

# Radioactive Material Emergency Field Procedures

**O**regon

24 hour phone

**E**mergency

1-800-452-0311 (in state)

**R**esponse

503-378-6377 (out of state)

**S**ystem

The OERS number is the one number to call to notify the state of Oregon for all hazardous materials emergencies, including radioactive material incidents. This one call will get you access to a radiation specialist and activate the State Radiation Emergency Response Team if it is needed for field assistance.

Approach all hazardous materials incidents cautiously! First, identify **all** hazards. Then, remember "FIRST" for radiation incidents:

**F**irst aid and life-saving rescue

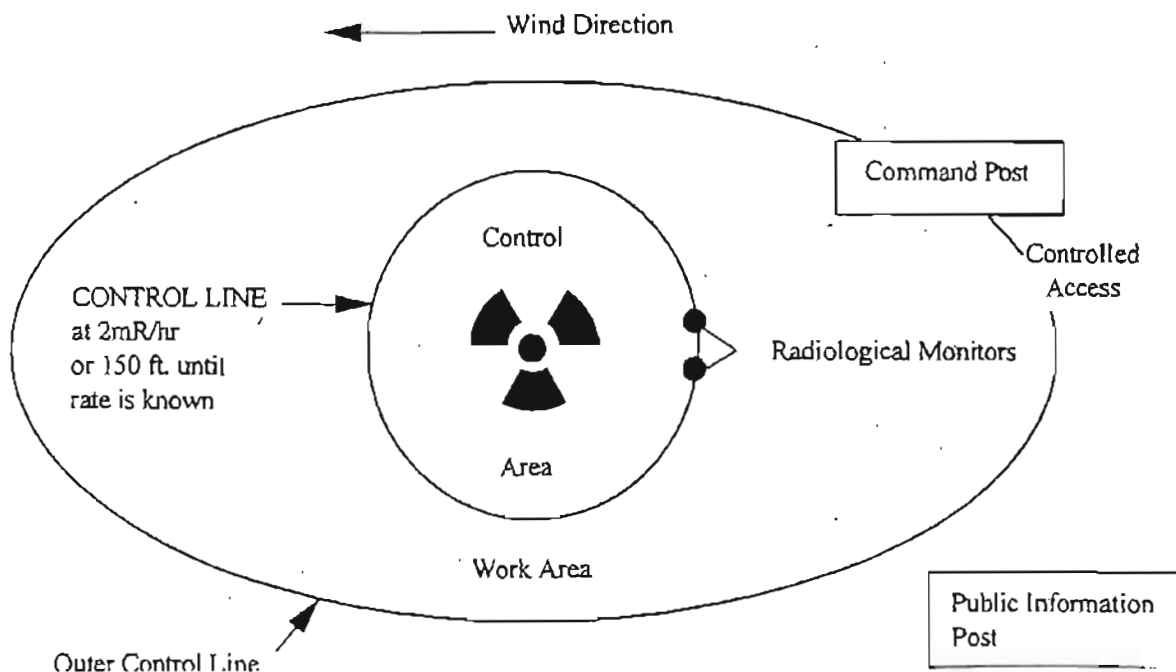
**I**nform and notify that radioactive materials are involved

**R**estrict access to control exposure and contamination

**S**top fires -- stop runoff

**T**hat's all! (Wait for radiation specialists)

**NOTE:** This guide is to be used with the **North American Emergency Response Guidebook**.



# Emergency Action Checklist

## ☐ Rescue

Remember: Time -- Distance -- Shielding -- reduce your exposure

- ▶ Life-saving takes priority over dealing with radioactivity
- ▶ Approach with survey meter and dosimeter, if available and you know how to use them
- ▶ If not endangering the patient, move away from source as soon as possible
- ▶ Move patient based on medical condition only, not low-level radiation

## ☐ Notifications and Technical Help

### Alert Dispatch Center

- ▶ Local notifications
- ▶ State agencies: OERS (1-800-452-0311 – Request help from radiation specialists)

Useful Information (If available without being exposed)

- ▶ Your name, agency, and call-back number
- ▶ Materials involved
- ▶ Severity (injuries, contamination, exposure)
- ▶ Location
- ▶ Actions taken and underway
- ▶ On-scene contact (incident commander) and how to reach this person
- ▶ Carrier, shipper, and receiver (from shipping paper or package)

## ☐ Secure Site and Control Access

## ☐ Establish Incident Command

- ▶ Determine who is on-scene Incident Commander
- ▶ Establish field Command Post
- ▶ Assign jobs (distribute inserts)

## ☐ Identify the Hazard

- ▶ Placards and I.D. numbers on vehicle
- ▶ Shipping papers
- ▶ Container markings, colors, and labels
- ▶ Driver, train crew member, or plant radiation safety officer

## ☐ Assign Public Information Officer

- ▶ Establish media area, prepare briefing (see enclosed handout for specific job duties)
- ▶ Establish communications with state PIO

## ☐ Contamination Control

- ▶ Check people and equipment. If contaminated and not injured, do not let people leave unless necessary for personal safety. If people must leave because of weather, shelter them until monitored by regional Haz Mat teams or state specialists. If unsure, wait for guidance before beginning decontamination.

**RADIOACTIVE MATERIALS  
EMERGENCY FIELD CHECKLIST**

## **Incident Commander**

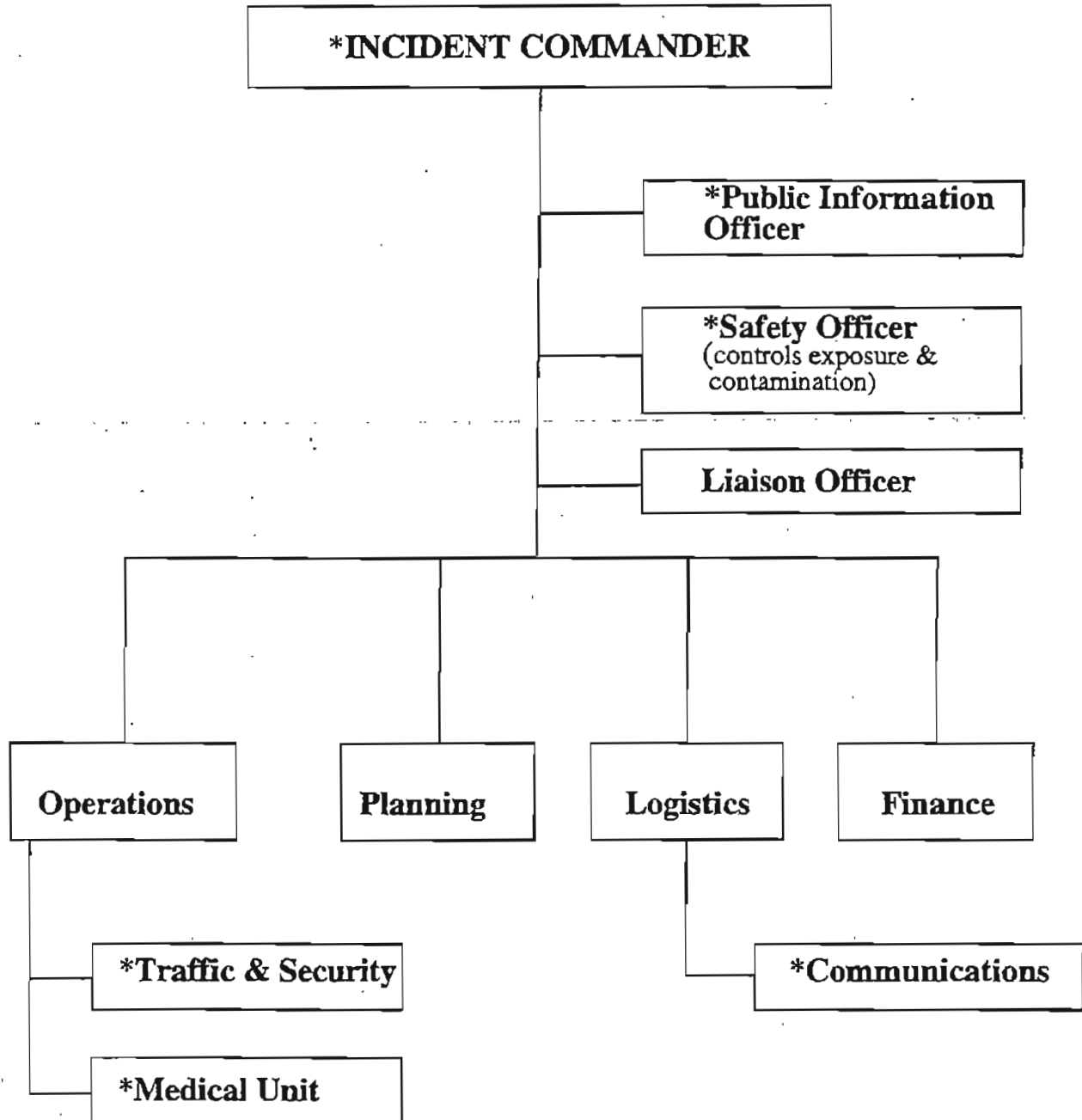
Set up your command staff and structure. The size will depend on your incident size and needs. The Incident Commander is responsible for any job that is not delegated to someone else.

The Incident Commander determines the strategic goals and tactical objectives. He or she evaluates the resources needed to do the job.

- ☐ 1. ***Approach Cautiously*** – resist the urge to rush in.
- ☐ 2. ***Identify Hazards*** – look for clues, such as placards, container labels, markings and colors, ask driver or crew, etc. If at an industrial facility, contact the Radiation Safety Officer.
- ☐ 3. ***Decide On Site Entry*** – Enter **only** for life-saving rescue and first aid. If radiation is the only identified hazard, rescue can be performed before detection equipment is available or ready, if necessary. Remember – TIME – DISTANCE – SHIELDING.
- ☐ 4. ***Set up Command System.***
  - ▶ Establish Command Post.
  - ▶ Assign Safety Officer.
  - ▶ Set up other positions in command structure as needed.
- ☐ 5. ***Obtain Help*** – notify Oregon Emergency Response System (OERS). The number is 800-452-0311.
  - ▶ Tell them you have a radiation incident.
  - ▶ Notify dispatch of the need for Emergency Medical Services and additional medical units on scene, if necessary.
  - ▶ Notify local law enforcement for help with scene control and possible evacuation.
- ☐ 6. ***Secure the Scene*** – isolate the area. Establish perimeter. Deny entry.

# Incident Command System

The critical jobs for a major radioactive material incident are marked with an asterisk

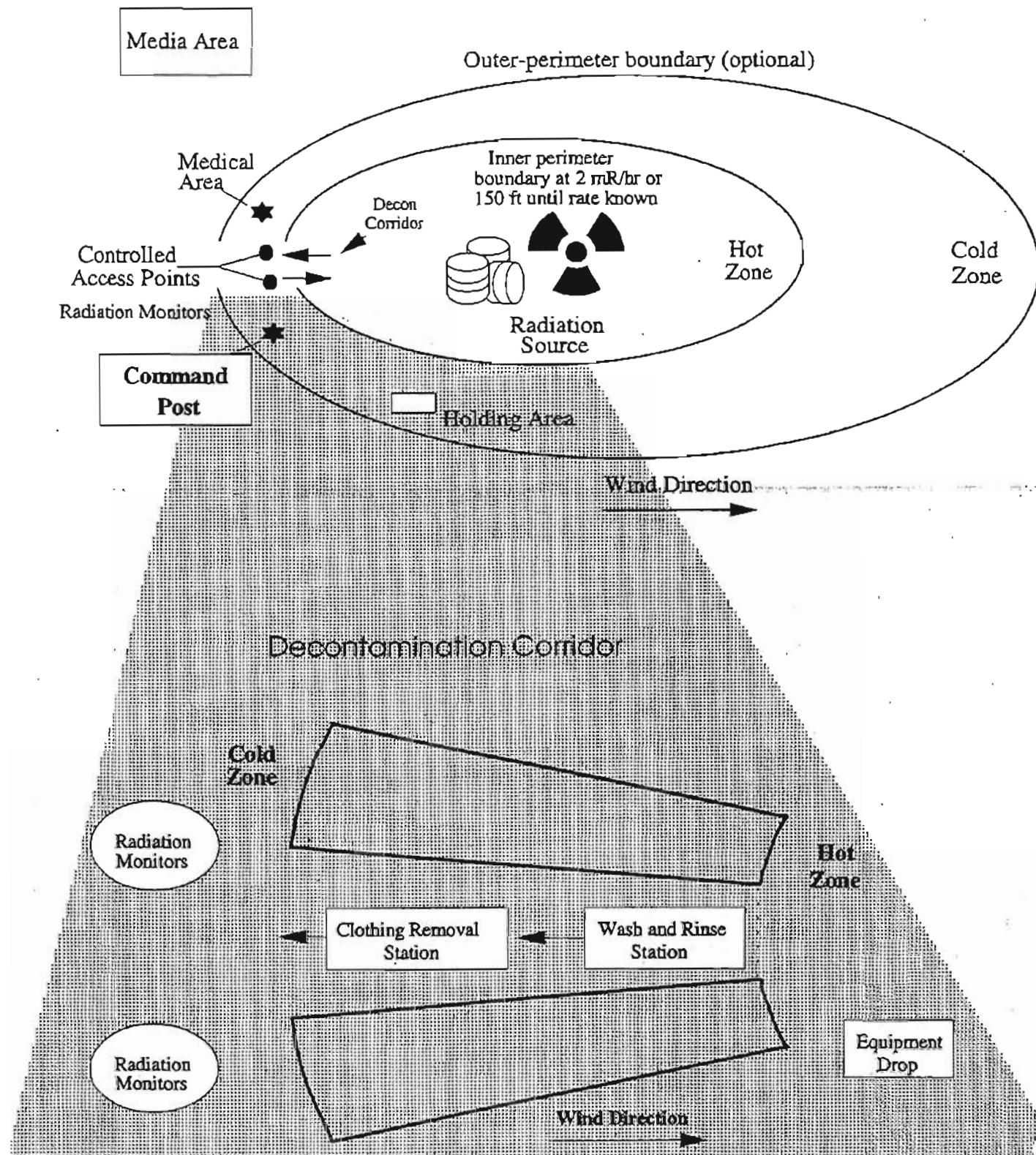


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## **Safety Officer**

- ☐ 1. With Incident Commander, **determine restricted area** – 150 feet initially (if no radiation detection equipment available) or to 2 mR/hr. Refer to the current North American Emergency Response Guidebook for more information.
- ☐ 2. **If** radioactive material is involved in **fire**, **evacuate** people in all directions to distance smoke travels. Consider shelter in place. If material becomes airborne, it is a respiratory hazard and a potential source of internal contamination.
- ☐ 3. Assure that proper **protective equipment** is being **used**. If radioactive material is spilled or involved in a fire, respiratory protection should be used. Structural firefighters' protective clothing should be worn in all cases.
- ☐ 4. Implement **pre-operational checks** on radiation detection equipment (see manual in boxes, or refer to equipment insert).
- ☐ 5. **Distribute pocket dosimeters** and a radiation survey meter to rescue staff. Record dosimeter reading if you do not have time to set at zero. Distribute radiation meter to radiation monitors.
- ☐ 6. Establish **Contamination Control Procedures**
  - \* Secure scene – set up scene perimeters and work with security to deny entry
  - \* Limit the number of people on scene
  - \* Establish entrance and exit points
  - \* Survey all personnel as they pass exit point
  - \* Do not allow eating, drinking or smoking
- ☐ 7. If contamination is present or suspected, **do not let equipment or people leave scene** unless necessary for public or personnel safety. Any personnel leaving the scene should be checked for contamination. If weather is severe, consider a bus for shelter or transport to decontamination site.
- ☐ 8. **Field Decontamination:** Help is available via telephone from: Health Division (503-731-4014, extension 671) and Poison Control (800-452-7165).  
**Final Decontamination:** The State Health Division and regional Haz Mat teams have sensitive radiation detection equipment. They will do the final decontamination checkout.
- ☐ 9. **Keep log** of people going in and out of hot zone. This log is to include their name, agency, and time in hot zone. Record dosimeter readings or collect dosimeter. Record names of all personnel on-scene.

# Perimeter Control

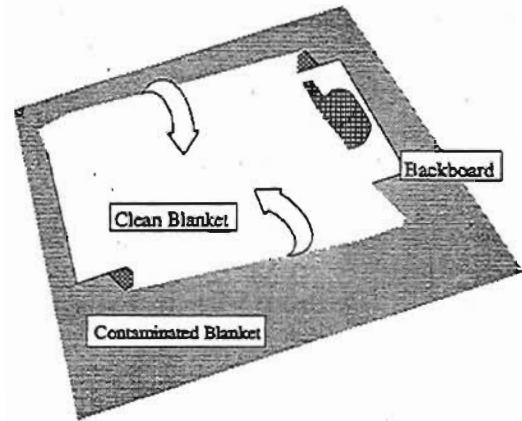
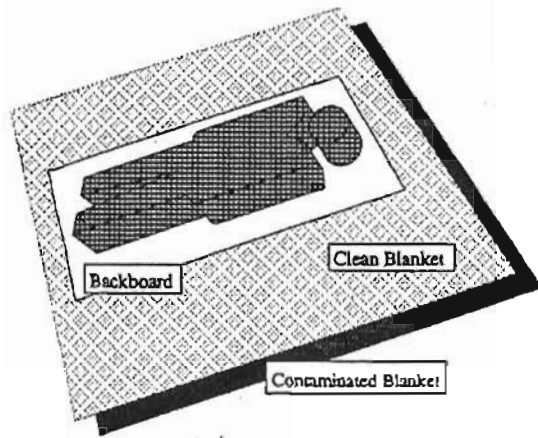


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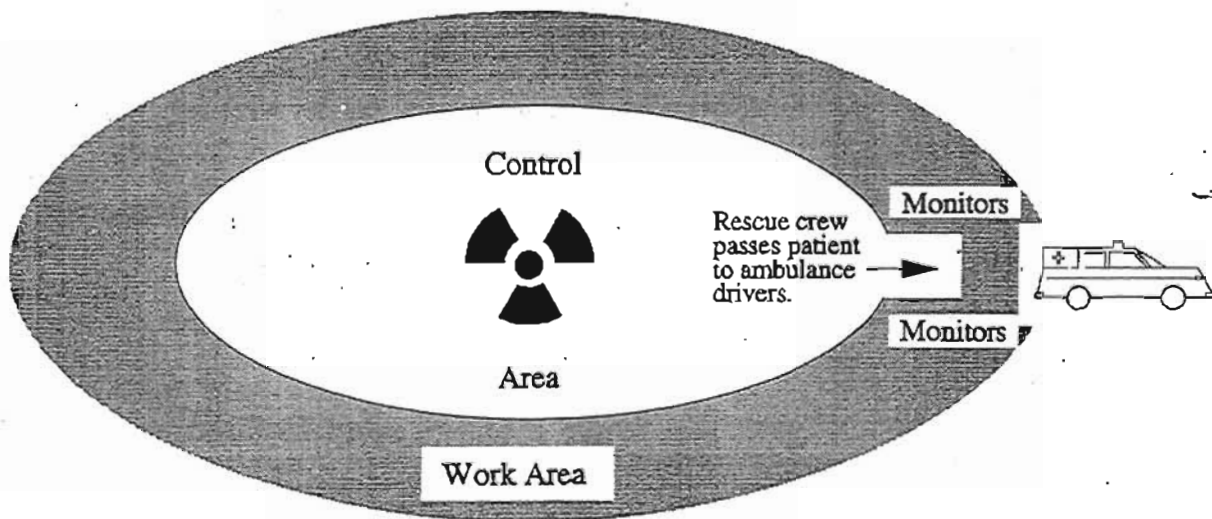
## **Medical Unit**

- ☐ 1. Enter spill area **only** to save life or provide necessary first aid. Limit entry to shortest possible time. Remember: **Time – Distance – Shielding**
- ☐ 2. ***Life-saving first aid takes priority over dealing with radiation.*** Symptoms related to radiation exposure will be delayed. Treat other medical or trauma conditions by normal protocol.
- ☐ 3. Wear respiratory protection, gloves, and protective clothing, if available.
- ☐ 4. Approach victims with radiation detection equipment, if available, and you know how to use it.
- ☐ 5. Move victim away from radiation source, if possible, without endangering the patient.
- ☐ 6. Contamination Control Procedures:  
CAUTION - ***External contamination may become internal contamination.***
  - Wipe around the patient's mouth before applying oxygen mask or respirator. Be cautious if intubating this patient.
  - For intravenous therapy, use uncontaminated area on patient, if possible.
  - Gently brush away dry particles and blot with absorbent material any excess liquids that are present.
  - Field decontamination should normally be limited to removal of clothing, jewelry, and shoes. Further field decontamination should only be attempted by trained personnel. In no case should decontamination delay other emergency response actions.
  - Wrap patient using two blanket method (see diagram on back). Rescue crew should pass patient over control line to ambulance drivers.
- ☐ 7. Notify hospital of contaminated victims as early as possible. Use entrance directed by hospital.
- ☐ 8. ***It's possible you have also been contaminated.*** Notify hospital and remain in ambulance. Allow hospital personnel to unload patient.
- ☐ 9. **Do not return to service** until you and the ambulance have been fully monitored for contamination and shown to be clean.

# Contamination Control Procedures



Use two blankets or tarps large enough to wrap patient and backboard. Place backboard on top of blankets. Place patient on backboard. Fold top blanket over patient and backboard. Leave bottom (contaminated) blanket inside contaminated area.





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## **Public Information Officer (PIO)**

- ☐ 1. Report to the Incident Commander at field command post and obtain briefing from the Incident Commander.
- ☐ 2. Work with law enforcement to establish a media area. This should be located away from the Incident Commander and the command post.
- ☐ 3. Prepare initial information summary as soon as possible after arrival.
- ☐ 4. Inform the media that all information at the scene will be coordinated through you. Point out to them the areas that have been cordoned off.
- ☐ 5. ***Obtain approval for release of any information from Incident Commander prior to its release.***
- ☐ 6. Information which should be provided to the media includes details of the incident, the health/environmental risk (if any), and response agencies and actions. ***Do not speculate.*** Be clear about the level of hazard. If any deaths or injuries, do not release names before the family is notified.
- ☐ 7. Work with the State PIO to coordinate release of information. (Contact through OERS).
- ☐ 8. Provide escort service to the media and VIP's.
- ☐ 9. Take notes about response actions and who you told what. The notes will help you later.



# Radiation Safety

*Emergency responders are NOT to be exposed except for life-saving rescue and first aid. Radiation exposures should be "As Low As Reasonably Achievable."*

## Allowable Emergency Doses

Life-saving rescue	Greater than 10,000 mR (10R) -- by informed volunteers only
Non life-saving, authorized by State Technical Assistant and/or Incident Commander	Up to 10,000 mR (10R)
Non life-saving, no specific authorization	Up to 5,000 mR (5R)

$$1 \text{ rem (R)} = 1,000 \text{ millirem (mR)}$$

## Radiation Dose Rates

- Less than 2 mR/hr
- **Very low level** - acceptable for the public for intermittent and/or short term exposure.
- Between 2 mR/hr and 50 mR/hr
- **Low to medium level** - acceptable for emergency life-saving and first aid. Keep public out.
- Above 50 mR/hr
- **Higher levels** - pay careful attention to stay time if life-saving and first aid is necessary.

To calculate radiation exposure, multiply the dose rate by the time of the exposure. For example, if the dose rate is 10 mR/hr, four hours of exposure will result in a dose of 40 mR.