## RISK MANAGEMENT WORKSHEET

1. **Organization and Location:**
   SPECIFY LOCATION – STATE/DISTRICT/FIELD OFFICE OR UNIT

2. **Operation / Task:**
   Wildland Fire Engine Suppression Operations

3. **Beginning Date:**
   Click here to enter a date

4. **Ending Date:**
   Click here to enter a date

5. **Date Prepared:**
   Click here to enter a date

6. **Prepared by (Name / Duty Position):**
   LIST NAME(S) AND TITLE(S) – e.g. Jane Doe, AFMO in coordination with John Smith, FAL3

### Identified Hazards:

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<tr>
<th>(Be Specific)</th>
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<tr>
<td>Entrapment</td>
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- Use Risk Management process.
- Maintain Situational Awareness and LCES.
- Apply Standard Firefighting Orders
- Mitigate for 18 Watch Out Situations.
- Ensure entrapment avoidance /Look Up, Look Down, and Around are used (IRPG green pages).
- Complete annual shelter deployment training.
- Maintain and reevaluate situation awareness.
- Change tactics accordingly.

Every firefighter is responsible for their own safety.

Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met.

Firefighters are encouraged to voice concerns.
8. Identified Hazards:

9. Assess the Hazards:
   (Initial Risk)

10. Control Measures Developed for Identified Hazards: (Specific measures taken to reduce the probability of a hazard) Include all PPE

11. Assess the Hazards:
   (Residual Risk)

12. How to Implement the Controls: (May Be Filled in By Hand)

13. Supervisors and Evaluation by: (Continuous Leader Checks, Buddy System, etc.)

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Use required PPE:
- Long Sleeve Shirt
- Pants
- Eye Protection
- Hard Hat
- Foot Protection
- Hand Protection
- Fire Shelter

- 6 Minutes for Safety
  - Entrapment Avoidance
  - Incident Response Pocket Guide (PMS 461)
  - Operational Engagement (Green Pages)
  - Back Cover: Standard Firefighting Orders and Watch Out Situations

Snags/Falling Trees/Rolling Debris

| X | Observe LCES
   | Fall snags or flag and direct traffic around area
   | Alert others continuously about rolling debris. Look up and live.
   | Crew members shall continuously communicate falling/rolling hazards as soon as they are identified.
   | Walk slowly through brush.
   | Be aware of surroundings.
   | Use required PPE:
     - Long Sleeve Shirt
     - Pants
     - Eye Protection
     - Hard Hat
     - Foot Protection

X

Maintain and reevaluate situation awareness.

Change tactics accordingly.

Discuss during project and shift safety briefings:
- BLM Handbook 1112-2
  - Chapter 8
  - Chapter 9.6
- National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)
  - CH7-Personal Protective Equipment
- 6 Minutes for Safety
  - Hazard Tree Felling and Falling Snags
  - Hazard Tree Safety

Every firefighter is responsible for their own safety.

Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met.

Firefighters are encouraged to voice concerns.
### 8. Identified Hazards

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### Radiant Heat/Contact with Burning Debris

- Hand Protection
- Fire Shelter

- Use required PPE:
  - Long Sleeve Shirt
  - Pants
  - Eye Protection
  - Hard Hat
  - Foot Protection
  - Hand Protection
  - Fire Shelter

  Work at a suitable distance from fire.

  No patches or decals on fire resistant clothing.

- Incident Response Pocket Guide (PMS 461)
  - Operational Engagement (Green Pages)
  - Specific Hazards: Hazard Tree Safety (Gray Pages)
  - Back Cover: Standard Firefighting Orders and Watch Out Situations

- Supervisors shall ensure every firefighter has correct PPE, or they are removed from operations until such time they can meet PPE requirements.

- Every firefighter is responsible for their own safety.

- Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met.

- Firefighters are encouraged to voice concerns.

- Discuss during project and shift safety briefings:
  - BLM Handbook 1112-2
    - Ch. 9.6
  - National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)
    - Ch. 7-Personal Protective Equipment

- Every firefighter is responsible for their own safety.

### Poor visibility due to smoke or darkness

- Observe the Standard Firefighting Orders, Watch Out Situations and LCES.

- Maintain Situational Awareness.

- Every firefighter is responsible for their own safety.
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#### Inhale (dust, smoke, CO)

- **X**
- Limit exposure by:
  - Work upwind when possible.
  - Adjusting operational periods on mop-up to avoid periods of inversion.
  - In heavy smoke conditions, consider establishing control lines where conditions allow for less smoke exposure to firefighters.
  - Rotate personnel out of heavy smoke areas.
  - Use equipment rather than people when possible in holding areas (sprinklers, retardant, foam, etc.).
  - Allow secured areas to burn out (rely on burn-up instead of mop-up and use dozers or..."

---

Scout terrain during daylight or acquire map and brief with someone familiar with area.

Consider spread potential, values, risks versus safety.

Utilize the Risk Management process.

Discuss during project and shift safety briefings:
- Incident Response Pocket Guide (PMS 461)
  - Operational Engagement (Green Pages)
  - Back Cover: Standard Firefighting Orders and Watch Out Situations

Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met.

Firefighters are encouraged to voice concerns.

Use the buddy system.

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Supervisors will monitor crew health and welfare and mitigate accordingly.

Encourage crew members to voice concerns.
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| Insects/Snakes       | X                                    | Use required PPE:  
  • Long Sleeve Shirt  
  • Pants  
  • Eye Protection  
  • Hard Hat  
  • Foot Protection  
  • Hand Protection  
  • Fire Shelter  
  Fasten/tuck pant cuffs into boots, use repellents, and inspect body and clothing.  
  Avoid areas where insects/snakes hide or have been seen (flag as needed).  
  Carry medication if allergies exist.  | X | All firefighters will be current in First Aid and CPR training.  
  Discuss during project and shift safety briefings:  
  • 6 Minutes for Safety  
    • Bees and Wasps  
    • BLM Handbook 1112-2  
      • Ch. 10.4 and 10.5  
      • Ch. 8  
    • National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)  
      • CH7-Personal Protective Equipment  | Supervisors shall ensure every firefighter has correct PPE, or they are removed from operations until such time they can meet PPE requirements.  
  Every firefighter is responsible for their own safety.  
  Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met.  
  Firefighters are encouraged to voice concerns. |
| Poisonous/Infectious Plants | X | Use required PPE:  
  • Long Sleeve Shirt  
  • Pants  
  • Eye Protection  
  • Hard Hat  
  • Foot Protection  
  • Hand Protection  
  • Fire Shelter  | X | Same as above. All firefighters will be current in First Aid and CPR training.  
  Discuss during project and shift safety briefings:  
  • 6 Minutes for Safety  
    • Bees and Wasps  | Supervisors shall ensure every firefighter has correct PPE, or they are removed from operations until such time they can meet PPE requirements.  
  Every firefighter is responsible for their own safety.  
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| (Be Specific)        |                                     | Change clothing that has come in contact with Poisonous/Infectious plants, avoid smoke of burning Poisonous/Infectious plants. Train on plant identification. | (Be Specific)                     | • BLM Handbook 1112-2  
  ○ Ch. 10.3  
  ○ Ch. 8  
  • National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)  
  ○ CH7-Personal Protective Equipment | Every firefighter is responsible for their own safety. 
  Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met. 
  Firefighters are encouraged to voice concerns. |
| Negligible | Minor | Moderate | Serious | Critical | Negligible | Minor | Moderate | Serious | Critical | (Be Specific) | (Be Specific) |

**Fatigue**

| X | Maintain a high level of physical fitness.  
Ensure work/rest guidelines are followed.  
Limit shifts to 16 hours when possible.  
Utilize a reasonable work pace.  
Allow adequate rests while on the fireline.  
Provide showers, comfortable eating areas, and quiet sleeping areas (sign and rope off sleeping area). | X | Supervisors should outline expectations of fatigue management during operational briefings.  
Discuss during project and shift safety briefings:  
• National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)  
  ○ CH7-Work/Rest  
  ○ CH13-Physical Fitness  
• 6 Minutes for Safety  
  ○ Fatigue and Stress  
• Incident Response Pocket Guide (PMS 461) | Every firefighter is responsible for their own safety.  
Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met.  
Firefighters are encouraged to voice concerns. |
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| 8. Identified Hazards: | Heat Related Illness                | X       | Follow NWCG Heat Illness Prevention (HIP) Guide | X       | Strategies and tactics should account for options and mitigations and be noted in shift plans. All employees will be current with CPR/First Aid training. Discuss during project and shift safety briefings:  
- NWCG Heat Illness Prevention Guide  
- 6 Minutes for Safety  
  - Heat Disorders and Hypothermia  
- BLM Handbook 1112-2  
  - Ch. 10.6 and 10.7  
- Incident Response Pocket Guide (PMS 461)  
  - Emergency Medical Care Guidelines (Red Pages) | Supervisors will monitor crew health and welfare and mitigate accordingly. Firefighters are encouraged to voice concerns. |
|                     | Thunderstorms/Lightening            | X       | Situational awareness and hazard control       | X       | Brief on Thunderstorm Safety guidelines  
Discuss during project and shift safety briefings:  
- 6 Minutes for Safety  
  - Thunderstorm Safety  
- BLM Handbook 1112-2  
  - Ch. 3.11 | Every firefighter is responsible for their own safety. Oversight and evaluation will be provided by supervisor/fireline leadership to ensure safety standards are met. |
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(Firm 1112-5 page 8)
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<td>avoid periods of inversion.</td>
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<td>• Eye Protection ANSI Z87.1 Standard</td>
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Mop-Up and Water Application

Limit exposure by:
- Work upwind when possible.
- Adjusting operational periods on mop-up to avoid periods of inversion.
- Allow secured areas to burn out (rely on burn-up instead of mop-up and use dozers or other mechanized equipment to spread out burn piles).
- Avoid stepping in holes, depressions and ash pits.
- Use required PPE:
  - Long Sleeve Shirt
  - Pants
  - Eye Protection ANSI Z87.1 Standard

Mop-up to the degree necessary to make the likelihood of escape very low; based on experience, terrain, fuel types and fuel conditions, and current/predicted weather conditions.

PPE References:
- Red Book, Ch. 7
- BLM Handbook 1112-2, Ch. 8

Discuss during project and shift safety briefings:
- BLM Handbook 1112-2
  - Chapter 8
  - Chapter 9.6

(2012-5 page 9)
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- Hard Hat
- Foot Protection
- Hand Protection
- Fire Shelter

BLM will supply non-prescription protective eyewear meeting ANSI Z87.1 standard.

Avoid high nozzle pressure and keep nozzles a safe distance from ground.

Use fog nozzle when applicable.

### Engine Operations (Mobile Attack)

- Train personnel in the proper mobile attack methods.
- Have a qualified individual scouting in front of the engine to identify hazards.
- Put engine in 4x4 before it is needed.
- Make sure adequate separation is maintained between vehicle

- Train and practice until all personnel know their jobs and are comfortable performing them.
- Discuss during project and shift safety briefings:
  - BLM Handbook 1112-2
    - Chapter 4
  - National Interagency Standards for Fire and Fire Aviation

Continuous supervision throughout mobile attack operation by engine supervisor.

- National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)
  - CH7-Personal Protective Equipment
- 6 Minutes for Safety
  - Ash Pit
- Incident Response Pocket Guide (PMS 461)
  - Other References: Minimum Impact Suppression Tactics (White Pages)

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and personnel running the hose nozzles.

Make sure driver always has a visual on people working around the engine.

Have LCES in place and known to all engine crew personnel.

Do not ride on engine at any time.

Engine Operations (Stationary Attack)

Engine is parked in safe location/distance from potential fire.

Engine is chocked and access/egress routes are identified.

LCES is in place and known to all engine personnel.

Trigger points and disengagement protocols are in place and known.

If access to top of engine is necessary, ensure 3 points of contact are made (both feet and one hand).

Operations (NFES 2724)
  - CH7-Driving Standards
  - 6 Minutes for Safety
    - Driving Safety

Train and practice until all personnel know their jobs and are comfortable performing them.

Discuss during project and shift safety briefings:
  - National Interagency Standards for Fire and Fire Aviation Operations (NFES 2724)
    - CH7-Driving Standards
  - 6 Minutes for Safety
    - Parking Safely on Slopes

Continuous supervision throughout stationary attack operation by engine supervisor.

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Click here to enter Control Measure. □ □ □ □ □
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(Form 1112-5 page 11)
8. Identified Hazards:  
9. Assess the Hazards: (Initial Risk)  
10. Control Measures Developed for Identified Hazards: (Specific measures taken to reduce the probability of a hazard) Include all PPE  
11. Assess the Hazards: (Residual Risk)  
12. How to Implement the Controls: (May Be Filled in By Hand)  
13. Supervisors and Evaluation by: (Continuous Leader Checks, Buddy System, etc.)

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14. Remaining Risk Level After Control Measures Are Implemented: (INDICATE HIGHEST REMAINING RISK LEVEL WITH “X”)  
  NEGLIGIBLE (Supervisor) □  
  MINOR (Associate/Assistant Mgr. / Branch Chief) □  
  MODERATE (Field Manager) □  
  SERIOUS (District Manager) □  
  CRITICAL (State Director/Associate) □

15. RISK DECISION AUTHORITY: (Approval/Authority Signature Block) (If Initial Risk Level is CRITICAL, SERIOUS or MODERATE: Brief Risk Decision Authority at that level on Controls and Control Measures used to reduce risks)  
(Note: if the person preparing the form signs this block, the signature indicates only that the appropriate risk decision authority was notified of the initial risk level, control measures taken and appropriate resources requested; and that the risk was accepted by the decision authority.)  

Printed Name / Signature
INSTRUCTIONS

1. Organization conducting the Risk Assessment and the location of the operation.

2. If more than one page is used, indicate number of pages. (For example: Page 1 of 3)

3. In general terms, identify the operation/task(s) to be performed.

4. Enter the date that the operation/task(s) is/are to begin.

5. Enter the date that the operation/task(s) is/are to end.

6. Enter the date that the Risk Assessment was prepared.

7. Enter the name and duty position of the person completing the form.

8. Identify specific hazards associated with the operation/task(s.) It is important to be specific and start at the beginning, the preparation phase (equipment draw/transportation of equipment) of the operation. (For example: unfamiliar equipment, inexperienced operators, improperly configured equipment, challenging terrain, natural hazards, hazardous chemical use, span of supervision, location of work, types of roads, confined spaces, pinch points.)

9. Assess the initial risk using the risk assessment matrix.

10. Identify control measures for each identified hazard in block 8.

11. Assess the residual risk, the risk remaining after control measures are taken into consideration, using the risk assessment matrix.

12. Identify how the controls will be implemented (For example: SOPs, tailgate safety briefings, written/oral policy statements/directions, familiarization training, Right to Know training, use of PPE, use of spotters.)

13. Enter the specific individual(s) or method(s) used to supervise and evaluate the provisions of the Risk Assessment. (For example: supervisor/leader on site, buddy system, employee crosstalk.)

14. Check the appropriate remaining level of risk.

15. The authority accepting the risk should sign this block; however, if the authority is notified and accepts the risk, the person completing the form can note same sign block 15. (See “Note” in block 15.)

(Form 1112-5, final page)