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DETROIT EDISON - FERMI 2
AUTOMATED RECORD MANAGEMENT
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A045

RADIOLOGICAL MEDICAL EMERGENCIES

Revision Summary

- 1) Reworded step 4.4.1 to reflect the Onsite Nurse's first aid responsibilities.
- 2) Added "Security" to step 5.1.3.2.
- 3) Changed "registered nurse" to "Onsite Nurse" in caution box before step 5.1.8.
- 4) Changed steps 5.2.1.1, 5.2.1.2, and 5.2.1.3 to reference new EP-290 forms.
- 5) Changed "Seaway Hospital" to "Southshore Medical Center" in step 5.2.1.2 to reflect latest facility name.
- 6) Changed "pocket dosimeter" to "secondary dosimetry" in step 5.2.3 to reflect current dosimetry devices.
- 7) Changed "controlled area" to "REA" in step 6.1.1.3 to clarify terminology.
- 8) Made editorial changes throughout procedure. No revision bars used to mark these changes.

Implementation Plan

- 1) This revision goes into effect upon issuance.
- 2) A copy of this revision will be placed in Radiation Protection Required Reading Packages.

Attachments

1 041497 Body Map

Enclosures - None

<i>Information and Procedures</i>				
DSN EP-225	Revision 11	DCR # 03-0215	DTC TPEPT	File # 1703.10
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CONTROLLED

1.0 PURPOSE

To prescribe the required actions and special considerations when handling and transporting injured and radiologically contaminated or potentially contaminated personnel.

2.0 USE REFERENCES

- 2.1 EP-290, Emergency Notifications
- 2.2 67.000.400, Personnel Decontamination and Assessment

3.0 ENTRY CONDITIONS

- 3.1 An injured and contaminated or potentially contaminated individual is discovered at Fermi.

4.0 GENERAL INFORMATION

- 4.1 Radioactive contamination is of special concern because of the potential internal dose caused by radioactive material absorbed into the bloodstream through an open wound. Specific guidelines for rendering medical care and first aid to contaminated personnel may limit or even eliminate the absorption of radionuclides.
- 4.2 Individuals injured inside a radiologically restricted area must be surveyed by Radiation Protection personnel prior to determining the individual is not contaminated.
- 4.3 All occupational injuries and non-occupational injuries and illnesses must be reported to the employee's supervisor.
- 4.4 A Plant First Responder is a qualified first aid provider dedicated to responding to medical emergencies onsite. Plant First Responders are qualified in basic first aid and CPR as part of their training in Responding to Emergencies. However, Plant First Responders are not required to be certified through the State First Responder Program.
 - 4.4.1 During normal working hours, the Onsite Nurse is responsible for first aid treatment and the decision for offsite medical assistance. During off hours, or when the Onsite Nurse is not present, the Plant First Responder is responsible for first aid treatment and the decision for offsite medical assistance. If neither the nurse nor Plant First Responder is available, Operations personnel qualified in first aid are responsible for the previously stated responsibilities.
 - 4.4.2 First aid providers should ensure adequate protective clothing is worn to protect themselves from blood and other potentially infectious materials that may be present during response to a medical emergency.

5.0 IMMEDIATE ACTIONS

CAUTION

Unless there is an immediate danger to life or limb, a person with a serious illness or injury should not be moved until medically evaluated. Prompt treatment of serious or potentially serious injuries has priority over decontamination efforts, treatment of radiation exposure, or movement of the victim.

5.1 Initial Response

Who *Step* *Action*

Employee

5.1.1 Upon discovering an injured **and** contaminated or potentially contaminated individual:

1. Contact the Main Control Room and report the nature of the injury, condition of the individual, and any other relevant information.

NOTE: Personnel qualified in first aid, but not designated as medical response personnel, are not required to perform first aid, but may do so at their option.

2. If qualified, administer first aid.
3. Remain with the injured individual until designated medical assistance arrives.

Control Room

5.1.2 During a non-emergency situation when the Operational Support Center (OSC) is **not** functional, direct available on-shift Operations personnel to respond to the accident.

or

OSC

When the OSC is functional, dispatch a Damage Control and Rescue Team (DCRT) to respond to the accident. This team shall include an Operator.

On-Shift Operations
Personnel/Damage
Control Rescue
Team/Qualified First
Aid Personnel

1. Gather first aid equipment, proceed to accident scene, and administer first aid to the injured individual.

Control Room

- 5.1.3 Notify the following of all relevant information concerning the reported injury including expected hazards in the area:
1. Radiologically Restricted Area (RRA) Main Access Control Point (if the injury has occurred inside the RRA or if radioactive material is involved outside the RRA)
 2. Secondary Alarm Station (Security)
 3. Onsite Medical Facility (day shift)
 4. Supervisor of the injured individual

NOTE: Radiological surveys must be performed to the extent possible. These surveys shall not aggravate the injuries or interfere with the individual's treatment.

Radiation Protection

- 5.1.4 Obtain radiological survey equipment, report to the accident scene, and assess the radiological conditions of the injured individual and the area.
1. Notify the Shift Manager/Emergency Director if the injured individual's dose exceeds administrative guidelines established in MRP03, "Personnel Radiation Monitoring."
 2. Be prepared to instruct on-shift Operations personnel and the first aid provider on radiological control techniques when treating and transporting the injured individual.

Shift Manager/
Emergency
Director

- 5.1.5 Make an **Immediate Notification** if dose falls within the reportability requirements of 10CFR20.2202(a).

NOTE: Escorting an Onsite Nurse to the scene by Security is only carried out on Monday through Friday dayshift when a nurse is on site.

Nuclear Security
Personnel

- 5.1.6 Report to the OSB Main Entrance to escort the Onsite Nurse with medical supply cart to the accident location.

On-Shift Operations
Personnel/Damage
Control Rescue
Team/Qualified
First Aid Personnel

- 5.1.7 Upon arriving at the accident location:
1. Follow Radiation Protection instructions concerning exposure and contamination controls.
 2. Administer required first aid.

3. Prepare the injured person for transport out of the area.
4. If hospital treatment is necessary (for example, the individual has a fracture, burn, or head injury, or is in shock), contact the Main Control Room and request an ambulance.

CAUTION

Onsite decontamination efforts involving significant injuries (such as lacerations, wounds, open fractures, or body orifices) will be performed by the Onsite Nurse in accordance with standard medical practices and 67.000.400, "Personnel Decontamination and Assessment."

*Radiation Protection/
Qualified First Aid
Personnel*

- 5.1.8 As the injured individual is removed from the contaminated area, remove the injured individual's contaminated clothing, if possible. Decontaminate the body to the extent possible without causing further injury or delaying emergency treatment.

1. For minor injuries which do not require emergency medical care or transport to a hospital, decontaminate the injured individual in the Personnel Decontamination Room before treatment at the Onsite Medical Facility.

*On-Shift Operations
Personnel/ Damage
Control Rescue Team/
Qualified First Aid
Personnel*

- 5.1.9 If the injured individual is to be taken offsite for treatment, transport the individual to the ambulance pick-up location (unless designated otherwise by the Shift Manager, the ambulance pick-up location for injuries occurring inside the RRA is at the Warehouse A loading dock ramp door).

*Radiation
Protection*

- 5.1.10 If **time and injuries** permit, remove any remaining contaminated clothing and survey the individual for free release before removal from the RRA.

*Anyone having
contact with the
injured individual*

- 5.1.11 Clean hands with soap and water. Report any contact with the injured individual's body fluids to your supervisor and onsite medical.

5.2 Request for Offsite Medical Assistance

<i>Who</i>	<i>Step</i>	<i>Action</i>
Control Room	5.2.1	<p>Upon request from Operations personnel (at the scene) or a qualified first aid provider for offsite medical support, contact the following in accordance with Offsite Emergency Support Organization Activation of EP-290:</p> <ol style="list-style-type: none">1. AMR Ambulance Service (EP-290004)2. Mercy Memorial Hospital (EP-290005) <p style="text-align: center;">or</p> <p>Oakwood Southshore Medical Center (if Mercy Memorial cannot be used due to events occurring at Fermi 2 or Mercy Memorial)</p> <ol style="list-style-type: none">3. Secondary Alarm Station (SAS) (EP-290006)
Radiation Protection	5.2.2	<p>If the injured individual is contaminated, designate the location, degree of contamination, and injury on a Body Map (Attachment 1).</p> <p>NOTE: The Radiation Protection technician who accompanies the individual in the ambulance shall keep his/her assigned dosimetry on his/her body.</p>
	5.2.3	<p>Upon exiting the RRA, remove the injured individual's TLD and secondary dosimetry, and replace with dosimetry from the Radiation Protection Emergency Equipment - Onsite Ambulance Kit prior to transfer offsite. Send to Dosimetry for analysis as appropriate.</p>
Nuclear Security Personnel	5.2.4	<p>When the ambulance arrives onsite, provide escorts to the designated pick-up location (unless designated otherwise by the Shift Manager, this is at the Warehouse A loading dock ramp door).</p>
On-Shift Operations Personnel/ Damage Control Rescue Team/ Qualified First Aid Personnel	5.2.5	<p>Provide ambulance crew with details of injured individual's medical status.</p>

**Radiation
Protection**

- 5.2.6 Provide ambulance crew with details of injured individual's radiological status and give completed Body Map (Attachment 1) to crew for delivery to the hospital.
- 5.2.7 During transfer of individual into ambulance, use material/equipment from the Radiation Protection Emergency Equipment - Onsite Ambulance Kit to minimize radiological hazards to offsite support agencies. The kit is located in the Alternate Fire Brigade dressout area, north end of Machine Shop, 1st Floor OSB.
1. Issue TLDs and DRDs to ambulance crew.
 2. Provide ambulance crew with protective clothing, as necessary.
 3. Line the ambulance interior with plastic sheeting (such as herculite), as necessary.
- 5.2.8 Accompany injured individual to hospital. Arrange to have another Radiation Protection technician meet the ambulance at the hospital to provide further radiological support.
- 5.2.9 Advise AMR Ambulance personnel on proper radiological controls during handling and transport of injured individual.
- 5.2.10 Clean hands with soap and water. Report any contact with the injured individual's bodily fluids to your supervisor and onsite medical.

**Anyone having
contact with the
injured individual**

6.0 PROCEDURE

6.1 Radiation Controls at the Hospital

Who Step Action

NOTE: The hospital staff is responsible for setting up the Radiation Emergency Area (REA) of the hospital using the materials stored in the RP Emergency Equipment - Hospital Cabinets. Radiological postings and ropes are used to control access to the REA.

**Radiation
Protection**

- 6.1.1 If staged **outside** the hospital treatment room:
1. After patient is delivered to the hospital, ensure access into the ambulance is controlled until it is surveyed and released as not contaminated.
 2. Verify postings/barriers are adequate and make changes, if necessary.
 3. Ensure ambulance attendants remain inside the ambulance or inside hospital REA until monitored for contamination.
 4. Survey ambulance attendants and all potentially contaminated equipment/surfaces of the ambulance and decontaminate as necessary to levels less than detectable prior to release.
 5. Collect dosimetry and any protective clothing or contaminated waste from ambulance personnel prior to release.
 6. Ensure buffer zone is kept free of contamination.
 7. Control entrance and exit of hospital personnel and equipment into and out of the treatment room.

6.1.2 If staged **inside** the hospital treatment room:

1. Don protective clothing and dosimetry stored in the RP Emergency Equipment - Hospital Kit.
2. Assist hospital staff in donning protective clothing and dosimetry.
3. Perform frequent surveys of hospital staff, equipment, and patient.
4. Provide guidance in contamination control practices during handling and treatment of patient.
5. If necessary, use the services of the U.S. Department of Energy's Radiation Emergency Assistance Center/Training Site (REAC/TS) to determine the magnitude of excessive exposures or provide consultation on medical response. Emergency telephone numbers for REAC/TS are listed in the RERP Emergency Telephone Directory and offsite hospital plans.

7.0 FOLLOW-UP ACTIONS

7.1 Final Radiation Protection Actions and Reportability Requirements

<i>Who</i>	<i>Step</i>	<i>Action</i>
Radiation Protection	7.1.1	Upon termination of the emergency: <ol style="list-style-type: none">1. Assist hospital staff in removing protective clothing and exiting the treatment room.2. Collect dosimetry from personnel exiting REA and verify complete dose information.3. Perform contamination surveys of all personnel, equipment, and any other surfaces potentially contaminated in the REA.4. Decontaminate contaminated personnel, equipment, and other surfaces to levels less than detectable at hospital before release.5. Ensure all results of ambulance and hospital surveys and decontamination are documented.

6. Collect all protective clothing and potentially contaminated waste from both hospital and ambulance personnel, and return to Fermi 2.
7. Collect all Detroit Edison equipment used during transportation and return to First Aid facility. This may include:
 - a. Miller full body splint
 - b. Yellow litter
 - c. Orange basket stretcher
 - d. Black splints
 - e. Any head or body restraints or straps
8. Perform inventory, as required, of Radiation Protection Emergency Equipment - Hospital Kit and Onsite Ambulance Kit in accordance with 67.000.405, "Maintenance and Inventory of Radiation Protection Emergency Kits."
9. Send copies of completed documents generated from performance of this procedure to Supervisor, RERP for retention.

Shift Manager/
Emergency
Director

7.1.2 Ensure all reportability requirements of 10CFR20.2203 are met.

8.0 RECORDS

8.1 Radiation Protection Documentation

- 8.1.1 All documentation related to ambulance and hospital surveys, and decontamination are required records and shall be sent to the Supervisor, Radiation Protection for retention.
- 8.1.2 All completed inventory forms shall be sent to the Radiation Protection Emergency Kit Coordinator for review and retention.
- 8.1.3 All completed Body Maps (Attachment 1) shall be sent to the Supervisor, RERP for retention.

END OF TEXT

BODY MAP

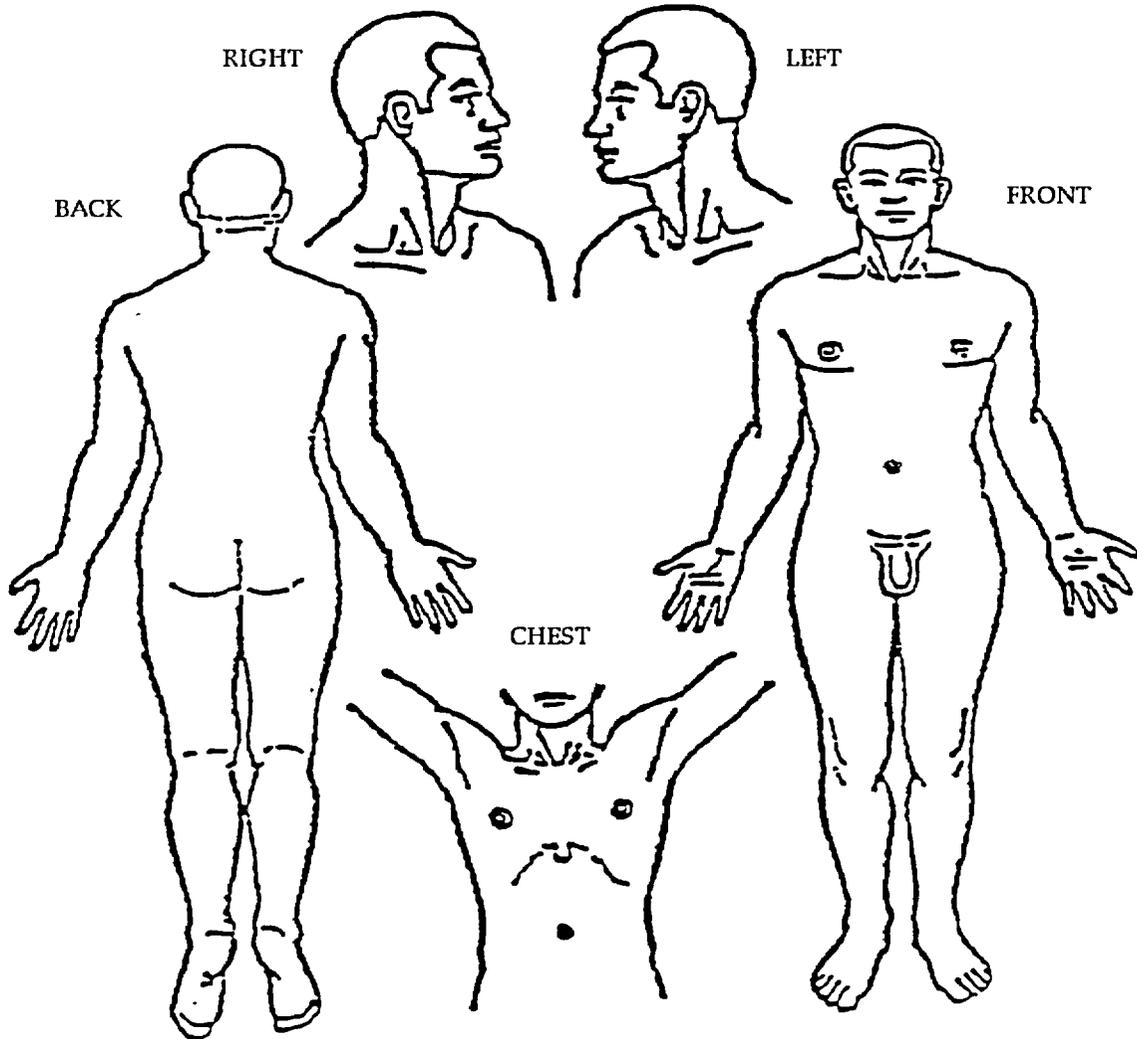
CONTAMINATED AREA LOCATIONS
DEGREE OF CONTAMINATION
LOCATION OF WOUNDS

Individual's Name: _____

Date: _____

Dept./Organization: _____

Survey Time: _____



Type of Meter Used: _____
(Indicate Model and Number)

Distance Skin-to-Probe: _____ inches

Body Map Completed by: _____
Print Name

Signature

Date

Send completed form to Supervisor, RERP.