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Procedure's Manual
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PILGRIM NUCLEAR POWER STATION

Procedure No. EP-IP-220

TSC ACTIVATION AND RESPONSE



Stop
Think
Act
Review

REVISION LOG

REVISION 12

Date Originated 3/04

Pages Affected

Description

6,7

Add procedural understanding of Operations Engineering staff information requirements for TSC Supervisor and Engineering Coordinator/Operations when activating the TSC.

6

Update ERO organizational title of "Chemical Engineer" to "Core Damage Engineer".

REVISION 11

Date Originated 8/00

Pages Affected

Description

All

Revise Procedure to reflect PNPS 1.3.4-1 format. Revision bars are not shown for reformatting.

6

Remove reference to transport Procedures to the TSC to reflect current storage of Procedure within the TSC.

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1.0 PURPOSE

This Procedure provides instructions to the Technical Support Center (TSC) Supervisor, the Engineering Coordinator/Operations, and the Engineering Coordinator/Systems for the activation and operation of the TSC.

2.0 REFERENCES

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

3.0 DEFINITIONS

None

4.0 DISCUSSION

None

5.0 RESPONSIBILITIES

- [1] The TSC Supervisor is responsible for:
- (a) Implementing this Procedure.
 - (b) Verifying that continuous accountability of technical support personnel located in the TSC is maintained.
 - (c) Serving as liaison between the TSC staff and the Emergency Plant Manager.
 - (d) Providing technical assessment as required to support the Control Room operating staff in responding to an emergency.
 - (e) Assessing current plant status and conditions in relation to the Emergency Action Levels and providing recommendations to the Emergency Plant Manager regarding emergency classification.
 - (f) Directing and coordinating the activities of each of the functional technical support groups:
 - (1) Engineering/Systems
 - (2) Engineering/Operations
 - (3) Engineering Support/Technical Assessment Group
- [2] The Engineering Coordinator/Systems is responsible for:
- (a) Directing the activities of the Systems Engineering staff.
 - (b) Providing plant system, Reactor, radiological, chemical, and fire protection technical assessment as requested to support the emergency response.
 - (c) Determining the extent of core damage through available means as appropriate.
- [3] The Engineering Coordinator/Operations is responsible for:
- (a) Directing the activities of the Operations Engineering staff.
 - (b) Providing plant operations technical assessment as requested to support the emergency response.
- [4] The Engineering Support/Technical Assessment Group Coordinator is responsible for directing and coordinating the activities of the Engineering Support staff to assist the TSC in providing engineering solutions in mitigating an emergency situation.

6.0 PROCEDURE

6.1 FACILITY ACTIVATION

[1] The TSC Supervisor shall:

- (a) Sign in on the TSC sign-in board.
- (b) Assume command of the TSC.
- (c) Upon their arrival, direct the Engineering Coordinators (Systems and Operations) to activate the TSC in accordance with this Procedure.
- (d) Upon arrival, direct the TSC Log/Status Board Keeper to man the Plant Data Phone (PDP) and commence updating the Plant Data and Event Chronology Status Boards as information becomes available.
- (e) Inform the Emergency Plant Manager that the TSC has been activated when all of the following conditions have been met:
 - (1) Both the Systems and Operations Engineering groups report that they are capable of performing assessment activities.
 - (2) Information is available for the Operations Engineering staff to assess current plant status (for example: SPDS, PDP, Mitigation Line, or other means as available).
 - (3) The TSC ventilation system is in the appropriate operational mode.

[2] The Engineering Coordinator/Systems shall:

- (a) Sign in on the TSC sign-in board.
- (b) Report to the TSC Supervisor when the Systems Engineering staff is capable of performing assessment activities. The following positions should be manned for Systems Engineering group activation
 - (1) Core Damage Engineer (1)
 - (2) Fire Protection Engineer (1)
 - (3) Reactor Engineer (1)
 - (4) I&C Engineer (1)
 - (5) Mechanical Engineer (1)
 - (6) Electrical Engineer (1)

[3] The Engineering Coordinator/Operations shall:

- (a) Sign in on the TSC sign-in board.
- (b) Place the TSC ventilation system in the appropriate operational mode in accordance with EP-IP-229, "TSC/OSC Equipment Operation".
- (c) Assign a staff member (preferably the off-shift SRO, otherwise with an Operations Engineer) to establish an open line of communications with the Control Room on the Mitigation Line.
- (d) Direct an Operations Engineer to man the Plant Data Phone (PDP), as necessary, to obtain information provided by the Control Room PDP communicator.
- (e) Establish or direct the Computer Engineer to establish the Emergency Response Display System (ERDS) computer terminal link with the NRC in accordance with EP-IP-229, "TSC/OSC Equipment Operation".
- (f) Report to the TSC Supervisor when the Operations Engineering staff is capable of performing assessment activities and the Mitigation Line or a suitable alternate means of communication with the Control Room has been established. The following positions should be manned for Operations Engineering group activation:
 - (1) Operations Engineers (2)
 - (2) Computer Engineer (1)
 - (3) Off-shift SCRE (1, called in by the Emergency Plant Operations Supervisor in accordance with EP-IP-210)

[4] The Engineering Support/Technical Assessment Group (ES/TAG) Coordinator shall:

- (a) Sign in on the TSC sign-in board.
- (b) Coordinate with the TSC Supervisor to determine, based upon the nature of the event, what additional technical assessment staff should be called out (i.e., which discipline(s) of engineering assistance will be necessary).
- (c) Direct the ES/TAG Administrative Assistant to maintain a log of ES/TAG activities and to perform the callouts of all identified personnel.

6.2 FACILITY OPERATION

[1] The TSC Supervisor shall:

- (a) Through discussions with the Emergency Plant Manager, obtain information on Station status and the tasks expected to be developed given the current situation.
- (b) Direct technical and operational assessment activities in accordance with Section 6.3 as required to support the Control Room operating staff and ERO personnel in responding to the event.
- (c) Provide the Emergency Plant Manager with:
 - (1) Recommendations for changes in emergency classification based on assessment of current and projected plant status in relation to the Emergency Action Levels (EP-IP-100, "*Emergency Classification and Notification*").
 - (2) TSC task status updates and priorities.
 - (3) Information on equipment operational problems and alterations in plant systems operations or lineups.
- (d) Provide periodic updates on plant status and anticipated actions to all TSC personnel.
- (e) Ensure that the TSC Log/Status Board Keeper maintains status boards up-to-date and that current plant data is being made available.
- (f) Should there be any indication of actual or potential fuel damage, direct the Engineering Coordinator/Systems to conduct core damage assessment in accordance with EP-IP-330.
- (g) If additional TSC personnel are necessary, contact the Logistics Supervisor in the EOF and identify the individuals and/or organizations which are required.

[2] The Engineering Coordinator/Systems shall:

- (a) Direct plant system-related engineering assessment tasks in accordance with Section 6.3 as requested.
- (b) When directed by the TSC Supervisor, implement EP-IP-330, "*Core Damage Assessment*," and report results to the TSC Supervisor.
- (c) Initially verify accountability of the Systems Engineering staff in the TSC by ensuring that all personnel have signed in on the TSC sign-in board (and thereafter maintain continuous accountability).
- (d) Report any need for additional Systems Engineering personnel to the TSC Supervisor.

[3] The Engineering Coordinator/Operations shall:

- (a) Direct operations-related engineering assessment tasks in accordance with Section 6.3 as requested.
- (b) Provide up-to-date plant status to the TSC Supervisor and TSC Log/Status Board Keeper in order to maintain facility logs and status boards current.
- (c) Maintain an open line of communications with the Control Room over the Mitigation Line.
- (d) Continually assess actual and projected plant status in relation to the Emergency Action Levels (EP-IP-100, "*Emergency Classification and Notification*") and make recommendations to the TSC Supervisor on changes in the emergency classification.
- (e) Initially verify accountability of the Operations Engineering staff in the TSC by ensuring that all personnel are signed in on the TSC sign-in board (and thereafter maintain continuous accountability).
- (f) Report any need for additional Operations Engineering personnel to the TSC Supervisor.

[4] The ES/TAG Coordinator shall:

- (a) Direct engineering support-related tasks in accordance with Section 6.3 as requested.
- (b) Direct the ES/TAG Administrative Assistant to maintain a log of technical assessment activities.
- (c) Coordinate with the Logistics staff in the EOF to coordinate internal engineering assistance or to contact any outside organizations (GE, Bechtel, etc.) from which engineering assistance is required.

- (d) Periodically review ES/TAG support efforts with the TSC Supervisor.
- (e) Direct the ES/TAG Administrative Assistant to coordinate with the Logistics Supervisor to make arrangements for:
 - (1) Protracted technical assessment support (e.g., 24-hour staffing).
 - (2) Supplies, lodging, and transportation or other support for response personnel.
- (f) Initially verify accountability of the ES/TAG staff in the TSC by ensuring that all personnel have signed in on the TSC sign-in board (and thereafter maintain continuous accountability).
- (g) Notify the American Nuclear Insurers (ANI) and the Nuclear Electric Insurance Limited (NEIL). Phone numbers are provided in the Emergency Telephone Directory.
- (h) When appropriate, direct the technical assessment staff to develop an outline of engineering actions which will be required for recovery from the event.

6.3 TASK ASSIGNMENT

[1] A task is identified and initiated by any member of the ERO and documented on page 1 of the Emergency Task Assignment Sheet (Attachment 1). The first section of the form is completed as follows:

- (a) Subject: A title or brief description of the task.
- (b) Description: A description of the task objective. This section is also used to identify individual subtasks in an outline fashion for tasks involving multiple activities.
 - (1) Additional subtasks may also be identified and added to the task description following Emergency Plant Manager approval (the Emergency Task Assignment Sheet is a working document).
 - (2) Whenever subtasks are added after Emergency Plant Manager approval, the Emergency Plant Manager must be informed and the activity listed on the tracking form/status board.
- (c) Originator: Name of individual originating task.
- (d) Estimated Duration: Estimated duration of the task.
- (e) Assigned To: Denotes the facility(ies) and area(s) impacted by the task.

- [2] The task is submitted through the appropriate ERO managers to the Emergency Plant Manager for approval and logging.
- (a) Tasks directed from the Control Room (over the Mitigation Line or other communications system) are generated and documented by the off-shift SRO in the TSC.
 - (b) Tasks originating from within the technical or engineering support groups are provided to the Engineering Coordinator/Systems.
 - (c) Tasks originating from within the operations support group are provided to the Engineering Coordinator/Operations.
 - (d) Tasks originating from other parts or levels of the ERO are provided directly to the Emergency Plant Manager.
- [3] Prior to approval of a task involving the OSC, the Emergency Plant Manager shall consult with other key emergency response personnel and discuss the following (as applicable):
- (a) Sequencing and logistics for accomplishing the task. Ensure that enough technical support is provided to the OSC Supervisor and the Onsite Radiological Supervisor for tasks involving the OSC.
 - (b) Existing or potential hazards to personnel (for example: oxygen levels, explosive atmosphere, electrical, steam, obstructions, toxic substances).
 - (c) Time constraints for performance of the task activities.
- [4] Tasks will be given a unique task identification number by the Emergency Plant Manager Administrative Assistant to allow tracking and prioritization of plant support functions:
- (a) Tasks which require multiple activities can be tracked and controlled using a single task number with individual activities or subtasks denoted with a letter (for example: 2.A, 2.B, etc.) in an outline format.
 - (b) Additional subtasks can be added as the activities necessary to the completion of the task are identified. Emergency Plant Manager approval is only required for each task, not for each subtask.

[5] Tasks are then distributed as follows:

- (a) TSC tasks are provided to the TSC Supervisor for tracking and resolution/completion.

NOTE

To ensure that OSC activities are conducted only under carefully controlled and preplanned conditions, briefing forms are used. However, if it is determined that completion of these forms will impede timely response, teams may be briefed and dispatched prior to completion of the documentation.

- (b) OSC tasks are provided to the Onsite Radiological Supervisor for the radiological controls determination.

[6] Once issued, activities are prioritized and tracked by the Emergency Plant Manager on the Emergency Task Tracking Form (Attachment 2) or by similar method (such as a status board) to provide a dynamic illustrated overview of support functions conducted during the emergency.

6.4 TSC TASKS

[1] Tasks provided to the TSC Supervisor are reviewed to determine the applicable support area(s) to be assigned task responsibility and to maintain control of the prioritization of TSC activities.

[2] ERO personnel assigned responsibility for the task will:

- (a) Provide the requested support.
- (b) Document the results as appropriate. Additional pages may be added to the assignment sheet to describe newly identified subtasks or further discuss results. The objective of the task documentation is to provide enough information to allow reconstruction of events and historical information to relief personnel, not to chronicle the activity in the detail of an incident report to the detriment of necessary support functions.
- (c) Close out the task (when completed) by filling out the completion and time blocks at the bottom of page one of the Emergency Task Assignment Sheet and returning the package to the Emergency Plant Manager.
- (d) Provide status updates to the TSC Supervisor as appropriate.

[3] The TSC Supervisor will maintain the tracking forms/status boards up-to-date and periodically brief the Emergency Plant Manager on the status of TSC activities.

6.5 TSC RELOCATION

- [1] If it becomes necessary to evacuate or relocate staff from the TSC, the Emergency Plant Manager (EPM) shall determine location(s) to transfer the TSC staff. The EPM will direct the TSC Supervisor to take the following actions:
- (a) Using available staff, support the relocation of EPM, Ops Coordinator, Ops, Security Supervisor, and any additional personnel identified by the EPM to the Control Room.
 - (b) Contact the Logistics Supervisor at the EOF and request that space be made available for the remaining TSC staff.
 - (c) Direct the TSC staff to gather any logs and records needed to continue emergency operations from the EOF and to begin relocation to the EOF.
 - (d) When relocation to the EOF is completed, establish communications with the EPM in the Control Room and continue to coordinate TSC Operations.
 - (e) As deemed appropriate, the TSC staff will gather necessary support material from the Support Building to be made available at the EOF for the TSC staff.

6.6 FACILITY DEACTIVATION

- [1] Upon direction from the Emergency Plant Manager, the TSC Supervisor shall deactivate the TSC by:
- (a) Terminating assessment activities and communications via communication lines.
 - (b) Deactivating all TSC equipment and placing it in its pre-emergency condition.
 - (c) Returning the PNPS Controlled Procedures to the QA Area.
 - (d) Collecting and forwarding all logs and records to the Emergency Plant Manager.
 - (e) Closing out the TSC log by noting the time that the TSC was deactivated.
- [2] The TSC Supervisor shall report any equipment, Procedure, or personnel problems to the Emergency Plant Manager.

7.0 RECORDS

The following records are generated as a result of the implementation of this Procedure:

- TSC Logbook
- Plant Data Forms
- Emergency Task Assignment Sheets

All records shall be forwarded to Emergency Preparedness.

8.0 ATTACHMENTS

ATTACHMENT 1 - EMERGENCY TASK ASSIGNMENT SHEET

ATTACHMENT 2 - EMERGENCY TASK TRACKING FORM

ATTACHMENT 3 - DOCUMENT CROSS-REFERENCES

ATTACHMENT 4 - IDENTIFICATION OF COMMITMENTS

EMERGENCY TASK ASSIGNMENT SHEET

Page 1 of

TASK

Subject:

Description:

Originator:

Estimated Duration:

ASSIGNED TO

Facility:

- TSC
- OSC
- Other (specify: _____)

Area:

- | | |
|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> Operations | <input type="checkbox"/> Systems |
| <input type="checkbox"/> ES/TAG | <input type="checkbox"/> Maintenance |
| <input type="checkbox"/> Radiological | <input type="checkbox"/> Chemistry |
| <input type="checkbox"/> Materials | <input type="checkbox"/> Security |

ASSIGNMENT AND APPROVAL

EPM Approval:

Task No:

Time:

INSTRUCTIONS/RESULTS

Discussion:

Completed By:

Time:

EMERGENCY TASK TRACKING FORM

OSC Activities				
No.	Task	Condition	Priority	Status/Resolution
		Forming Dispatched Completed		

EMERGENCY TASK TRACKING FORM (Cont.)

TSC Activities				
No.	Task	Condition	Priority	Status/Resolution
		Working Completed		

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-210	Control Room Augmentation
EP-IP-229	TSC/OSC Equipment Operation
EP-IP-330	Core Damage

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)
NRC Inspection Finding 86-39-01	Maintain the chronology status board in the TSC up-to-date.	6.1[1](d) 6.2[2](c)

PILGRIM NUCLEAR POWER STATION

Procedure No. EP-IP-229

TSC/OSC EQUIPMENT OPERATION



Stop
Think
Act
Review

REVISION LOG

REVISION 6

Date Originated 3/04

Pages Affected

Description

3,7-9

Add TSC Pressure Boundary/Location Map Attachment.

REVISION 5

Date Originated 6/00

Pages Affected

Description

All

Format all pages to reflect the PNPS 1.3.4-1 format. Revision bars are not shown for reformatting.

3

Change Table of Contents section titles to reflect section title and Attachment revisions.

3,5,6,8

Change references to former Attachments 1, 2, and 3 to read appropriate section titles in Section 6 of the Emergency Telephone Directory. Remove references to relocated information contained on former Attachments 1, 2, and 3 and delete those Attachments.

6

Change "Dell Personal Computer" to "Core Damage Computer".

6

Change "NORMS/NUCLEIS Network Terminals" to "Network Terminals". Add "Maximo/RAPID (using Windows NT)".

6

Add section to reflect use of two network terminals located within the TSC/OSC. Change references to NORMS/NUCLEIS to reflect current procedures for accessing Maximo/RAPID program using Windows NT.

7,8

Delete reference to no-longer-existent Technical Section in Note.

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1.0 PURPOSE

This Procedure provides instructions and guidelines for the operation of emergency equipment in the TSC/OSC.

2.0 REFERENCES

None

3.0 DEFINITIONS

None

4.0 DISCUSSION

None

5.0 RESPONSIBILITIES

None

6.0 PROCEDURE

6.1 FACSIMILE MACHINE OPERATION

- [1] Locate the facsimile (FAX) machine adjacent to the door leading to the TSC Operations area against the wall.
- [2] In the backside of the FAX machine should be a telephone cable plugged into the slot labeled "LINE." Ensure the other end of the telephone cable is plugged into the phone jack marked "FAX".
- [3] After the FAX machine has been set up and turned on, follow the operating instructions on the slideout plate underneath the FAX machine to transmit documents.

6.2 PUBLIC-ADDRESS SYSTEM OPERATION

- [1] Locate the controls for the public-address system in the brown wood cabinet against the partition wall separating the TSC/OSC.
- [2] Set amplifier switch to "ON".
- [3] Set front "MIC" dial of the corresponding rear "MIC" jack to 7. Set all other dials to zero.
- [4] Set optional page zone switches (remote stereo speakers) to "ON."
 - (a) Zone Switch #1 = Bullpen, back area
 - (b) Zone Switch #2 = Computer Room
 - (c) Zone Switch #3 = Conference Room
- [5] Turn the hand-held microphone, located on the Emergency Plant Manager's desk, switch to "ON" to speak.
- [6] A backup microphone is located on top of the public-address system amplifier.

6.3 MITIGATION LINE OPERATION

- [1] There are three extensions of the mitigation line in the TSC.
 - (a) Operations area
 - (b) Emergency Plant Manager's (EPM) desk
 - (c) TSC Supervisor's desk
- [2] Locate the desired mitigation line telephone and operate in accordance with the instructions that are posted at each mitigation line telephone location or see "Mitigation Line Network Diagram", Emergency Telephone Directory, Section 6.
- [3] To use the speaker phone, press speaker phone "SPKR" button.

6.4 PLANT DATA PHONE (PDP) OPERATION

- [1] There are two extensions of the PDP in the TSC.
 - (a) On wall between plant parameter status boards.
 - (b) Corner desk in the Operations area.
- [2] Locate the Plant Data Phone (brown).

[3] Operate in accordance with the instructions that are posted at each PDP location or see "Plant Data Phone (PDP) Diagram", Emergency Telephone Directory, Section 6.

6.5 EMERGENCY CONFERENCE LINK (ECL) OPERATION

[1] There are two extensions of the ECL in the TSC.

- (a) Emergency Plant Manager's desk.
- (b) TSC Conference Room.

[2] Locate the Emergency Conference Link.

[3] Operate in accordance with the instructions that are posted at each ECL location attached to the ECL or see "Emergency Conference Line (ECL) Diagram", Emergency Telephone Directory, Section 6.

6.6 CORE DAMAGE COMPUTER

[1] The core damage computer code can be accessed by simply energizing (On/Off switch) the computer.

[2] For detailed instructions on operation, refer to EP-IP-330, "Estimating Core Damage".

6.7 PRORAD TERMINAL

The PRORAD terminal located in the respirator fit room is a menu-driven system that can be accessed by energizing (On/Off-switch) the terminal and logging onto the system using your password.

6.8 NETWORK TERMINALS

Two network terminals are provided in the TSC/OSC area for access to network software: one in the TSC in the TSC engineer's work area and one in the Materials Supervisor's work area. Individuals using either of these terminals should use their own logon/password combination to gain access to network software.

6.9 MAXIMO/RAPID (USING WINDOWS NT)

- Logon computer and enter password.
- If MAXIMO icon is present, enter userid and password.
- If MAXIMO icon is not present, use Wininstall to install SQLNet 2.3 for NT first, then install MAXIMO. After installation, restart computer and select MAXIMO icon and enter userid and password.
- To access "RAPID", select Internet browser of choice and enter www.rapid.com. Select "RAPID MEMBER AREA - INVENTORY DATA POOLING". Enter user name as provided by SCM personnel. Select the "OK" button. Open "Select Program Options", then "Search and Display."

6.10 TSC UPS (UNINTERRUPTIBLE POWER SUPPLY) SYSTEM

Operation and maintenance of the TSC UPS system is described in PNPS 3.M.3-22, "TSC Uninterruptible Power Supply System Maintenance", and PNPS 3.M.3-23, "TSC Electrical Diesel System Maintenance".

6.11 TSC/OSC VENTILATION SYSTEM OPERATION

- [1] Ensure all TSC boundary doors (including the air lock) are not propped open or otherwise impeded from fully closing (see Attachment 1).

NOTE

The ventilation fan will not start unless the local panel switch is set to "AUTO."

- [2] Activate the TSC ventilation system by placing the TSC ventilation toggle switch to the "FN-1" position.
- [3] Verify that the TSC ventilation system is maintaining a positive pressure on the TSC pressure boundary by slowly opening a TSC pressure boundary door verifying air flow from the TSC.

6.12 ERDS OPERATION

- [1] Activation of ERDS.
 - (a) Obtain the cabinet key from the TSC lock box located behind the Emergency Plant Manager's station.
 - (b) Unlock the cabinet and raise the protective cover to access the ERDS terminal.
 - (1) Press any keyboard key to deactivate the screen save mode.

NOTE

The ERDS computer is maintained in a ready state at all times (EPIC is on line to the ERDS terminal). If the input status does not reflect this condition or the ERDS terminal is not running, refer to the appropriate Work Instruction.

- (c) Using the computer's mouse, highlight the menu option CONTROL and choose INITIATE LINK; PILGRIM: ERDS.
- (d) When prompted to "Initiate Link?", choose OK.

NOTE

If the ERDS to NRC connection fails, refer to the appropriate Work Instruction.

- (e) The message log will indicate connection actions. Output status should indicate wait and send status once the connection has been established.

[2] Deactivation of ERDS

- (a) Using the computer's mouse, highlight the menu option CONTROL and choose TERMINATE LINK; PILGRIM; ERDS.
- (b) When prompted to "Terminate Link?", choose OK.
- (c) The message log will indicate disconnect actions. Output status should indicate no link (input status should still indicate EPIC on line).
- (d) Lower the protective cover and lock the cabinet.
- (e) Return the cabinet key to the TSC lock box located behind the Emergency Plant Manager's station.

7.0 RECORDS

There are no records generated as a result of the implementation of this Procedure.

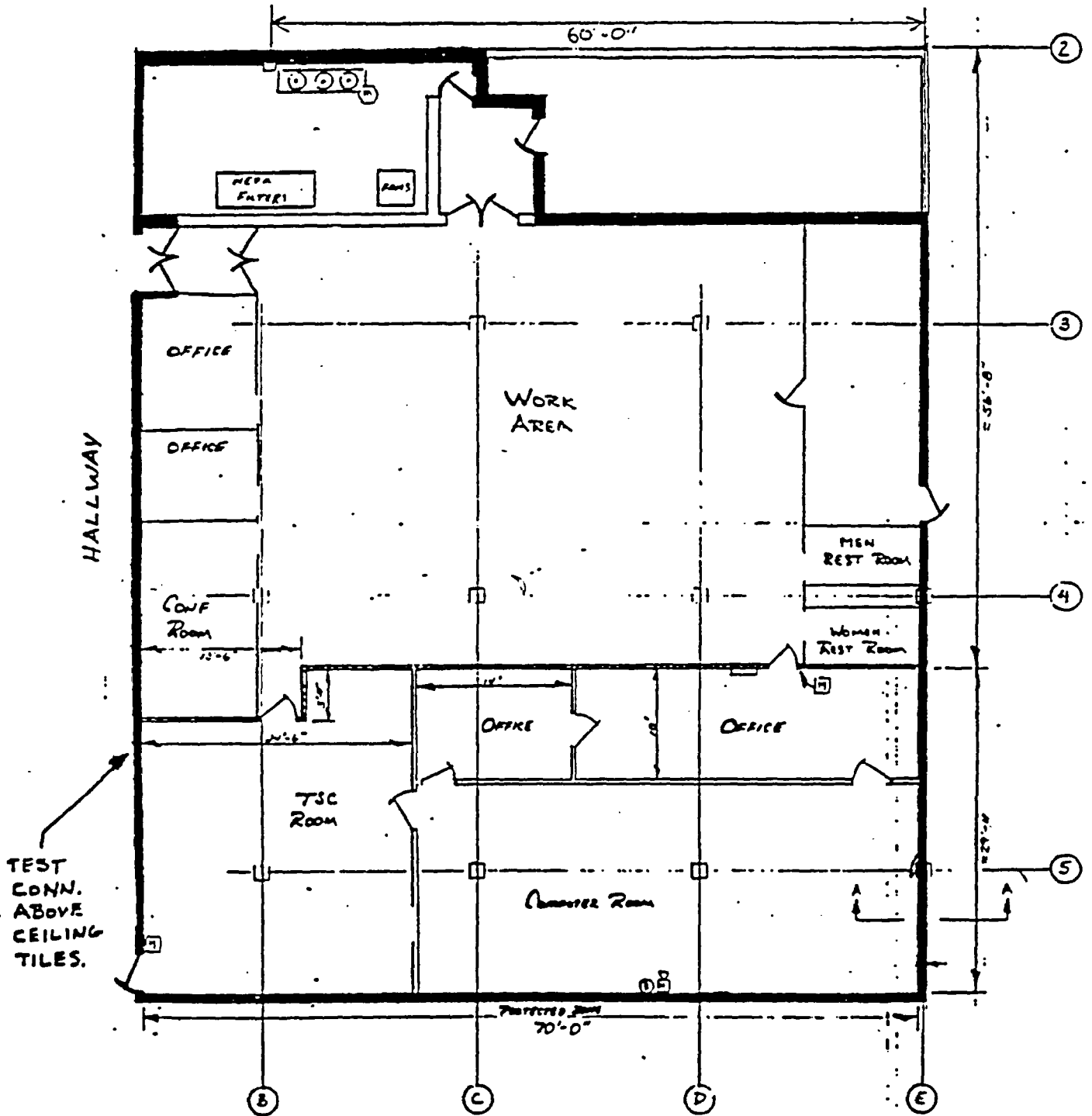
8.0 ATTACHMENTS

ATTACHMENT 1 - TSC PRESSURE BOUNDARY/LOCATION MAP

ATTACHMENT 2 - DOCUMENT CROSS-REFERENCE

ATTACHMENT 3 - IDENTIFICATION OF COMMITMENTS

TSC PRESSURE BOUNDARY/LOCATION MAP



DOCUMENT CROSS-REFERENCE

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

Document Number	Document Title
EP-IP-330	Core Damage
PNPS 3.M.3-22	TSC Uninterruptible Power Supply System Maintenance
PNPS 3.M.3-23	TSC Electrical Diesel System Maintenance

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 Sections/Step(s)
None		

PILGRIM NUCLEAR POWER STATION

Procedure No. EP-IP-251

OFFSITE RADIATION PROTECTION



Stop
Think
Act
Review

REVISION LOG

REVISION 6

Date Originated 3/04

Pages Affected

Description

- | | |
|----|--|
| 9 | Revise wording to clarify plume tracking surveys. |
| 11 | Add "KI" notation and direction to circle affected subareas to PAR Block 7 of Radiological Information Form. |
| 12 | Standardize terms to be consistent with DAPAR in Blocks 9 through 11 of Radiological Information Form. |

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 REFERENCES

- [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 RECORDS

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 across 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 through 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).

NOTE

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.

RADIOLOGICAL INFORMATION FORM

PILGRIM NUCLEAR POWER STATION		Date: <input type="text"/>	Time: <input type="text"/>
RADIOLOGICAL INFORMATION FORM			
1	THIS IS:	<input type="checkbox"/> A DRILL	<input type="checkbox"/> AN ACTUAL EVENT
2	EMERGENCY CLASSIFICATION:	<input type="checkbox"/> UNUSUAL EVENT	<input type="checkbox"/> SITE AREA EMERGENCY
		<input type="checkbox"/> ALERT	<input type="checkbox"/> GENERAL EMERGENCY
3	REACTOR STATUS:	<input type="checkbox"/> OPERATING AT _____%	<input type="checkbox"/> SHUTDOWN AT _____
			<input type="checkbox"/> COLD SHUTDOWN
4	GENERAL INFORMATION:	<input type="checkbox"/> STATION EVACUATION OF NONESSENTIAL PERSONNEL	
		<input type="checkbox"/> OFFSITE ASSISTANCE REQUESTED: <input type="checkbox"/> AMBULANCE <input type="checkbox"/> FIRE <input type="checkbox"/> POLICE	
		_____ _____ _____	
5	PERSONNEL STATUS:	<input type="checkbox"/> EXPOSURE \geq 1 REM	<input type="checkbox"/> INJURIES
		<input type="checkbox"/> CONTAMINATION	<input type="checkbox"/> KI ISSUED
6	PNPS RESPONSE ACTIONS UNDERWAY:	_____ _____ _____	
7	ENTERGY'S PROTECTIVE ACTION RECOMMENDATIONS (PARs):	<input type="checkbox"/> NO PROTECTIVE ACTIONS NECESSARY	
		<input type="checkbox"/> SHELTER SUBAREA(s)/KI 1 2 3 4 5 6 7 8 9 10 11 (circle the affected subareas)	
		<input type="checkbox"/> EVACUATE SUBAREA(s)/KI 1 2 3 4 5 6 7 8 9 10 11 12 (circle the affected subareas)	

RADIOLOGICAL INFORMATION FORM (Cont.)

PILGRIM NUCLEAR POWER STATION

RADIOLOGICAL INFORMATION FORM

Date:

Time:

8 METEOROLOGICAL INFORMATION:

WIND DIRECTION: FROM _____° TO _____° STABILITY CLASS: _____

WIND SPEED: _____ mph PRECIPITATION: YES NO

FORECAST: _____

9 OFFSITE RELEASE INFORMATION:

ACTUAL ESTIMATED

RELEASE TYPE:

- NO RELEASE
- LIQUID
- GASEOUS

RELEASE POINT:

- ELEVATED GROUND LEVEL
- FILTERED UNFILTERED
- MONITORED UNMONITORED
- CONTROLLED UNCONTROLLED

RELEASE RATE:

NOBLE GAS: _____ Ci/sec START TIME: _____
 HALOGENS: _____ Ci/sec DURATION: _____
 PARTICULATES: _____ Ci/sec

10 DOSE PROJECTION:

<u>DISTANCE</u>	<u>DOSE RATE (MR/HR)</u>		<u>DOSE (REM)</u>	
	<u>EXTERNAL (DDE)</u>	<u>TOTAL (TEDE)</u>	<u>THYROID (CDE)</u>	
SITE BNDRY	_____	_____	_____	_____
2 MILES	_____	_____	_____	_____
5 MILES	_____	_____	_____	_____
10 MILES	_____	_____	_____	_____

11 FIELD SURVEY DATA:

<u>TIME</u>	<u>LOCATION</u>	<u>DOSE RATE (MR/HR)</u>		<u>μCi/cc</u> <u>IODINE CONC</u>	<u>dpm/100cm²</u> <u>CONTAMINATION</u>
		<u>EXTERNAL</u>	<u>(WAIST HEIGHT-CLOSED)</u>		
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

12 INITIATED BY: _____

APPROVED: _____

Communicator

Emergency Director

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		