To : NRC NRC
Facility : CR3 Department :
Address : CR3-01242 / MAIL CODE: N/A
DC DESK

From : CR3DOCSVCS Attention: DOCUMENT SERVICES - SA2A
Address : FLORIDA POWER CORPORATION
CRYSTAL RIVER COMPLEX
15760 WEST POWERLINE STREET
City : CRYSTAL RIVER State:FL Postal Code: 34428-6708
Country : UNITED STATES
Email :
Contact :

Date/Time : 07/22/02 10:02 Transmittal Group Id:0000004013
Trans No. : 000073081 Title:
Total Items: 00001

PASSPORT DOCUMENT

TRANSMITTAL

Page: 1

Item	Facility	Type	Sub	Document Number	Sheet	Doc Status	Revision	Doc Date	Copy #	Media	Copies
0001	CR3	POM	EMG	EM0104		ACTIVE	007			H	01

If a document was not received or is no longer required check the response below and return to sender.

☐ Documents noted above not received (identify those not received).
☐ I no longer require distribution of these documents (identify those no longer required).

Date: _____ Signature: _____

A045

FLORIDA POWER

CRYSTAL RIVER UNIT 3

PLANT OPERATING MANUAL

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EM-104

OPERATION OF THE OPERATIONAL SUPPORT CENTER

TABLE OF CONTENTS

ENCLOSURES

1.0 PURPOSE [NOCS 1031, 6120]

1.1 Provide instructions for the activation and operation of the Operational Support Center (OSC).

Provide a point of assembly for emergency response teams assisting the Technical Support Center (TSC) in managing repair and monitoring activities during an emergency. [NOCS 12030]

Provide planning, pre-job briefings and dispatch of emergency team personnel to areas evacuated during emergency conditions and areas where the radiological conditions are NOT well known.

1.2 General Information

1.2.1 The OSC is co-located at the bottom of the northeast corner of the berm with the TSC, and is activated whenever an Alert, Site Area Emergency, or General Emergency classification is declared.

1.2.2 The OSC receives direction from the TSC concerning activities and priorities.

1.2.3 Notification for activation of the OSC is by public address announcement, activation of the emergency group pagers and telephone notification according to EM-206. Enclosure 1 illustrates the layout for the OSC.

1.2.4 The Radiation Monitoring Teams, Sampling Team, Emergency Repair Team, Fire Protection, Procurement, engineering support and additional Operations personnel are based and operate from the OSC.

1.2.5 The OSC maintains full accountability for personnel dispatched from the OSC.

2.0 DEVELOPMENTAL REFERENCES

2.1 10CFR50.47, Emergency Plans

2.2 10CFR50, Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities

2.3 EM-102, Operation of the Technical Support Center

2.4 EM-103, Enclosure 1, Dispatching of Resources During Emergency Plan Entry

2.5 EM-206, Emergency Plan Roster Notification

2.6 EM-210A, Duties of the Radiation Monitoring Team: CR-3 and Generating Complex Personnel and Area Monitoring

2.7 EM-210B, Duties of the Radiation Monitoring Team: Environmental Sampling and Plume Tracking

2.8 HPP-409, Inventory and Availability of Emergency Supplies/Equipment

2.9 Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA-400-R-92-001, Environmental Protection Agency (October, 1996)

2.10 NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

2.11 Radiological Emergency Response Plan

3.0 PERSONNEL INDOCTRINATION

3.1 Definitions

3.1.1 Activation - to provide notification to emergency response personnel of the need to respond to the OSC for staffing and operation.

3.1.2 Emergency Call Rosters - List of current qualified emergency team members. The Roster identifies qualified Emergency Repair Team, Sampling Team, Radiation Monitoring Team members and other qualified emergency responders.

3.1.3 Operational - OSC emergency team personnel available for dispatch.

3.1.4 Qualified - Successfully completed appropriate emergency team training and currently listed on Emergency Call Roster.

3.1.5 Re-entry - The return of personnel to an area evacuated during an emergency condition.

3.1.6 Self-Reading Dosimetry (SRD) - Personal Ion Chamber (PIC) or Electronic Alarming Dosimeter (EAD).

3.1.7 Team Leader - A qualified, emergency response member performing the lead responsibilities for a dispatched emergency team.

3.2 Responsibilities

3.2.1 OSC Manager – Superintendent or Supervisor Maintenance reporting to the TSC Repairs Coordinator by managing the OSC to:

- o Perform duties as identified in Section 4.1.
- o Ensure OSC repair activities are performed in a safe and expeditious manner.
- o Coordinate with TSC staff to establish priorities for OSC activities and communicate results.
- o Maintain command and control of OSC activities.
- o Coordinate OSC dispatch efforts with appropriate OSC Coordinator as needed.

3.2.2 OSC Maintenance Coordinator – Supervisor Maintenance or qualified Emergency Repair Team (ERT) member reporting to the OSC Manager to:

- o Perform duties as identified in Section 4.2.
- o Coordinate and plan maintenance emergency repair and dispatch efforts.
- o Provide technical and administrative direction for repair activities.
- o Assist in the planning for emergency repair team activities.
- o Ensure a log or tape recording of repair team activities is maintained.

3.2.3 OSC Health Physics Coordinator – Supervisor Radiation Control or qualified Radiation Monitoring Team (RMT) member reporting to the Radiation Controls Coordinator to:

- o Perform duties as identified in Section 4.3.
- o Coordinate and plan RMT dispatch efforts and RMT support of other emergency response teams.
- o Report radiological information to the Radiation Controls Coordinator and update the OSC Manager on relevant radiological conditions and team status.
- o Ensure habitability surveys, radiological and non-radiological, are periodically performed in the TSC/OSC.
- o Direct the issue of dosimetry and protective equipment as required and track emergency exposure.
- o Ensure emergency teams are briefed on radiological conditions and limitations.
- o Provide technical and administrative direction to HP personnel.
- o Coordinate overall radiological control of RMT activities according to EM-210A.
- o Maintain log or tape recording of significant RMT activities.

3.2.4 OSC Chemistry Coordinator - Any qualified Sampling Team (ST) member reporting to the OSC Manager to:

- o Coordinate and plan Sampling Team dispatch efforts.
- o Provide Chemistry information to the Radiation Controls Coordinator and updates to OSC Manager as needed.
- o Provide technical and administrative support to Chemistry activities.
- o Provide support to obtain liquid and gas samples for core damage assessments.
- o Maintain log or tape recording of significant ST activities.
- o Perform duties as identified in Section 4.4.

3.2.5 Administrative Support - as requested by OSC Manager to:

- o Maintain OSC Tracking Board and provide team status to TSC.
- o Provide administrative assistance to OSC Manager and OSC Coordinators as necessary.

3.2.6 Engineer - as requested by OSC Manager to:

- o Provide engineering support to OSC functions as needed. Call in engineers as needed. A list of Engineers is in OSC file drawer. The most current listing is on the Engineer Web page.

3.2.7 Fire Assessment - Fire Protection designee reporting to the OSC Manager to:

- o Provide fire protection support relative to plant conditions and operations.
- o Brief TSC and OSC staff on fire-related conditions.
- o Request supplemental support of Site Emergency Response Coordinator at General Emergency. (Radio channel 7) The ERC will be available from the CR-3 Control Complex to assist with Fire response; confined space rescue; medical emergencies.
- o Maintain log of activities.

3.2.8 Operations - ERT qualified Operator reporting to the OSC Manager to:

- o Provide operator support for OSC and TSC activities.
- o Perform duties identified in Section 4.5.

3.2.9 Procurement - as requested by OSC Manager to:

- o Provide on-site material access and expediting.
- o Procure parts, tools, and support needs which are NOT available on site and which are needed to support mitigation and repairs.
- o Procure a hydrogen recombiner when requested. (Vendor-Rockwell International; FPC Manual # 1797; stored in Memphis, TN.)

3.2.10 Emergency Repair Team members repair equipment and facilities necessary to return the plant to safe condition. [NOCS 6210, 17160]

3.2.11 Team Leaders perform team leader functions as identified on Enclosure 4.

3.2.12 Sampling Team members perform chemical or isotopic sampling and analysis as directed.

3.2.13 Radiation Monitoring Team member responsibilities and functions are identified in EM-210A and EM-210B.

3.2.14 Accident Assessment Coordinator - Located in TSC. Responsible for maintaining contact with the Control Room and developing strategies for accident mitigation. Reports to Emergency Coordinator and determines priorities for OSC operators.

3.2.15 Radiation Controls Coordinator - Located in the TSC. Responsible for updating and making recommendations to the Emergency Coordinator on radiological and chemistry-related activities. Reports to the Emergency Coordinator.

3.2.16 Emergency Coordinator - Located in the TSC. Responsible for overall coordination and direction of emergency response, authorizing exposure limits in excess of 5 remTEDE. Reports to the EOF Director when EOF becomes operational.

3.2.17 Repairs Coordinator - Located in the TSC. Responsible for updating the Emergency Coordinator on repair team activities. Reports to the Emergency Coordinator.

3.2.18 Radiation Protection Sub-Unit maintains inventory of emergency kits as identified in Section 3.4.1.

3.2.19 Document Services maintains manuals, procedures, and drawings in the TSC/OSC.

3.3 Limits & Precautions

3.3.1 OSC personnel follow the guidelines for exposure of emergency workers during re-entry activities as identified below or as stated on Emergency Team Authorization Form: [NOCS 10546, 15020, 17040]

Dose Limit Rem TEDE	Activity	Condition
5	All	
10	Prevent serious injury, protect valuable property, prevent catastrophic incident	
25	Life saving, protect large populations	
>25	Life saving, protect large populations	Voluntary > 45 years old, trained, and understand radiological health risks involved

a. Health Physics personnel provide recommended courses of action to minimize exposure.

b. Any exposure in excess of 25 rem TEDE should be on a voluntary basis. To perform activities NOT addressed in the above Table, personnel exposure in excess of 5 rem TEDE may be authorized by the Emergency Coordinator with guidance from the Radiation Controls Coordinator.

c. During declared emergencies, emergency workers are allowed to receive up to 5 rem TEDE for duration of emergency regardless of normal exposure to date for the year.

3.3.2 There will be NO re-entry into any emergency evacuated areas unless authorized by the EC or designee.

3.3.3 As a group, the team is knowledgeable in Radiation Protection procedures and has capabilities in operation and maintenance. [NOCS 17020]

3.3.4 Maintain efforts to minimize exposure by ALARA practices. [NOCS 17160]

3.3.5 For safety reasons, an emergency team dispatched from the OSC consists of at least two persons, one being a Radiation Monitoring Team member. The OSC Health Physics Coordinator may waive the RMT member requirement when radiological conditions warrant.

3.3.6 RMT members may be independently dispatched from the OSC to perform surveys.

3.3.7 Emergency team members must be qualified - listed on current Emergency Call Rosters.

3.3.8 Personnel shall NOT enter evacuated areas without portable survey instruments and personnel monitoring devices. Personnel accompanied by an RMT member are NOT required to carry portable survey equipment.

3.3.9 Emergency Operating Procedure (EOP) actions before the TSC is operational are NOT applicable under the guidance of EM-104.

3.3.10 The TSC/OSC ventilation system, when in the emergency recirculation mode, includes a minimum breathing air requirement to support 50 people. Monitoring of 0_2 and CO_2 must take place when the TSC/OSC is in the emergency recirculation mode and occupancy exceeds 50.

3.3.11 IF an exposure of greater than 25 rem to the thyroid is expected, THEN consider the administration of KI as directed by the TSC.

3.3.12 The TSC/OSC habitability boundary doors must be tightly closed when TSC/OSC is put into emergency recirculation mode.

3.3.13 Each emergency team member is to report to Dosimetry before re-entry to verify dose margin and upon completion of re-entry to update individual doses records.

3.4 TSC/OSC Equipment And Supplies

3.4.1 Emergency Kits [NOCS 1126, 10535, 24200]

NOTE

HPP-409 identifies the supplies contained in the following emergency kits.

a. TSC/OSC Emergency Supplies

b. Decontamination Supplies

d. Environmental Survey Supplies (located in Survey Vehicle and Nuclear Security Operations Center) [NOCS 24290]

3.4.2 Drawing/Procedure/Supply Files

Selected plant drawings, Plant Procedures and administrative supplies are contained in file cabinets located in the OSC Briefing Area. Other plant drawings are available on aperture cards in the Dosimetry Room.

3.4.3 Equipment

a. Commercial Telephone

b. Microwave System

c. Public Address Exchange System (PAX)

d. Portable Transceivers (plant radios)

e. Sandpiper Pump (electric and manual)

f. Portable Continuous Air Monitor

g. Tape recorder

4.0 INSTRUCTIONS

The steps under this section are NOT required to be performed in sequence.

Check the listing below for OSC position and refer to the designated section for instructions. Positions NOT listed perform job functions as needed to support OSC activities and as identified under responsibility section.

IF YOUR OSC POSITION IS:	REFER TO SECTION:
OSC Manager	4.1
OSC Maintenance Coordinator	4.2
OSC Health Physics Coordinator	4.3
OSC Chemistry Coordinator	4.4
OSC Operations Personnel	4.5
Emergency Team Members	4.6
Emergency Team Leader	Enclosure 4

4.1 OSC Manager

4.1.1 Activation

4.1.1.1 OBTAIN plant radios from Standards Cal. Lab for emergency use (several radios have been set aside in Cal Lab).

4.1.1.2 REPORT to the OSC upon the declaration of an Alert, Site Area or General Emergency.

4.1.1.3 BADGE-IN at TSC/OSC Card reader.

4.1.1.4 NOTIFY TSC Repairs Coordinator of your arrival.

4.1.1.5 OBTAIN procedures as needed from Procedure file.

4.1.1.6 VERIFY operability of communication links to the TSC Repairs Coordinator.

4.1.1.7 REPORT equipment problems/readiness to the TSC Repairs Coordinator.

4.1.1.8 The OSC is operational as soon as it is staffed with emergency team personnel available to support the TSC.

4.1.2 Operation

4.1.2.1 DETERMINE status of repair activities already in progress and NOTIFY TSC Repairs Coordinator of repair teams in the field.

4.1.2.2 PROVIDE advice to TSC Repairs Coordinator on plant repairs and corrective actions as appropriate, determining prioritization of repair activities with the TSC Repairs Coordinator.

4.1.2.3 COORDINATE repair activities already in progress with OSC Maintenance Coordinator and ENSURE RMT coverage is provided as needed.

4.1.2.4 COORDINATE Sampling Team (ST) activities already in progress with OSC Chemistry Coordinator and ENSURE RMT coverage is provided as needed.

4.1.2.5 ENSURE an Emergency Team Authorization (ETA) form is written for emergency response teams in the field and teams dispatched from the OSC.

4.1.2.6 APPROVE appropriate ETAs <5 rem before team dispatch. Consider having team members dressed out and dosimetry issued before need for dispatch once radiological conditions warrant.

4.1.2.7 INITIATE log of activities to document times and results of significant OSC activities. As a minimum include time of specific TSC requests, and time of results provided back to TSC.

4.1.2.8 ENSURE OSC staff is augmented as needed (reference Enclosure 2), and appropriate team members dispatched to Control Complex when available, as the Control Complex Repair Team. This team remains in the Control Complex taking direction from the OSC Manager as prioritized by the TSC.

4.1.2.9 CONDUCT briefings, as needed, with OSC personnel to ensure awareness of plant conditions. UPDATE Control Complex Repair Team as needed.

4.1.2.10 Upon request from the TSC for team dispatch, COORDINATE with appropriate OSC Coordinator and ENSURE the requested activity is planned consistent with directions from the TSC.

4.1.2.11 WHEN the activity is planned and the appropriate Team Leader identified, THEN ENSURE pre-job briefings are held with Health Physics according to Enclosure 4.

4.1.2.12 COORDINATE OSC Operator dispatch with the Repairs Coordinator in the TSC to ensure the TSC Accident Assessment Coordinator is aware of dispatch.

4.1.2.12.1 IF Operations personnel are dispatched from the Control Room, instead of from the OSC,
THEN ENSURE a Health Physics Technician is dispatched with them as needed, AND they are informed of the pre-job briefing discussion.

4.1.2.13 ENSURE teams hold post-job briefings with respective coordinators as appropriate upon return to the OSC and the results are documented in logs or on tape.

4.1.2.14 UPDATE the TSC Repairs Coordinator of OSC activities (Team dispatch, problems and activity results as appropriate)

4.1.2.15 COORDINATE a shift relief rotation for OSC personnel as appropriate AND ENSURE shift turnover is provided to the on-coming shift. CONSIDER relocating additional team members to 124' elevation level of the Control Complex prior to evacuation of the Energy Complex.

4.1.2.16 IF a General Emergency is declared,
THEN ENSURE the Site Emergency Response Coordinator is requested to stage at CR-3 Control Complex versus evacuating the Energy Complex,
AND THEN NOTIFY Security to allow their access to CR-3.

4.1.2.17 INITIATE OSC relocation according to Enclosure 5 if requested by Emergency Coordinator or designee. [NOCS 24130]

4.1.2.18 ENSURE OSC Team Status Board is updated and information is provided to TSC.

4.1.3 OSC Request Forms

NOTE

Throughout the emergency, most repair and operation activity will result in the OSC receiving a request form that has been approved by the TSC Accident Assessment Coordinator and TSC Repairs Coordinator. These forms are written to document Control Room requests. Approved ones are forwarded to the OSC for action.

4.1.3.1 WHEN an OSC Request Form is received,
THEN DISPATCH appropriate team in accordance with this procedure.

4.1.3.2 IF the form has detailed instructions,
THEN CONSIDER attaching a copy to the ETA.

4.1.3.3 ENSURE OSC request number is referenced on Team Status Board.

4.1.4 Deactivation

4.1.4.1 DEACTIVATE the OSC, when directed by the Emergency Coordinator or designee.

4.1.4.2 RETURN equipment and supplies to storage.

4.1.4.3 ASSEMBLE logbooks and any other documentation generated during the emergency for collection by Emergency Preparedness personnel.

4.2 OSC Maintenance Coordinator

4.2.1 Activation

4.2.1.1 REPORT to the OSC with piant radio (radios are to be brought from the Standards Cal Lab) upon the declaration of an Alert, Site Area or General Emergency

4.2.1.2 BADGE-IN at TSC/OSC Card reader.

4.2.1.3 NOTIFY OSC Manager of your arrival.

4.2.1.4 OBTAIN tape recorders, valve locator books, system one line switching diagram, plant layout floor maps from file drawer as needed.

4.2.1.5 IF emergency occurs during off hours,
THEN ENSURE adequate number of qualified ERT members are notified and report to OSC. REFER TO Enclosure 2 for staffing level and Emergency Team Roster, located in file drawer, for qualified members.

4.2.1.6 UNLOCK tool boxes in OSC Team Room and the electric sandpiper pump located in decon shower. The key is located in file drawer.

4.2.2 Operation

NOTE

Evacuated maintenance personnel at the Main Assembly may be reached by contacting the Main Assembly Area Supervisor.

4.2.2.1 IDENTIFY Emergency Repair Team (ERT) members working on emergency activities in the plant in support of the emergency to the OSC Manager, and ENSURE they are listed on a Emergency Team Authorization form (Enclosure 3).

4.2.2.2 VERIFY each ERT member is currently ERT qualified. (listed on ERT Emergency Call Roster)

4.2.2.3 WHEN an additional electrician, an I/C technician, and HVAC mechanic are available,
THEN ASSIGN them to the Control Room. This Control Complex Repair Team takes direction from the OSC Manager for repairs within the Control Complex. [NOCS 12080]

4.2.2.4 COORDINATE equipment repair priorities with OSC Manager.

4.2.2.5 IF it is necessary to become a Team Leader for a repair activity,
THEN NOTIFY the OSC Manager of OSC Maintenance Coordinator replacement,
OR APPOINT the OSC Manager to act on your behalf.

4.2.2.6 Upon request from the OSC Manager, IDENTIFY a Team Leader for the repair team activity and PLAN the repair.

4.2.2.7 ASSEMBLE appropriate team personnel and ENSURE a pre-job briefing is performed according to Enclosure 4. The Team Leader may plan the repair and perform the pre-job briefing.

4.2.2.8 ENSURE emergency repair teams have proper procedures, tools, and protective equipment prior to entry into the plant.

4.2.2.9 MAINTAIN contact with and DIRECT ERT repair teams outside the Control Complex. [NOCS 6210]

4.2.2.10 IF it is determined that the TSC/OSC is to be put into emergency recirculation mode,
THEN ENSURE Enclosure 6 is completed.

4.2.2.11 ENSURE the Shower Holding Tank sump connections are established for processing of contaminated water, as needed. (REFER TO Enclosure 7 for guidance.)

4.2.2.12 IDENTIFY parts, tools, and support needs NOT available on-site to the Procurement Representative in the OSC.

4.2.2.13 CONSIDER heat stress and crew rotation needs to supplement manpower requirements.

4.2.2.14 ENSURE a post-job briefing is held.

4.2.2.15 DIRECT the Team Leader to document the results of the repair on tape, or in a log book, for each emergency repair upon return to the OSC. ENSURE sufficient information is recorded to be able to document work activity after the emergency.

4.3 OSC Health Physics Coordinator

4.3.1 Activation

4.3.1.1 REPORT to the OSC upon the declaration of an Alert, Site Area or General Emergency

4.3.1.2 BADGE-IN at TSC/OSC Card reader.

4.3.1.3 NOTIFY OSC Manager and Radiation Controls Coordinator of your arrival.

4.3.1.4 OBTAIN procedures as needed.

4.3.1.5 IF emergency occurs during off hours,
THEN ensure an adequate number of qualified RMT members are notified and available to report to OSC. REFER TO Enclosure 2 for staffing level and the Emergency Team Roster, located in file drawer, for qualified members.

4.3.1.6 VERIFY operability of communication links to the TSC Radiation Controls Coordinator.

4.3.2 Operation

NOTE

Evacuated Health Physics personnel at the Main Assembly Area may be reached by contacting the Main Assembly Area Supervisor.

4.3.2.1 COORDINATE the initiation of an Emergency Radiation Work Permit (ERWP) with the Radiation Controls Coordinator and according to Enclosure 8.

4.3.2.2 OBTAIN EC or designee approval for ERWP.

4.3.2.3 LIST RMT members performing surveys and monitoring activities up to 5 rem on a separate, approved ETA form and POST until conditions warrant EC approval for > 5 rem (TEDE).

4.3.2.4 COORDINATE RMT members needed by other teams in the plant with OSC Manager. These may include EOP actions, depending on the length of the EOP action.

4.3.2.5 VERIFY each RMT member is currently RMT qualified.

4.3.2.6 ENSURE periodic CO_2/O_2 sampling is initiated according to EM-210A, Section 4.2 when the TSC/OSC is in the emergency recirculation mode and occupancy exceeds 50.

4.3.2.7 ESTABLISH controlled access into radiation areas as required by procedures.

4.3.2.8 ASSIGN, when available, an HP Technician to the Control Complex Repair team to take direction from the OSC HP Coordinator for dispatch as needed.

4.3.2.9 UPDATE the large OSC survey maps as needed. (i.e. radiological data, wind direction).

4.3.2.10 ENSURE items listed on Enclosure 1 of EM-210A, Radiation Monitoring Team Checklist, have been completed.

4.3.2.11 ENSURE TLDs are provided for all team members that report to the OSC and for teams already dispatched. [NOCS 15070]

4.3.2.12 PROVIDE OSC Manager with periodic updates on radiological conditions.

4.3.2.13 Upon request from the TSC, IDENTIFY a Team Leader and plan identified monitoring or survey activity.

4.3.2.14 ASSEMBLE RMT personnel and ensure an appropriate pre-job briefing is held. Consider performing "generic" pre-job for all team members at OSC.

4.3.2.15 ENSURE an Emergency Team Authorization (ETA) form (Enclosure 3) is written for emergency response teams in the field and teams dispatched from the OSC.

NOTE

EM-103, Enclosure 1, provides Operator dispatch guidance.

4.3.2.15.1 IF Operators are NOT assigned to the TSC/OSC,
THEN Operators dispatched from the Control Room,
AND re-entry teams in need of an operator MUST coordinate meeting place for briefing of the operator.

4.3.2.16 ASSIGN an RMT member for each re-entry, when conditions warrant, to assist in preparation and job coverage.

4.3.2.17 ENSURE responding emergency team members are updated on changing radiological conditions affecting the team.

4.3.2.18 MAINTAIN awareness of OSC personnel radiation exposure status and INFORM Radiation Controls Coordinator of personnel approaching 5 rem (TEDE) exposure limits.

4.3.2.19 INFORM the Radiation Controls Coordinator if radiological conditions are such that Security personnel should prepare for suspension of safeguards in areas affected by radiological releases.

4.3.2.20 INFORM the Radiation Controls Coordinator if any team member's thyroid dose of 5 rem is reached. Update as needed until the magnitude of projected thyroid dose reaches 25 rem .

4.3.2.21 ISSUE KI, located in TSC cabinet, to OSC personnel when authorized.

4.3.2.22 Routinely UPDATE the Radiation Controls Coordinator of RMT activities and dose rate survey results. DOCUMENT times of significant dose rate results.

4.4 OSC Chemistry Coordinator

4.4.1 Activation

4.4.1.1 REPORT to the OSC and take a plant radio, if possible, upon the declaration of an Alert, Site Area or General Emergency

4.4.1.2 BADGE-IN at TSC/OSC Card reader.

4.4.1.3 NOTIFY OSC Manager and Radiation Controls Coordinator of your arrival.

4.4.1.4 OBTAIN procedures as needed.

4.4.1.5 IF emergency occurs during off hours,
THEN ensure adequate number of qualified Sampling Team (ST) members are notified and report to OSC. REFER to Enclosure 2 for staffing level and the Emergency Team Roster, located in file drawer, for qualified members.

4.4.2 Operation

> **NOTE**
>
> Evacuated Chemistry personnel at the Main Assembly Area may be reached by contacting the Main Assembly Area Supervisor.

4.4.2.1 IDENTIFY ST members in the plant supporting the emergency, to the OSC Manager and ensure they are listed on an Emergency Team Authorization (ETA) form (Enclosure 3).

4.4.2.2 VERIFY each ST member is currently ST qualified (listed on ST Emergency Call Roster).

4.4.2.3 COORDINATE dispatch of ST with OSC Manager.

4.4.2.4 ESTABLISH log of activities documenting time TSC requests chemistry samples, time sample pulled and time results given to TSC.

4.4.2.5 IF it is necessary to become Team Leader for Sampling Team,
THEN notify the OSC Manager of OSC Chemistry Coordinator replacement,
OR appoint the OSC Manager to act as coordinator.

4.4.2.6 Upon request for Sampling Team, IDENTIFY a Team Leader and plan the activity.

4.4.2.7 ASSEMBLE appropriate team personnel and ensure a pre-job briefing is performed according to Enclosure 4.

4.4.2.8 PROVIDE technical and administrative support to Chemistry activities.

4.4.2.9 ENSURE the ST continues to perform chemical or radiological liquid and gas samples for core damage assessments as requested. [NOCS 6240]

4.4.2.10 MAINTAIN communication with the Radiation Controls Coordinator, providing updates on ST activities as appropriate.

4.4.2.11 MAINTAIN contact with dispatched ST.

4.4.2.12 PROVIDE sample results to the TSC Radiation Controls Coordinator for core damage estimation and dose projection.

4.4.2.13 ENSURE a post-job briefing is held and sample results documented.

4.5 Operations Personnel

4.5.1 Activation/Operation

NOTE
ERT qualified operators respond to the OSC during an Alert, Site Area Emergency and General Emergency as soon as available to support OSC re-entry and Control Room/Accident Assessment activities.

NOTE
Operators assigned to the OSC are under the direction of the OSC Manager. The OSC Manager coordinates Operator actions through the TSC Repairs Coordinator to ensure the TSC Accident Assessment Coordinator is aware of and agrees to the dispatch.

4.5.1.1 NOTIFY the OSC Manager and Accident Assessment Coordinator of your arrival.

4.5.1.2 COORDINATE activities with OSC Manager and ENSURE before dispatch from the OSC you are briefed according to Enclosure 4 and FOLLOW instruction for Emergency Teams.

4.5.1.3 When possible, MONITOR Accident Assessment Ring Down and provide updates of plant conditions to OSC Manager.

4.5.1.4 REFER to EM-103, Enclosure 1, for operator dispatch guidance, as necessary.

4.6 Emergency Team Members

4.6.1 Activation

NOTE
Emergency team responders, unless pre-identified to report to an Emergency Facility, must report to appropriate Local Assembly Area during an Alert declaration.

4.6.1.1 REPORT to the OSC upon assignment to respond as an emergency team member.

4.6.1.2 REPORT directly to the OSC for assignment as an emergency team member upon the declaration of a Site Area or General Emergency.

4.6.1.3 BADGE-IN at TSC/OSC Card reader.

4.6.1.4 NOTIFY appropriate OSC Coordinator of your arrival.

4.6.1.5 REMAIN in OSC Team room until requested for emergency response.

4.6.1.6 FOLLOW instructions of respective OSC Coordinator or OSC Manager.

4.6.2 Operation

Upon formation of an emergency team, the following occurs:

4.6.2.1 The Radiation Monitoring Team members will:

- o COMPLETE the Emergency Team Authorization form (Enclosure 3) according to the requirements of the Emergency RWP (Enclosure 8) and any instructions stated during the pre-job briefing.
- o ENSURE team members follow the instructions stated on the ERWP and ETA.
- o REPORT any problem or hazard encountered along the route traveled or during the mission of that team.
- o ABORT the re-entry if physical or radiological conditions deteriorate or exceed the limits set, or if communications are lost between the Team Leader and the OSC.
- o ENSURE team member dose records are updated.
- o PERFORM radiological duties, as required, according to EM-210A.

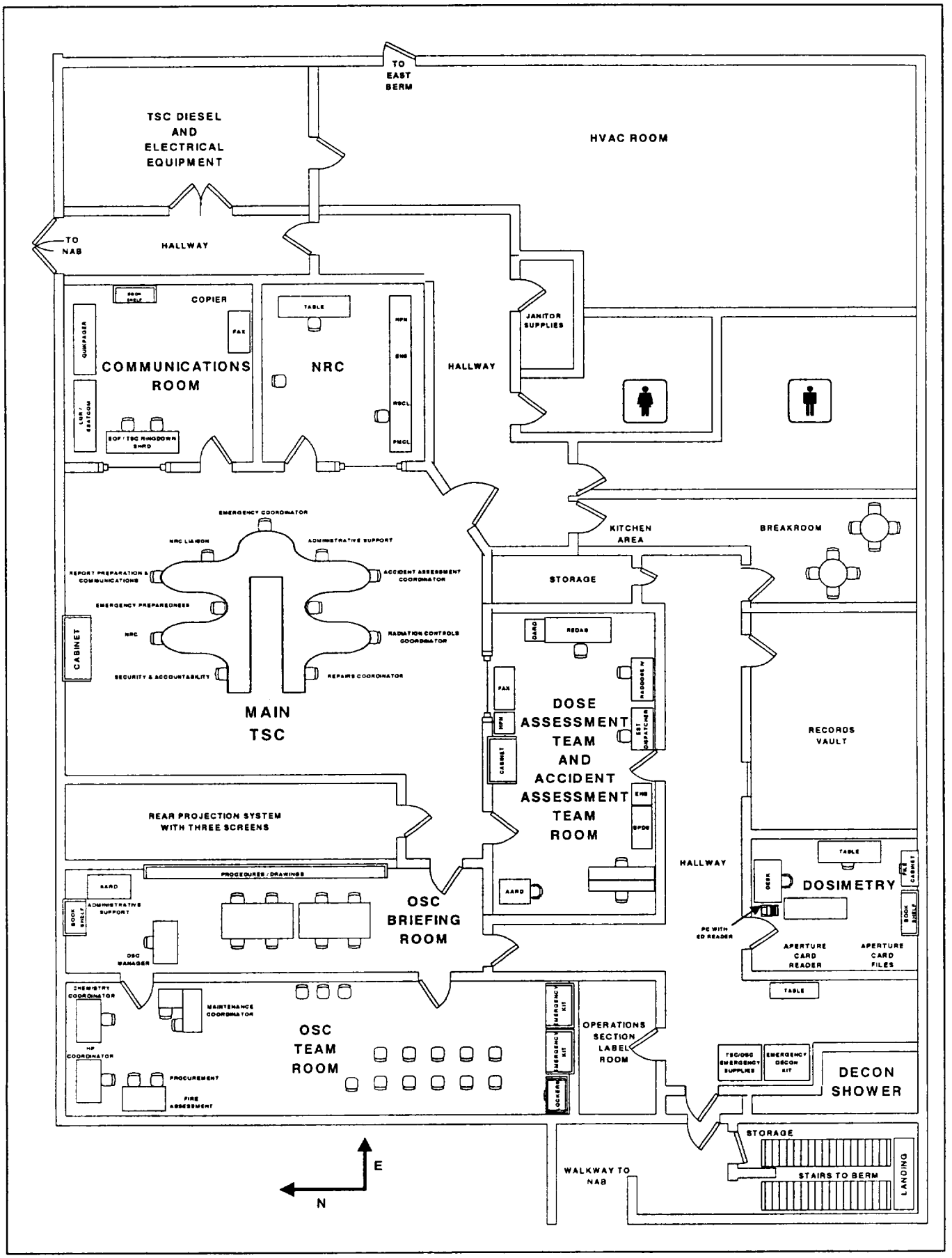
CAUTION

Deviating from a planned route, unless specifically directed due to unanticipated conditions, rescue, or to perform an activity that would minimize the emergency condition, could result in personnel injury or increased radiological dose.

4.6.2.2 The responding emergency team will:

- o ATTEND pre-job briefing in accordance with Enclosure 4.
- o OBTAIN respiratory devices, dosimetry, protective clothing, and portable survey instruments required by the Emergency Team Authorization.
- o RE-ZERO dosimetry as needed.
- o PROCEED to designated area following the pre-determined route, observing all written and/or verbal precautions.
- o PERFORM designated work per written procedures or as discussed in pre-job briefing.
- o Routinely EVALUATE exposures during the re-entry.
- o OBTAIN as much information as possible along the route, such as physical plant conditions, equipment damage or radiological data.
- o RETURN to point of departure via the same predetermined route taken above unless given other instructions.
- o RETURN to the OSC after completion of assigned tasks and follow the directions of the RMT member at the control point.

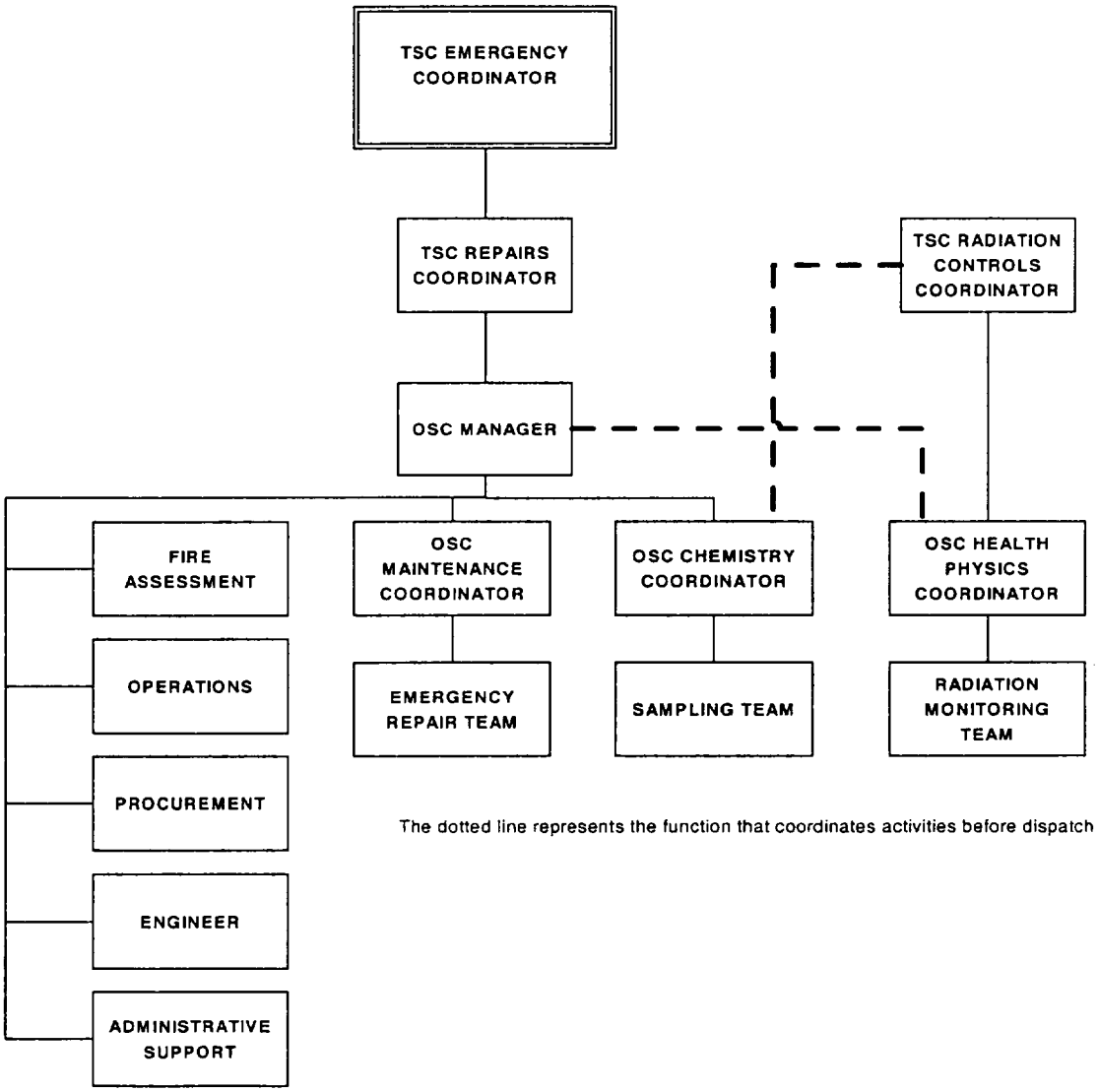
TSC/OSC Recommended Floor Plan



OPERATIONAL SUPPORT CENTER RECOMMENDED STAFFING LEVELS

(Phone numbers listed in Emergency Phone Directories and on Emergency Team Rosters.
Engineering contact list in OSC file drawer "E")

OSC Manager	1	
OSC Health Physics Coordinator	1	
OSC Chemistry Coordinator	1	
OSC Maintenance Coordinator	1	
Fire Assessment	1	
Engineering Support (as needed)	1	
Administrative Support	1	
Procurement	1	
Radiation Monitoring Team Members	12	(4 ESV)
Sampling Team	3	
Emergency Repair Team (Elec, I/C, Mech)	7	(2 Elec, 2 I/C, 3 Mech)
EMT	1	
Operators (When available)	2	
Fire Brigade members not on shift (Main Assembly Area as needed)	10	



Florida Power
A Progress Energy Company

S A M P L E

EMERGENCY TEAM AUTHORIZATION

TYPE OF EMERGENCY TEAM DISPATCHED and NUMBER	DATE	TIME

REASON FOR ENTRY

RADIOLOGICAL CONDITIONS

INSTRUCTIONS FROM PRE-JOB BRIEFING

1) Team Leader must carry radio. 2) OSC Phone # 3)

EQUIPMENT USED

PROTECTIVE CLOTHING/EQUIPMENT	RESPIRATORY	DOSIMETRY
☐ None ☐ Standard PC's ☐ Double PC's ☐ Plastics ☐ Cloth/Paper	☐ None ☐ SCBA ☐ Negative Pressure Respirator ☐ Particulate ☐ Sorbent	☐ EAD: Setpoints: ____/____ ☐ Low Range Dosimeter ☐ High Range Dosimeter ☐ TLD ☐ Multi-Badge ☐ Extremity

DOSE LIMIT FOR ENTRY **mREM** *	OSC HP COORDINATOR APPROVAL (up to 5 rem)

EMERGENCY TEAM PERSONNEL	TLD or SSN#	TIME IN	TIME OUT
TEAM LEADER			
TEAM MEMBERS			

RE-ENTRY APPROVED/ EMERGENCY COORDINATOR OR DESIGNEE >5 rem (TEDE) OSC MANAGER up to 5 rem (TEDE)	DATE	TIME

* EMERGENCY DOSE LIMITS:

	5 rem (TEDE) -	Allowable margin for each worker
	10 rem (TEDE) -	Prevent injury, protect valuable property
	25 rem (TEDE) -	Life saving, protect large populations
VOLUNTEER	>25 rem (TEDE) -	Life saving, should be trained volunteer > 45 years of age

IF NO core melt, THEN TEDE = SRD Dose
IF core melt, THEN TEDE = SRD Dose times 5

EMERGENCY TEAM AUTHORIZATION (ETA) GUIDANCE
[NOCS 17100, 17160]

A. Purpose

To authorize the dispatch of a designated team of personnel from the OSC for the performance of specific emergency related tasks, even if the Protected Area is NOT yet evacuated.

B. Contents

1. Type of team being authorized - Include type and number (ERT-2, ST-1, RMT-1)

2. Reason for entry - A brief description of why the designated team is dispatched.

3. Radiological Conditions - The anticipated conditions the team may encounter during the re-entry. IF the ETA is for tracking personnel only (no radiological conditions exist), THEN indicate "for accountability" in Section 3 of ETA form.

4. Instructions from Pre-Job Briefing - Include a brief description of the task the team is to perform, if not indicated in "Reason for Entry". Add phone number of appropriate OSC Coordinator or OSC Manager.

5. Equipment used - Identify protective equipment to be used by personnel assigned to the team involved in the re-entry.

6. Dose limit for entry and approval - The OSC HP Coordinator approves the dose limit applicable to each of the team members up to and including 5 rem . If greater than 5 rem, this step can be NA as approval is from the Emergency Coordinator (Step 9). Because of the health risks associated with the dose limit, lifesaving missions should be undertaken by volunteers (healthy and above the age of 45) who have an understanding of the health risks and preferably by those whose normal duties have trained them for such missions.

7. Emergency Worker Exposure Calculation: IF NO core melt, THEN TEDE = SRD Dose; IF core melt, THEN TEDE = SRD Dose times five.

8. Emergency Team Personnel - List team members assigned to re-entry and time re-entry starts (IN) and time of termination (OUT).

9. Re-entry Approval - Signed by the EC or Radiation Controls Coordinator if > 5 rem (TEDE) and delegated to the OSC Manager for up to and including 5 rem (TEDE), designating that the re-entry for the team is authorized.

C. Development and Approval

1. After selecting team members, prepare for dispatch by addressing such items as tools needed, scope of task, review of procedures applicable to task and assigning specific tasks that may increase the effectiveness and speed of the task completion (see Enclosure 4).

2. Meet with the RMT member assigned to re-entry. After filling out the ETA form up to and including the Equipment Used, the RMT member takes the ETA to the OSC HP Coordinator for Dose Limit approval up to and including 5 rem .

3. Take form to the OSC Manager for entries NOT exceeding 5 rem (TEDE) or to the EC or his designee if > 5 rem (TEDE), who reviews and approves the re-entry to be conducted.

4. The ETA is updated to reflect time of team dispatch and posted for tracking. The copy should go in field with Team.

5. When the re-entry is completed, dose records are updated with the dose accumulated for the team members. The ETA is updated to reflect the time the team exited the re-entry.

6. Subsequent team entries are made on separate ETAs, except as noted on ERWP.

TEAM BRIEFING/RE-ENTRY CHECKLIST

Re-entry is made for one of the following purposes: [NOCS 17020]

- Search for unaccounted personnel.
- Perform monitoring, sampling, operations or repairs to minimize or eliminate the source of the emergency.
- Perform the surveys needed to assess the radiological conditions and establish exclusion area boundaries.
- Perform rescue operations.
- Save property.

PRIOR TO DISPATCH

____ DETERMINE scope of tasks, pre-plan work activities as needed.

____ ENSURE Team members have protective clothing, dosimetry, respiratory devices, and/or other protective equipment as specified by the Emergency Team Authorization (ETA) form.

____ VERIFY operability of survey instruments, radios and any other equipment needed before departure from OSC.

____ ENSURE Self-Reading Dosimetry is re-zeroed as needed. Extremity TLDs are available in the TSC/OSC Emergency Kit.

____ NOTIFY the OSC Manager the team is ready to depart.

PRE-JOB BRIEFING

The appropriate OSC Coordinator or designated Team Leader, in conjunction with OSC Health Physics Coordinator or designee, briefs the emergency team on the following:

____ The nature of the emergency and any other known hazards.

____ The purpose of the dispatch and the expected result.

____ Route the team will take back into the evacuated area.

____ Area dose rates (if known), amount of dose each team member may expect to receive based on hazards enroute and at emergency site

____ What actions should be taken if unanticipated conditions are encountered.

EMERGENCY TEAM LEADER FUNCTIONS:

____ UNDERSTAND the purpose of the re-entry and perform pre-job briefings as requested.

____ IF suspension of safeguards has been invoked,
AND a key is necessary for entry into a locked area of the plant,
THEN obtain key from Control Room or TSC Security Coordinator.

____ REPORT any condition or event, within the scope of the team's individual training or experience, which could minimize the effects of the emergency.

____ ENSURE the completion of the task for which the team was dispatched.

____ RELAY relevant plant conditions and significant actions taken by the team to the appropriate OSC Coordinator for logging.

____ COORDINATE returning equipment to service (opening or closing of valves, energizing components, etc.) directly with the Control Room.

____ INFORM Control Room of job completion when it affects plant equipment.

____ ENSURE all team members report to Dosimetry upon return to OSC to update individual dose records.

____ PERFORM post-job briefing with appropriate OSC Coordinator or OSC Manager upon return.

____ DOCUMENT repair actions taken during re-entry to provide enough information for Work Request that is re-created after the emergency. Documentation may be made in OSC Log or on tape.

CONTINGENCY PLAN FOR SECURING OSC AND ESTABLISHING AN ALTERNATE OSC
[NOCS 24130]

BEFORE GOING TO ALTERNATE LOCATION

a. IDENTIFY minimum OSC staff necessary based on plant conditions. _____

b. CONSIDER taking items identified below. _____

- OSC Tool Boxes
- Radios
- Emergency Kits or contents as needed
- Other items as determined by OSC Coordinators

STEPS TO SECURE OSC IF STORM SURGE IS EXPECTED

a. PLACE high value items on tables:
- Computers and peripherals _____
- Communication equipment _____
- Anything else that can be placed on tables _____

b. VEFIFY flood protection has been placed around TSC/OSC (EM-220). _____

c. ENSURE appropriate TSC equipment has been de-energized (EM-220, Enclosure 2). _____

d. DISABLE auto start on diesel by selecting the "Auto/Test" switch to the center "Off" position on the generator Kohler Controller. _____

RELOCATE TO 124' ELEVATION OF THE CONTROL COMPLEX

ACTIVITY – Team Staging Area

PERSONNEL – Fire Brigade, Sampling Team, Emergency Repair Team, Radiation Monitoring Team, Security, OSC Manager, OSC Coordinators (as needed).

SETUP – Some emergency supplies are located in labeled cabinets in area. Additional supplies such as chairs, plant radios, tables and equipment from TSC/OSC emergency may need to be re-located to this area.

OPERATION – The OSC Manager remains on 124' elevation with emergency teams. He assigns someone to the PAX phone to remain in communication with the Alternate TSC located outside the Control Room. Once a team is identified, a briefing occurs and then dispatched. OSC Coordinators are on the 124' elevation with teams.

PLACING TCS/OSC INTO EMERGENCY RECIRCULATION MODE
[NOCS 63008]

CAUTION

Activation of the emergency mode requires entry into potential Radiation Controlled Areas. Ensure a Radiation Monitoring Team member accompanies personnel performing this action.

ACTIVATION (See schematic on next page)

Perform the following actions from the HVAC room to activate the emergency recirculation mode for the TSC/OSC:

_____ OPEN the access door for AHD-119.

_____ At AH-229, ROTATE the switch from the "NORMAL(1)" to the "EMERGENCY(2)" position on the emergency mode control panel.

_____ LOG start time on form next to AH-229 control switch.

_____ VERIFY the emergency recirculation mode by the following:

- AHD-120 damper is in the emergency mode position. AHD-120 is located at waist level at the south side of the room.
- AHF-62 fan is operational as indicated by a red light at the motor/starter panel on the southeast wall.
- AHU-20 is operational as indicated by a red light at the motor/starter panel on the west wall.
- AHF-60 fan is operational as indicated by a red light at the motor/starter panel in the middle of the room.
- AHF-61 fan is operational as indicated by a red light at the motor/starter panel in the middle of the room.

_____ IF the fans and dampers are NOT operational or in proper position, THEN NOTIFY the Maintenance Coordinator.

_____ OBTAIN pliers and TAKE pliers to roof.

_____ EXIT TSC/OSC and proceed to roof over HVAC room.

_____ CLOSE and LATCH the goose neck for AHD-115, located on east side.

_____ Duct tape around the access door seals and latches on AHD-115 to provide an additional protective barrier in order to prevent air in-leakage.

_____ CLOSE and LATCH the goose neck for AHD-116, located on east side.

_____ Duct tape around the access door seals and latches on AHD-116 to provide an additional protective barrier in order to prevent air in-leakage.

_____ RETURN to the TSC/OSC.

RESTORATION

Perform the following actions to restore the emergency recirculation mode for the TSC/OSC:

_____ REMOVE the duct tape from the access door seals and latches on AHD-116 and AHD-115.

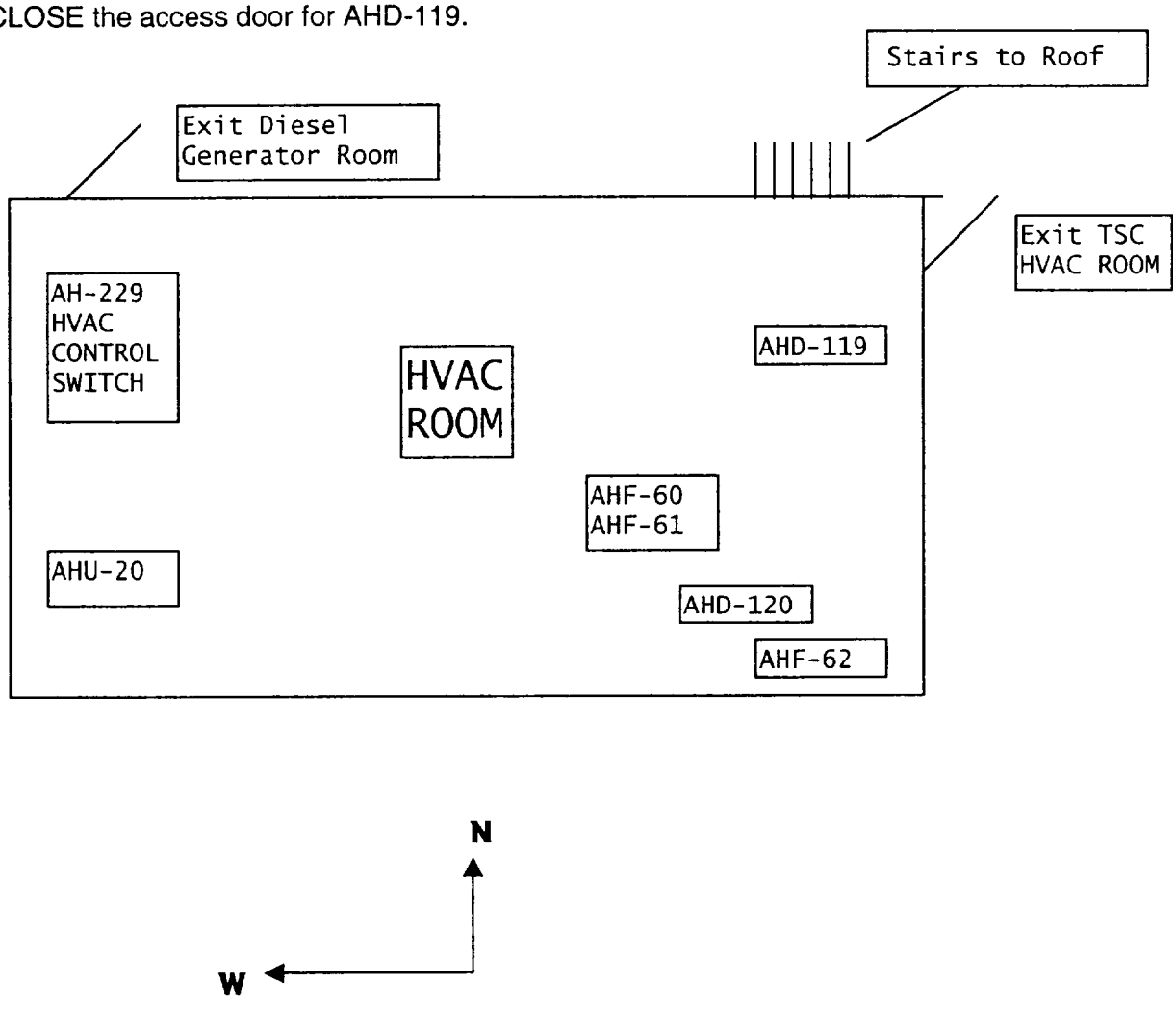
_____ UNLATCH and OPEN the goose necks for AHD-116 and AHD-115.

_____ RETURN to HVAC room and rotate the switch from the "EMERGENCY(2)" to the "NORMAL(1)" position on the emergency mode control panel (AH-229).

_____ LOG stop time on form next to AH-229 control switch.

_____ VERIFY AHD-120 is in the "CLOSED" position.

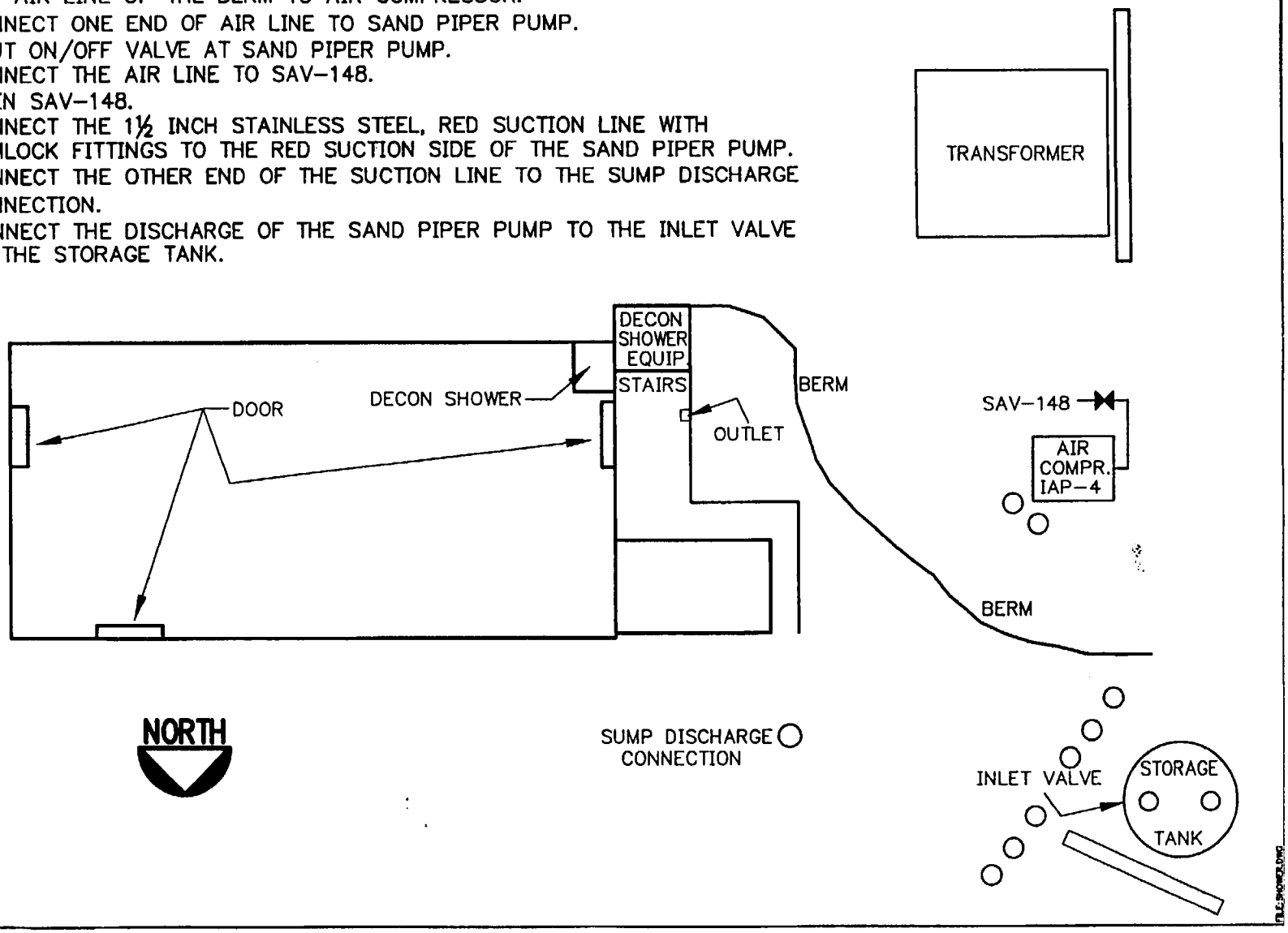
_____ CLOSE the access door for AHD-119.



GUIDANCE FOR PUMPING INTO SHOWER TANK

(EQUIPMENT LOCATED UNDER STAIRS AT WEST EXIT. BACKUP ELECTRICAL PUMP LOCATED IN DECON SHOWER)

1. RUN AIR LINE UP THE BERM TO AIR COMPRESSOR.
2. CONNECT ONE END OF AIR LINE TO SAND PIPER PUMP.
3. SHUT ON/OFF VALVE AT SAND PIPER PUMP.
4. CONNECT THE AIR LINE TO SAV-148.
5. OPEN SAV-148.
6. CONNECT THE 1½ INCH STAINLESS STEEL, RED SUCTION LINE WITH CAMLOCK FITTINGS TO THE RED SUCTION SIDE OF THE SAND PIPER PUMP.
7. CONNECT THE OTHER END OF THE SUCTION LINE TO THE SUMP DISCHARGE CONNECTION.
8. CONNECT THE DISCHARGE OF THE SAND PIPER PUMP TO THE INLET VALVE OF THE STORAGE TANK.



Florida Power
CORPORATION

EMERGENCY RADIATION WORK PERMIT

EMERGENCY STATUS

Unusual Event	Date	Time	Site Area Emergency	Date	Time
Alert	Date	Time	General Emergency	Date	Time

PLANT STATUS OR CONDITION CAUSING EMERGENCY

RADIOLOGICAL STATUS

INSTRUCTIONS

1. NO entry into controlled access areas unless a member of an emergency team. (Security remain at posts until relieved.)
2. Only personnel who are qualified emergency responders can be authorized for this ERWP.
3. Report any unusual dose rates, equipment damage, etc., to the Operational Support Center.
4. Specific radiological requirements are outlined on Emergency Team Authorization Form.
5. RMT member requirement to be on re-entry team can be waived by Health Physics Coordinator for stable or NO radiological hazards.
6. OSC Health Physics Coordinator is authorized to fill out one ETA for RMT survey and monitoring activities up to and including 5 rem TEDE with attached list of RMT Members. This does NOT include EST members.
7. Perform activity as discussed in Pre-job Briefing.

SUBMITTED BY OSC HEALTH PHYSICS COORDINATOR	APPROVED BY/EMERGENCY COORDINATOR OR DESIGNEE

EMERGENCY RADIATION WORK PERMIT (ERWP) GUIDANCE
[NOCS 17100]

A. Purpose

To establish a blanket ERWP for use under emergency conditions. An ERWP is used in conjunction with the Emergency Team Authorization form.

B. Contents

1. Emergency Status - denotes current emergency classification level, updated as escalation in levels occur.

2. Plant Status or Condition Causing Emergency - the actual status of the plant including information on systems or equipment directly related to, or impacting radiological conditions.

3. Radiological Status - radiological status of CR-3 at the time of escalation of emergency.

4. Instructions - generic instructions for anyone involved with the emergency. Specific instructions are given on the ETA form.

C. Development and Approval

1. The OSC Health Physics Coordinator or designee completes this form and submits for review to the Radiation Controls Coordinator.

2. The Radiation Controls Coordinator reviews the permit and includes any additional information pertinent to the emergency.

3. The Emergency Coordinator or designee approves the ERWP.

   a. This action authorizes the permit, AND

   b. Automatically sets the exposure limit for personnel assigned to the ERWP to Emergency Dose Limit of 5 rem Total Effective Dose Equivalent.

REVISION SUMMARY for Rev 7 of EM-104

Procedure Section	Changes and Reason
Throughout	Minor Procedure Writer's changes. Changed type of procedure to Reference.
2.12	Deleted reference to RSP-600. This is not a developmental Reference.
3.2.2 and 3.2.3 and 3.2.4	Last bullet – added to maintain log "or tape recording" of significant activities. Clarification
3.2.7	Added bullet for Fire Protection to supplement with Site ERC at General Emergency. ERC will assist with fire, medical and rescue. Comment from drill to have ERC stay on site during energy complex evacuation.
4.1.2.6	Clarify to dress out once radiological conditions warrant.
4.1.2.15 and 4.1.2.16	Combined former 4.1.2.15 and 16 and added to consider relocating additional team members to Control Complex prior to evacuation of the Energy Complex. Added new 4.1.2.16 to ensure Site Emergency Response Coordinator is requested to stage at CR3 at General Emergency versus evacuating the Energy Complex. This gives a safe location for Site ERC's and gives their expertise to CR-3 emergency.
4.1.3	Added Section explaining OSC Request Forms from TSC. Renumbered accordingly
4.2.2.10	Clarify Enclosure 6 is to be completed to document putting TSC into Recirc.
4.2.2.15	Clarification: Instead of "...able to write Work Request" after the emergency, changed to be "able to document work activity"...
4.3.2.9	Added examples of updates to large maps for plume and rad. data.
4.3.2.14	Added statement to consider performing "generic" pre-job brief for all team members. This is currently a good practice by HP Coordinator and saves time during team dispatch.
4.3.2.17	Changed INFORM to ENSURE team members are updated on radiological conditions. This allows the HP Coordinator to delegate the responsibility to update response teams of conditions.
4.6.2.1	Changed reference from Enclosure 7 to Enclosure 8. NCR 58882 CA #06.
4.6.2.2	Moved bullet 7 to Caution statement.
Enclosure 1	Replaced TSC/OSC Floor Plan with more descriptive layout. Enhancement.
Enclosure 2	Clarified the Fire Brigade in MAA are those not on shift.
Enclosure 3	B.3 – added statement that if ETA is used for accountability purposes only (no radiological conditions) then indicate as such in Sect. 3. B.4 – Clarified to add description if not indicated in Reason for entry. Added to list phone number of appropriate OSC Coordinator or Mgr.
Enclosure 4	Pre-Job Briefing – clarify OSC Health Physics Coordinator "or designee". This is in response to NCR 58875 CA 05 to clarify delegation.
Enclosure 6	Add step to Log start and completion times for running ventilation system in Recirc Mode. Comment from drill.