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CHANGE INSTRUCTION NOTICE (CIN)

'ransmittal No.:00-361 Date: 12/26/00

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PNPS Emergency Plan Implementing	Number:
Procedure Manual	N/A

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EP-IP-100	Emergency Classification and Notification	12	01/26/00
EP-IP-200	On-Call Emergency Director	8	04/04/00
EP-IP-201	Emergency Plant Manager	1	05/14/99
EP-IP-202	Company Spokesperson	2	03/15/00
EP-IP-210	Control Room Augmentation	7	12/12/00
EP-IP-220	TSC Activation and Response	11	11/15/00
EP-IP-229	TSC/OSC Equipment Operation	5	07/25/00
EP-IP-230	OSC Activation and Response	3	11/15/00
EP-IP-231	Onsite Radiation Protection	5	07/25/00
EP-IP-240	Emergency Security Organization Activation and Response	8	03/15/00
EP-IP-250	EOF Activation and Response	8	07/25/00
EP-IP-251	Offsite Radiation Protection	5	12/26/00
EP-IP-252	Facilities Support	6	09/28/99
EP-IP-253	Relocation of the EOF	3	07/13/00
EP-IP-254	Communications Support	2	12/06/00
EP-IP-259	EOF Equipment Operation	3	05/24/00
EP-IP-300	Offsite Radiological Dose Protection	3	01/19/00
EP-IP-310	Radiation Monitoring Team Activation and Response	4	11/15/00
EP-IP-315	Personnel Monitoring Team Activation and Response	4	05/24/00
EP-IP-330	Core Damage	2B	06/19/98
EP-IP-400	Protective Action Recommendations	7	09/10/98
EP-IP-410	Evacuation/Assembly	4	05/24/00

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EP-IP-420	Search and Rescue	2	11/15/00
EP-1P-440	Emergency Exposure Controls	5A	04/08/98
EP-IP-501	Transport of Contaminated Injured Personnel	3	05/24/00
EP-1P-520	Transition and Recovery	4	12/31/99

PILGRIM NUCLEAR POWER STATION

Procedure No. EP-IP-251

OFFSITE RADIATION PROTECTION



SAFETY RELATED

EP-IP-251 Rev. 5

REVISION LOG

REVISION 5	Date Originated 12/00
Pages Affected	Description
10	Add Note to reflect that the Massachusetts NIAT Handbook will be used for coordinating and collecting postplume samples.
12	Change "Completed" to "Initiated by" in Block 12.
REVISION 4	Date Originated 3/00
Pages Affected	Description
All	Revise to reflect new procedures formatting. Revision bars are not shown for reformatting.
3,8-10	Change "field" to "Radiological Monitoring".
6	Change "BECo" to "PNPS". Change "Radiation Lab Coordinator" to "Radiation Lab and Monitoring Team Coordinator".
7	Revise to ease reading, move "approximately every 30 minutes" to follow "Periodically". Add reference to Attachment 2.
8	Change "Data" to "Information" in Attachment 2 title.
10	Correct typographical error from "and" to "any".
13	Correct typographical error from "Termination" to "Transition".

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1.0 PURPOSE

This Procedure establishes guidelines, responsibilities, and references for the Offsite Radiological Supervisor in the control of offsite radiological protection emergency response actions, and provides instructions for the activation and operation of the dose assessment area of the EOF.

2.0 <u>REFERENCES</u>

[1] EP-PP-01, "PNPS Emergency Plan"

3.0 **DEFINITIONS**

None

4.0 DISCUSSION

None

5.0 RESPONSIBILITIES

- [1] The Offsite Radiological Supervisor is responsible for:
 - (a) Evaluating and interpreting offsite radiological data during the course of the emergency to:
 - (1) Assess and direct emergency exposure controls for offsite personnel.
 - (2) Supervise the computation of dose projections and evaluation of projections and field data.
 - (3) Assist and advise technical support personnel on radiological issues.
 - (4) Provide technical support and coordination with NIAT and NRC teams.
 - (b) Briefing the Emergency Offsite Manager concerning present and projected offsite radiological conditions, Protective Action Recommendations, and radiologically based Emergency Action Levels.
 - (c) Supervising offsite emergency radiation protection personnel.

- (d) Ensuring that habitability is checked and maintained within the EOF when conditions warrant.
- [2] The Dose Assessment Engineers and the Radiation Lab & Monitoring Team Coordinator are responsible for assisting the Offsite Radiological Supervisor.

6.0 PROCEDURE

- 6.1 AREA ACTIVATION
- [1] Report to the EOF and sign in on the roster board.
- [2] Begin and maintain a log of all pertinent actions and decisions made during the course of the response.
- [3] Direct the Radiation Lab & Monitoring Team Coordinator to:
 - (a) Assign personnel to staff the Radiation Lab & Monitoring Teams (RMTs) and to maintain the meteorological and radiological status boards.
 - (b) Start the continuous air monitor and ensure that the portal monitor (or equivalent equipment) is operable.
 - (c) Ensure that dosimetry (TLDs and pocket dosimeters) is available.
- [4] Ensure that an individual exposure record is started for all personnel expected to receive exposure over the course of the emergency. Emergency exposure can be tracked on a PNPS Emergency Dose Card (EP-IP-440 Attachment 1) or other similar record.
- [5] Initially verify accountability of the Radiation Protection staff in the EOF by ensuring that all personnel have signed in on the roster board (and thereafter maintain continuous accountability).
- [6] Discuss the nature of the event with the Emergency Offsite Manager.
- [7] Inform the Emergency Offsite Manager that dose assessment capabilities are available in the EOF when the following requirements are met:
 - (a) Minimum staffing is on hand:
 - (1) Offsite Radiological Supervisor.
 - (2) One Dose Assessment Engineer.
 - (b) Meteorological and radiological data are available.
 - (c) Dose assessment functions are able to be performed.

6.2 OPERATION

- [1] Control offsite PNPS emergency worker exposure, accumulated dose, and the distribution of potassium iodide during the emergency (see EP-IP-440, "Emergency Exposure Controls," for specific guidance).
- [2] Assess the status of current and projected offsite radiological conditions and based upon the circumstances:
 - (a) Evaluate meteorological conditions to determine the appropriate offsite Assembly Area in accordance with EP-IP-100 and communicate this determination to the Emergency Offsite Manager and the Onsite Radiological Supervisor.
 - (b) Discuss the dispatch of a Personnel Monitoring Team to prepare the Assembly Area prior to a Protected Area evacuation with the Onsite Radiological Supervisor (see EP-IP-231, "Onsite Radiation Protection," for specific guidance) and the Logistics Supervisor (see EP-IP-410, "Evacuation/Assembly," for specific guidance).
 - (c) Identify areas requiring radiological controls and areas containing potential radiological hazards.
 - (d) Direct the Radiation Lab & Monitoring Team Coordinator or another radiation protection qualified individual to perform habitability surveys. Caution all personnel in the facility against eating or drinking until surveys are completed as conditions warrant.
 - (e) Consider issuing SIDs to facility personnel or placing several SIDs throughout occupied areas of the facilities if radiological conditions warrant.
- [3] Direct the Dose Assessment Engineers to:
 - (a) Perform dose assessment and dose projection calculations in accordance with EP-IP-300, "Offsite Dose Assessment." Develop any associated PARs and conduct bounding calculations in accordance with EP-IP-400, "Protective Action Recommendations."
 - (b) Re-evaluate Protective Action Recommendations and bounding calculations whenever significant changes occur in meteorological conditions, release rates, or anticipated changes in plant status (for example, extent of expected fuel damage).
 - (c) Periodically compare PNPS dose projections to those computed by commonwealth and NRC dose assessment personnel.
 - (d) Trend radiological release and meteorological data to aid in determination of environmental sample locations once the plume has dissipated.

- [4] Direct the Radiation Lab & Monitoring Team Coordinator to:
 - (a) Assemble, brief, and control the dispatch of the RMTs in accordance with Attachment 1.
 - (b) Set-up contamination controls at the RMT/environmental sample entry point (delivery door at the rear of the EOF). The control point need not be completely placed in service until needed.
 - (c) Prepare for and conduct the isotopic analysis of RMT air samples.
 - (d) Coordinate collection, storage, and subsequent transport of samples. Ensure that environmental samples are split into two equal portions for analysis at independent locations.
 - (e) Request assistance from offsite labs if needed.
- [5] Assign and direct a staff member to man the HPN Line and:
 - (a) Periodically (approximately every 30 minutes) complete a Radiological Information Form (Attachment 2).
 - (b) Provide the NRC with radiological information associated with the emergency.
 - (c) Provide the EOF Communications staff with completed Radiological Information Forms.
- [6] In coordination with the Onsite Radiological Supervisor and the Radiation Lab & Monitoring Team Coordinator, assess staffing of Radiation Protection personnel assigned to the EOF. If additional personnel are necessary, consider the following:
 - (a) If personnel are standing by on-site (such as in an Alert), obtain support from normal muster, shop or office locations.
 - (b) If personnel have been evacuated to an Assembly Area, coordinate with the Logistics Supervisor to obtain additional support.
- [7] Periodically confer with the following individuals to review actions being implemented, status of the situation, and progress toward resolution, and to ensure a coordinated response:
 - (a) Emergency Offsite Manager.
 - (b) Dose Assessment Engineers.
 - (c) State Dose Assessor.
 - (d) HPN Communicator.

- (e) Radiation Lab & Monitoring Team Coordinator.
- (f) EOF Operations Advisor.
- [8] Continuously monitor offsite radiological conditions and ensure that the Emergency Offsite Manager remains apprised of specific circumstances which impact the emergency classification and protective actions. Provide updates at least every 30 minutes.
- 6.3 DEACTIVATION

Direct the Radiation Lab & Monitoring Team Coordinator to:

- [1] Ensure that RMT personnel properly restore all equipment.
- [2] Ensure that any communication problems are identified to the Offsite Radiological Supervisor.
- [3] Arrange for proper disposition of all radioactive samples or waste.

7.0 <u>RECORDS</u>

All log sheets, forms, and other documentation shall be reviewed for completeness and forwarded to the Emergency Offsite Manager.

8.0 ATTACHMENTS

ATTACHMENT 1 - RADIOLOGICAL MONITORING TEAM DISPATCH AND CONTROL GUIDELINES

ATTACHMENT 2 - RADIOLOGICAL INFORMATION FORM

ATTACHMENT 3 - DOCUMENT CROSS-REFERENCES

ATTACHMENT 4 - IDENTIFICATION OF COMMITMENTS

RADIOLOGICAL MONITORING TEAM DISPATCH AND CONTROL GUIDELINES

General Guidelines

- 1. Provide a list of names of individuals assigned as RMTs to the Onsite Radiological Supervisor to obtain current radiological exposure histories.
- 2. Direct RMTs to conduct inventories and equipment checks and obtain a briefing before leaving the facility.
- 3. Deposition surveys and environmental samples (soil, water, vegetation, etc.) are usually taken following plume passage. Efforts to determine the magnitude of any release and to define/track the plume will take priority over ingestion sampling activities.
- 4. Plume tracking can usually be performed by conducting a continuous survey while traveling radially through the plume. Boundary and centerline values are noted and reported.
- 5. Key locations for plume surveys are at the site boundary, 2 miles, 5 miles, and 10 miles for purposes of dose assessment and protective action recommendations.
- 6. While respiratory protection is available for RMTs, the conditions under which they would need to be used should be avoided if at all possible. For a severe release, consider defining the outer boundaries of the plume without passing though centerline in areas of high dose projections.
- 7. Air sample I-131 concentration can be determined both in the field and at the EOF. Other halogen isotopes are determined by estimation or laboratory analyses. Estimations of other isotopes are developed using design basis assumptions for damage type and reduction factors and should be used only in the absence of actual analysis data. For any release involving a significant halogen or particulate component, emphasis should be placed on obtaining detailed sample results as soon as possible.
- 8. Maintain a status map and log documenting:
 - a) Locations of sample/survey points.
 - b) Instrument readings.
 - c) Type and number of samples.
 - d) Location of dispatched field teams.
- 9. Prior to a release, coordinate with offsite agencies (if present) to determine dispatch locations for the RMTs (areas most likely to be impacted should a release occur).

RADIOLOGICAL MONITORING TEAM DISPATCH AND CONTROL GUIDELINES (CONT.)

- 10. During a release:
 - a) Coordinate with offsite agencies (if present) to determine dispatch locations for the RMTs (areas most likely to be impacted during the release).
 - b) Direct RMTs to define the plume in terms of centerline and boundaries.
 - c) Direct the collection of air samples, ensuring that RMT members do not spend an inordinate amount of time in the plume.
- 11. Following a release:
 - a) Coordinate with offsite agencies (if present) to determine dispatch locations for the RMTs (areas most likely impacted by the release).

<u>NOTE</u>

Massachusetts Nuclear Incident Advisory Team (NIAT) Handbook Section D.5, "Environmental and Ingestion Pathway Sample Collection", contains the sampling protocol and guidance to be used for the coordination and collection of postplume samples (deposition surveys and environmental samples of soil, water, and vegetation).

b) Direct the conduct of deposition surveys and the collection of environmental samples by the RMTs.

Briefing Guidelines

- 1. Present any anticipated plant conditions, emergency conditions, and current and anticipated meteorology.
- 2. Type of data expected to be gathered and current priorities (surveys, air samples, environmental samples, etc.)
- 3. Use of available maps, preferred travel routes to sample/survey locations, and plume tracking strategies.
- 4. Performance of equipment and communications check prior to leaving the EOF parking lot. Action to be taken for a total loss of communications.
- 5. Disposition of sample media; that is, what to do with samples when and if they are requested.
- 6. Maximum dose and dose rates anticipated and allowed. Necessity of keeping ALARA concepts in mind during the surveys.
- 7. Safety precautions pertaining to both the task and to personnel and any special instructions applicable to the situation.

ATTACHMENT 2 Sheet 1 of 2

RADIOLOGICAL INFORMATION FORM

PILGRIM NUCLEAR POWER STATION RADIOLOGICAL INFORMATIO			
1 THIS IS:	AN ACTUAL EVENT		
2 EMERGENCY CLASSIFICATION:	SITE AREA EMERGENCY		
3 REACTOR STATUS:	TDOWN AT COLD SHUTDOWN		
4 GENERAL INFORMATION: STATION EVACUATION OF NONES	SENTIAL DERSONNEL		
	D: AMBULANCE FIRE POLICE		
5 PERSONNEL STATUS:			
EXPOSURE ≥ 1 REM			
	KI ISSUED		
6 PNPS RESPONSE ACTIONS UNDERWA	Y:		
7 ENTERGY'S PROTECTIVE ACTION REC			
SHELTER SUBAREA(s) 1 2 3	3 4 5 6 7 8 9 10 11		
EVACUATE SUBAREA(s) 1 2 3	3 4 5 6 7 8 9 10 11 12 (circle the affected subareas)		

ATTACHMENT 2 Sheet 2 of 2

RADIOLOGICAL INFORMATION FORM (CONT.)

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12 INITIATED E	BY:		APPRO	OVED:		
	Communic	ator			Emer	gency Director

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DOCUMENT CROSS-REFERENCES

This Attachment lists those documents, other than source documents, which may be affected by changes to this Procedure.

Document Number	Document Title	
EP-IP-100	Emergency Classification and Notification	
EP-IP-231	Onsite Radiological Protection	
EP-IP-400	Protective Action Recommendations	
EP-IP-410	Evacuation/Assembly	
EP-IP-520	Transition and Recovery	
EP-AD-122	Maintenance of the Emergency Telephone Directory	

IDENTIFICATION OF COMMITMENTS

This Attachment lists those external commitments (i.e., NRC commitments, QA audit findings, and INPO inspection items) implemented in this Procedure.

Reference Document	Commitment	Affected Section(s)/Step(s)
None		