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OPIP 3.9.2 RADIOLOGICAL MONITORING/DECONTAMINATION OF
EMERGENCY WORKERS AND EVACUEES1.0 PURPOSE

To provide instructions for monitoring and decontamination of personnel, vehicles and personal belongings/equipment at offsite decontamination facilities.

2.0 RESPONSIBILITY

- 2.1 Decontamination Coordinator directs the efforts of the Decontamination Facilities.
- 2.2 Decontamination Leaders provide direction and coordination of the radiological Monitoring and Decontamination personnel at the facilities.
- 2.3 Monitoring/Decontamination personnel are responsible for implementing this procedure.
- 2.4 Record Keepers at the Decontamination Facilities are responsible for the organization of the "clean" sign-out area for emergency workers and evacuees.

3.0 PRECAUTIONS

- 3.1 In order to monitor all evacuees arriving at the reception center within 12 hours, a minimum of 70 LERO monitoring personnel will be assigned to monitor arriving evacuees. If necessary, additional personnel may be requested from INPO via the Response Manager at the EOF. Additional equipment is available in the EOC if required.
- 3.2 If a radioactive release has occurred, the Radiation Health Coordinator will have the Decontamination Coordinator dispatch monitoring personnel when available to special facility reception destinations identified by the Special Facilities Evacuation Coordinator.
- 3.3 First aid or other medical treatment initially required shall take precedence over the decontamination effort. If wound is severe, requiring hospital treatment, refer to OPIP 4.2.2.
- 3.4 All text references to the RM-14 shall be interpreted to mean RM-14 or equivalent count rate meter.

NUCLEAR REGULATORY COMMISSION

Docket No. SS-322-OL-5 Official Exh. No. 41A
In the matter of Shelburne Nuclear Power Station, Unit #1

Staff	_____	IDENTIFIED	_____
Applicant	_____	RECEIVED	_____
Intervenor	_____	REJECTED	_____
Cont'g Off'r	_____		_____
Contractor	_____	DATE <u>April 6, 1987</u>	_____
Other	_____	Witness	_____

Reporter MARY SIMONS

- 3.5 Monitoring instrumentation, probe types, shielding configurations and contamination limits for personnel, vehicles and equivalent shall be utilized in accordance with Attachment 8.

4.0 PREREQUISITES

- 4.1 An evacuation has been initiated and the reception center has been activated in accordance with OPIP 4.2.3, or
- 4.2 Emergency response personnel have been deployed into the plume exposure Emergency Planning Zone.
- 4.3 Decontamination Facility personnel will receive personal dosimetry equipment to monitor their radiation exposure.
- 4.4 The Emergency Worker Decontamination Facility has been activated in accordance with OPIP 4.3.1.

5.0 ACTIONS

5.1 Decontamination Coordinator

- 5.1.1 Upon arrival at the EOC, and periodically thereafter, contact the Decontamination Leaders at the Emergency Worker Decontamination Facility and when activated, the Reception Center. Provide the following information:
- a. Emergency status
 - b. Protective Action Recommendations
 - c. Radioactive release data
- 5.1.2 Obtain the following information from each Decontamination Leader:
- a. Level of staffing at their facility
 - b. Equipment availability
 - c. Arrival rate of people to be monitored
 - d. Number of contaminated people and the zones from which they were evacuated.
- 5.1.3 Provide periodic status reports to Radiation Health Coordinator.
- 5.1.4 Ensure all completed monitoring, contamination and exposure record forms are returned to the EOC and filed.
- 5.1.5 When directed by the Radiation Health Coordinator to dispatch monitoring personnel to special reception facilities:

- a. Obtain a list of the facilities from the Special Facilities Evacuation Coordinator.
 - b. Contact Decontamination Leaders at Reception Center and EWDF and ascertain which facility can spare monitoring personnel. Arrange for available monitoring personnel to be sent to the facilities.
 - c. Keep the Radiation Health Coordinator informed of the status of this operation.
- 5.1.6 If informed by a Decontamination Leader of the need to transport someone to a hospital, contact the Hospital Coordinator and Ambulance Coordinator to arrange for a facility and transportation.
- 5.1.7 The following emergency workers should report to the Emergency Worker Decontamination Facility in Brentwood upon completion of their duties:
- a. Transfer Point Coordinators
 - b. Bus Drivers
 - c. Traffic Guides
 - d. Route Alert Drivers
 - e. Route Spotters
 - f. Road Crews
 - g. Ambulance/Ambulette personnel
 - h. Helicopter Pilots
 - i. All other emergency personnel who enter the 10 Mile EPZ

5.2 Decontamination Leader

- 5.2.1 Have the Decontamination Facility set up in accordance with the appropriate procedure, OPIP 4.3.1, Emergency Worker Decontamination Facility activation or OPIP 4.2.3, Evacuee Reception Center Activation.
- 5.2.2 Contact the Decontamination Coordinator and obtain emergency status, protective action recommendations and radioactive release data.
- 5.2.3 Maintain and inform the Decontamination Coordinator of the status of:
- a. Available staff
 - b. Equipment availability
 - c. Arrival rate of people to be monitored

d. Number of people contaminated and the zones from which they were evacuated

- 5.2.4 Ensure that all Decontamination Facility personnel receive and wear dosimeters in accordance with OPIP 3.9.1, Dosimetry Exposure Control.
- 5.2.5 Ensure that all Decontamination personnel working inside controlled areas wear protective clothing in accordance with Attachment 7.
- 5.2.6 Ensure that the decontamination process is performed in accordance with Attachment 3, Monitoring/Decontamination Flow Diagrams.
- 5.2.7 Assign monitoring/decontamination personnel to the following tasks as indicated:

		Approximate Number of Personnel	
		EWDF	Reception Center
a.	Monitoring Emergency Workers/Evacuees - Section 5.4	9	78
b.	Decontaminating Emergency Workers/Evacuees - Section 5.5	4*	12*
c.	Monitoring vehicles - Section 5.6	5	24
d.	Decontaminating vehicles - Section 5.7	2	6
e.	Monitoring equipment/personal articles - Section 5.8	0**	0**
f.	Decontaminating equipment/personal articles - Section 5.9	0**	0**

* Ensure that sufficient female Monitoring/Decontamination personnel are available for the Decontamination Area.

** Accomplish upon termination of emergency event or as required.

As circumstances warrant, reassign to balance staffing levels with needs.

- 5.2.8 At the evacuee Reception Center, it is important to monitor all arriving evacuees as soon as possible.
- 5.2.9 Have Dosimetry Record Keepers ensure that all clean evacuees/emergency workers sign out on the Clean Evacuee/Emergency Worker Monitoring Record Form, Attachment 4. Ensure clean evacuees/emergency workers are given a Clean Tag.
- 5.2.10 If necessary to transport a contaminated individual to a hospital, contact the Decontamination Coordinator at the EOC and request that he make the necessary arrangements.
- 5.2.11 After being found clean of contamination, emergency workers will either be directed to remain at the facility to await possible reassignment or be released from duty.
- 5.2.12 Ensure evacuees do not enter American Red Cross portion of reception center without a Clean Tag.
- 5.2.13 Upon completion of decontamination efforts, dry contaminated material will be gathered and transported to the Shoreham Nuclear Power Station to be disposed of as part of the site's Dry Active Waste Program. Contaminated liquid wastes will be diluted and dispersed if containment is not possible. Ensure that liquid wastes do not enter surface water source. Liquid radioactive wastes which have been contained will be transported to the Shoreham Nuclear Power Station for disposal.

5.3 Dosimetry Record Keepers

- 5.3.1 Ensure that all monitoring and decontamination personnel have been issued dosimetry in accordance with OPIP 3.9.1, Dosimetry and Exposure Control.
- 5.3.2 Set up a table with multiple copies of the Clean Monitoring Forms, Attachment 4. Ensure that all clean individuals log out on the form.

NOTE

AT THE EVACUEE DECONTAMINATION FACILITY OVER 2,000 PEOPLE AN HOUR MAY BE ARRIVING AND RE-QUIRING MONITORING. ENSURE THAT AN ADEQUATE NUMBER OF THE EVACUEE CLEAN MONITORING FORM, WITH PENS, ARE AVAILABLE FOR THEM TO LOG OUT.

5.3.3 Collect all paper work at the completion of the emergency for transport to the Dosimetry Coordinator at the EOC.

5.4 Monitoring/Decontamination Personnel Assigned to Monitor Incoming Evacuees/Emergency Workers

5.4.1 Assist in the set up of the Decontamination Facility in accordance with OPIP 4.2.3 or OPIP 4.3.1.

5.4.2 Obtain your dosimetry and fill out record forms in accordance with OPIP 3.9.1.

5.4.3 Perform pre-operational checks of RM-14 in accordance with Attachment 1.

5.4.4 Determine background radiation levels in accordance with Attachment 2.

5.4.5 Wear protective clothing in controlled area at all times in accordance with Attachment 7.

5.4.6 When monitoring for external contamination using the RM-14 with the HP-270 probe, ensure:

- a. range selector is on X1 position
- b. response time is fast
- c. volume switch is at maximum position
- d. alarm is set at 150 cpm above background.

5.4.7 Monitor each arriving emergency worker/evacuee as follows:

- a. Have the individual stand with arms and legs apart.
 - b. Hold the HP-270 probe about a 1/2 inch away from body.
 - c. Scan slowly over entire body. This should take about 90 seconds.
 - d. Pay particular attention to:
 - o bottom of shoes
 - o pants cuffs
 - o knees and elbows
 - o hair
 - o nose and mouth
 - e. While scanning individual, if the meter reading is fluctuating widely and is difficult to read, switch response time to slow and monitor the particular area for 30 seconds.
 - f. If reading exceeds 150 cpm above background, the individual is considered contaminated.
- 5.4.8 If individual is not externally contaminated, proceed to section 5.4.10.
- 5.4.9 If individual is contaminated, direct the contaminated individual to the Decontamination Area and inform the Decontamination Leader or his designee that a contaminated person has arrived and the zone from which he/she evacuated. If warranted after further monitoring, issue plastic shoe covers and/or paper coveralls to the contaminated individual.

5.4.10 If an individual is free of external contamination, perform a thyroid scan using the following table:

INDIVIDUAL	PROBE	RM-14 RESPONSE SETTING	MONITORING TIME	CONTAMINATION LIMIT
Adult	HP-270 shield closed	Fast	5 Sec.	150 cpm above background
Child, (under 12)	HP-210 plastic shield in place	Slow	30 Sec.	Any reading above background

- a. Place probe horizontally on neck between adam's apple and top of collar bone.
- b. If adult reading is difficult to determine, switch response time to 'slow' and monitor for 30 seconds.
- c. If it will expedite monitoring operations, designate several monitoring personnel to monitor only children.
- d. If individual's thyroid radiation level is below the contamination limit, proceed to Section 5.4.14.

5.4.11 Inform the Decontamination Leader if excessive thyroid contamination is detected. The Decontamination Leader will contact the Decontamination Coordinator at the EOC and request transportation for the individual to a medical facility capable of handling a contaminated person. If the individual had been found to be free of external contamination initially, direct the contaminated individual to the Decontamination Area at this time.

5.4.12 At the Decontamination Area, remonitor the individual's thyroid and complete the necessary information on an Emergency Worker/Evacuee Exposure Report Form (see Attachment 5). If an exposure record was previously filled out for the individual being monitored, record the thyroid scan results on that record.

- 5.4.13 Send a copy of the Exposure Report Form with the individual to the medical facility.
- 5.4.14 If monitoring showed the individual to be free of both external and internal contamination, issue the individual a tag signifying that he is clean (see Attachment 6). Direct the individual to the Dosimetry Record Keepers to record his name, address, and telephone number on a Clean Emergency Worker Monitoring Record Form/Clean Evacuee Log Out Form, see Attachment 4.
- 5.4.15 The EWDF monitoring personnel will have LERO/LILCO family members bring their vehicle to the Vehicle Decontamination Area for monitoring prior to going through personnel monitoring.
- 5.4.16 Emergency Workers will either remain at the Decontamination Facility waiting for reassignment or they will be released from duty.

5.5 Monitoring/Decontamination Personnel Assigned to Decontaminate Evacuees/Emergency Workers

- 5.5.1 Assist in the set up of the Decontamination Facility in accordance with OPIP 4.3.1 or OPIP 4.2.3.
- 5.5.2 Obtain your dosimetry and fill out record forms in accordance with OPIP 3.9.1.
- 5.5.3 Perform pre-operational checks of RM-14 in accordance with Attachment 1.
- 5.5.4 Determine background radiation levels in accordance with Attachment 2.
- 5.5.5 Wear protective clothing, including booties, overalls and rubber gloves, when working in controlled areas in accordance with Attachment 7.