire. Some positions require that specific tasks be performed on a wildland fire. Performance of these tasks on other kinds of incidents is NOT qualifying.** It is important that performance be critically evaluated and accurately recorded by each evaluator. All tasks must be evaluated before recommending certification. All bullet statements within a task which require an action (contain an action verb) must be demonstrated before that task can be signed off.

A more detailed description of this process, definitions of terms, and responsibilities are included in the Wildland and Prescribed Fire Qualification Guide 310-1. A brief list of responsibilities also appears below.

RESPONSIBILITIES:

1. The **Home Unit** is responsible for:

   - Selecting trainees based on the needs of the home unit and higher levels.
   - Ensuring that the trainee meets the training and experience requirements included in the Wildland and Prescribed Fire Qualification Guide 310-1.
   - Initiating PTBs to document task performance.
   - Explaining to the trainee the purpose and processes of the PTB as well as the trainee's responsibilities.
   - Providing opportunities for evaluation and/or making the trainee available for evaluation.
   - Providing an evaluator for local assignments.
   - Tracking progress of the trainee.
   - Confirming PTB completion.
   - Determining certification per local policy.
   - Issuing proof of certification.

2. The **Trainee** is responsible for:

   - Reviewing and understanding instructions in the PTB.
   - Identifying desired objectives/goals.
   - Providing background information to an evaluator.

- Satisfactorily demonstrating completion of all tasks for an assigned position within three years.
- Assuring the Evaluation Record is complete.
- Notifying home unit personnel when the PTB is completed and providing a copy.
- Keeping the original PTB in personal records.

3. The **Evaluator** is responsible for:

   - Understanding the Wildland and Prescribed Fire Qualifications System.
   - Being qualified and proficient in the position being evaluated.
   - Meeting with the trainee and determining past experience, current qualifications, and desired objectives/goals.
   - Reviewing tasks with the trainee.
   - Explaining to the trainee the evaluation procedures that will be utilized and which objectives may be attained.
   - Identifying tasks to be performed during the evaluation period.
   - Accurately evaluating and recording demonstrated performance of tasks. Satisfactory performance shall be documented by dating and initialing completion of the task. Unsatisfactory performance shall be documented in the Evaluation Record.
   - Completing the Evaluation Record found at the end of this PTB.

4. The **Final Evaluator** is responsible for:

   - Signing the verification statement inside the front cover of the PTB when all tasks have been initialed and if the trainee is recommended for certification.

5. The **Incident Training Specialist** is responsible for:

   - Identifying incident evaluation opportunities.
   - Assuring that trainees have met prerequisites.
   - Identifying and assigning a qualified evaluator that can provide a positive experience for the trainee, and making an accurate and honest appraisal of the trainee's performance.
   - Providing PTBs to approved trainees on the incident when home unit was unable to provide them.
   - Documenting the assignment.
   - Conducting progress reviews.
   - Conducting a close-out interview with the trainee and evaluator and assuring that documentation is proper and complete.
   - Notifying trainee's home unit.

QUALIFICATION RECORD

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
MOBILIZATION 1. Inspect assigned resources for: • Qualifications of personnel. • Personal protective equipment (PPE). • Type(s) of equipment/tools and operating condition. • Communication capability. • Establish and maintain personnel accountability.	O		
2. Survey assigned units for radio frequencies and ID numbers.	O		
3. Report task force status to agency dispatcher or supervisor (include any units that fail to arrive or fail readiness inspection).	O		
4. Brief assigned unit leaders and determine route of travel, en route logistical needs (fuel, food, etc.). Determine proper formation and communications, en route check points.	O		
5. Direct units during travel to check in point. Follow correct agency procedures in event of breakdown or accident en route.	O/R		

*Code: O = task can be completed in any situation (classroom, simulation, prescribed fire, daily job, etc.)
I = task must be performed on an incident (flood, fire, prescribed fire, search & rescue, planned event, etc.)
W = task must be performed on a wildland fire incident
/R = Rare event—the evaluation assignment may not provide opportunities to demonstrate performance. The evaluator may be able to determine skills/knowledge through interview or the home office may need to arrange for another assignment or a simulation.
RX = task must be performed on a prescribed fire incident

QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
INCIDENT ACTIVITIES			
6. Attend operational period briefing prior to assignment.	I		
7. Obtain briefing from supervisor. • Request and receive briefing from supervisor regarding initial instructions concerning work activities, who, what, when, where, and why. • Review and compare tactical assignment with incident objectives to determine feasibility of assignment. List problems that may be encountered. Discuss conclusions with supervisor. • Request clarifying information or resolution from immediate supervisor as required. • Obtain Incident Action Plan (IAP) when available.	I		
8. Ensure assigned resources arrive at assignment location.	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
9. Plan tactical action on assigned area based on objectives of IAP, division/group assignments (ICS-204), and fire behavior outputs. • Match resource capability with needed tasks. • Identify what impacts modified suppression objectives will have on resource assignments. • Determine situations that might modify tactics. • Identify effective use of a combination of resources. • Identify and assess values to be protected and assign resources.	W/ RX		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
10. When at assigned work location, brief and assign tasks to resources based on IAP objectives, division/group assignment, and resource capabilities. • Brief Single Resource Bosses using information from IAP. (1) Safety (Standard Fire Orders, Watch Out Situations, Urban Interface Watch Out Situations, and LCES). (2) IAP objectives and division/group control assignments. (3) Work standards, expectations, and Employee Code of Conduct. (4) Weather (in conjunction with IAP). (5) Communication (in conjunction with IAP). (6) Expected fire behavior. (7) Explain organization. • Describe mopup practices and standards. • Discuss minimum impact suppression principles.	W/ RX		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
11. Coordinate activities with adjacent Strike Team/Task Force Leader(s) and single resources. • Contact adjoining resources. • Make list of supervisors of adjoining resources. • Inform adjoining resources of status. • Receive status of adjoining resources. • Determine communication channels with adjoining resources from IAP. • Maintain communication with assigned resources.	I		
12. Monitor progress/work during operational period by: • Receiving reports from subordinate supervisors, based on your briefing and work expectations. • Conducting personal observations based on your work expectations. • Inspecting and locating line in advance of line construction, if applicable. • Assessing values to be protected.	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
13. Determine and provide for assistance or corrections to assigned work task(s) during operational period. • Identify needs for corrections in work tasks to meet standards and safety policy. • Identify fatigue producing factors and take corrective measures. • Contact Division/Group Supervisor to review tactical observations and IAP. • Comparing objectives vs. accomplishment, adjust use of combinations of resources as conditions warrant to maximize effectiveness. • Identify need for additional assistance, logistical support and replacements due to slow progress or unexpected events. • Determine assistance, logistical support, and replacements required to implement correction action. Evaluate recommendations from subordinate supervisors; e.g., split assignment with another division. • Assign qualified personnel to scout line in critical areas.	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
14. Use tactics applied to structure protection. • Size up the situation and identify associated risks for current assignment. (1) Identify usable tactics for current resources. (2) Request specialized resources if applicable. • Safely and effectively utilize the resources available based on capabilities and limitations.	W/R		
15. Submit situation and resource status information to supervisor. • Inform supervisor of any change in conditions or events based on amended or adjusted work assignment or assigned resources. • Request additional resources, logistical support, and/or replacements through supervisor based on IAP, briefings, and discussions. • Hazards or special considerations identified in the IAP or Unit Log. • Report special events.	I		
16. Brief relief resources on: • Progress during operational period. • Reference points or geographic features. • Hazards or special considerations.	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
17. Establish communication links. • Provide radios and radio frequencies for all task force increments. • Establish communication with supervisors and adjoining resources.	I		
18. Ensure transportation needs are met as specified in the IAP. • Coordinate any additional transportation needs through the Ground Support Unit Leader. • Inform supervisor if transportation needs can not be met.	I		
19. Brief assigned personnel on procedures for traveling to staging area.	O		
20. Check in with Staging Area Manager.	O		
21. Determine and obtain logistics needs.	I		
22. Maintain assigned resources' required three minute dispatch status.	O		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
23. Brief supervisors. • Meet with supervisors and establish out-of-service status and standards. • Provide supervisors with area layout and logistic support locations.	O		
24. Contact Interagency Resource Representative.	O		
25. Contact resources unit. • Provide update status and location of assigned resources. • Establish and confirm out-of-service timeframe. • Establish contact or communication procedures.	O		
DEMOBILIZATION 26. Confirm demobilization instructions with supervisor at incident.	I		
27. Inspect units and personnel to ensure that they are ready to leave in a state of readiness (rest, repairs, tools, fuel, etc.)	I		

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QUALIFICATION RECORD
Continuation Sheet

POSITION: TASK FORCE LEADER (TFLD)

TASK	CODE*	EVALUATION RECORD #	EVALUATOR: Initial & date upon completion of task
28. Distribute time reports to individual resources.	O		
29. Assemble task force for briefing and departure. • Determine travel routes and en route logical needs. Determine travel information, communications, and check points.	I		

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INSTRUCTIONS for EVALUATION RECORD

There are four separate blocks allowing evaluations to be made. These evaluations may be made on incidents, simulation in classroom, or in daily duties, depending on what the position task book indicates. This should be sufficient for qualification in the position if the individual is adequately prepared. If additional blocks are needed, a page can be copied from a blank task book and attached.

COMPLETE THESE ITEMS AT THE START OF THE EVALUATION PERIOD:

Evaluator's name, incident/office title, and agency: List the name of the evaluator, his/her incident position (on incidents) or office title, and agency.

Evaluator's home unit address and phone: Self explanatory

#: The number in the upper left corner of the experience block identifies a particular experience or group of experiences. This number should be placed in the column labeled "Evaluation Record #" on the Qualification Record for each task performed satisfactorily.

Location of Incident/Simulation: Identify the location where the tasks were performed by agency and office.

Incident Kind: Enter kind of incident, e.g., wildland fire, prescribed fire, search and rescue, flood, etc.

COMPLETE THESE ITEMS AT THE END OF THE EVALUATION PERIOD:

Number and Type of Resources: Enter the number of resources and types assigned to the incident pertinent to the trainee's task book position.

Duration: Enter inclusive dates during which the trainee was evaluated. This block may indicate a span of time covering several small and similar incidents if the trainee has been evaluated on that basis, i.e., several initial attack fires in similar fuel types.

Management Level or Prescribed Fire Complexity Level: Indicates ICS organization level, i.e., Type 5, Type 4, Type 3, Type 2, Type 1, Area Command or prescribed fire complexity level (low, moderate, high).

NFFL Fuel Model: For wildland fire and prescribed fire experience, enter number (1-13) of the fuel model(s) in which the incident occurred and under which the trainee was evaluated.

Grass Group	1. Short Grass (1 foot)	**Timber Group**	8. Closed Timber Litter
	2. Timber (grass & understory)		9. Hardwood Litter
	3. Tall Grass (2-1/2 feet)		10. Timber (litter understory)
Brush Group	4. Chaparral (6 feet)	**Slash Group**	11. Light Logging Slash
	5. Brush (2 feet)		12. Medium Logging Slash
	6. Dormant brush-Hardwood Slash		13. Heavy Logging Slash
	7. Southern Rough		

Recommendation: Check as appropriate and/or make comments regarding the future needs for development of this trainee.

Date: List the date the record is being completed.

Evaluator's initials: Initial here to authenticate your recommendations and to allow for comparison with initials in the Qualifications Record.

Evaluator's relevant red card rating: List your certification relevant to the trainee position you supervised.

Evaluation Record

TRAINEE NAME _____ TRAINEE POSITION _____

#1	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
			to		

The tasks initialed & dated by me have been performed under my supervision in a satisfactory manner by the above named trainee. I recommend the following for further development of this trainee.

_____ The individual has successfully performed all tasks for the position and should be considered for certification.

_____ The individual was not able to complete certain tasks (comments below) or additional guidance is required.

_____ Not all tasks were evaluated on this assignment and an additional assignment is needed to complete the evaluation.

_____ The individual is severely deficient in the performance of tasks for the position and needs further training (both required & knowledge and skills needed) prior to additional assignment(s) as a trainee.

Recommendations:_____

_____

Date:_____ Evaluator's initials:_____ Evaluator's relevant red card (or agency certification) rating:_____

#2	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
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Recommendations:_____

_____

Date:_____ Evaluator's initials:_____ Evaluator's relevant red card (or agency certification) rating:_____

Evaluation Record
(Continuation Sheet)

TRAINEE NAME _____ **TRAINEE POSITION** _____

#3	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
			to		

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Recommendations:_____

_____

Date:_____ Evaluator's initials:_____Evaluator's relevant red card (or agency certification) rating:_____

#4	Evaluator's name: Incident/office title & agency:

Evaluator's home unit address & phone:

Name and Location of Incident or Simulation (agency & area)	Incident Kind (wildland fire, search & rescue, etc.)	Number & Type of Resources Pertinent to Trainee's Position	Duration (inclusive dates in trainee status)	Management Level or Prescribed Fire Complexity Level	NFFL Fuel Model(s)
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Recommendations:_____

_____

Date:_____ Evaluator's initials:_____Evaluator's relevant red card (or agency certification) rating:_____