

# *Roles and Responsibilities – How should both Disciplines Work Together*



# Fire Effects to Cultural Resources

First Order (Direct) effects

Second Order (Indirect) effects

Suppression (Management) Effects





## First Order Effects

How a fire impacts or *might impact* cultural resources is defined by answering the following:

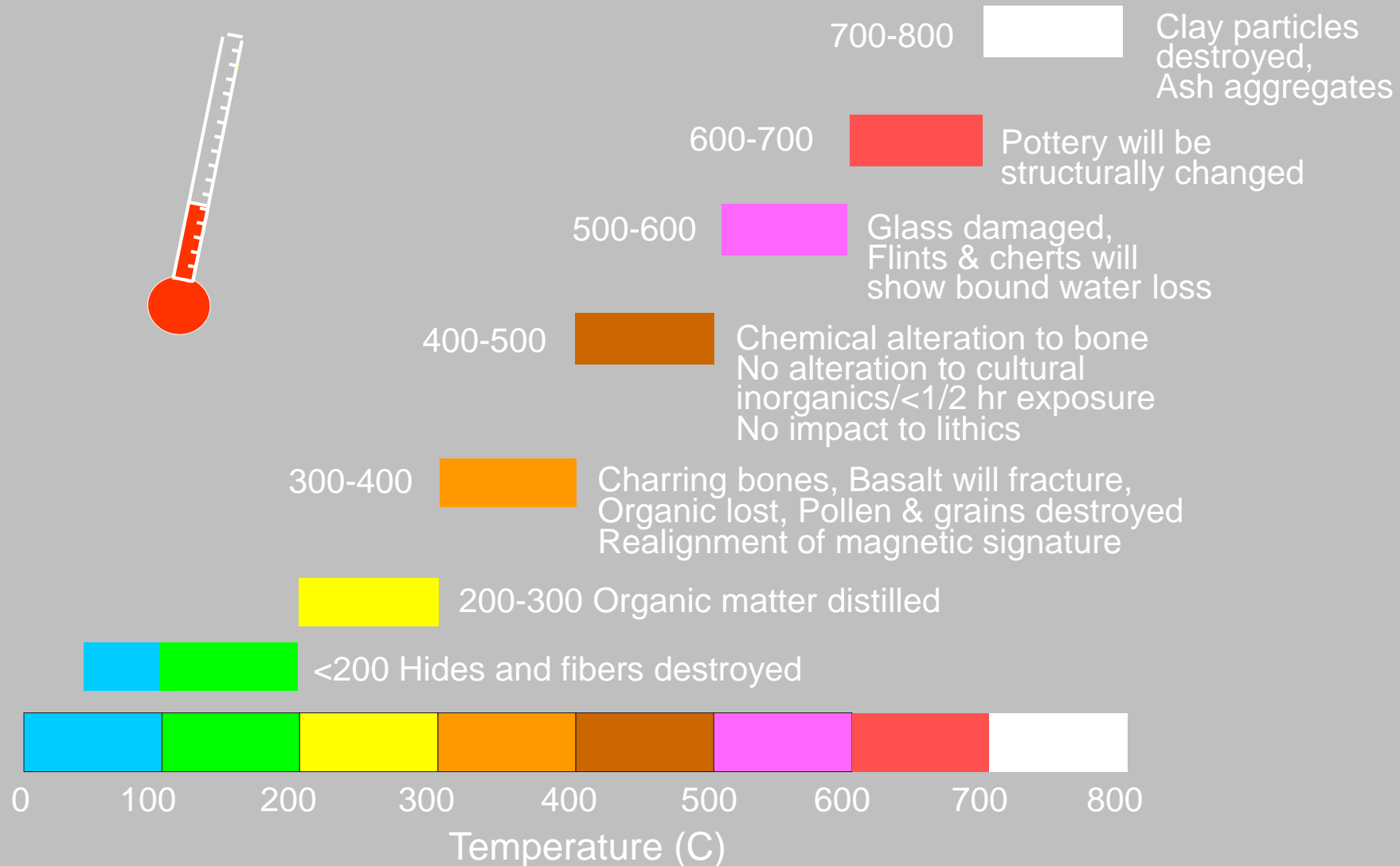
***How hot will the fire get?***

***How long will it hot?***

***Where are your resources in relationship to the heat?***

***How will those resources (or the values associated with them) affected by the heat (or by other components of the fire environment, like smoke)?***

# Temperature Effects



## Second Order Effects

*What specific effects can occur to cultural resources after fires or from prescribed burn and fuels management activities?*



Erosion after fires can displace artifacts, and impact cultural features



Rock wall supporting ditch on steep slope



(Gullying and fill in historic Gold Rush-era ditch several months after a wildland fire)



# Examples of Indirect Effects...

## Increased Tree Mortality

**Burned Snag**



2003 Williams WFU



1997 Sugarloaf WFU

21 8'97

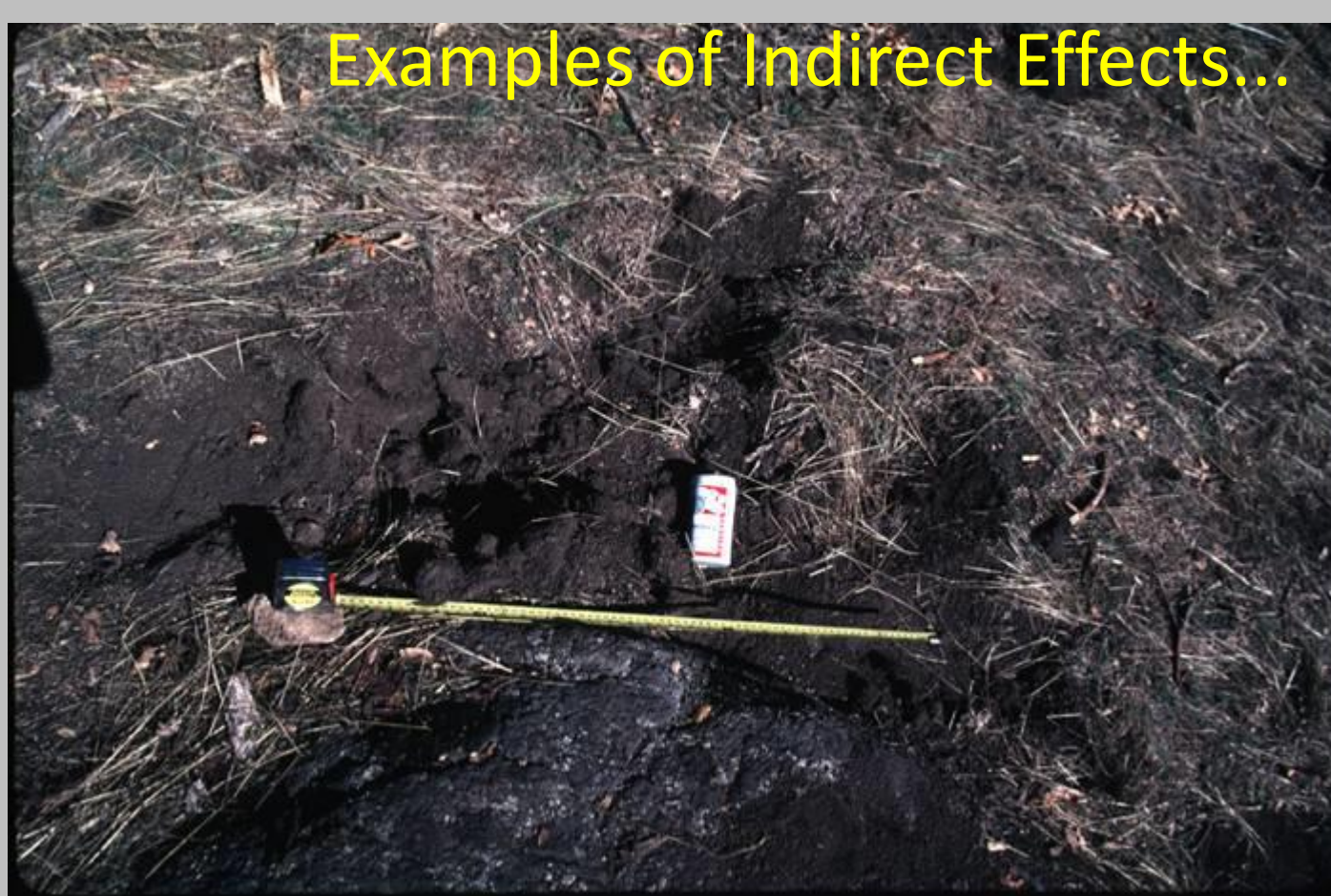
**Shorty Lovelace at Crowley Cabin Pre-1940**



Sequoia-Kings Canyon NP



## Examples of Indirect Effects...



## Looting



Post-burn "Looter's pile" at Mojave NP, 2005



Operational





# Management effects to cultural resources

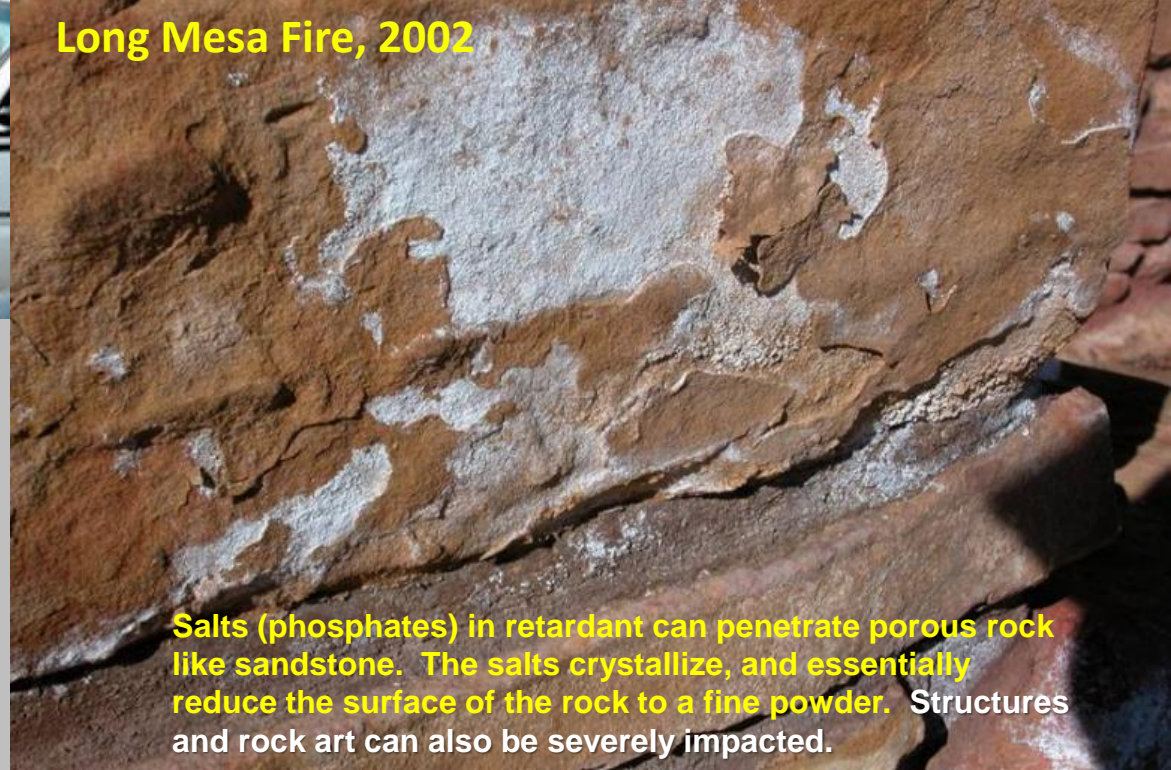
- Unit prep/thinning
- Staging – parking, ICP, spike camps
- Helispots
- Line construction/safety zones
- Temporary water sources
- Retardant/foam/gel
- Mop up
- Erosion
- Vandalism/ theft







Historic Residential Area at Mesa Verde NP  
Long Mesa Fire, 2002



Salts (phosphates) in retardant can penetrate porous rock like sandstone. The salts crystallize, and essentially reduce the surface of the rock to a fine powder. Structures and rock art can also be severely impacted.

**Retardant, foam and water can cause artifacts to fracture and break from rapid cooling; retardant and gel can discolor and contaminate some artifacts.**



# Mixed-severity fire regime in a high-elevation forest of Grand Canyon, Arizona, USA

Peter Z. Fulé<sup>1,2,\*</sup>, Joseph E. Crouse<sup>1</sup>, Thomas A. Heinlein<sup>3</sup>, Margaret M. Moore<sup>2</sup>, W. Wallace Covington<sup>1,2</sup> and Greg Verkamp<sup>1</sup>

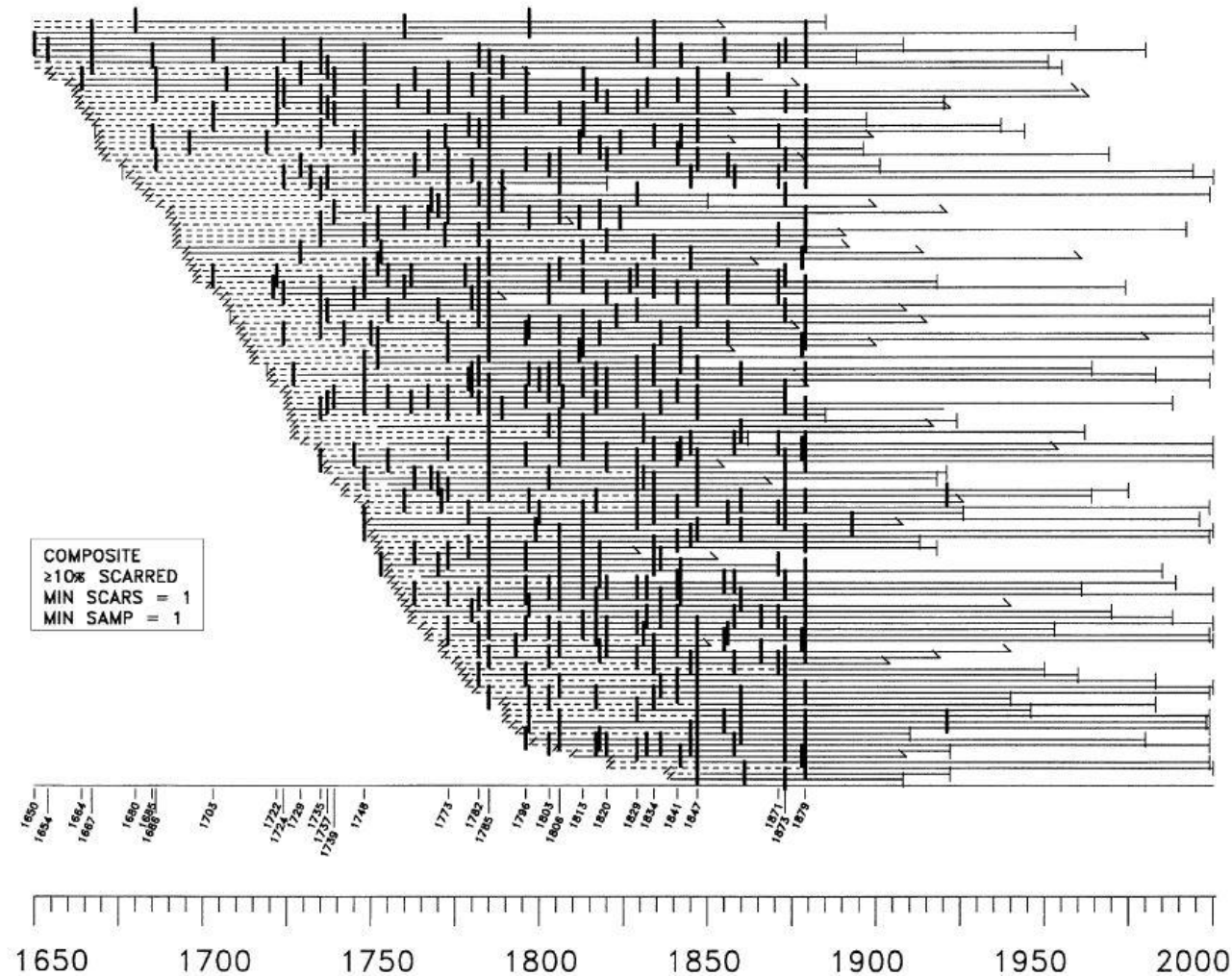


Figure 4. Fire chart for 132 fire-scarred trees from the Little Park study site. Years in which fires scarred 10% or more of the samples are shown on the lower axis.



## ARCHAEOLOGIST (ARCH)

### AGENCY ENDORSEMENTS:



### REQUIRED TRAINING:

National Incident Management System, An Introduction (IS-700)  
Introduction to ICS (ICS-100)

### REQUIRED EXPERIENCE:

Must have performed as a specialist on a unit in this function

### PHYSICAL FITNESS LEVEL:

None

### THESE POSITIONS MAINTAIN CURRENCY FOR ARCH:

None

### ARCH MAINTAINS CURRENCY FOR THESE POSITIONS:

None

### ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS:

None

#### AGENCY-SPECIFIC REQUIREMENTS

No additional requirements.

## RESOURCE ADVISOR (READ)

### AGENCY ENDORSEMENTS:



### REQUIRED TRAINING:

National Incident Management System, An Introduction (IS-700)  
Introduction to ICS (ICS-100)  
Resource Advisor (N-9042)

### REQUIRED EXPERIENCE:

None

### PHYSICAL FITNESS LEVEL:

None

### THESE POSITIONS MAINTAIN CURRENCY FOR READ:

Resource Advisor, Fireline (REAF)

### READ MAINTAINS CURRENCY FOR THESE POSITIONS:

Resource Advisor, Fireline (REAF)

### ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS:

None

#### AGENCY-SPECIFIC REQUIREMENTS

BLM BLA	DOI Learn course can satisfy the N-9042 course requirement
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## CULTURAL SPECIALIST (CULS)

### AGENCY ENDORSEMENTS:



### REQUIRED TRAINING:

National Incident Management System, An Introduction (IS-700)  
Introduction to ICS (ICS-100)

### REQUIRED EXPERIENCE:

None

### PHYSICAL FITNESS LEVEL:

None

### THESE POSITIONS MAINTAIN CURRENCY FOR CULS:

None

### CULS MAINTAINS CURRENCY FOR THESE POSITIONS:

None

### ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS:

None

#### AGENCY-SPECIFIC REQUIREMENTS

USFS	PHYSICAL FITNESS LEVEL: Light
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## RESOURCE ADVISOR, FIRELINE (REAF)

### AGENCY ENDORSEMENTS:



### REQUIRED TRAINING:

National Incident Management System, An Introduction (IS-700)  
Introduction to ICS (ICS-100)  
Basic ICS: ICS for Single Resources and Initial Action Incidents (ICS-200)  
Firefighter Training (S-130)  
Introduction to Wildland Fire Behavior (S-190)  
Human Factors in the Wildland Fire Service (L-180)  
Annual Fireline Safety Refresher (RT-130)  
Resource Advisor (N-9042)

### REQUIRED EXPERIENCE:

None

### PHYSICAL FITNESS LEVEL:

Moderate

### THESE POSITIONS MAINTAIN CURRENCY FOR REAF:

Resource Advisor (READ)

### REAF MAINTAINS CURRENCY FOR THESE POSITIONS:

Resource Advisor (READ)

### ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS:

None

#### AGENCY-SPECIFIC REQUIREMENTS

BLM BLA	DOI Learn course can satisfy the N-9042 course requirement
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9 Visitors to the Fireline/RX Burns may be “Non-Escorted” or “Escorted”  
10 depending on the following requirements:

### 11 **Non-Escorted Visits**

12 Visitors must have an incident qualification with a minimum physical fitness  
13 level of “light” to visit the fireline unescorted.

- 14 • Must have adequate communications and radio training.
- 15 • Completed the following training:
  - 16 ○ Introduction to Fire Behavior (S-190).
  - 17 ○ Firefighter Training (S-130).
  - 18 ○ Annual Fireline Safety Refresher Training, including fire shelter  
19 training.
- 20 • Deviation from these requirements must be approved by the IC or Burn  
21 Boss.

22 The law enforcement physical fitness standard is accepted as equivalent to a  
23 “light” WCT work category.

### 24 **Escorted Visits**

25 All visitors lacking the above training and physical requirements must be  
26 escorted while on the fireline.

- 27 • Visitors must receive training in the proper use of Fireline PPE.
- 28 • Requirement for hand tool and water to be determined by escort.
- 29 • Visitors must be able to walk in mountainous terrain and be in good  
30 physical condition with no known limiting conditions.
- 31 • Escorts must be minimally qualified as Single Resource Boss.
- 32 • Deviation from these requirements must be approved by the IC or Burn  
33 Boss.



# ***Incident Planning & Meeting Cycle***

*0500 – Operations Pre-Briefing*

*0600 – Daily Operations Briefing and DIV Breakouts (Day Shift)*

*0700 – READ Operations Briefing*

*1000 – Cooperators Meeting*

*1100 – Agency Administrator Meeting*

*1700 – Operational Strategy Meeting (Next Day Shift)*

*1800 – Planning Meeting (Next Day Shift)*

*1900 – Fire Repair Meeting*

*2100 – READ Post Shift AAR*

*2100 – IAP Parts are Due*











