



## S-231 Unit 1 Activity 1: Comparing FFT1 to ENGB Responsibilities

### Materials:

- *NWCG Incident Position Standards for Firefighter Type 1 (Squad Boss)*, PMS 350-14, <https://www.nwcg.gov/publications/pms350-14>
- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>

**Length:** 20 minutes.

**Purpose:** Compare the responsibilities of Firefighter Type 1 (Squad Boss) (FFT1) and Engine Boss, Single Resource (ENGB) personnel.

### IPD Alignment:

- Ensure individual readiness.
- Travel to and check in at assignment.
- Gather critical information pertinent to the assignment.
- Assemble and validate readiness of crew, equipment, and vehicles.
- Ensure the Incident Action Plan (IAP) or relevant plan lists correct personnel status.
- Obtain briefing, objectives, and intent from supervisor.
- Brief assigned personnel on situation, mission/execution, communications, service/support, and risk management.
- Develop, implement, and adjust tactics based on incident objectives, fire behavior, risk assessment, and leader's intent.
- Scout line in critical areas and patrol fireline.
- Ensure proper water delivery system design and implementation.
- Supervise, direct, and lead direct attack operations.
- Supervise, direct, and lead indirect attack operations.
- Ensure proper refurbishing and resupply of vehicles, equipment, and supplies.
- Ensure personnel can effectively use multichannel radios.
- Ensure effective communication with adjacent resources and supervisors within the established chain of command.
- Participate in operational briefings.
- Conduct and/or participate in After Action Reviews (AARs).
- Apply the Risk Management Process.
- Account for location, health, safety, and welfare of assigned personnel.

## Unit 1 Activity 1: Comparing FFT1 to ENGB Responsibilities

- Develop and communicate contingency plans and trigger points.
- Plan for and manage medical emergencies.
- Complete all administrative tasks and documentation in an accurate and timely manner.
- Prepare for and implement demobilization.

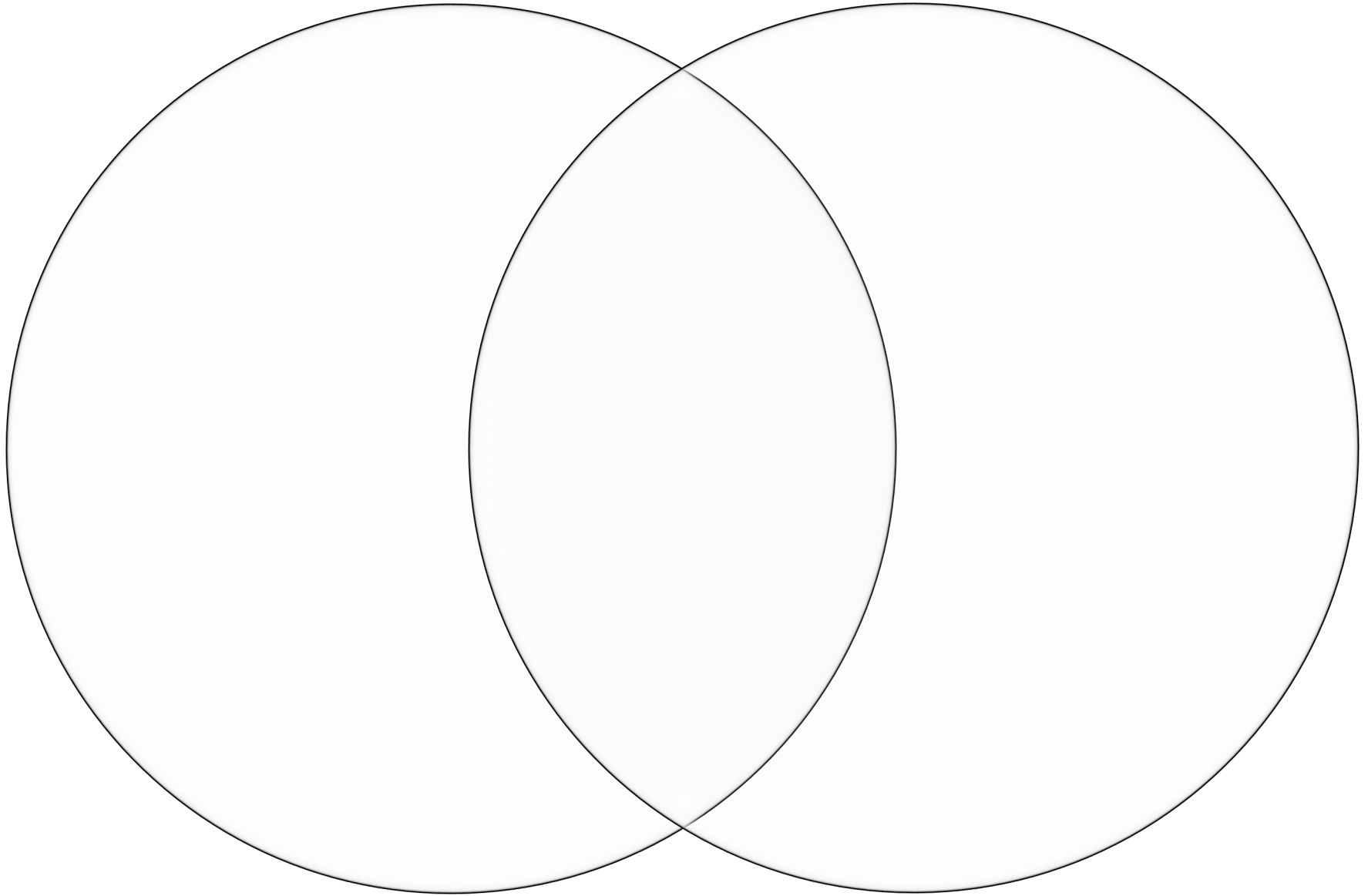
### Directions:

- Work with a partner to create a Venn diagram comparing the responsibilities of an FFT1 and ENGB on the next page.
- Leverage your experience as an FFT1 and refer to *NWCG Incident Position Standards for Firefighter Type 1 (Squad Boss)*, PMS 350-14 and *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 to complete the Venn diagram.
- Be prepared to share your responses with the class.

## Unit 1 Activity 1: Comparing FFT1 to ENGB Responsibilities

**FFT1**

**ENGB**





## S-231 Unit 2 Activity 2-1: Capabilities and Readiness Scenario

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 25 minutes.

**Purpose:** Assess crew, vehicle, and equipment readiness for a given scenario.

**IPD Alignment:** Assemble and validate readiness of crew, equipment, and vehicles.

### Directions:

- Work with your group to answer the questions related to the scenario.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.

### Scenario:

You and your crew have just received an assignment outside your region. You are being ordered to the Cactus Fire in New Mexico, located within the Gila National Forest.

The terrain in the Gila National Forest consists of rugged, mountainous terrain with steep slopes, rocky outcrops, and narrow and winding access roads. Fuels in this area include dense ponderosa pine, mixed conifer stands, and heavy understory with grass and shrub components, creating a high potential for intense fire behavior.

Your crew is composed of five members: two first-year Firefighter Type 2 (Crewmember) (FFT2) personnel, one of whom is a call-when-needed resource, and two experienced Firefighter Type 1 (Squad Boss) (FFT1) personnel in their third season. One FFT1 is fully qualified as an Intermediate Faller (FAL2), while the other FFT1 is currently a FAL2 trainee.

The engine is a 4 x 4 Type 3 equipped with 800 gallons of water, foam capability, and a standard assortment of hoses, fittings, and nozzles. You have 1,000 feet of 1½-inch and 1-inch hose, two live reels, and chainsaws and hand tools for constructing control lines. You have verified that safety checks, equipment inspections, and a crew briefing have been completed.

Before accepting the assignment, you must determine whether your crew is prepared to operate safely in the terrain, whether the engine can maneuver and deliver water effectively, and whether your equipment inventory is sufficient for the assignment.

## Unit 2 Activity 2-1: Capabilities and Readiness Scenario

### Questions:

- As the Engine Boss, Single Resource (ENGB), what should you consider when assessing crew capabilities for an assignment?
- Is the crew capable of completing this assignment? Why or why not?
- As the ENGB, what should you consider when assessing engine capabilities for an assignment?
- Is the engine capable of completing the assignment? Why or why not?
- As the ENGB, what should you verify prior to taking on an assignment?
- Do you have the appropriate equipment for the assignment? Why or why not?



## S-231 Unit 3 Activity 3-1: Comparing Engine Crew Briefings

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 25 minutes.

**Purpose:** Listen to different engine crew briefings and determine what is missing and what is effective.

### IPD Alignment:

- Gather critical information pertinent to the assignment.
- Brief assigned personnel on situation, mission/execution, communications, service/support, and risk management.
- Participate in operational briefings.

### Directions:

- Listen to briefing 1 and individually answer the questions.
- Listen to briefing 2 and individually answer the questions.
- Be prepared to share your responses with the class.

## Unit 3 Activity 3-1: Comparing Engine Crew Briefings

### Briefing 1 Questions:

- Was this briefing effective? Is there anything else you would want to know before accepting this assignment?
- How could this missing information impact your assignment?
- How could you obtain the missing information?

### Briefing 2 Questions:

- How does this briefing compare to the first briefing?
- What are some things you would include in an Engine Boss, Single Resource (ENGB) briefing?



## S-231 Unit 3 Activity 3-2: Gathering and Sharing Critical Information Case Study

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>
- RT-130, Wildland Fire Safety Training Annual Refresher (WFSTAR): Mudd Fire, <https://www.nwcg.gov/training-courses/rt-130/case-studies/cs209>

**Length:** 25 minutes.

**Purpose:** Assess how critical information was gathered and shared for a given case study.

**IPD Alignment:** Gather critical information pertinent to the assignment.

### Directions:

- Work with your group to answer the questions related to the Mudd Fire Deployment Story video.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.

### Questions:

- How was information gathered on the assignment?
- What information was helpful?
- How could the Engine Boss, Single Resource (ENGB) have gathered additional information?





## S-231 Unit 4 Activity 4-1: Mitigating Risk

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 25 minutes.

**Purpose:** Document strategies to mitigate risk to personnel, vehicles, and equipment on engine assignments.

**IPD Alignment:** Apply the Risk Management Process.

### Directions:

- Work with your group to fill in the table by:
  - Listing the hazards that were discussed as a class in the “Risks” column.
  - Brainstorming and listing strategies to mitigate risk to personnel for each risk identified in the “Mitigating Personnel Risk” column.
  - Brainstorming and listing strategies to mitigate risk to equipment and vehicles for each risk identified in the “Mitigating Equipment and Vehicle Risk” column.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.

## Unit 4 Activity 4-1: Mitigating Risk

### Risk Mitigation Strategies:

| Risks | Mitigating Personnel Risk | Mitigating Equipment and Vehicle Risk |
|-------|---------------------------|---------------------------------------|
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## Unit 4 Activity 4-1: Mitigating Risk

| Risks | Mitigating Personnel Risk | Mitigating Equipment and Vehicle Risk |
|-------|---------------------------|---------------------------------------|
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## S-231 Unit 4 Activity 4-2: Contingency Plans and Trigger Points

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 30 minutes.

**Purpose:** Develop contingency plans and trigger points for an engine assignment based on a given scenario.

### IPD Alignment:

- Account for location, health, safety, and welfare of assigned personnel.
- Develop and communicate contingency plans and trigger points.

### Directions:

- Review the scenario and map.
- As a group, develop contingency plans and trigger points by answering the questions.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your contingency plans and trigger points with the class.

## Unit 4 Activity 4-2: Contingency Plans and Trigger Points

### Scenario: Contingency Plans and Trigger Points Part 1

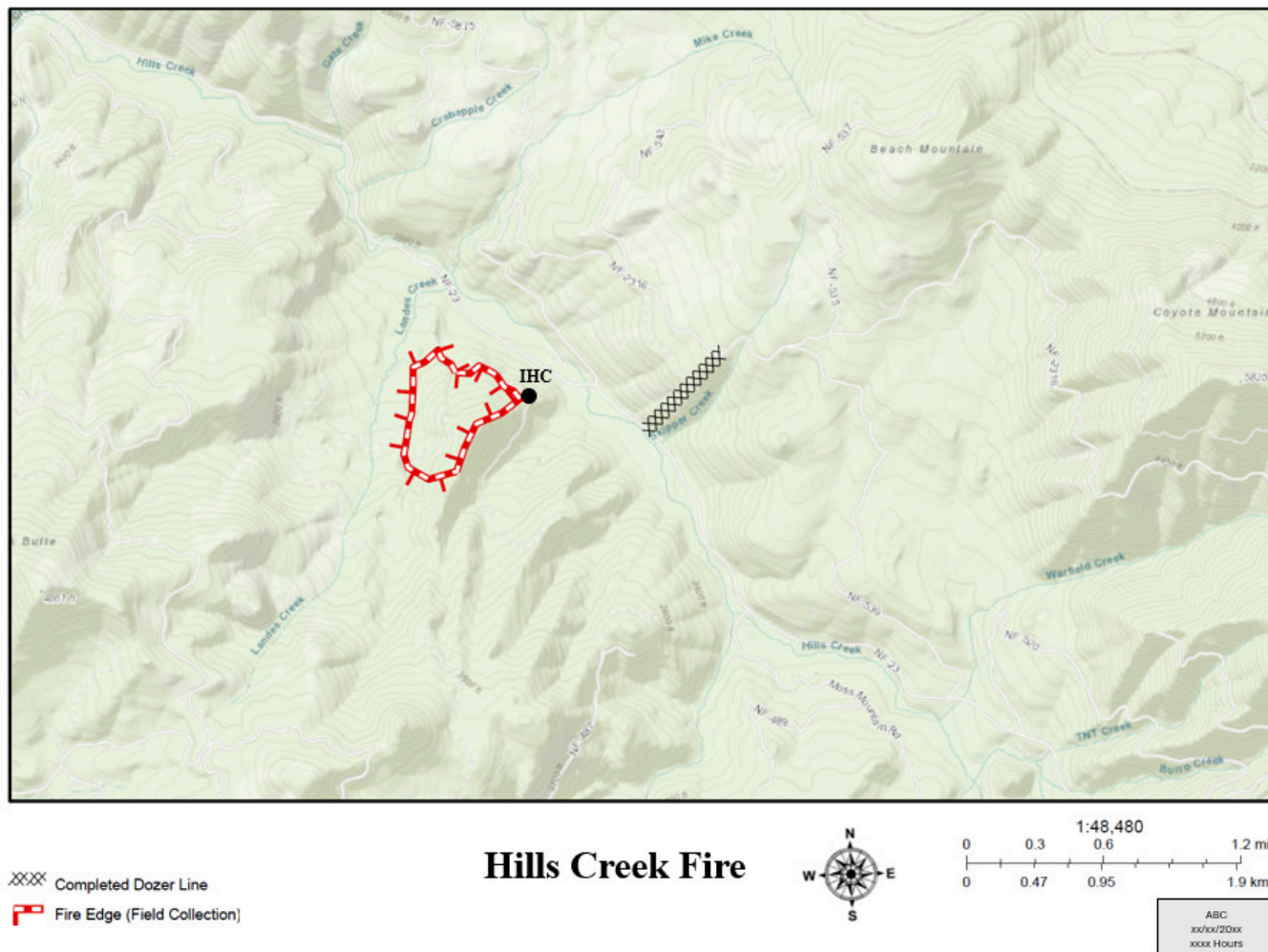
During the morning division breakout briefing, your five-person engine module is assigned to plumb an established contingency line approximately half a mile long. The line runs from a ridgetop road down to the bottom of Hills Creek where it meets up with Skipper Creek, dropping about 1,000 feet in elevation through steep terrain. The fire is currently burning on the ridge to the west, with its head stalled on a road that is midslope. Hotshot crews (identified as “IHC” on the map) are going direct on the fire, but progress is slow due to aggressive afternoon runs, and it is unlikely that the crews will be able to tie into Landes Creek by the end of today’s shift. The Division/Group Supervisor (DIVS) believes holding the fire at the creek through this shift is critical to gaining control. Two medium helicopters have been prioritized for the division early this morning.

The DIVS emphasizes the importance of Lookouts, Communications, Escape Routes, and Safety Zones (LCES) and the need to establish clear trigger points and contingency plans to disengage if conditions deteriorate.

The forecasted afternoon conditions include temperatures of 80 to 87 °F, relative humidity (RH) between 12 and 15 percent, southwest winds at 15 to 20 miles per hour (mph) with gusts up to 25 mph, and clear skies. Fuels consist primarily of timber, with scattered timber on south-facing slopes.

# Unit 4 Activity 4-2: Contingency Plans and Trigger Points

## Map: Contingency Plans and Trigger Points Part 1



### Questions:

- What hazards can you identify?
- What is your overall assessment of these hazards?
- What controls would you develop to manage risk?

## Unit 4 Activity 4-2: Contingency Plans and Trigger Points

- How would you implement these controls?
- How would you evaluate whether these controls are effective?
- What would you use for contingency plans and trigger points?

### Scenario: Contingency Plans and Trigger Points Part 2

It is now 09:00 hours, and you have reached the starting point of the contingency line. Looking directly southwest, the fire has not crossed the road, but smoke is visibly rising from the opposite side. You do not have a direct view of the fire and cannot gain a vantage point from your current position. Winds are already steady at 10 mph from the southwest. One Type 2 helicopter is working on the head of the fire and currently holding it on the road, though reports indicate fire activity is beginning to pick up. All necessary supplies for completing the hose lay have been confirmed and staged along the road.

### Questions:

- Are your trigger points still valid? Why or why not?
- What are your expected actions when trigger points are reached?



## S-231 Unit 4 Activity 4-3: Planning for and Managing Medical Emergencies

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 25 minutes.

**Purpose:** Develop a plan to manage a medical emergency for a given scenario.

### IPD Alignment:

- Account for location, health, safety, and welfare of assigned personnel.
- Plan for and manage medical emergencies.

### Directions:

- Review the scenario.
- As a group, develop a plan for managing the medical emergency.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your plan with the class.



## Unit 4 Activity 4-3: Planning for and Managing Medical Emergencies

### Scenario: Planning for and Managing Medical Emergencies

Mid-afternoon, while working along the steep hose lay, your newly qualified Firefighter Type 2 (Crewmember) (FFT2) slips on loose rock near the creek while attempting to reposition a backpack pump. They tumble approximately 10 feet downslope and strike their leg against a fallen log. They are alert and responsive but experiencing severe pain and limited mobility in their right leg, with visible swelling and potential signs of a fracture. They are currently located in rugged terrain about 150 feet below the hose lay, and the only access point for extraction is back along the narrow handline you have been plumbing.

Temperatures are rising, and the forecasted winds have begun to increase, intensifying fire activity on the slope below. Although the fire is not yet threatening your location, spot fires have been reported within a quarter of a mile of your position.

Radio communication is functional but limited due to terrain interference. Your supervisor has not yet been notified of the injury. Your engine is staged near the access road roughly three-quarters of a mile from your current location, and there is no immediate vehicle access to the injured crew member's position.

### Questions:

- What contingency plans could have already been in place to prepare for an incident like this?
- How would you initiate and manage the medical response?
- What signs might the FFT2 have shown that could have helped you anticipate or prevent this incident?
- How can you account for the location, safety, and welfare of the remaining crew during the emergency?
- How might fire behavior conditions influence emergency decision making?



## S-231 Unit 4 Activity 4-4: Risk Management Process Case Study

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>
- RT-130, Wildland Fire Safety Training Annual Refresher (WFSTAR): Mudd Fire, <https://www.nwcg.gov/training-courses/rt-130/case-studies/cs209>

**Length:** 20 minutes.

**Purpose:** Assess how the Risk Management Process was used on an engine assignment for a given case study.

### IPD Alignment:

- Apply the Risk Management Process.
- Develop and communicate contingency plans and trigger points.
- Account for location, health, safety, and welfare of assigned personnel.
- Plan for and manage medical emergencies.

### Directions:

- Work with your group to answer the questions related to the Mudd Fire Deployment Story video you watched earlier.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.

## Unit 4 Activity 4-4: Risk Management Process Case Study

### Questions:

- What hazards were present?
- What could the Engine Boss, Single Resource (ENGB) have done differently to mitigate these hazards?
- What actions or options could the ENGB take in this situation?
- What could be an appropriate contingency plan for this situation?
- What trigger points could have been used?



## S-231 Unit 5 Activity 5-1: Engine Tactics Scenario 1

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 25 minutes.

**Purpose:** Determine how to lead engine operations for a given scenario.

### IPD Alignment:

- Develop, implement, and adjust tactics based on incident objectives, fire behavior, risk assessment, and leader's intent.
- Ensure effective communication with adjacent resources and supervisors within the established chain of command.
- Scout line in critical areas and patrol fireline.
- Supervise, direct, and lead direct attack operations.
- Supervise, direct, and lead indirect attack operations.

### Directions:

- Watch the video and review the crew, vehicle, and equipment capabilities.
- Work with your group to answer the questions.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.

### Crew, Vehicle, and Equipment Capabilities:

Your crew is responsible for the left flank of the fire. Your engine is equipped with 750 gallons of water, a 150 gallons-per-minute (GPM) pump, foam capability, and sufficient hose and fittings for mobile attack operations. Your crew consists of six firefighters, including one Advanced Faller (FAL1), one Basic Faller (FAL3), one Firefighter Type 1 (Squad Boss) (FFT1), and three crew members in the Firefighter Type 2 (Crewmember) (FFT2) position with varying levels of experience. Chainsaws, hand tools, and extra fuel are available to assist with fireline construction and burn operations if necessary.

### Questions:

- Are there any hazards (e.g., fuel types, weather behavior) you can identify?

## Unit 5 Activity 5-1: Engine Tactics Scenario 1

- What can you do to mitigate risks?
- What tactics would you use for a direct attack? Consider your engine capabilities, crew capabilities, and the fire in the video.
- What other resources will you need to coordinate with or order before you can start the assignment?



## S-231 Unit 5 Activity 5-2: Engine Tactics Scenario 2

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 25 minutes.

**Purpose:** Determine how to lead engine operations for a given scenario.

### IPD Alignment:

- Develop, implement, and adjust tactics based on incident objectives, fire behavior, risk assessment, and leader's intent.
- Ensure effective communication with adjacent resources and supervisors within the established chain of command.
- Scout line in critical areas and patrol fireline.
- Supervise, direct, and lead direct attack operations.
- Supervise, direct, and lead indirect attack operations.

### Directions:

- Watch the video and review the crew, vehicle, and equipment capabilities.
- Work with your group to answer the questions.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.

### Crew, Vehicle, and Equipment Capabilities:

Your Type 3 engine is equipped with 300 gallons of water, a 100 gallons-per-minute (GPM) pump, foam capability, and sufficient hose and fittings for mobile attack. Your crew consists of two experienced crew members in the Firefighter Type 1 (Squad Boss) (FFT1) position and two crew members who are newly qualified for the Firefighter Type 2 (Crewmember) (FFT2) position and have limited exposure to fast-paced operations. You have chainsaws, hand tools, and extra fuel on board to support chainsaw and handline construction as needed.

## Unit 5 Activity 5-2: Engine Tactics Scenario 2

### Questions:

- Are there any hazards (e.g., fuel types, weather behavior) you can identify?
- What can you do to mitigate risks?
- What tactics would you use for an indirect attack? Consider your engine capabilities, crew capabilities, and the fire in the video.
- What other resources will you need to coordinate with or order before you can start the assignment?



## S-231 Unit 6 Activity 6-1: Wildland Urban Interface Operations

### Materials:

- *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103, <https://www.nwcg.gov/publications/pms350-103>
- *NWCG Incident Response Pocket Guide (IRPG)*, PMS 461, <https://www.nwcg.gov/publications/pms461>

**Length:** 30 minutes.

**Purpose:** Practice categorizing structures in the Wildland Urban Interface (WUI) into different triage categories.

### IPD Alignment:

- Supervise, direct, and lead direct attack operations.
- Supervise, direct, and lead indirect attack operations.
- Apply the Risk Management Process.

### Directions:

- Work with your group to review photos of different structures in the WUI and answer the questions.
- Refer to *NWCG Incident Position Standards for Engine Boss, Single Resource*, PMS 350-103 and the *IRPG* to help you complete the activity.
- Be prepared to share your responses with the class.



## Unit 6 Activity 6-1: Wildland Urban Interface Operations

### Structure 1



- What hazards can you identify, if any?
- How can you mitigate risk to your crew, vehicle, and equipment?
- What triage category would you assign to this structure and why?

## Unit 6 Activity 6-1: Wildland Urban Interface Operations

### Structure 2



- What hazards can you identify, if any?
- How can you mitigate risk to your crew, vehicle, and equipment?
- What triage category would you assign to this structure and why?



## Unit 6 Activity 6-1: Wildland Urban Interface Operations

### Structure 3



- What hazards can you identify, if any?
- How can you mitigate risk to your crew, vehicle, and equipment?
- What triage category would you assign to this structure and why?