



## RADIATION ACTION PLAN FOR FIREFIGHTERS



This plan is to be used when engaging in suppression action in the identified areas of concern. In addition to specific areas identified, any ignition within the areas of concern may potentially have a high occurrence of normally occurring radioactive material.

### Radiation Areas of Concern

These areas are currently identified on US Forest Service administered lands within the Sioux Ranger District, these land units are: North Cave Hills, South Cave Hills and Slim Buttes (south hwy 20).

### **ALARA CONCEPT**

#### **As Low As Reasonably Achievable**

Assumes no “safe” dose of radiation; not a dose limit, but rather a goal

#### **Basic principles to consider:**

- Reduce or contain the source of radiation (do not disturb soil)
- Minimize the time spent near radiation sources (rotation of crews according to dosimeter readings)
- Maximize distance from radiation source (indirect tactics)
- Increase shielding PPE

### Measuring Exposure and Administrative Control Levels (ACL)

Employees’ accumulative exposure to radioactive materials and COCs will be monitored through individual dosimeters. Crews working together will have one dosimeter issued to them. An employee trained in the use of a nuclear monitor will be deployed to analyze terrain and identify hot areas that should be avoided.

Dosage is for documentation and recorded as mRem per hour or per day.

**REMEMBER!** – Tactics can be adjusted depending on monitor and dosimeter readings, be flexible with decisions and as radioactive conditions decrease adjust your strategy.

Standard background radiation values are .015 mRem. When monitoring for radiation, levels should not exceed three times the background level or >.045 mRem. Individuals will not exceed .045 mRem or greater.

### **Administrative Control Level Trigger Points**

Radiation Reading	Appropriate Action
1.25 mRem/hour	Notify IC. Utilize ALARA principles
10 mRem/8 hour shift	Notify IC. Duty Officer informed. Utilize ALARA principles. Crews rotated out of area of concern for 24 hours. Initiate CA-2 for exposure.

### **ACTION PLAN FOR FIREFIGHTERS WITHIN AREAS OF CONCERN**

- ✓ Ensure proper hygiene is being implemented; clean exposed skin with soap and water, wash vehicles and other equipment on a designated site before demob.
- ✓ Activate the personal dosimeters and distribute to crew representatives. The dosimeter will be attached to selected employees for the duration of the incident and readings reported daily.
- ✓ The nuclear monitor person refers to the USFS Procedures for Radiation Exposure; will be located in the radiation alert toolkit.
- ✓ Nuclear monitor person will coordinate with IC to ensure the following areas are monitored staging area, safety zones, campsites, current and anticipated fire perimeter.
- ✓ Restrict access and or monitor time spent in these areas if radiation level is three times the background.

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## FIREFIGHTER ACTION PLAN for RADIOACTIVE SITES

- **Exceeding Established Radiation Levels**
  - Should either the nuclear monitor or dosimeter alarm activate for exceeding a set level, the IC shall be notified and restrict access to where the alarm sounded.
  - IC will reevaluate, contact duty officer and implement a plan to mitigate the hazard depending on the exposure rate.
- **Record keeping/monitoring exposure rates.**
  - All documentation will be turned in with the fire report. Exposure rates will be documented on a separate spreadsheet managed by the Camp Crook FOS.

### **Procedures for Suppressing Fires in Radioactive Areas**

- **Upon report of an initial attack incident within the identified areas of concern.**
  - ✓ USFS Rep. or FOS will be mobilized with appropriate radiation alert toolkit.
  - ✓ IC will implement appropriate suppression tactics.
  - ✓ Coordination will occur with duty officer (BLM) to ensure appropriate management response.
  - ✓ IC will be notified if higher than normal background levels (.045 m/Rem) and strategy adjusted.

### **Roles and Responsibilities**

#### **Incident Commander**

- ✓ Coordinates with agency rep or FOS to ensure all resources are being tracked for exposure to radiation.
- ✓ Assists in the tracking of employee exposure time by keeping crew manifests and recording dosimeter readings after each shift.
- ✓ Implements appropriate management response identified by duty officer and agency administrators that minimize exposure to employees.
- ✓ Ensures implementation of MIST is appropriate. Minimizing exposure to radionuclide

#### **Radiation Monitor(s) (BLM or USFS employees)**

- ✓ Trained in the use of approved nuclear monitor and reports on exposure rate to the incident commander.

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## FIREFIGHTER ACTION PLAN for RADIOACTIVE SITES

### **Single Resource Boss**

- ✓ Reports to IC if dosimeter assigned to crew triggers alarm for radioactivity.

### **Aviation (helicopter manager)**

- ✓ Coordinates with IC and Resource Advisor in locating appropriate helispots(s).

### **Logistics**

- ✓ Utilize READ or radiation monitors to locate facilities.
- ✓ Minimize disturbance to land when preparing bedding site. Do not clear vegetation or trench to create bedding site.
- ✓ Select travel routes between camp and fire need to be clearly identified.

### **Suppression Tactics (!MINIMIZE SOIL DISTURBANCE!)**

- Incident Commander will implement tactics according to NWCG Minimum Impact Suppression Tactic guidelines

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