



SEP 28 2006

10CFR50, Appendix E

LR-N06-0399

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555 - 0001

Salem and Hope Creek Generating Stations  
Facility Operating License Nos. DPR-70, DPR-75, and NPF-57  
NRC Docket Nos. 50-272, 50-311, and 50-354

Subject: Emergency Plan Revisions

In accordance with 10CFR50, Appendix E, and 10CFR 50.4, PSEG Nuclear LLC is required to notify the NRC of revisions to the Emergency Plan within 30 days of plan revisions. Enclosed are Emergency Plan sections for Salem and Hope Creek Generating Stations revised on August 30, 2006. A matrix that identifies the plan sections that have changed as well as a summary of the changes is included as part of this letter for your convenience.

There are no commitments contained in this letter.

If you have any questions or require additional information, please contact Bill Berg at 856-339-3108.

Sincerely,

A handwritten signature in black ink, appearing to read "George Gellrich".

George Gellrich  
Plant Support Manager  
Salem and Hope Creek Generating Stations

Enclosure (1)

AX45

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cc: w/o Enclosures

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<b>LIST OF SECTIONS INCLUDED IN ENCLOSURE</b>		
<b>E Plan Section</b>	<b>Revision</b>	<b>Title</b>
1.0	12	INTRODUCTION
2.0	16	ASSIGNMENT OF RESPONSIBILITY
3.0	22	EMERGENCY ORGANIZATION
4.0	12	EMERGENCY RESPONSE SUPPORT AND RESOURCES
5.0	12	EMERGENCY CLASSIFICATION SYSTEM
6.0	13	NOTIFICATION METHODS - RESPONSE ORGANIZATIONS
7.0	12	EMERGENCY COMMUNICATIONS
8.0	10	PUBLIC INFORMATION
9.0	17	EMERGENCY FACILITIES AND EQUIPMENT
10.0	13	ACCIDENT ASSESSMENT
11.0	14	PROTECTIVE RESPONSE
12.0	13	RADIOLOGICAL EXPOSURE CONTROL
13.0	11	MEDICAL SUPPORT
14.0	9	RECOVERY AND REENTRY PLANNING
16.0	18	RADIOLOGICAL EMERGENCY RESPONSE TRAINING
17.0	15	EMERGENCY PLAN ADMINISTRATION

## **Summary of Non-Editorial Changes**

### **Section 3 – Emergency Organization**

Revised to align with Hope Creek Technical Specifications and Nuclear Administrative Procedure (NAP) 05 allowing either the Control Room Supervisor (CRS) or Shift Manager (SM) to concurrently fill the position of Shift Technical Advisor (STA) at Hope Creek.

### **Section 7 – Emergency Communications**

Changed reference from “Bell Atlantic” to “local telephone company” in paragraph 2.3 and added reference to 900-MHz radio system to 8.0 as a third Salem and Hope Creek radio system.

### **Section 9 – Emergency Facilities and Equipment**

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### **Section 13 – Medical Support**

Clarified that letter of agreement for emergency medical support is with South Jersey Health Corporation.

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### **Section 1 – Introduction**

Corrected typographical error on page 1.3 and Emergency Plan Attachment reference on page 1.9.

### **Section 2 – Assignment of Responsibility**

Added reference to Figure 2-6 in paragraph 2.1, corrected typographical error in paragraph 3.0, and changed EP manager reporting relationship from Director Regulatory Assurance to Plant Support Manager on Figure 2-2.

### **Section 4 – Emergency Response Support and Resources**

Changed reference to Federal Radiological Emergency Response Plan (FRERP) to its replacement National Response Plan (NRP) and Emergency Plan attachment document reference on page 4.4.

### **Section 5 – Emergency Classification System**

Corrected typographical error in paragraph 1.2.

### **Section 6 – Notification Methods – Response Organization**

Added reference to security-related conditions in the four classifications of Table 6-1 and corrected typographical error on page 6.8.

### **Section 8 – Public Information**

Changed “press bulletin”, “media releases”, and “press releases” to “news bulletins” for consistency in 2.0 and added “declared” in front of “state of emergency” for clarification in 2.0.

### **Section 10 – Accident Assessment**

Replaced “Artificial Island” with “Salem-Hope Creek” in title of 7.0 to be consistent with other sections of the Emergency Plan.

### **Section 12 – Radiological Exposure Control**

Changed title of “operations Superintendent” to “Shift Manager” in 1.5.

### **Section 14 – Recovery and Reentry Planning**

Changed titles of “VP-Site Operations” to “affected Station VP” and “President and Chief Nuclear Officer” to “Chief Nuclear Officer & Senior Vice President” in 3.0 to reflect the current titles in Salem and Hope Creek UFSARs.

### **Section 16 – Radiological Emergency Response Training**

Corrected typographical error in Table 16-1 for the Equipment Operator (EO) position B05 in accordance with Corrective Action Program directed action in Order 70056417, Operation 0010.

### **Section 17 – Emergency Plan Administration**

Changed responsible manager titles in Table 17-1 to current titles in Salem and Hope Creek UFSARs.

**ENCLOSURE 1**

**TABLE OF CONTENTS/SIGNATURE PAGE**

**AND**

**REVISED EMERGENCY PLAN SECTIONS**

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**August 30, 2006**

**REVISION 57**

<b>Sec</b>	<b>Title</b>	<b>Rev.</b>	<b>Pages</b>	<b>Date</b>
1.0	INTRODUCTION	12	13	08/30/2006
2.0	ASSIGNMENT OF RESPONSIBILITY	16	14	08/30/2006
3.0	EMERGENCY ORGANIZATION	22	50	08/30/2006
4.0	EMERGENCY RESPONSE SUPPORT AND RESOURCES	12	5	08/30/2006
5.0	EMERGENCY CLASSIFICATION SYSTEM	12	2	08/30/2006
6.0	NOTIFICATION METHODS - RESPONSE ORGANIZATION	13	23	08/30/2006
7.0	EMERGENCY COMMUNICATIONS	12	9	08/30/2006
8.0	PUBLIC INFORMATION	10	3	08/30/2006
9.0	EMERGENCY FACILITIES AND EQUIPMENT	17	15	08/30/2006
10.0	ACCIDENT ASSESSMENT	13	16	08/30/2006
11.0	PROTECTIVE RESPONSE	14	5	08/30/2006
12.0	RADIOLOGICAL EXPOSURE CONTROL	13	7	08/30/2006
13.0	MEDICAL SUPPORT	11	2	08/30/2006
14.0	RECOVERY AND REENTRY PLANNING	9	3	08/30/2006
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9-1	Typical Emergency Equipment
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12-1	Acceptable Surface Contamination Levels
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1.b	Section 2	2	Section 6
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		5	N/A
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4	N/A		

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NUREG- 0654 REF. SECTION	EMERGENCY PLAN SECTION	NUREG- 0654 REF. SECTION	EMERGENCY PLAN SECTION
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Part O (contd)

3	Section 16
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4.g	Section 16
4.h	Section 16
5	Section 16

Part P

1	Section 16
2	Section 17
3	Section 17
4	Section 17
5	Section 17
6	Section 1
7	TOC, Att 1
8	TOC, List of NUREG Cross Ref.
9	Section 17
10	Section 17

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**SUMMARY OF REVISIONS**

**SECTION 1.0 – Introduction**

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**SECTION 2.0 –**

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**SIGNATURE PAGE**

Prepared By: Craig Banner & Bob Vondrasek 08/09/2006  
Date

Sections Revised: 3, 7, 9, 11 & 13 08/09/2006  
(List Non-Editorial Only Sections) Date

Reviewed By Bob Vondrasek, Carolyn Simmermon, Craig Banner 08/09/2006  
10CFR50.54q Effectiveness Reviewers Date

Reviewed By David Burgin 08/11/2006  
Department Manager Date

Reviewed By: David Burgin 08/11/2006  
EP Manager Date

Reviewed By: Jeff DeFebo for Darryl Romashko 08/22/2006  
Nuclear Oversight Director Date  
(If Applicable)

**PORC Review and Station Approvals**

N/A  
Mtg. No. Salem Chairman  
N/A  
Date

N/A  
Mtg. No. Hope Creek Chairman  
N/A  
Date

Carl Fricker  
Salem Plant Manager  
8/20/06  
Date

Paul Davison for Mike Massaro  
Hope Creek Plant Manager  
8/18/06  
Date

Effective date of this revision: 08/30/2006  
Date

## SECTION 1

### INTRODUCTION

#### 1.0 Purpose

This plan has as its fundamental purpose the protection of health and safety of the general public and site personnel from the potential hazards of a radiological emergency.

#### 2.0 Background

This plan is submitted in accordance with the requirements of 10 CFR 50.54(q), 10 CFR 50 Appendix E and the objectives of NUREG 0654 (November 1980).

#### 3.0 Scope

This plan identifies the normal and emergency operating organizations, the emergency facilities available, and the overall program for managing and recovering from an emergency situation. The plan shows which federal, state, and local authorities and agencies are available for assistance, and that liaison with such authorities and agencies can be and is established in order to obtain assistance and implement protective actions if necessary. In this manner, the plan reflects the combined efforts and coordination of all responsible organizations, and addresses the general criteria and organization for managing an emergency.

#### 4.0 Planning Basis

In developing this plan, the following reference documents were used as the planning basis:

- (1) "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", NUREG-0654/FEMA, REP.- 1, Rev. I (November 1980); and
- (2) "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants" NUREG-0396, EPA 510/1-78-016 (December 1978).

The overall objective of this plan is to prevent or reduce radiation exposures to the public resulting from an accident at Salem and Hope Creek Generating Stations or Spent Fuel Storage. The actual or potential exposures considered in the development of this plan are due to the two principal pathways (plume and ingestion). Although the selected planning basis is independent of specific accident sequences, a number of accident descriptions were considered in the development of this plan, including the core melt accident release categories of the Reactor Safety Study (WASH 1400).

The planning basis used two predominant Emergency Planning Zones (EPZs).

- (1) Plume exposure pathway EPZ -- The principal exposure sources from this pathway are: (a) whole body external exposure to gamma radiation from the plume and from deposited material; and (b) inhalation exposure from the passing radioactive plume.
- (2) Ingestion exposure pathway EPZ -- The principal exposure from this pathway is the ingestion of contaminated milk. The planning effort for this pathway involves the identification of potential sources of contaminated milk and associated control points and mechanisms that prevent it from entering the human food chain. Ingestion pathway exposures in general would represent a problem in the days or weeks following an accident, although some early protective actions to minimize subsequent contamination of milk are provided in the state plans. Additionally, the secondary exposure pathway of ingestion of contaminated foods (either human or animal) was considered in the planning effort.

The EPZs are the areas for which planning is performed to assure that prompt effective actions can be taken to protect the public in the event of an accident. The state's response organizations, rather than local, have taken principal responsibility for the planning associated with the ingestion exposure pathway. This plan uses a radius of about 10 miles for the plume exposure pathway and a radius of about 50 miles for the ingestion exposure pathway. The EPZs for Salem and Hope Creek Generating Stations are shown in Figure 1-1. The principal townships, towns, cities, and ERPA populations within ten miles of the site are listed in Table 1-1.

The following definitions are used in the plan:

(1) **Accident**

An unforeseen and unintentional event that may result in an emergency.

(2) **Action Steps**

Those steps listed in the Emergency Plan Implementing Procedures which are used to provide direction to appropriate individuals to reduce risk to the health and safety of the public, site personnel and emergency workers in the event an emergency occurs.

(3) **Affected Station**

Distinguishes the station, either Hope Creek or Salem Generating Station, which experiences a specific emergency event. The designation of the affected station determines the leadership sequences for the emergency response organization for PSEG Nuclear.

(4) **Artificial Island**

The area encompassing both the Salem and Hope Creek Generating Stations' protected areas, as well as an owner controlled area immediately adjacent to the protected area, as described in the Salem and Hope Creek Stations' Final Safety Analysis Reports.

(5) **Assessment Actions**

Those actions taken during or after an accident to obtain and process information that are necessary to make decisions to implement specific emergency measures.

(6) **Committed Effective Dose Equivalent (CEDE)**

The sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.

(7) **Contamination**

The presence of radioactive material in undesirable locations.

(8) **Curie (Ci)**

A unit of radioactivity; 1 Curie is that amount of radioactive material in which  $3.7 \times 10^{10}$  disintegrations occur per second. The millicurie and microcurie are respectively one thousandth and one millionth of a Curie.

(9) **Deep Dose Equivalent (DDE)**

Applies to external whole body exposure. It is the dose equivalent at a tissue depth of 1 cm (1000 mg/cm<sup>2</sup>).

(10) **Decontamination**

The removal of radioactive contaminants from surfaces or equipment, by cleaning or washing with water or a decontamination solution, if required.

(11) **Drill**

The supervised instruction period aimed at testing, developing and maintaining skills in a particular operation of emergency preparedness. A drill is often a component of an exercise.

(12) **Emergency**

That situation or condition which may lead to undue risk to the health and safety of the public or to site personnel. The emergency action levels that are used to identify these emergencies are described in the Event Classification Guide (as discussed in Section 5 of this plan).

(13) **Emergency Action Levels (EAL)**

Pre-designated parameters of radiological dose rates, specific contamination levels of airborne, waterborne, or surface-deposited concentrations of radioactive materials, or specific instruments/parameters (including their rates of change) that may be used as thresholds for initiating a particular level of emergency, a notification procedure, or a particular protective action.

(14) **Emergency Coordinator (EC)**

That person who has the authority and responsibility to immediately and unilaterally initiate any emergency action including the decision to notify and provide protective action recommendations to authorities responsible for implementing offsite emergency measures.

(15) **Emergency News Center (ENC)**

A facility operated by PSEG NUCLEAR for the purpose of disseminating accurate information to the news media.

(16) **Emergency Operations Center (EOC)**

A state or local government's command and communication center which is activated to evaluate the radiological emergency and coordinate the protective actions that may need to be implemented.

(17) **Emergency Operations Facility (EOF)**

A facility operated by PSEG NUCLEAR for the coordination of decisions affecting accident mitigation and public safety. The EOF is described in Section 9.0 of this plan.

(18) **Emergency Plan Implementing Procedures**

Specific procedures defining in detail the actions to be taken in the event of an accident by the emergency response organization. The procedures are separate from, but may incorporate and refer to, normal plant operating procedures and instructions.

(19) **Emergency Response Planning Area (ERPA)**

A subdivision of the plume exposure emergency planning zone (10 mile).

(20) **Exercise**

An exercise is an event that tests the integrated capability and a major portion of the basic elements existing within emergency plans of the principal response organizations.

(21) **Fixed Nuclear Facility (FNF)**

A site where nuclear materials are employed in commercial power generating operations. (This term is used extensively in the offsite emergency plans.)

(22) **Mitigating Actions**

Those emergency measures taken to reduce the consequences of or terminate an emergency situation in order to prevent an uncontrolled release of radioactive material or to reduce the magnitude of a release, e.g., shutting down equipment, fire fighting, repair and damage control.

(23) **Offsite**

That area outside of the Protected Area.

(24) **Onsite**

That area inside the Protected Area.

(25) **Operations Support Center**

An onsite emergency response facility which functions to coordinate the corrective and protective action activities of site personnel outside of the Control Room. These activities include repairs, fire fighting, damage control, search and rescue, medical response, bomb searches, and local plant system lineup changes.

(26) **Owner Controlled Area**

This refers to that area within the PSEG NUCLEAR property line (700 acre site).

(27) **Population at Risk**

Those persons for whom protective actions are being or would be taken.

(28) **Protective Actions**

Those emergency measures taken after a release of radioactive material has occurred, or before a release which is expected to occur which would exceed a Protective Action Guide (PAG), for the purpose of preventing or minimizing radiological exposures to persons and the public.

(29) **Protective Action Guides (PAG)**

Projected radiological dose or dose commitment values to individuals in the general population which would warrant protective action following a release of radioactive material. Protective actions would be warranted only when the reduction in individual dose expected to be received is not offset by excessive risks to individual safety should the protective action be taken. The PAG does not include the dose that has unavoidably occurred prior to the assessment (under no circumstances will a PAG dose be considered an acceptable dose).

(30) **Protected Area**

That area within the boundaries of the Security fence.

(31) **Rad**

Acronym for radiation absorbed dose, basic unit of absorbed dose of radiation. Technically, a dose of one rad means the absorption of 100 ergs of radiation energy per gram of absorbing material (refer to SI units).

(32) **Radiation (as referred to in this plan)**

Any or all of the following: a form of energy which includes gamma rays, x-rays, neutrons, high-speed electrons, positrons, and other atomic particles which occur from radioactive decay or nuclear fission.

(33) **Radiation Accident**

Any unexpected event, occurrence or circumstance involving an actual or potential radiation exposure or radioactive contamination in excess of federal regulations and/or the facility technical specifications.

(34) **Radiological Control Area (RCA)**

That portion of each plant where exposure to nuclear radiation, radioactive material or radioactive contamination is a concern.

(35) **Recovery Actions**

Those actions taken after the emergency to restore the plant as nearly as possible to its pre-emergency condition.

(36) **Release of Radioactive Material**

Plant effluent greater than tech spec limits.

(37) **Rem**

Acronym for Roentgen Equivalent Man, a measure of the dose equivalence of any ionizing radiation to body tissue in terms of its estimated biological effect relative to a dose of one roentgen of X - rays or gamma radiation (refer to SI units).

(38) **Roentgen**

A unit of radioactive exposure; the amount of X-radiation or gamma radiation that will provide one electrostatic unit of charge (positive or negative) in one cubic centimeter of dry air at standard pressure and temperature conditions ( $2.58 \times 10^4$  coulombs per Kilogram of air).

(39) **Sector**

22½<sup>0</sup> division of the Emergency Planning Zones (EPZs). The sector (N) is bisected by a line from the Salem and Hope Creek Generating Stations directly north.

**(40) Technical Support Center (TSC)**

This emergency response facility provides a location outside of the Control Room area, where technical support of operations, accident assessment, and initial augmentation of emergency plan implementation may be conducted.

**(41) Utility**

PSEG Nuclear LLC, the operator of Salem and Hope Creek Generating Stations.

**(42) Total Effective Dose Equivalent (TEDE)**

Term used in conjunction with 10CFR20 and EPA 400 summarizing total dose to the individual which includes exposure from all sources both internal and external to the body.

**5.0 State Government Emergency Planning for Contiguous Jurisdictions**

**5.1 Principal Government Jurisdiction in the EPZs**

The States of Delaware and New Jersey are the principal offsite authorities for emergency planning and response for both EPZs. This plan outlines the activities of the states and their response capabilities and includes the agreement between the utility and the states but does not include the states' plans. A list of all supporting emergency plans is provided as Table 1-2.

**5.2 Secondary Government Jurisdictions in the EPZs**

The secondary jurisdictions in the EPZs include the affected counties within New Jersey and Delaware and the contiguous States of Pennsylvania and Maryland. These governmental entities have agreements with the States of New Jersey or Delaware. The arrangements are outlined in this plan but are not included as part of this plan since they are a part of the appropriate state's plan.

## 6.0 Integrated Guidance and Criteria

NRC and FEMA have consolidated the guidance intended for use by the licensees, state and local governments in NUREG-0654 FEMA-REP-1, Rev. 1. Should an accident occur, the public can be best protected when the response by all parties is fully integrated. Each party involved must have a clear understanding of what the overall level of preparedness must be and what role it will play in the event of an accident. This understanding can be best achieved if there is an integrated development and evaluation of plans. There must also be an acceptance by the parties and a clear recognition of the responsibility they share for safeguarding public health and safety. This plan has been developed to meet these goals.

Although NUREG-0654 indicates that the criteria are applicable to one or more specific organizations, the intention throughout NUREG-0654 is to provide for an adequate state of emergency preparedness around the facility. To meet this intent this plan has been developed to complement the emergency plans of the States of New Jersey and Delaware.

## 7.0 Technical Assistance

The planning for response to the offsite consequences of an accident at Artificial Island and implementation of protective actions resulting from that accident are the responsibility of the States. This plan provides for cooperation with and assistance to the States of New Jersey and Delaware.

## 8.0 Emergency Response Organization (ERO)

PSEG Nuclear LLC has established an organization to respond to emergencies at Salem and Hope Creek Generating Stations. This organization consists of PSEG Nuclear response personnel. These response organizations and their method of notification, resources, initiation and limitations are detailed in the appropriate sections of this plan.

## 9.0 Form and Content of Plans

This plan has been written following the outline of NUREG-0654 (November 1980) to minimize the need for cross referencing and to aid the review process.

## 10.0 Emergency Plan Implementing Procedures

Emergency plan implementing procedures provide directions for implementation of the Emergency Plan. Each Table of Contents to the procedure volumes is considered the controlled listing of procedures and revisions. Emergency Plan Procedures, including Salem and Hope Creek Event Classification and Notification Procedures, are also listed in the Emergency Plan attachment volume.

**TABLE 1-1**

**LIST OF EMERGENCY RESPONSE PLANNING AREAS AND TOWNS WITHIN 10 MILES  
 OF HOPE CREEK AND SALEM GENERATING STATIONS AND ERPA POPULATIONS**

<b>DELAWARE TOWNS</b>	<b>DISTANCE FROM SITE (miles)</b>	<b>NEW JERSEY TOWNS</b>	<b>DISTANCE FROM SITE (miles)</b>
Bay View Beach	3.4 (WNW)	LAC Township	0.0 (E)
Delaware City	7.5 (WNW)	Quinton Township	8.5 (NE)
Middletown	9.5 (W)	Salem	8.0 (NNE)
Odessa	6.2 (W)		
Port Penn	4.2 (NNW)		
St. Georges	9.5 (WSW)		
Townsend	9.5 (WSW)		
Woodland Beach	9.7 (SSE)		

**DELAWARE**

<b>ERPA</b>	<b>POPULATION</b>
A	5142
B	8562
C	11272
D (River)	0
<b>DE TOTAL</b>	<b>24976</b>

**NEW JERSEY**

<b>ERPA</b>	<b>POPULATION</b>
1	836
2	3008
3	6847
4	346
5	630
6	703
7	610
8 (River)	0
<b>NJ TOTAL</b>	<b>12980</b>
<b>DELAWARE &amp; NEW JERSEY TOTAL</b>	<b>37956</b>

**TABLE 1-2**

**OFFSITE EMERGENCY PLANS SUPPORTING PSEG NUCLEAR EMERGENCY PLAN**

<b><u>Plan</u></b>	<b><u>Responsible Agency</u></b>
	<b><u>Plume Exposure Pathway</u></b>
New Jersey Radiological Emergency Response Plan	Office of Emergency Management, New Jersey State Police
Salem County Radiological Emergency Response Plan	Salem County Office of Emergency Management
Elsinboro Township Radiological Emergency Response Plan	Elsinboro Township Office of Emergency Management
Lower Alloways Creek Township Radiological Emergency Response Plan	Lower Alloways Creek Office of Emergency Management
Mannington Township Radiological Emergency Response Plan	Mannington Township Office of Emergency Management
Pennsville Township Radiological Emergency Response Plan	Pennsville Township Office of Emergency Management
Quinton Township Radiological Response Plan	Quinton Township Office of Emergency Management
Salem City Radiological Emergency Response Plan	Salem City Office of Emergency Management
Cumberland County Radiological Emergency Response Plan	Cumberland County Office of Emergency Management
Greenwich Township Radiological Emergency Response Plan	Greenwich Township Office of Emergency Management

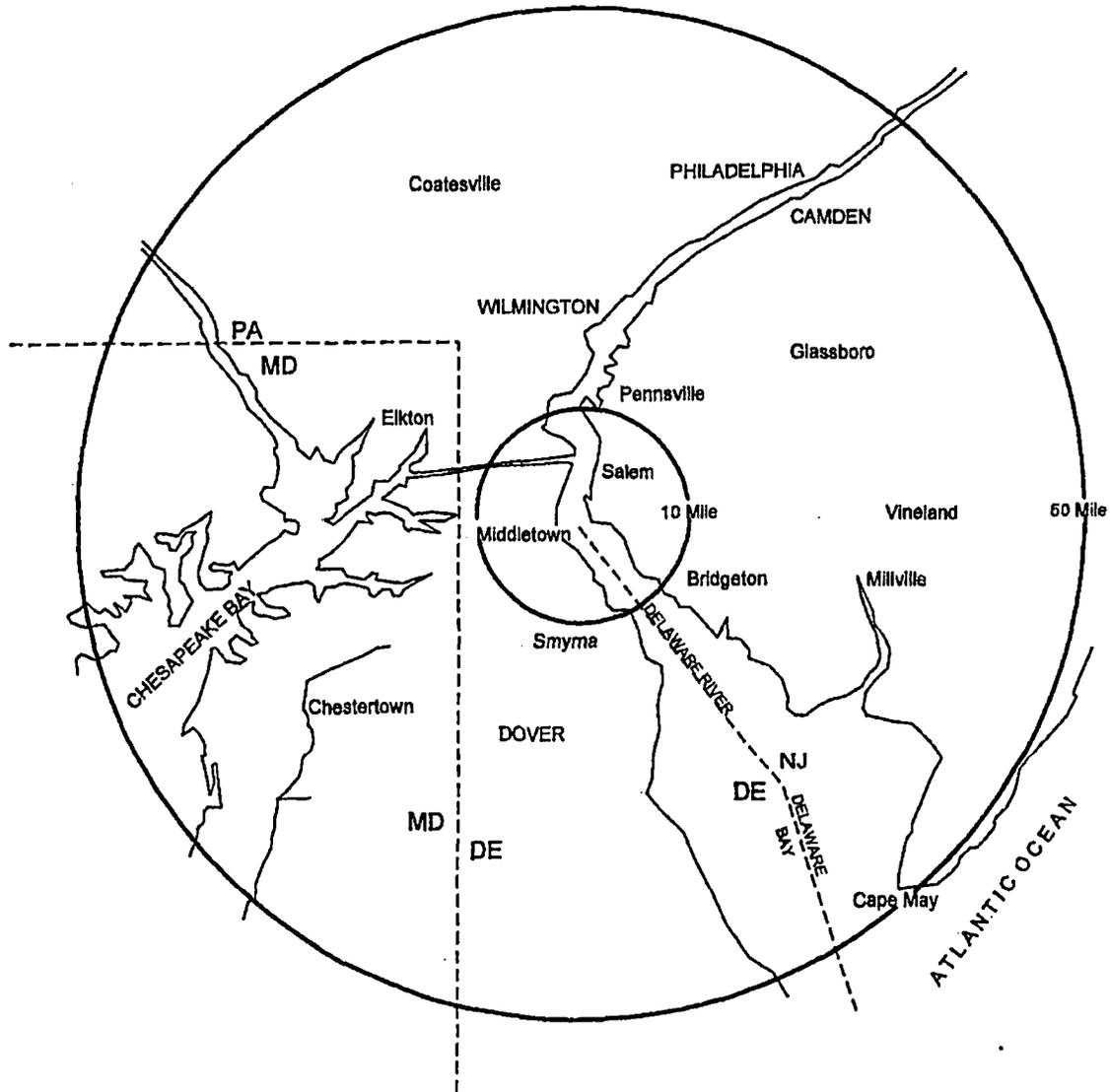
**TABLE 1-2 (cont)**

**OFFSITE EMERGENCY PLANS SUPPORTING PSEG NUCLEAR EMERGENCY PLAN**

<b><u>Plan</u></b>	<b><u>Responsible Agency</u></b>
<b><u>Plume Exposure Pathway</u></b>	
Stow Creek Township Radiological - Emergency Response Plan	Stow Creek Township Office of Emergency Management
Delaware Radiological Plan	Delaware Emergency Management Agency
New Castle County Radiological Emergency Plan	New Castle County Department of Public Safety
Kent County Radiological Emergency Plan	Kent County Emergency Planning and Operations
<b><u>Ingestion Pathway</u></b>	
Maryland Disaster Assistance Plan, Annex O, Radiological Emergency Response Plan	Maryland Civil Defense & Disaster Preparedness Agency
Pennsylvania Disaster Operations Plan, Annex E, Fixed Nuclear Facility Incidents	Pennsylvania Emergency Management Agency

**FIGURE 1-1**

**10 AND 50 MILE RADII FROM SALEM AND HOPE CREEK GENERATING STATIONS**



## SECTION 2

### ASSIGNMENT OF RESPONSIBILITY

#### 1.0 PSEG Nuclear LLC

#### 1.1 Internal Responsibility

PSEG Nuclear LLC, operator of Salem and Hope Creek Generating Stations, has the primary responsibility for planning and implementing emergency measures within the site boundary. In addition to accident mitigation, this responsibility includes accident assessment and the evaluation of any real or potential risk to the public health and safety. Based upon this evaluation, appropriate offsite agencies are promptly notified of the Protective Action Recommendations (PAR) for the affected population areas.

The Emergency Preparedness Manager (EP Manager) is the individual who is responsible for maintaining emergency preparedness for PSEG Nuclear LLC. The EP Manager reports to the Director – Regulatory Assurance, who reports to the Senior Vice President and Chief Nuclear Officer. Organization charts showing reporting relationships for emergency preparedness within both the corporate structure and PSEG Nuclear LLC are presented in Figures 2-1 and 2-2.

Throughout the duration of an emergency, accident mitigation is the responsibility of the Shift Manager (SM). The Technical Support Center (TSC) staff under the direction of the Emergency Duty Officer (EDO) supplies support. Protective Action Recommendations are made from the TSC following its activation. Additional support is available from the Emergency Operations Facility (EOF), which is staffed and may be activated for Alerts and always activate at a Site Area Emergency. Protective Action Recommendations are made from the EOF following its activation.

The Emergency Response Organization at each level of response is described in Section 3. Each emergency manager/supervisor is responsible for maintaining and ensuring the continuity of personnel and resources.

#### 1.2 External Agreements

PSEG Nuclear has entered into agreements with the appropriate emergency response organizations which would provide onsite and offsite support in the event of an emergency at Hope Creek or Salem Generating Stations. These agreements are provided in the Emergency Plan Attachment, Attachment 2. Figures 2-3 and 2-4 show how these organizations interface with PSEG Nuclear. Figure 2-5 show how these organizations interface for protective action decision making.

## 2.0 Principal Government Jurisdictions in the EPZs

### 2.1 The State of Delaware

The Delaware Emergency Management Agency (DEMA), Department of Public Safety, has developed the Delaware Radiological Emergency Preparedness (REP) Plan and serves as the lead agency for coordinating state emergency actions as authorized in the Delaware Code Annotated Title 20, Chapter 31.

The Delaware Department of Natural Resources and Environmental Control (DNREC), as authorized by the Delaware Code Annotated Title 7, Chapter 60 is responsible for protecting the environment to include participation in accident assessment, mitigation and recovery efforts in the event of a radiological incident.

The Delaware Department of Health and Social Services (DHSS), as authorized by the Delaware Code Annotated, Title 16, Chapter 1, has the overall responsibility for protecting health and safety of the general public to include accident assessment, social services mitigation and recovery efforts in the event of radiological incident.

The Delaware Department of Agriculture (DDA), as authorized by the Delaware Code Annotated Title 29, Chapter 81, is responsible for protection of agriculture in the interest of health and safety of the public.

The Accident Assessment Advisory Group (TAC) develops Delaware's accident assessment and protective action response. The TAC comprises members of the DNREC, DHSS with the Deputy Director of the Division of Public Health (DPH) and Division of Water Resources (DWR) Senior Science Advisor serving as the Co-Chairperson of the TAC. Protective Action Recommendations are developed and provided to the DEMA Director, by the TAC Chairperson.

The resources and response organization of the State of Delaware are described in the Delaware Radiological Emergency Plan. The response organization for the State of Delaware is provided as Figure 2-6. The development of protective actions is performed as outlined in Figure 2 - 5 and discussed in detail in Sections 10 and 11 of this plan.

### 2.2 The State of New Jersey

The Office of Emergency Management (OEM) of New Jersey State Police (NJSP) is granted the authority to assist in supervising and coordinating the emergency response activities of the state government and of all of the political subdivisions as outlined in the New Jersey Civil Defense Act of 1942, Chapter 251, as amended.

The New Jersey Department of Environmental Protection (DEP) is empowered by NJ Radiation Accident Response Act (N.J.S.A. 26:2D-37 et.seq.), to take/recommend radiological protective actions as necessary to protect the public health or welfare.

The Superintendent of NJSP is the agency head that acts as New Jersey's emergency coordinator responsible for directing and/or coordinating all emergency response by New Jersey state agencies. The response organization for the State of New Jersey is provided as Figure 2-7.

The New Jersey Department of Environmental Protection is the lead agency for New Jersey's assessment of radiological emergencies. The Commissioner of the DEP is the agency head responsible for the response of that organization. The actions taken by DEP are coordinated through and parallel with the actions of the NJSP.

The resources and response organizations of the State of New Jersey are described in the New Jersey Radiological Emergency Response Plan. The development of protective actions is performed as outlined in Figure 2-5 and is discussed in detail in Sections 10 and 11.

### 2.2.1 Local Governments

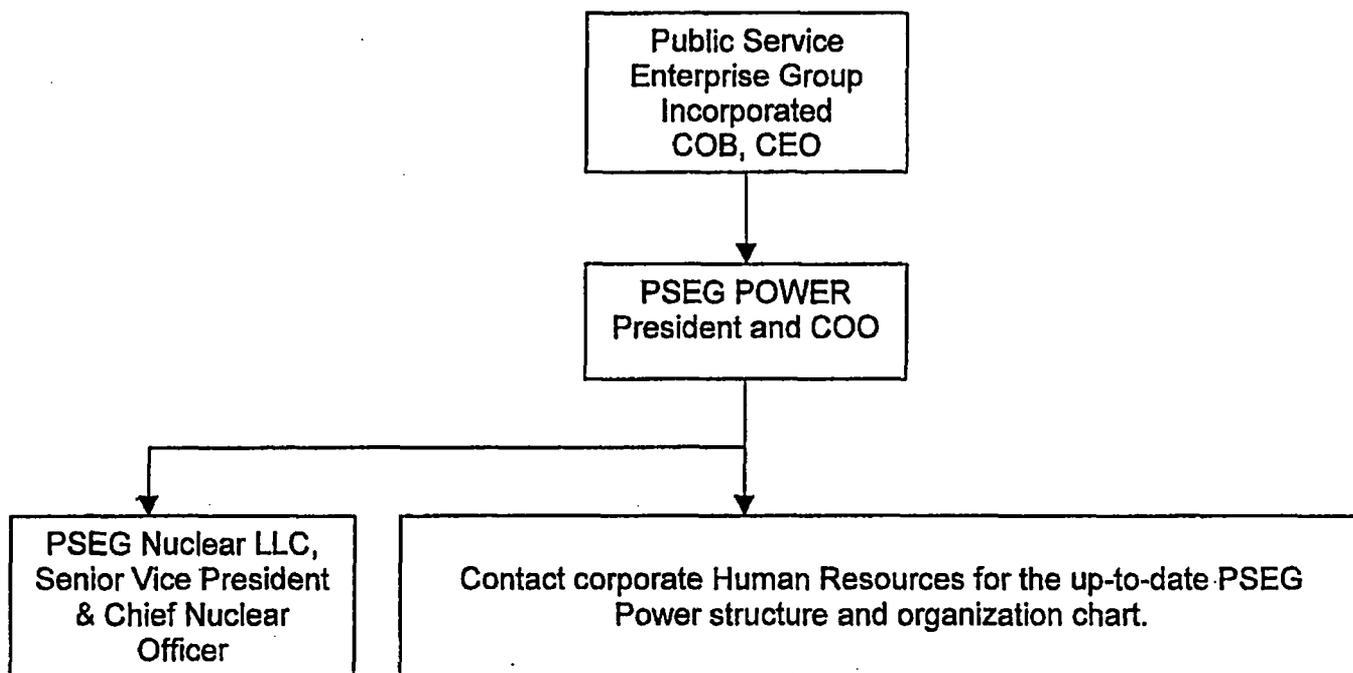
The County Emergency Management Coordinators for Salem and Cumberland Counties in New Jersey and the County Emergency Preparedness Coordinators for New Castle and Kent Counties in Delaware are the local government representatives who act as the county emergency coordinators. The response organizations for the counties are provided in Figures 2-8 through 2-11.

### 3.0 Contiguous (Ingestion Pathway) States

The States of Pennsylvania and Maryland are contiguous (Ingestion pathway) states. The ingestion exposure pathway planning area is shown in Emergency Plan Section 1, Figure 1-1. The State of New Jersey has taken the primary responsibility for notification and communications with the contiguous (ingestion pathway) States of Pennsylvania and Maryland.

The Memoranda of Understanding between the State of New Jersey and the States of Pennsylvania and Maryland are available for review and located in the Emergency Plan attachment volume. Should the accident cause conditions offsite that justify monitoring of the ingestion pathway, the utility's emergency coordinator function verifies with the States of New Jersey and Delaware that the ingestion pathway is being monitored. Additionally, the individual acting in the emergency coordinator function verifies with the State of New Jersey that the States of Pennsylvania and Maryland have been notified. The State of Delaware also has agreements in force with the States of Maryland and Pennsylvania regarding emergency notifications. The criteria for recommending ingestion pathway monitoring is that radionuclide concentrations in excess of 10CFR20 Appendix B limits could potentially exist or are verified to exist offsite.

**FIGURE 2-1  
PSEG CORPORATE ORGANIZATION**



**FIGURE 2-2  
PSEG NUCLEAR ORGANIZATION**

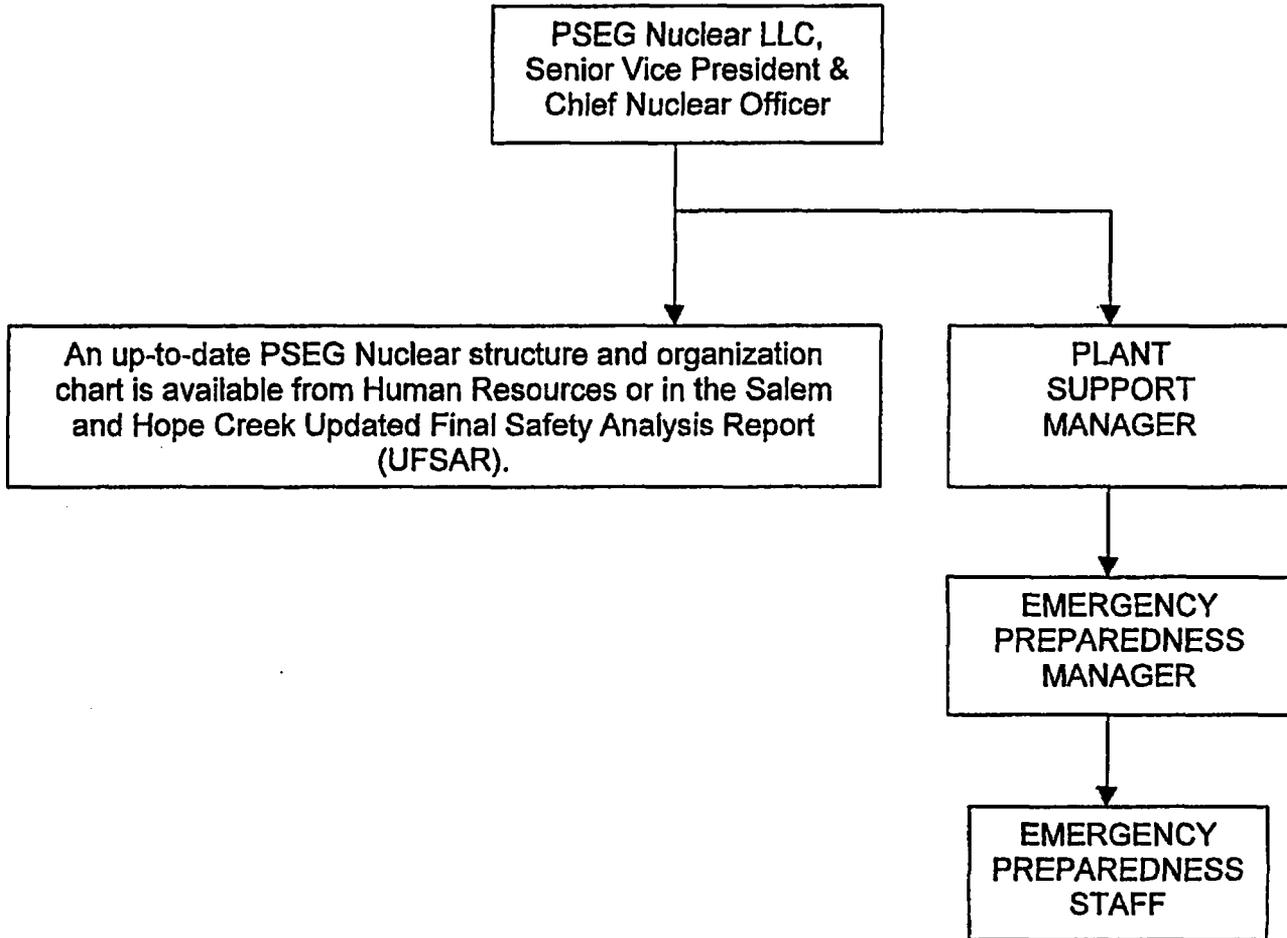
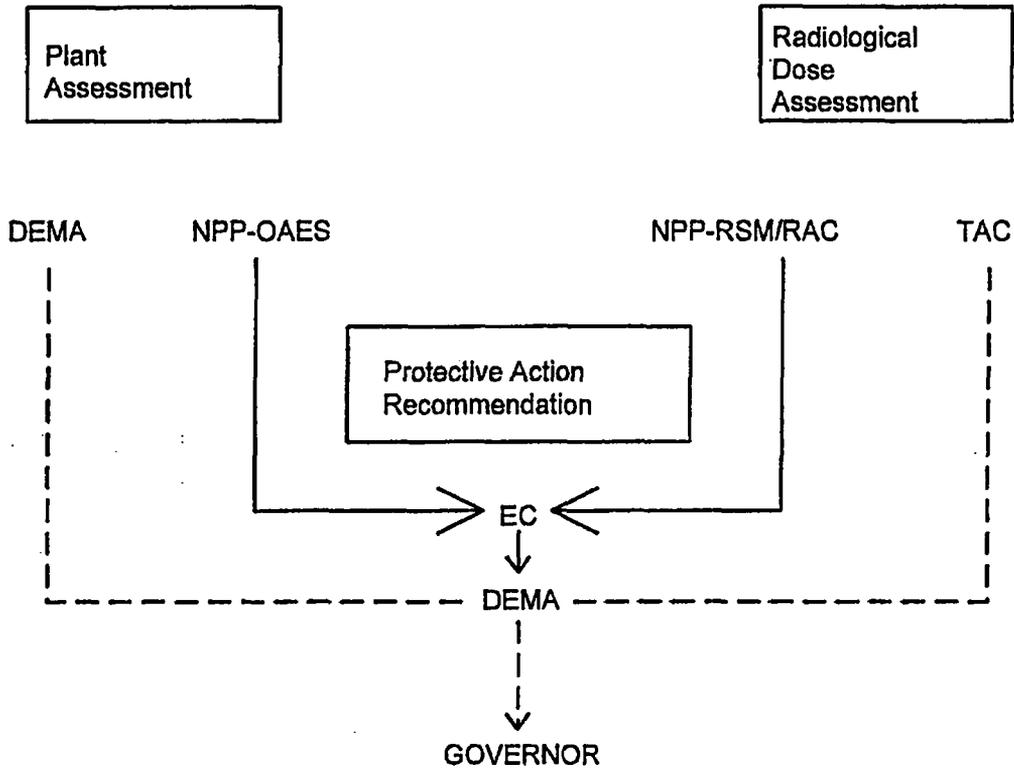


FIGURE 2-3  
 DELAWARE STATE INTERFACE

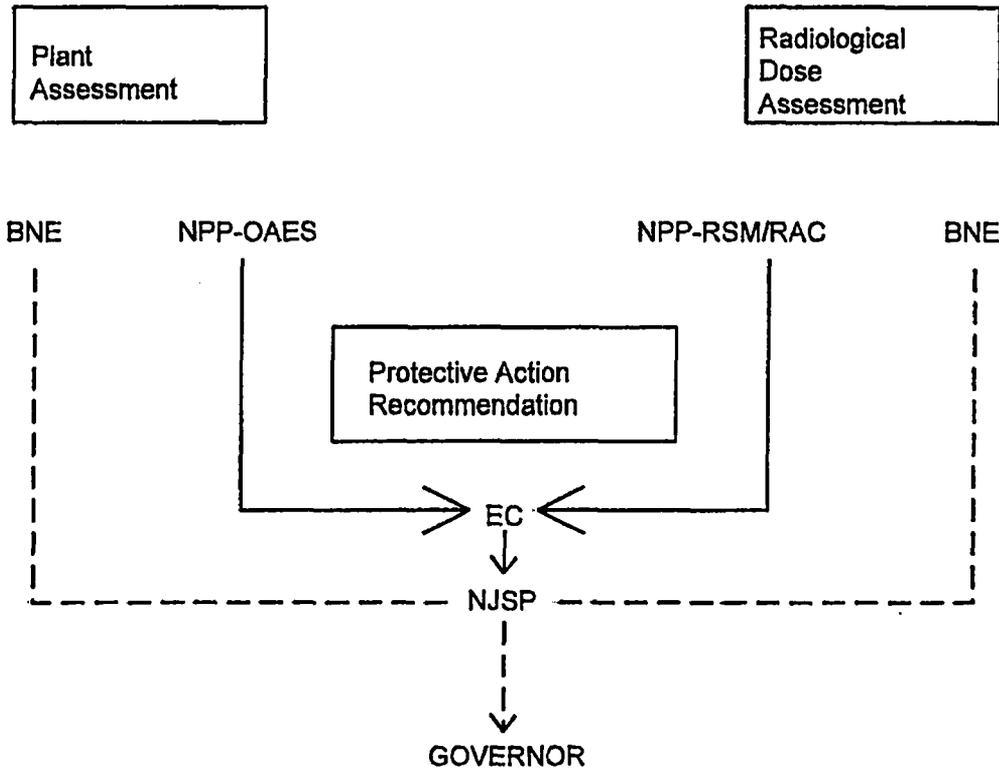


Key to Abbreviations/Symbols

----- state communication  
 \_\_\_\_\_ utility communication

- EC Emergency Coordinator (Shift Manager, Emergency Duty Officer, Emergency Response Manager)
- NPP Nuclear Power Plant (Fixed Nuclear Facility)
- RAC Radiological Assessment Coordinator
- RSM Radiological Support Manager
- OAES Operations Assessment and Engineering Staff
- TAC TECHNICAL ASSESSMENT CENTER, State of Delaware
- DEMA Delaware Emergency Management Agency, State of Delaware

FIGURE 2-4  
NEW JERSEY STATE INTERFACE

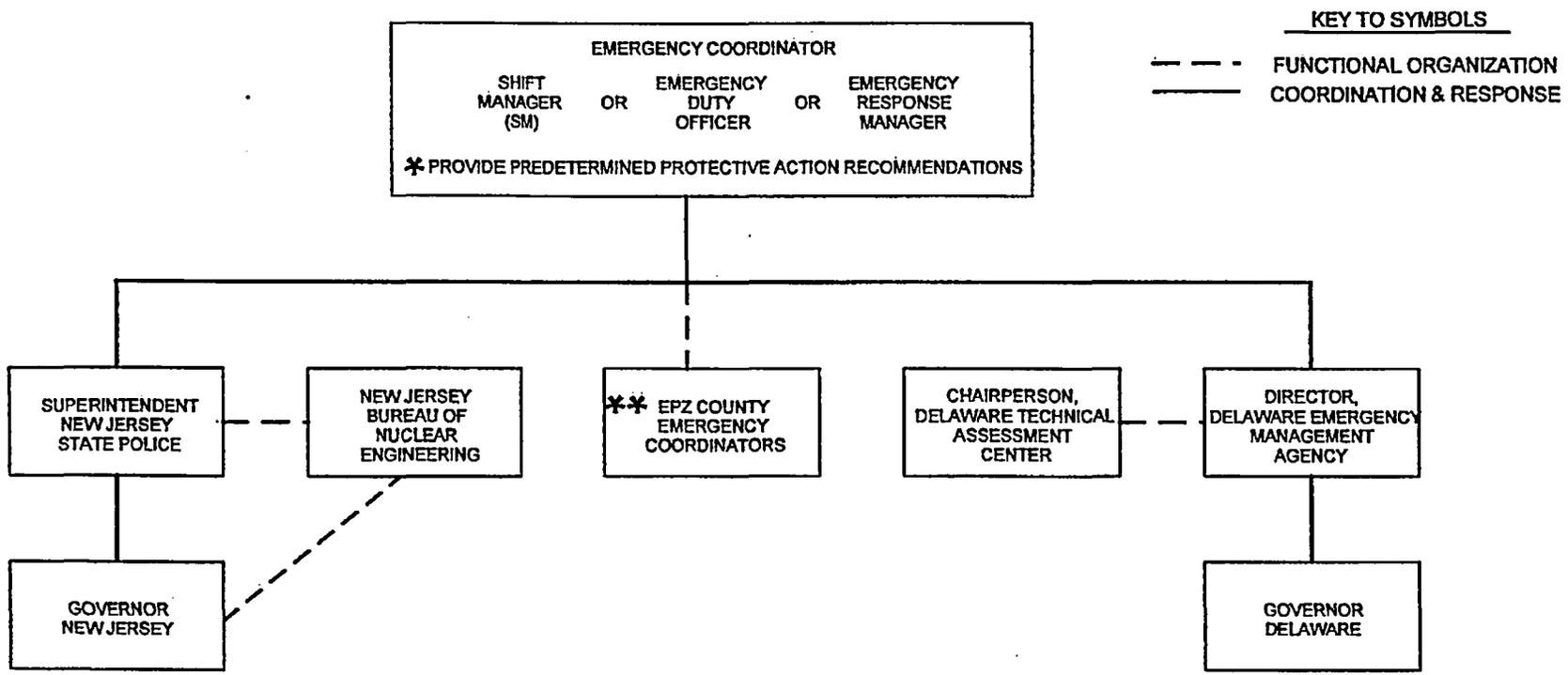


Key to Abbreviations/Symbols

----- state communication  
———— utility communication

- EC Emergency Coordinator (Shift Manager, Emergency Duty Officer, Emergency Response Manager)
- NPP Nuclear Power Plant (Fixed Nuclear Facility)
- RAC Radiological Assessment Coordinator
- RSM Radiological Support Manager
- OAES Operations Assessment and Engineering Staff
- BNE New Jersey Bureau of Nuclear Engineering, Department of Environmental Protection
- NJSP New Jersey State Police

FIGURE 2-5  
 DECISION CHAIN  
 PROTECTIVE ACTIONS  
 FOR  
 EVENTS CLASSIFIED AS GENERAL EMERGENCY



PSEG NUCLEAR LLC - EP

2.8

Rev.16

\* PREDETERMINED PROTECTIVE ACTION RECOMMENDATIONS ARE DEVELOPED IN ACCORDANCE WITH IE INFORMATION NOTICE 83-28 AND NUREG - 0854, REV. 1. RELEASE ASSESSMENT WILL THEN BE PERFORMED TO ENSURE APPROPRIATE PROTECTIVE ACTIONS HAVE BEEN DEVELOPED.

\*\* COUNTY EMERGENCY COORDINATORS ARE SHOWN HERE BECAUSE THEY ARE NOTIFIED DIRECTLY IF THE STATE(S) CANNOT BE CONTACTED AT A GENERAL EMERGENCY.

FIGURE 2-6  
 STATE OF DELAWARE  
 RADIOLOGICAL EMERGENCY RESPONSE  
 STATE ORGANIZATION

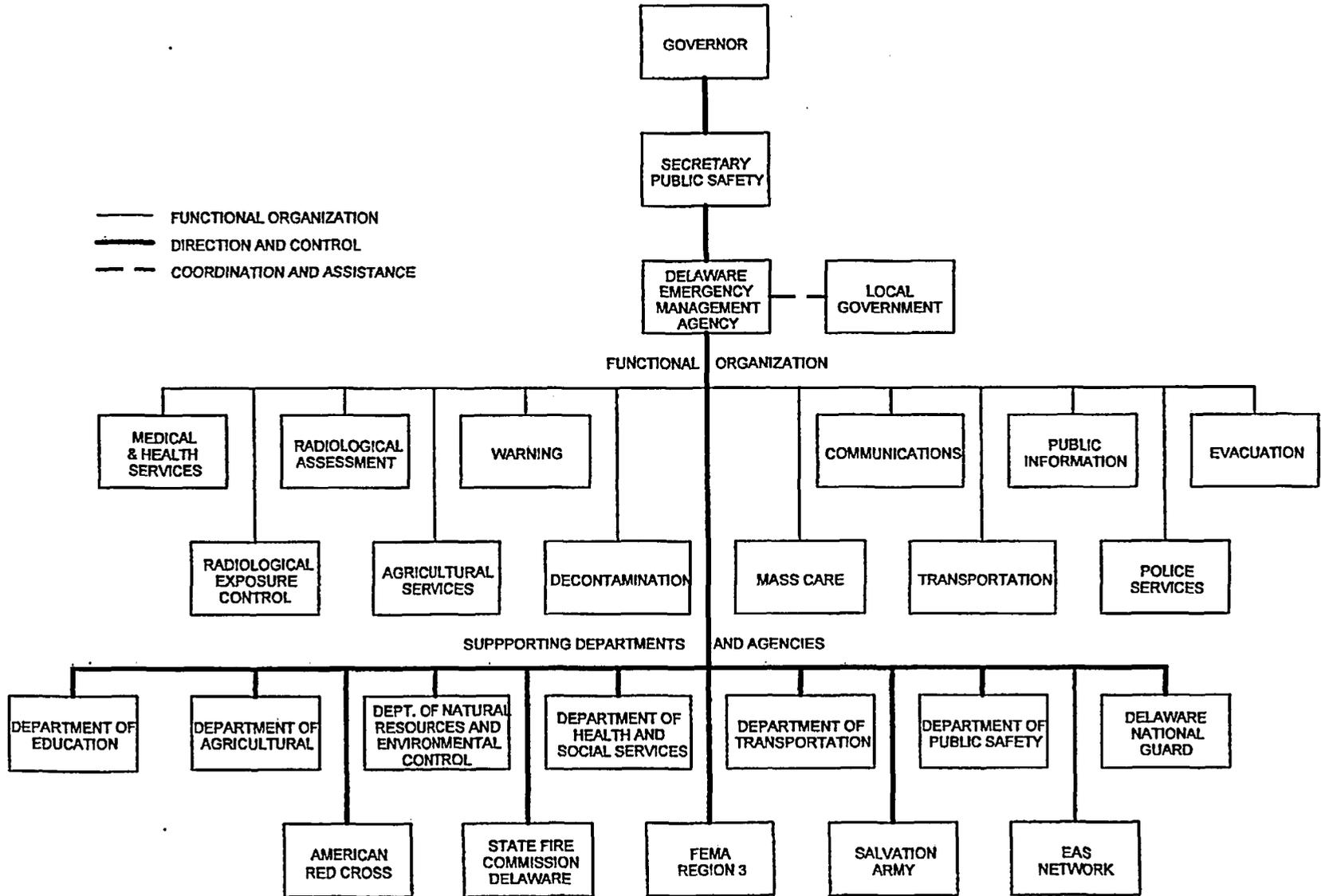


FIGURE 2-7  
STATE OF NEW JERSEY  
RADIOLOGICAL EMERGENCY RESPONSE  
STATE ORGANIZATION

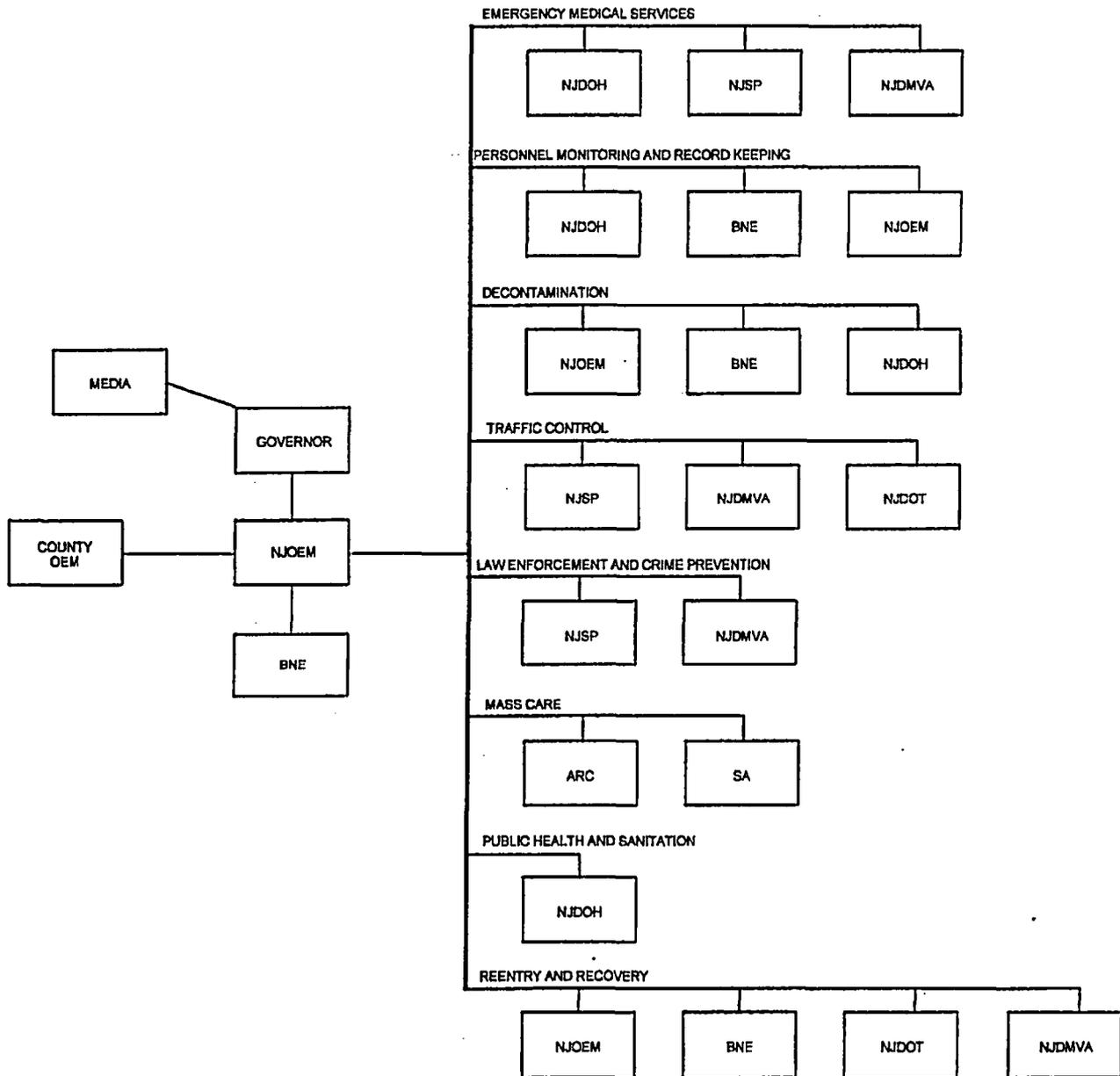


FIGURE 2-8  
 SALEM COUNTY  
 COUNTY EMERGENCY ORGANIZATION

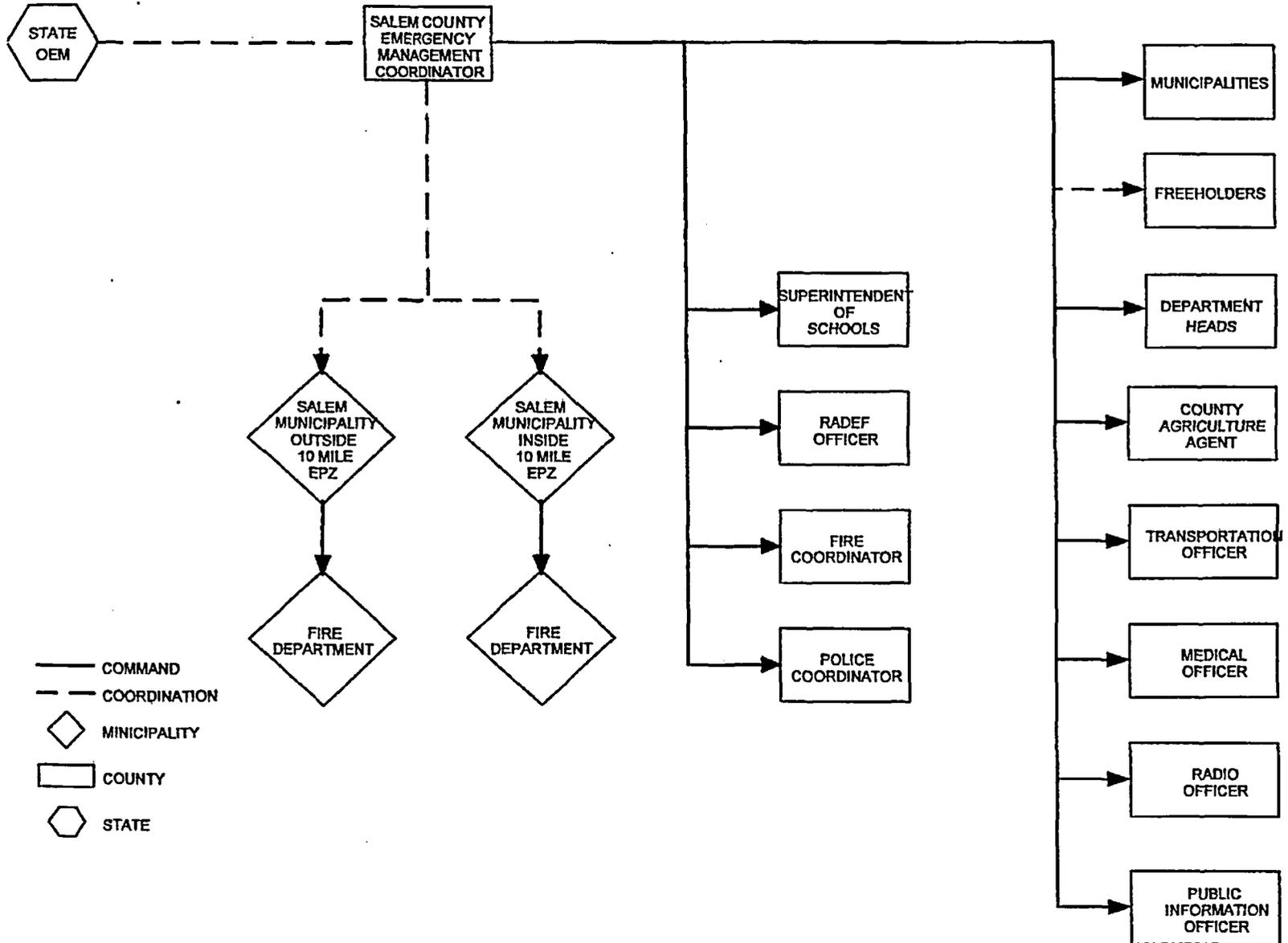
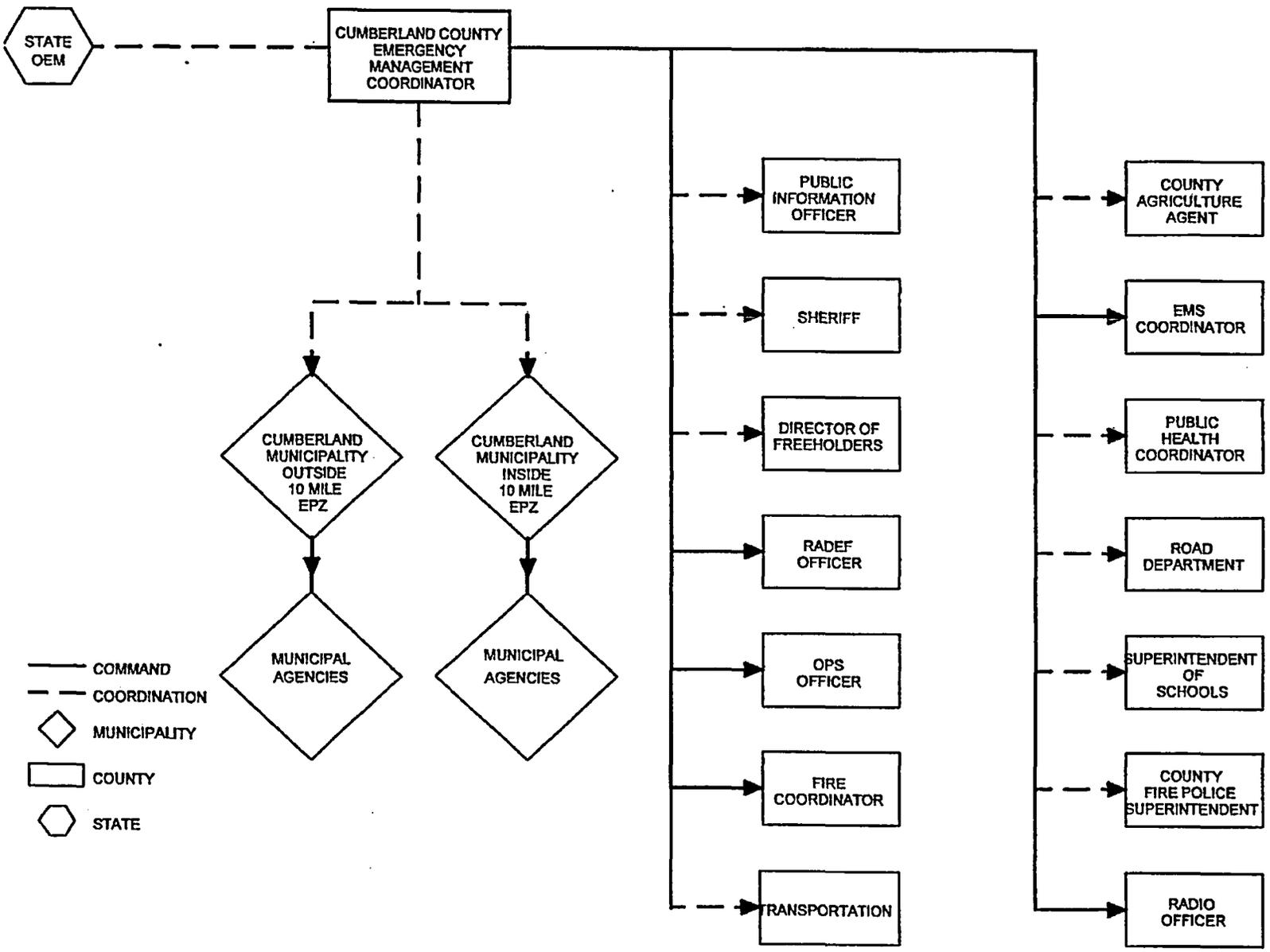
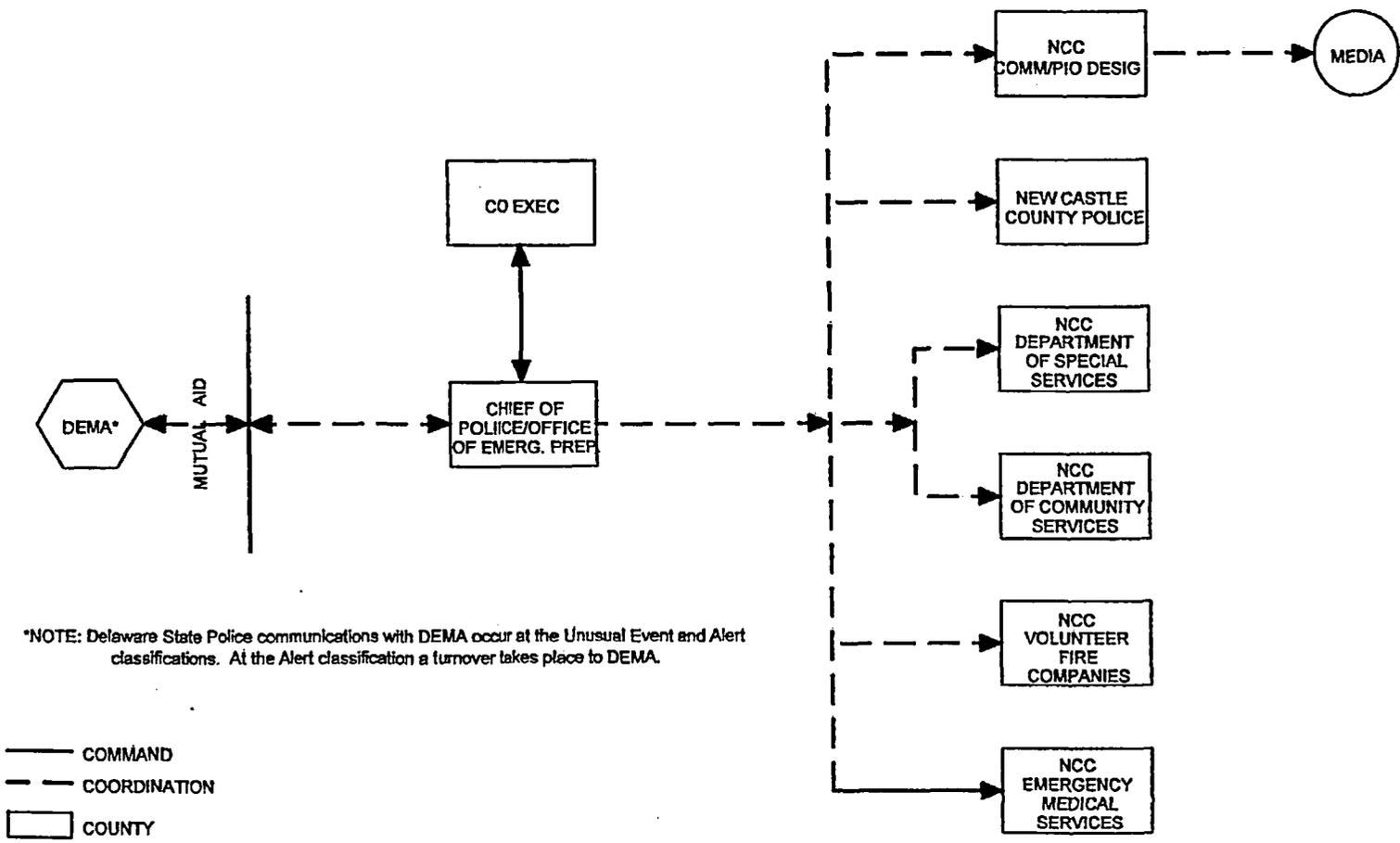


FIGURE 2-9  
 CUMBERLAND COUNTY  
 COUNTY EMERGENCY ORGANIZATION



— COMMAND  
 - - - COORDINATION  
 ◆ MUNICIPALITY  
 □ COUNTY  
 ⬡ STATE

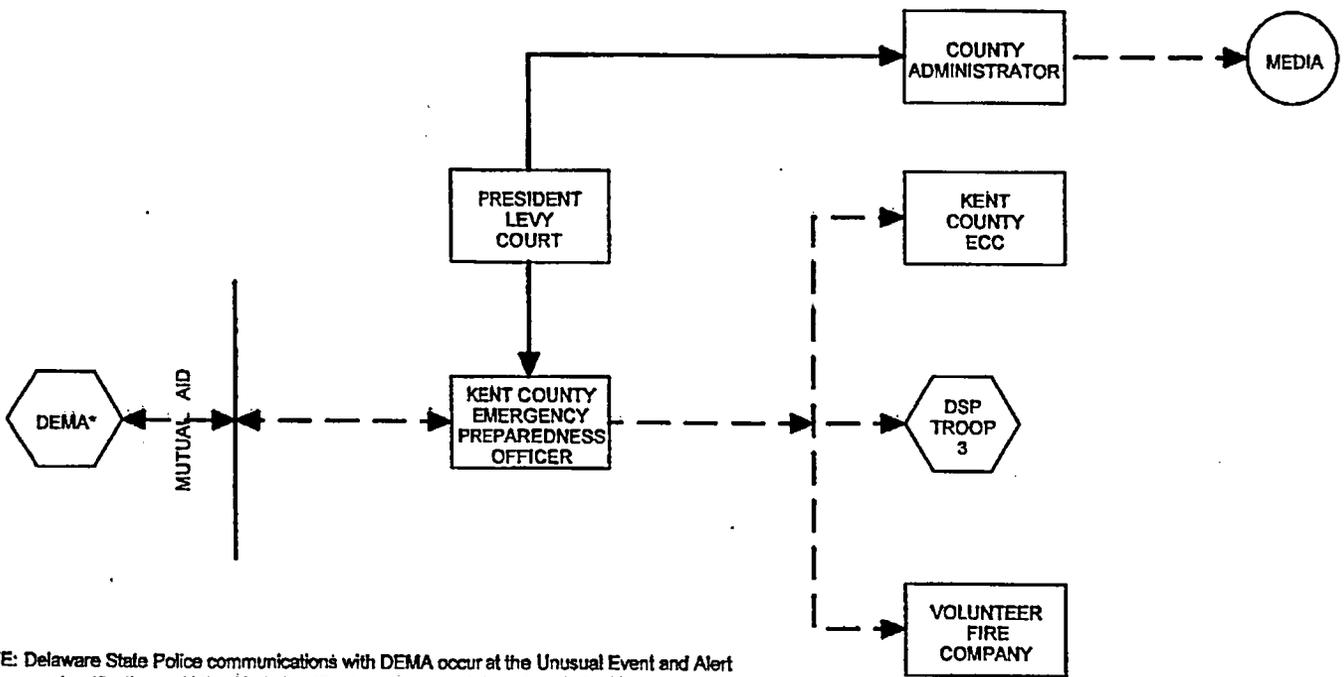
FIGURE 2-10  
 NEW CASTLE COUNTY (NCC)  
 COUNTY EMERGENCY ORGANIZATION



\*NOTE: Delaware State Police communications with DEMA occur at the Unusual Event and Alert classifications. At the Alert classification a turnover takes place to DEMA.

- COMMAND
- - - COORDINATION
- COUNTY
- ⬡ STATE
- PRIVATE

FIGURE 2-11  
 KENT COUNTY  
 COUNTY EMERGENCY ORGANIZATION



\*NOTE: Delaware State Police communications with DEMA occur at the Unusual Event and Alert classifications. At the Alert classification a turnover takes place to DEMA.

- COMMAND
- - - COORDINATION
- COUNTY
- ⬡ STATE
- PRIVATE

## SECTION 3

### EMERGENCY ORGANIZATION

#### 1.0 Normal Management Organization

PSEG Nuclear LLC is part of an investor-owned, public utility, PSEG, franchised by the State of New Jersey. Its primary purpose is to provide safe, adequate and reliable electric and gas service to its customers at reasonable rates. Management structure and reporting responsibilities for PSEG Nuclear LLC are delineated in organizational charts (figures 2-1 & 2-2). The Emergency Preparedness Manager has been delegated the authority for developing, implementing, and maintaining a comprehensive program for emergency preparedness. The emergency preparedness program is designed to protect the health and safety of the public and onsite personnel during a nuclear plant accident while interfacing with federal, state and local agencies, and to coordinate the development of offsite and onsite plans.

#### 2.0 Normal Shift Organization

#### 2.1 Operations

The Shift Manager (SM) is normally the senior shift member of the station organization. The SM has the primary management responsibility for safe operation of the station during the shift. The SM maintains an overview of the unit's condition, makes decisions, and directs operations by giving specific directions and responsibilities to the shift personnel. The SM holds a Senior Reactor Operator's License and meets or exceeds the qualifications required by the Facility Technical Specifications.

The Control Room Supervisor (CRS) is an extension of the authority and responsibility of the SM. The CRS maintains an overview of the unit's status and condition. In the areas of operation to which he/she is assigned, the CRS is given the authority and responsibility to make decisions and direct operations by giving specific direction and responsibility to the shift personnel. All operations personnel are subject to the orders, directions and instructions of the CRS as though he/she were the SM.

The CRS coordinates the activities of the shift personnel with the SM to avoid conflicts and to ensure that all operations are performed according to the orders, directions, and instructions of the SM. The CRS holds a Senior Reactor Operator's License and meets or exceeds the qualifications required by Facility Technical Specifications. In the event that the SM is unable to complete a shift, the CRS fills these positions until that position can be recalled from offsite.

Reactor/Plant Operators are assigned to the Control Room in accordance with the requirements of the Facility Technical Specifications. They are responsible for manipulating controls for startup, changing electrical output and reactor power, and plant shutdown, as required. Reactor and Plant Operators take directions from the SM and CRS.

The Equipment Operators perform duties outside the main control room necessary for safe continuous operation of the plant. Their duties include maintaining equipment logs, initiating actions to maintain assigned equipment in a safe condition, and operating auxiliary equipment as necessary to support plant operations. The Equipment Operators take directions from the Licensed Reactor/Plant Operators or CRS.

## 2.2 Fire Department and First Aid Team

The on-shift fire department is maintained in accordance with Technical Specifications and is staffed by full-time fire protection operators and fire fighters who have received fire-fighting and first-aid training. The fire department's staff reports to the Duty Nuclear Fire Protection Supervisor for normal assignments and directions but receives on-shift direction from the Shift Manager concerning priority response. The First Aid Team is a collateral duty of the Fire Department. The First Aid Team is staffed by personnel who are qualified Emergency Medical Technicians (EMT's) in the state of New Jersey.

## 2.3 Maintenance

The Shift Controls Technician Electrical are the members of the Maintenance Department who are available to perform surveillance and preventive and corrective maintenance on electrical distribution equipment. This position reports to the Maintenance Department for normal assignments and supervision and receives on-shift direction from the shift maintenance supervisor in coordination with the SM concerning priority repairs to support plant operations.

Maintenance on valves, pumps and other mechanical components is the responsibility of the Maintenance Department Nuclear Technician - Mechanical. These individuals are not included as part of a shift's normal staffing complement but are available, as needed, to support the required repairs. The Scheduled Controls Technician I&C are the members of the Maintenance Department who are responsible for preventive and corrective maintenance on any instrumentation and controls. This position reports to the Maintenance Department for normal assignments and supervision but receives on-shift direction from the shift maintenance supervisor in coordination with the SM concerning priority repairs to support plant operations.

#### 2.4 Technical

The Technical Engineers with specialties in controls, electrical, mechanical, and core thermal engineering, who are assigned to the Technical Support Team, are members of the Technical Department. The PSEG Nuclear, LLC plant technical support provides primary system engineering support during normal operations.

#### 2.5 Security Organization

The on-duty Nuclear Security Supervisor and the Security Force are responsible for station security. These persons are assigned in accordance with the Station Security Plan and report to the Emergency Services Manager for normal assignments and directions, but receive on-shift direction from the SM, concerning special access control requirements or accountability.

#### 2.6 Radiation Protection/Chemistry Organization

The Salem and Hope Creek Generating Stations back-shift Radiation Protection/Chemistry Organization consists of one Shift Radiation Protection Technician (SRPT) and one Onshift Radiation Protection Technician (ORPT), who is directed by the SRPT, and one Chemistry Technician.

When Radiation Protection Supervision is not present, the SRPT, ORPT, and any Radiation Protection Technicians (RPTs), who may be on shift, report to the SM. Radiation Protection personnel on the back-shift are normally responsible for conducting routine and special surveys, operating counting room instrumentation, maintaining access control at the Control Points, writing Radiation Work Permits, and providing job coverage as required.

The Chemistry Technicians are the members of the Station Chemistry Department who are responsible for performing reactor coolant chemistry sampling and analysis. This position reports to the Chemistry Department for normal assignments and supervision, but receives on-shift direction from the SM concerning sampling required to support station operations.

During an Emergency, Chemistry Supervisors and technicians report to the SM, until the TSC is activated. The Chemistry Supervisor(s) and technicians report to the Radiological Assessment Coordinator (RAC), upon activation of the TSC.

### 3.0 Emergency Organization Functional Description

The emergency organization is explained by functional areas in this section and in Figures 3-1 thru 3-4. Figures 3-1 and 3-2 indicate onsite staffing for both stations. Only the Operations Support Center (OSC) and Technical Support Center (TSC) staff for the affected station will be activated initially. Detailed job descriptions for each box shown in the figures are provided in Part 9.0 of this section.

### 4.0 Emergency Direction and Control

The individual functioning in the position of Emergency Coordinator (EC) has overall responsibility to direct and control the emergency response. The function of EC passes from the SM to the Emergency Duty Officer (EDO) and to the Emergency Response Manager (ERM) as the emergency response organization is augmented. Responsibilities and duties of these three emergency response positions, (SM, EDO, ERM) are outlined in paragraph 9.0 of this section. The individual fulfilling the function of EC has the responsibilities listed below which are non-delegable:

- Provide direction, control and coordination of PSEG NUCLEAR LLC's emergency response.
- Authorize the expenditure of company funds and commit corporate resources as necessary to implement emergency procedures and/or to mitigate the accident.
- Classify emergencies in accordance with the Salem or Hope Creek Event Classification Guides.
- Make decisions to notify and recommend protective actions to offsite agencies.

#### 4.1 On-Shift and Initial Augment

The SM has the emergency coordinator function initially and provides emergency direction and control (unless relieved by an EDO-qualified member of Station Management). The SM has the authority and responsibility to immediately and unilaterally initiate any emergency actions. The CRS takes operational control of the unit while the SM is fulfilling the emergency coordinator function.

The Nuclear Shift Technical Advisor (NSTA) provides an independent engineering assessment of plant conditions and advises the SM of potential problems recognized as a result of the assessment (The NSTA and the CRS or SM may be the same individual at Hope Creek).

#### 4.2 Short-Term Augment

Following assumption of the emergency coordinator function (from the SM) by an EDO, the EDO has the authority and responsibility to immediately and unilaterally initiate any emergency actions. The SM then takes control of the unit and is responsible for issuing all orders concerning operations that require direction by a senior reactor operator licensed individual. The CRS assists the SM. The NSTA provides an engineering assessment of plant conditions.

#### 4.3 Long-Term Augment

Following the assumption of the emergency coordinator function (from the EDO) by the Emergency Response Manager (ERM), the ERM has the authority and responsibility to immediately and unilaterally initiate emergency actions. The Site Support Manager (SSM) is responsible for assessing and advising plant-related protective action recommendations to the ERM. The SSM receives plant condition information from the Technical Support Supervisor (TSS) located in the TSC.

The EDO retains the authority and responsibility for immediately and unilaterally initiating measures to protect the plant and onsite personnel.

#### 4.4 Plant Operations

During an emergency, the normal Control Room staff is maintained. A more senior member of the station management, who holds a Senior Reactor Operators license may assume direct control of the shift after completing proper relief procedures while the SM shall maintain the EC function until relieved by the EDO. Entry into the Severe Accident Management Guidelines will be in accordance with the station emergency operations procedures.

#### 5.0 Corrective Actions and Support of Operations

##### 5.1 On-Shift and Initial Augment

Upon determination by the SM of an emergency classified as an Alert or higher, the OSC is activated. The PSEG Nuclear LLC Fire Protection Operators., a Radwaste Operator, Equipment Operators, a Shift Controls Technician Electrical, and a Scheduled Shift Controls Technician I&C report to either the OSC or other onsite location as directed.

This initial group of individuals is under the control of the initial OSC Coordinator. Additional support personnel are called in by the SM.

The Operations Manager or Operations Superintendent – Assistant Operations Manager are normally expected to report to the Control Room of the affected unit under accident conditions to oversee plant operations and provide guidance and direction, as appropriate, to the SM.

## 5.2 Short-Term Augment

The initial OSC Coordinator takes control of the corrective action and support function from the SM and acts as an interface between the SM and the OSC support teams. The initial OSC Coordinator assumes the responsibility for directing support of repair, corrective actions, fire fighting, search and rescue teams, and is responsible for supplementing the OSC staff as needed. The initial OSC Coordinator ensures through coordination with the EDO, that adequate OSC staffing is available prior to accomplishing a site evacuation. In addition to the on-shift staffing, an additional Controls Technician Electrical and Controls Technician I&C are called in.

The augment shall also consist of a supervisory group and respective support personnel functioning under the direction of the OSC Coordinator. The supervisory group consists of representatives from Maintenance, Operations, and Radiation Protection. These supervisors shall operate from the OSC. Support personnel shall report to the Ready Room until required for corrective actions. The Radiation Protection Supervisor for Exposure Control (OSC) shall additionally serve as a liaison between Radiation Protection at the Control Point and the OSC staff.

## 5.3 Long-Term Augment

The long-term augment consists of additional radwaste operators, electricians and machinists as necessary to support emergency response operations, and is under the control of the OSC Coordinator. This augment may include additional contractual assistance as established through the Administrative Support Manager (ASM) in the EOF.

## 6.0 Offsite Radiological Accident Assessment

### 6.1 On-Shift and Initial Augment

The SRPT is the individual responsible for radiological accident assessment on shift and reports to the SM. The SRPT at Hope Creek takes direction from the SM, until the TSC is activated. Upon activation of the TSC, the SRPT takes direction from the Radiological Assessment Coordinator (RAC) or his designee.

The Salem SRPT takes direction for the duration of an emergency from the SM. The SRPT obtains radiological and meteorological data from the Radiation Monitoring System (RMS) and Plant Display Systems. Trained personnel are available on shift to do in-plant and out-of-plant radiation surveys. The SRPT will make offsite dose projections using prescribed methods. These dose projections are used as a basis for offsite radiological protective action recommendations, which the SRPT relays to the SM in the Control Room. The SM considers both the recommendation from the SRPT and his own evaluation of the plant status (predetermined protective action recommendation) to derive an appropriate protective action recommendation to be communicated to offsite authorities. The SRPT also assigns onsite radiation protection and chemistry personnel to obtain radiation monitor data and coolant samples for analysis.

The ORPT takes direction from the SRPT or SM, until the TSC is activated. Upon activation of the TSC at Salem, the ORPT takes direction from the RAC. The ORPT at Hope Creek takes direction from the SRPT and the RAC upon activation of the TSC.

## 6.2 Short-Term Augment

The Radiological Assessment Coordinator (RAC) and additional support personnel report to the TSC to assume responsibility for offsite dose projection and monitoring. The Radiation Protection Supervisor Offsite directs onsite and offsite monitoring personnel and performs/directs dose calculations. The RAC provides information to the communicators to give the States of Delaware and New Jersey (updates of the Station Status Checklist), to enable the states to calculate an independent offsite dose projection.

## 6.3 Long-Term Augment

When the Emergency Operations Facility (EOF) is activated, the Radiological Support Manager (RSM) has responsibility for offsite dose projections and offsite field monitoring. The Radiological Support Manager (RSM) directs offsite dose projection and field monitoring from the EOF. Communicators in the EOF assume the duties of providing offsite authorities with updates of the Station Status Checklist.

The Offsite Teams radio survey results to the Field Team Communicator. Radiological assessment staff members make offsite dose projections using either computer or manual calculation methods and Offsite Team survey results.

The dose projections are used as a basis for radiological offsite protective action recommendations, which the RSM provides to the ERM.

The ERM considers both the recommendation from the RSM and the evaluation of the plant status to derive and communicate an appropriate protective action recommendation to offsite authorities via a communicator. The RSM uses additional information from plant sample analysis, State offsite monitoring teams, and other support organizations to provide the best possible radiological dose assessment and protective action recommendation.

## 7.0 Radiation Protection Onsite

### 7.1 On-Shift and Initial Augment

The SM is the individual responsible for radiation protection onsite. The SM is supported by SRPT/Chemistry personnel (both Hope Creek and Salem), available to do in plant, onsite radiation monitoring, and systems sampling and analysis. Radiation Protection/Chemistry personnel also support onsite corrective actions, access control, personnel monitoring, dosimetry, search and rescue and first aid.

### 7.2 Short-Term Augment

As the emergency organization is augmented, additional Radiation Protection personnel report to the Control Point and the TSC. The SRPT continues with dose assessment and reports/gives results to the SM/EDO until relieved by the RAC. When relieved (turnover completed), the Hope Creek SRPT/ORPT assists with Radiation Protection activities at the CR, CP, TSC, and OSC, as needed and directed by the RAC or his designee. The Salem SRPT assists with Radiation Protection activities at the CR, primarily, and OSC. The Salem ORPT assists with Radiation Protection activities at the CP, OSC, and TSC.

The RAC assumes responsibility for Onsite Radiation Protection/ Chemistry personnel. Radiation Protection personnel at the Hope Creek Control Point report to the SRPT/ORPT, who in turn reports to the RAC. Radiation Protection personnel at the Salem Control Point report to the ORPT, who in turn reports to the RAC. Chemistry personnel at the Control Point report to the Chemistry Supervisor, who is located at the TSC. Additional support personnel are shown in Emergency Organization Figure 3-2.

### 7.3 Long Term Augment

The RAC continues to be responsible for onsite radiation protection at the TSC and CP. The Radiation Protection staff is augmented as required by the emergency conditions. Additional Hope Creek Radiation Protection personnel report to the SRPT/ORPT at the Control Point who, in turn, reports to the RAC at the TSC. Additional Salem Radiation Protection personnel report to the ORPT at the Control Point who, in turn, reports to the RAC located at the TSC. This augment may include additional contractual assistance as established through the ASM in the EOF.

### 8.0 Plant Systems Assessment and Engineering

#### 8.1 On-shift and Initial Augment

The NSTA, an individual experienced in core analysis and thermal hydraulics, provides plant systems assessment and evaluates plant conditions relative to emergency action levels. Recommendations for protective actions are made to the SM on plant conditions.

#### 8.2 Short-Term Augment

The NSTA, or Incident Assessor at Hope Creek, normally remains in the control room and directly advises the SM on plant assessment. The short-term augment personnel for the areas of Core/Thermal Hydraulics, Nuclear Fuels, Mechanical Engineering and Electrical Engineering report to the Technical Support Supervisor in the TSC.

At the TSC, the Technical Support Supervisor (TSS) takes command and direction of the technical support team led by the Technical Support Team Leader (TSTL). The TSS is responsible for making technical plant assessments and providing recommendations on protective actions to the EDO.

The technical support team in the TSC is a group of engineers providing engineering support for the TSC and Control Room. This group, under the direction of the Technical Support Team Leader (TSTL), provides an assessment of plant systems and trends. Operational assessment engineer(s) are engineers who are familiar with plant operational specifics.

#### 8.3 Long-Term Augment

Assistance for the Technical Support Team in the TSC will be coordinated via the Technical Support Manager (TSM) in the EOF. The TSM shall callout technical support personnel and supply the TSC with support and information as required.

The TSM in the EOF directs and coordinates engineering support (requested from TSC) and any construction efforts required by the emergency response.

## 9.0 Emergency Organization Job Descriptions

The following job descriptions are the responsibilities and duties of the emergency response organization personnel as delineated in Figures 3-1, 3-2, 3-3, and 3-4. Position titles in figures 3-1, 3-2, 3-3, and 3-4 followed by an asterisk indicates that the position is optimal, but not required.

### 9.1 A. EMERGENCY DIRECTION AND CONTROL

#### A.1 Emergency Response Manager (ERM)

The ERM has overall responsibility for management of onsite and offsite emergency response activities. The ERM assumes EC functions from the EDO. When performing the function of EC the ERM is responsible for non-delegable duties as described in part 4 of this section.

#### Duties:

- 1) An ERM is available 24 hours a day.
- 2) Upon classification of an **ALERT**, the ERM, with coordination from the EDO, makes the decision to activate the Emergency Operations Facility (EOF) organization.
- 3) Upon classification of a **SITE AREA** or **GENERAL EMERGENCY**, the ERM is required to activate the EOF organization.
- 4) The ERM keeps corporate management advised of plant status and significant emergency response operations.
- 5) Upon arrival at the EOF, the ERM keeps a log of actions taken.
- 6) The ERM has ultimate authority and responsibility for the dissemination of technical information concerning plant conditions and emergency response operations.
- 7) The ERM acts as the principal corporate interface between the company and all other organizations.
- 8) In carrying out the duties of the position, the ERM designates alternates or others to act in his/her behalf as he/she deems necessary except for those functions considered as non-delegable.
- 9) The SSM may assume the ERO position of ERM to include EC functions, if the ERM is unable to fill the position.

## A.2 Site Support Manager (SSM)

The SSM reports to the ERM and is responsible for providing information to the ERM on plant conditions which may result in Protective Action Recommendations (PARs) to offsite authorities, or classification escalation.

Duties:

- 1) Reports to the ERM.
- 2) Coordinates with and is an interface between the TSC and the ERM.
- 3) Communicates with the TSS and is knowledgeable of current plant conditions such that he can determine if Emergency Action Levels (EALs) have been exceeded or if issuance of Protective Action Recommendations (PARs) is required.
- 4) Provides input information for plant condition PARs to the ERM. Also directs callouts for PARs transmitted to the states.
- 5) Responsible for providing technical information and briefings to the Public Information Liaison (PIL).
- 6) Upon notification of an emergency, the SSM notifies any additional individuals needed to support the site support function.
- 7) Upon arrival at the EOF, the SSM keeps a log of actions taken.
- 8) Notifies the ERM when prepared to assume site support functions in accordance with Emergency Plan Implementing Procedures.
- 9) Responsible for coordination and assignment of offsite support to individuals within the emergency response organization.
- 10) Assumes the ERO position of ERM to include EC functions, if the ERM is unable to fill the position.

## A.3 Emergency Duty Officer (EDO)

The EDO relieves the SM of the EC function and all accident management except plant operations. When performing the functions of the EC the EDO is responsible for the non-delegable duties as described in Part 4 of this section.

**Duties:**

- 1) If possible, reports to the Control Room initially to receive a turnover of the EC function and responsibility for emergency direction and control from the SM.
- 2) Evaluates plant and radiological conditions.
- 3) When acting in the EC function, responsible for ensuring accomplishment of the necessary assessment of offsite radiation concentrations resulting from a release.
- 4) Determines alternate locations to be used to assemble emergency personnel; ensures onsite/offsite communications are established.
- 5) Responsible for activating the TSC.
- 6) May call in additional station management as necessary.
- 7) Reviews near-term and long-term actions taken by the SM and briefs the SM on all significant information and actions taken.
- 8) Responsible for providing the point of contact with the NRC onsite.
- 9) Has the authority to order any required Protective Actions for onsite personnel.
- 10) Ensures all injured personnel receive proper assistance.
- 11) Ensures the dispatch of emergency/survey teams as required by the emergency conditions.
- 12) The TSS may assume the ERO position of EDO to include EC functions, if the EDO is unable to fill the position.

**A.4 Shift Manager (SM)**

The SM initially assumes the EC function and is responsible for initiating the necessary immediate actions to limit the consequences of an accident and bring the affected unit under control. When performing the function of EC, the SM is responsible for the non-delegable duties as described in Part 4, Emergency Direction and Control, of this Section in the Emergency Plan.

**Duties:**

- 1) Notifies and briefs the EDO of an emergency and determines the need for summoning additional personnel.
- 2) Evaluates plant and radiological conditions when in the EC function.
- 3) Maintains all required records in accordance with emergency preparedness implementing procedures.
- 4) Initiates the required telephone notifications of offsite agencies, until the EDO assumes this responsibility.
- 5) Keeps the EDO informed of plant status.
- 6) Directs the operation of the plant in compliance with all normal plant procedures, directives, technical specifications, emergency procedures and severe accident guidelines.
- 7) Establishes priorities for OSC response activities.

**A.5 Emergency Preparedness Coordinator (EPC)**

The EPC assists the ERM in evaluating the overall emergency response from the EOF. Additionally, the EPC assists in the assignment of response actions and provides resource and action guidance with respect to the emergency plan and emergency response commitments.

**Duties:**

- 1) Reviews data transmitted to offsite organizations.
- 2) Assists ERM in review of applicable procedures.
- 3) Provides guidance on offsite interface.
- 4) Assists ERM in developing/reviewing protective action recommendations.
- 5) Verify notifications for changes in classifications or PARs.

9.2 B. PLANT OPERATIONS

B.1 Nuclear Shift Technical Advisor (NSTA)

The NSTA is the accident assessment advisor to the SM during emergencies. The NSTA may be the same individual as the CRS if all requirements are met. The NSTA's primary duty is to provide technical operational advice to the SM during the emergency.

At Hope Creek, if the NSTA is the CRS or SM, then another SRO shall assist the NSTA as the "Incident Assessor" during unexpected or transient conditions. Responsibilities of the "Incident Assessor" include:

- Remain within 10 minutes of the Control Room
- Advisor to the SM on matters of safety and act as an assistant to the NSTA.
- During transient and accident conditions:
  - Maintain an overview role of plant operations
  - Monitor critical safety functions
  - Verify critical steps of EOPs and transitions
  - Perform independent assessments and diagnosis of plant conditions
  - Perform independent verification of Emergency Classifications
  - Provide recommendations to the SM and/or CRS

B.2 Control Room Supervisor (CRS)

The CRS assists the SM during the emergency.

Duties:

- 1) Brief the SM and EDO as necessary.

B.3 Reactor Operator/Plant Operator (RO/PO)

The RO/PO supports the CRS in emergency assessment and plant emergency response.

Duties:

- 1) Provide additional assistance as directed by the CRS to mitigate effects of an emergency situation.
- 2) Manipulate controls for routine and, if necessary, emergency operations for the affected unit in accordance with the operating and emergency instructions.

**B.4 Control Room Communicators (CM1/CM2)**

The CM1/CM2 relay official messages during an emergency for the SM, and gather plant data to be transmitted to emergency response facilities.

**Duties:**

- 1) At the request of the SM, deliver emergency notification messages to federal, state, and local authorities.
- 2) Call up additional personnel as requested.

B.4.A Communicator - OPS Advisor (Hope Creek Only)

Gathers plant data and transmits it to other Emergency Response Facilities.

B.5 Equipment Operators (EO)

The EOs assist the CRS and RO/PO in accident assessment and emergency response operations.

Duties:

- 1) Operate plant equipment, including radwaste equipment, in support of emergency response and recovery operations.
- 2) Maintain equipment and associated logs.
- 3) Conduct search and rescue operations, if needed.

9.3 C. CORRECTIVE ACTION AND SUPPORT OF OPERATIONS

C.1 Operations Support Center Coordinator (OSCC)

The OSCC directs plant personnel in support of repair, corrective actions, fire fighting, search and rescue teams. The OSCC also acts as an interface between the SM and the OSC Support teams.

- 1) Activates OSC, and assembles team.
- 2) Confirms team is briefed and radiologically equipped.
- 3) Directs fire fighting personnel during a fire emergency.
- 4) Provides the SM with status reports of repair and corrective actions.

C.2 Scheduled Controls Technician Instrument and Controls (I&C)

The Scheduled Controls Technician I&C assists in repair tasks as requested by the SM, OSCC, or OSC Support Supervisor.

Duties:

- 1) Activating equipment and monitoring equipment operation.
- 2) Receives direction from the Maintenance Supervisor or OSC Coordinator.

**C.3 Shift Controls Technician Electrical**

The Shift Electrician assists in repair related tasks as requested by the SM, OSCC, or OSC Support Supervisor.

Duties:

- 1) Supports the repair and corrective actions during emergency response and recovery operations.
- 2) Receives direction from the OSCC.

**C.4.A OSC Operations Supervisor**

**C.4.B OSC Maintenance Supervisor (Mech)**

**C.4.C OSC Shift Maintenance Supervisor (CNTRLS)**

These OSC Support Supervisors report to the OSCC. They are responsible for providing supervision of on-shift support personnel in the OSC for Operations, Instrument and Controls, and Maintenance personnel.

Duties:

- 1) Assemble OSC teams as requested.
- 2) Coordinate corrective action.
- 3) Verify appropriate briefings, protective equipment, and dosimetry have been obtained by each team dispatched.

**C.5.A OSC Radwaste Operator**

**C.5.B Nuclear Tech - Mechanical**

**C.5.C This designator is no longer used**

**C.5.D Controls Tech Electrical**

**C.5.E Controls Tech - I&C**

These OSC Support Team Members report to their respective OSC Supervisors at the OSC. Assignments and responsibilities vary, but all disciplines provide general technical and specialist support as requested. Members are frequently assigned to corrective actions and repair teams.

Duties:

- 1) Activate or monitor equipment.
- 2) Assess damage, determine condition, or report status of plant/plant equipment.

- 3) Receive direction from the Maintenance Supervisor.

**C.6 Fire Brigade**

The Fire brigade reports to the OSCC and provides fire protection support to the Station.

Duties:

- 1) Provide fire fighting and first aid support.
- 2) Conduct search and rescue operations.
- 3) Conduct survey, repair and corrective actions.

**C.7 This designator is no longer used**

**C.8 Planner**

The planner reports to the OSCC to provide support to the OSC in material control, repair and corrective action activities.

Duties:

- 1) Supply/obtain support materials as needed for OSC activities.
- 2) Assist in tagouts, parts identification, and procurement.

**C.9.A This designator is no longer used**

**C.9.B This designator is no longer used**

**C.10 OSC Clerk**

The OSC Clerk reports directly to the OSCC and provides administrative support to the OSC.

Duties:

- 1) Update OSC Status Boards and maintain the OSCC logbook.
- 2) Provide general clerical and administrative support to the OSC.

9.4 D. RADIOLOGICAL ACCIDENT ASSESSMENT

D.1 Radiological Support Manager (RSM)

The RSM reports to the ERM and is responsible for offsite assessment of potential or actual radiological consequences to the public. The RSM provides assistance to the RAC, as necessary.

Duties:

- 1) The RSM reports to the ERM.
- 2) The RSM is responsible for offsite dose assessment after the EOF has been activated. Prior to activation of the EOF organization, the RAC has this responsibility.
- 3) The RSM provides field monitoring teams for offsite radiological evaluation.
- 4) The RSM ensures radiological dose calculations are made.
- 5) The RSM provides input information on potential or actual radiological releases or consequences and PARs to the ERM. The RSM communicates with the States of Delaware and New Jersey, and relays radiological information and other pertinent information to them.
- 6) The RSM initiates and coordinates long-term environmental monitoring. Long-term assistance may also be drawn from other nuclear power utilities and contractors.
- 7) The RSM establishes communication with medical assistance facilities and personnel to put the Emergency Medical Assistance Plan into operation, if necessary. Contact is established as defined in the Emergency Medical Assistance Plan.
- 8) After the emergency is under control and evacuation of the public is no longer likely, the RSM assists station personnel to determine efforts which may be used to further reduce exposures to the station operating personnel and to the public. The doses are evaluated for the duration of the exposure.

**D.2 Radiological Assessment Staff - EOF**

The D2A position's primary responsibility is performing and assessing dose assessment calculations with respect to making appropriate PAR recommendations to the RSM in accordance with NC.EP-EP.ZZ-0602(Q). This includes the completion of the Station Status Checklist, page 2. Additional duties the D2A position may be called upon to perform are the same as the D2B and D2C positions, listed below.

**D.2.A Radiological Assessment Staff – EOF Duty**

**D.2.B Radiological Assessment Staff – EOF Supp**

**D.2.C Radiological Assessment Staff – EOF Supp**

- 1) Assists station personnel to determine efforts, which may be used to further reduce exposures to the station operating personnel and to the public.
- 2) Complete the radiological portion of the NRC Data Sheet.
- 3) Coordinates and directs offsite monitoring from the EOF.
- 4) Monitors the habitability of the EOF.
- 5) Updates the radiological status boards.
- 6) Issues dosimetry to EOF personnel, as directed by the RSM.
- 7) Provide radiological assessment data to the SSM, Communicators, and State representatives.

**D.3 Offsite Team Coordinator/Field Team Communicator**

Responsible for maintaining offsite communications with Field Teams in the EOF.

**Duties:**

- 1) Establishes continuous communications with the Offsite Teams.
- 2) Ensures that Offsite Teams are kept up-to-date on the status of the emergency.
- 3) Evaluates data provided by the Field Teams to track the plume and confirm the dose estimates.

**D.4 Offsite Team Members**

Responsible for radiological support offsite as directed by the EOF.

**D.4.A Offsite Team Monitor**

**Duties:**

- 1) Performs offsite radiation and air sampling surveys as directed by the Radiological Support Manager or Radiological Assessment Coordinator.
- 2) Informs EOF or TSC of survey results.

**D.4.B Offsite Team Driver**

- 1) Drives to offsite locations.
- 2) Assist Offsite Team Monitor as appropriate.

**9.5 E. RADIATION PROTECTION ONSITE**

**E.1 Radiological Assessment Coordinator (RAC)**

The RAC, usually located in the TSC, assists the SM/EDO in matters relating to radiological problems during the emergency and provides radiological assessment and recommendations for protective action recommendations to the EDO. Upon an Alert or higher classification, the unaffected unit's duty RAC will report to the affected Station's Radiation Supervision to fulfill Radiation Protection Technician (RPT) duties, until relieved by RPTs who have been called in.

**Duties:**

- 1) Supervise the onsite Radiation Protection Organization.
- 2) Supervise the onsite Chemistry Organization.
- 3) Ensure that the TSC is ready for radiological response activation.
- 4) Ensure adequate emergency response staff for radiological and chemistry assessment.
- 5) Advise EDO on all station/site radiological issues.
- 6) Advise EDO on all offsite radiological issues.

- 7) Make final EAL recommendations to EDO on radiological issues.
- 8) Make recommendation of protective action to the EDO for onsite personnel (including onsite evacuation).
- 9) Make final radiological PARs to EDO for offsite personnel.
- 10) Advise/recommend applicable emergency dose authorization extensions to the EDO.
- 11) Provide the Station Status Checklist Radiological Data Section to EDO, or designate, until the EOF takes responsibility of performing this function.
- 12) Interface directly with the RSM at EOF.
- 13) Interface directly with the NRC in the TSC, or by phone, on specific radiological issues.
- 14) Direct/review dose assessment at the TSC.
- 15) Ensure appropriate contamination controls are established for all on-site emergency response facilities.
- 16) Direct vehicle surveys and decontamination, as required, if the EOF is not activated. Assist the RSM in vehicle surveys and decontamination, as required, if the EOF is activated.
- 17) Direct effluent sampling and analysis.
- 18) Recommend expenditures for additional equipment or staff to support accident response.
- 19) Direct all onsite radiological and bioassay sampling.
- 20) Decide when and who shall receive potassium iodide (KI) for all onsite personnel.

**E.2.A Radiation Protection Supervisor – Offsite (TSC)**

The Radiation Protection Supervisor – Offsite (RPS - Offsite) is a common position between Hope Creek and Salem Nuclear Generating Stations. During dual Site events, the RPS – Offsite will initially report to the Station that paged him to come in first. Upon arrival, the RPS – Offsite will report to the Station that has the most significant radiological concern, according to the RAC or the EDO.

**Duties:**

- 1) Advise RAC of all radiological conditions.
- 2) Perform dose calculations and provide RAC with recommendations on onsite protective actions for the owner controlled area as appropriate.
- 3) Coordinate effluent, steam lines, liquid, and plant vent sampling and analysis.
- 4) Direct onsite readings for projection purposes and provide findings to the EDO and RSM staff.
- 5) Interface with Control Point on plant vent samples.
- 6) Supervise the radiation protection radio operator and the onsite field monitoring team.
- 7) Ensure onsite radiological monitoring for evacuees or personnel gathered at assembly stations is being performed.
- 8) Ensure onsite groups being moved or evacuated are receiving appropriate radiation protection escort(s).
- 9) Assume control of offsite field monitoring teams until EOF takes control for the teams.
- 10) Assume limited RAC duties in accordance with appropriate emergency plan implementing procedures.

### **E.2.B Radiation Protection Supervisor - Exposure Control (OSC)**

Upon an Alert or higher classification at Salem, Hope Creek E.2.B on-duty position will report to Salem Radiation Protection Supervision to fulfill RPT duties, until relieved by RPTs. Upon an Alert or higher classification at Hope Creek, Salem E.2.B on duty positions will report to the Hope Creek Radiation Protection Supervision to fulfill RPT duties, until relieved by RPTs. During dual Site events, the Hope Creek and Salem E.2.B position will report to their Station duty facilities (OSC).

The RPS - Exposure Control (OSC) coordinates with the OSC staff in order to facilitate timely in-plant OSC repair corrective action missions, which includes search and rescue and medical support missions.

#### **Duties:**

- 1) **Interface directly with OSCC and SM on repair corrective action missions.**
- 2) **Support radiation work permits and approve authorization reviews for repair corrective action missions.**
- 3) **Coordinate RP support personnel for repair corrective action missions with SRPT/ORPT/RAC at Hope Creek or ORPT/RAC at Salem.**
- 4) **Provide radiological planning for repair corrective action missions.**
- 5) **Provide mission and status information to RAC or RPS – Offsite, as time allows.**
- 6) **Implementation of protective actions concerning contamination and habitability for OSC/CR.**
- 7) **Coordinate dose extensions to appropriate values for the emergency response organization, including emergency dose authorization, in accordance with appropriate emergency plan implementing procedures.**
- 8) **Supervise RP Technicians assigned to the OSC.**
- 9) **Assist RP Technician assigned to the Control Room (Salem Only).**

**E.3 Radiation Protection Technicians (RPT)**

The RPT is responsible for radiological support for repair, corrective action, search and rescue, and medical support missions.

**Duties:**

- 1) Perform onsite radiation and air sampling surveys.
- 2) Conduct operational checks on all equipment.
- 3) Perform dose calculations.
- 4) Perform access control, and issue dosimetry.
- 5) Decontaminate personnel and equipment.
- 6) Provide sampling results to appropriate RPS.
- 7) Assist in Radiological Work Permits (RWP) preparation.
- 8) Support Repair corrective action missions as required.
- 9) Maintain communication with the Control Point.
- 10) Provide communications to onsite and offsite Field Teams (RPT – Radio).
- 11) Perform onsite/offsite radiological monitoring.
- 12) Issue radiological monitoring equipment.
- 13) Initiate, perform, and assist in sampling and analysis of samples.

**E.3/E.4 Shift Radiation Protection Technician (SRPT)/Onsite Radiation Protection Technician (ORPT)**

The SRPT/ORPT will assist and advise SM with respect to radiological conditions prior to TSC activation.

**Duties:**

- 1) Perform initial dose assessment.
- 2) Advises SM on radiological matters prior to being relieved by an RPS.

- 3) Evaluate Radiation Monitoring System (RMS) and provide long term RMS information to all Emergency Response Facilities.
- 4) Provide CR contamination control/habitability monitoring.
- 5) Support repair and corrective action missions with personnel and equipment (medical, search and rescue, fire fighting, escort, etc.)
- 6) Assist with count room activities and direct instrument issue activities.
- 7) Assist in radwaste activities.
- 8) Coordinate inplant surveys, obtain inplant samples (noble gas/iodine), and effluent grab samples.
- 9) Direct access control and dosimetry issue.
- 10) Request dosimetry and whole body count support for inplant personnel.
- 11) Coordinates decon of personnel and equipment.
- 12) Assess RMS readings for inplant habitability and protective equipment use.
- 13) Coordinate, initiate, perform, and assist in sampling and analysis of samples.

#### **E.5 Chemistry Supervisor**

The Chemistry Supervisor, located at the TSC, coordinates Chemistry's response for sampling and analysis functions. The Chemistry Supervisor reports to the RAC. This is a common position between Hope Creek and Salem Generating Stations and during dual Site events, the Chemistry Supervisor will initially report to the Station that first paged him/her. He/She will upon arrival report to the Station that has the most significant chemistry concern, according to the RAC and/or the EDO's guidance.

##### **Duties:**

- 1) Coordinates Chemistry personnel activities.
- 2) Directs and coordinates high activity samples, main steam sampling, and analysis of samples.
- 3) Coordinates activation of high activity sampling systems and necessary ventilation systems in those areas.

- 4) Relays sample analysis data to the RAC and then the RSM once the EOF is activated.
- 5) Coordinates sample results with the Core Thermal-Hydraulics Engineer and the Technical Support Team Leader.
- 6) Initiates sample log.
- 7) Augments Chemistry Staff when necessary.
- 8) Coordinates with Core Thermal-Hydraulics Engineer in the TSC.

E.6 Chemistry Technician (CT)

The CT will assist and advise the Chemistry Supervisor with respect to sampling activities from the Control Point.

Duties:

- 1) Directs and coordinates high activity samples, main steam sampling, and analysis of samples.
- 2) Disassembles, assembles, and operates the multi-channel analyzer.
- 3) Establishes backup laboratory facility (Hope Creek Count Room for Salem and Salem for Hope Creek).
- 4) Coordinates activation of high activity sampling systems and necessary ventilation systems in those areas if the TSC is not activated.

9.6 F. PLANT SYSTEMS ASSESSMENT AND ENGINEERING

F.1 Technical Support Supervisor (TSS)

The TSS has overall responsibility for tracking and trending plant conditions, identifying plant condition EALs, and providing advice on PARs to the EDO, and when the EOF is activated, the SSM. The TSS is the lead evaluator and decision maker for the Severe Accident team.

**Duties:**

- 1) The TSS reports to the EDO.
- 2) The TSS evaluates the potential for an offsite radiological release based upon plant conditions in accordance with EALs. Prior to activation of the EOF, these evaluations are provided to the EDO for action. After activation of the EOF, these evaluations are provided to the SSM for action and the EDO for information.
- 3) The TSS provides advice to the EDO on priorities for plant repair and corrective actions.
- 4) The TSS is responsible for analysis and development of plans and procedures in direct support of operations personnel with the objective of placing the plant in a safe shutdown condition in a manner, which minimizes any adverse health and safety effects on the public.
- 5) The TSS obtains an evaluation of instrument and controls problems from the Technical Support Team, determines alternatives, and coordinates the installation of short-term instrument and controls modifications.
- 6) The TSS directs the actions of the Technical Support Team Leader and the Technical Support Team in the TSC.
- 7) The TSS may assume the ERO position of EDO to include EC functions, if the EDO is unable to fill the position.
- 8) The TSS directs plant operations by providing specific instructions directly to shift personnel, after Severe Accident Management Guidelines (SAMG) transition has been made.

**F.2 Technical Support Team Leader (TSTL)**

The TSTL is responsible for coordination and guidance of the engineering support in the TSC. The TSTL will be the primary interface at the TSC for the TSM in the EOF and will coordinate all engineering support required from the EOF.

**Duties:**

- 1) The TSTL reports to the TSS.
- 2) Coordinates all engineering tasks requested by the SM and the EDO.
- 3) Coordinates/Requests engineering support from the Technical Support Manager (TSM) at the EOF.
- 4) Serves as primary point-of-contact in TSC for TSM.

**F.3 Engineer - Electrical**

The Engineer - Electrical develops recommendations concerning plant operations relating to electrical systems and equipment for the TSTL.

**Duties:**

- 1) Analyzes plant electrical systems and equipment to determine current operating condition.
- 2) Reviews proposed plant operations with respect to electrical systems.
- 3) Receives instructions from and reports findings to the TSTL.

**F.4 Engineer - Mechanical**

The Engineer - Mechanical develops recommendations concerning plant operations relating to mechanical system for the TSTL. The Mechanical Engineer is an evaluator on the Severe Accident Management team.

**Duties:**

- 1) Forecast future values of EOP and SAG control parameters (parameter trending).
- 2) Identify plant conditions as they relate to EOP and SAG control parameters and specify the state of the plant with respect to those parameters.
- 3) Evaluate plant conditions, control room indications, and control parameters to determine core status.
- 4) Determine operability of a system and its availability.
- 5) Develop a methodology to restore a system.

- 6) Recommend appropriate EOP/SAG actions to follow based on trends, indications, or calculations.
- 7) Receives instructions from and reports to the TSTL.

#### F.5 Engineer - Controls

The Engineer - Controls develops engineering recommendations for the TSTL concerning control systems impacted by an emergency.

##### Duties:

- 1) Provides control systems accident assessment.
- 2) Analyzes plant control systems requiring trouble-shooting during an emergency.
- 3) Receives instructions from and reports to the TSTL.

#### F.6.A Core Thermal-Hydraulics Engineer

The Core Thermal-Hydraulics Engineer develops recommendations for plant operations that would affect safe core conditions for the TSTL. The Core Thermal-Hydraulics Engineer also provides fuel damage assessment information to the TSS, RAC, TSM and RSM.

##### Duties:

- 1) Analyzes core parameters to determine current conditions of the core.
- 2) Reviews proposed plant operations with respect to the effect on core conditions.
- 3) Evaluates fuel damages based core thermal conditions and specific chemistry samples.
- 4) Coordinates high activity reactor coolant sampling with the Chemistry Supervisor and the RAC.
- 5) Receives instructions from and reports to the TSTL.

#### F.6.B This designator is no longer used

**F.7 Emergency Preparedness Advisor (EPA) - TSC**

The EPA reports to the EDO. The EPA is responsible for directing and supervising the activities of the TSC Communicators in obtaining and routing operational and radiological data.

**Duties:**

- 1) Verify that required offsite/onsite notifications are made and that notifications/responsibilities are turned over properly when control is passed from one facility to another.
- 2) Ensure that operational and radiological data are obtained, posted, and distributed in the TSC.
- 3) Assist in testing and maintaining communication systems in the TSC and other onsite facilities.
- 4) Provide resource and action guidance with respect to the emergency plan and emergency response commitments.

**F.8 TSC Communicator**

The TSC Communicators report to the EPA/EDO at the TSC and are responsible, at direction of the EPA/EDO, to make official notifications, and to obtain and transmit data.

**Duties:**

- 1) Make required notifications.
- 2) Obtain operational and radiological data.
- 3) Transmit data when required.

**F.8.A This Classification is no longer used.**

**F.8.B OPS Advisor - TSC**

The OPS Advisor - TSC reports to the TSS at the TSC and is responsible, at direction of the TSS, to obtain plant status information from the control room, keep TSC supervisors informed of plant status, assist in status board maintenance and serve as a backup to either one of the TSC Communicator positions (CM1/CM2). The Ops Advisor is an evaluator on the Severe Accident Management Team.

**Duties:**

- 1) Forecast future values of EOP and SAG control parameters (parameter trending).
- 2) Recommend appropriate EOP/SAG actions to follow based on trends, indications, or calculations.

**F.9 Technical Support Manager (TSM)**

The TSM is responsible for coordinating the need for engineering design changes and plant modifications as well as any engineering support requested by the TSC.

**Duties:**

- 1) Receives directions from and reports results to the ERM.
- 2) Conducts emergency response callout for the engineering support personnel as needed.
- 3) Make recommendations concerning event mitigation.
- 4) Coordinates support activities with the TSTL in the TSC.

**F.10. This designator is no longer used**

**F.11 This designator is no longer used**

**9.7 G. PUBLIC INFORMATION**

**G.1 Company Spokesperson (CS)**

The CS is a senior management representative responsible for representing PSEG Nuclear LLC in news media briefings.

**Duties:**

- 1) Act as official Company Spokesperson.
- 2) Counsel PSEG top corporate management on status of accident and Emergency News Center briefings.
- 3) Give direction to Lead Technical Advisor, ENC Manager, and Staff Writers.

- 4) Upon ENC activation, review and approve News Bulletins and other releases to the media.
- 5) Supervise rewriting of News Bulletins and other media information into format for rumor control operations and Muskrat Information Line for employee call-in.

**G.2 Emergency News Center Manager (ENCM)**

The ENCM is responsible for the overall operation of the ENC including the dissemination of information and media monitoring.

**Duties:**

- 1) Coordinate the dissemination of media information from the ENC.
- 2) Approve News Bulletins when directed by CS or if CS is unavailable.
- 3) Ensure information is coordinated with and disseminated to County, State, and Federal representatives at the ENC before it is released to the media.
- 4) Coordinate media briefings with PSEG Nuclear, industry, County, State and Federal representatives.
- 5) Ensure approved ENC News Bulletins and other media releases are distributed to PSEG corporate offices, co-owners, and the industry.
- 6) Provide information to Media Information Line operators for dissemination to news outlets.
- 7) Direct activities of the Industry/Government Affairs Coordinator, Rumor Control Coordinator, and Operations Supervisor.

**G.3 This designator is no longer used**

**G.4 This designator is no longer used**

**G.5 Industry/Government Affairs Coordinator**

The Industry/Government Affairs Coordinator (IGAC) is responsible for maintaining contact with industry group representatives, PSEG Government/Federal Affairs Departments, Lower Alloways Creek Township, County and State officials to provide them information about the emergency. The IGAC reports to the ENC Manager.

**Duties:**

- 1) Establish contact with the co-owners and Board of Regulatory Commissioners to inform them of the emergency event and keep them updated on changes in status.
- 2) Advise Institute of Nuclear Power Operations (INPO) and Nuclear Energy Institute (NEI) [formerly United States Council on Energy Awareness (USCEA)] on the status of the emergency.
- 3) Update General Manager - Federal Affairs or designee on emergency status.
- 4) Update General Manager - State Governmental Affairs on emergency status.
- 5) Update LAC Township's Liaison about emergency event.

**G.6 Rumor Control Coordinator (RCC)**

The RCC is responsible for coordinating the media monitoring effort and dissemination of information about the emergency using the Company's Rumor Control Network.

**Duties:**

- 1) Activate PSEG's rumor control lines.
- 2) Provide Media Monitors, Media Line Operators and Rumor Control Centers with updated News Bulletins and other approved information about the emergency.
- 3) Update wire services as News Bulletins are issued.

**G.7.A This designator is no longer used**

**G.7.B Media Monitors**

Media Monitors are responsible for reviewing media reports for accuracy and reporting discrepancies and misinformation to the Rumor Control Coordinator.

Duties:

- 1) Review and record radio and television news programs and bulletins related to the emergency.
- 2) Inform Rumor Control Coordinator of incorrect or misleading television and radio accounts of the emergency.
- 3) Clarify incorrect or misleading information with television and radio stations when directed.

G.8.A Staff Writer - Duty

G.8.B Staff Writer - Support

The staff writer is responsible for composing News Bulletins and other information for the media about plant conditions and emergency response activities.

Duties:

- 1) Write News Bulletins and prepare other information for the media.
- 2) Provide News Bulletins to the Company Spokesperson for review and approval.

G.9.A This designator is no longer used

G.9.B Media Information Line Operator

The Media Information Line Operator is responsible for operating Media Information Telephone Bank and ensuring the media is provided with timely and accurate information about the emergency.

Duties:

- 1) Provide the media with News Bulletins and other approved information.
- 2) Refer State-related inquiries to appropriate State information sources.

G.10.A Lead Technical Advisor (LTA)

The LTA is responsible for maintaining contact with TSC and EOF to track status of emergency event and provide information to the Company Spokesperson and ENC staff.

**Duties:**

- 1) Direct activities of other Technical Advisors at the ENC.
- 2) Report directly to the Company Spokesperson.
- 3) Provide technical briefings to the ENC staff and others as directed by the Company Spokesperson.
- 4) Receive information from the EOF facility or leads briefing.

**G.10.B Media Technical Advisor (MTA)**

The MTA is responsible for providing the media with general technical information about Hope Creek and Salem Nuclear Generating Stations and the nuclear industry.

**Duties:**

- 1) Obtain News Bulletins and technical details of the emergency.
- 2) Provide media at ENC with Press Kits and other approved information about the emergency event.
- 3) Interface with media at ENC on plant-related questions and provide general technical information.

**G.10.C Communications Technical Advisor (CTA)**

The CTA is responsible for keeping the Staff Writer and other ENC staff informed about the emergency event and providing understandable technical information.

**Duties:**

- 1) Obtain current and accurate information about the emergency event.
- 2) Update the ENC staff on plant status and the emergency event.
- 3) Report to the TSC if directed to do so by the LTA and provide timely and accurate information about the emergency event to the ENC.
- 4) When the EOF is activated and the PIL is functioning, report to the ENC and receive further direction from the LTA.

**G.11      ENC Operation Supervisor (ENCOS)**

The ENCOS is responsible for directing Administrative Operations in the ENC and reports to the ENC Manager.

Duties:

- 1) Supervise setup of the ENC and ensure proper operation of equipment.
- 2) Direct Administrative Support Staff members, Audio-Visual Services Coordinator, and facility support functions. Direct facility access control if Sheriff's deputies are not available.
- 3) Provide facility support functions such as access control, food, first aid, augmented staffing and equipment needs, and relief staffing.

**G.12      This designator is no longer used**

**G.13      Public Information Liaison (PIL)**

Obtain timely and accurate information at the EOF and transmit it to the ENC.

Duties:

- 1) Provide timely and accurate information about the emergency event to the ENC.
- 2) Respond to requests for information from the ENC via the Communications Technical Advisor.

**G.14      Public Information Manager (PIM)**

The PIM is the on-call staff member of Nuclear Communications who is responsible for representing PSEG as the Company Spokesperson until activation of the ENC. The PIM has the authority to release information provided by the Emergency Coordinator concerning any event at Salem and Hope Creek Nuclear Generating Stations that may be of interest to the media and the public.

**Duties:**

- 1) On-call to receive notifications of emergency and non-emergency events that are of potential interest to the media and the public in accordance with the Event Classification Guides (ECG) from the SM/EDO and other approved sources.
- 2) Write and issue News Bulletins based on information provided by the Emergency Coordinator and other approved sources.
- 3) Turnover duties to Company Spokesperson at ENC when the ENC is activated.

9.8 H. This designator is no longer used

9.9 I. SITE ACCESS CONTROL AND ACCOUNTABILITY

I.1 Security Liaison (TSC)/Security Operations Supervisor  
Main Guard House (MGH)

The Security Liaison reports to the EDO. The Security Liaison is responsible for coordinating aspects of site evacuation and personnel accountability. The Security Operations Supervisor works for the Security Liaison and coordinate site evacuation and personnel accountability activities at the MGH.

**Duties:**

- 1) Verify accountability is established.
- 2) Assist in the coordination and control of site evacuation.
- 3) Maintain personnel entry log at the TSC.
- 4) Provide emergency vehicle support.

I.2 Site Security Coordinator (SSC)

The SSC reports to the EDO. The SSC is responsible for overseeing all security operations during an emergency including site evacuation and personnel accountability.

**Duties:**

- 1) Provide overall control and direction for all site security operations.
- 2) Verify personnel accountability is implemented as directed.
- 3) Oversee coordination and control of site evacuation.

1.3 This designator is no longer used  
1.4 Security Force Member

The Security Force Member reports to the Site Support Manager. The Security Force Member is responsible for the proper establishment and maintenance of access control.

**Duties:**

- 1) Maintain access control at the EOF.
- 2) Assist in personnel accountability.
- 3) Open the EOF.

1.5 EOF Communicator (EOF COMM1/COMM2)

The EOF COMM1/COMM2 report to the SSM/ERM at the EOF and, at the direction of the SSM/ERM, are responsible for making official notifications, and obtaining and transmitting data.

**Duties:**

- 1) Make required notifications.
- 2) Obtain operational and radiological data.
- 3) Transmit data when required.

1.5.A EOF OPS Advisor

Obtain operational data and advise the SSM on the operational condition of the affected unit.

9.10 J. ADMINISTRATIVE SUPPORT

J.1 Administrative Support Manager (ASM)

The ASM reports to the ERM, and provides administrative support for the emergency response effort.

Duties:

- 1) Provides general office support functions including typing, reproduction, office supplies, and office furniture.
- 2) Functions as the EOF purchasing agent.
- 3) Administers the petty cash fund and expense accounts.
- 4) Coordinates personnel and equipment requests from the ERM and the other support managers.
- 5) Performs administrative support organization callout.

J.02.A Admin Support Staff - Personnel Supv.

J.02.B Admin Support Staff - Purchasing

J.02.C This designator is no longer used

J.02.D Admin Support Staff – Administrative

J.02.E Admin Support Staff – Information Technology Support Supervisor.

Coordinate Administrative Support activities as identified by the designated discipline and advise ASM of your activities.

Duties:

- 1) Provide support related to personnel matters including personnel callouts.
- 2) Provide purchasing support required during an emergency.
- 3) Provide material control support during an emergency.
- 4) Provide administrative/clerical support.
- 5) Provide Information Technology support.
- 6) Assist in EOF setup and activation.

**J.03      Administrative Support Supervisor (ADMSS)**

The ADMSS is responsible for providing administrative support to the EDO and has the authority to arrange for procurement of the necessary materials or personnel.

Duties:

- 1) Supervise administrative functions in the TSC.
- 2) Coordinates activities with the ASM.
- 3) Maintains records of purchases.

**J.04      TSC Administrative Staff**

The TSC Administrative staff reports to the ADMSS and provides administrative support to the TSC/OSC.

**J.04.A      This designator is no longer used  
J.05      ENC Administrative Support**

The ENC Administrative Support staff reports to the ENC Operations Supervisor and provides administrative support to the ENC staff.

**J.06      Audio/Visual Services Coordinator**

Provide audio/visual support to the ENC staff.

Duties:

- 1) Videotape media briefings.
- 2) Create/provide visual aids as requested by the ENC staff.

**Z.03      Delaware Offsite Representative (not on organization chart)**

Duties:

- 1) Keep Delaware officials up-to-date on emergency status
- 2) Provide technical and emergency classification assistance.

10.0 Staffing Commitments

The commitment for minimum staffing will be in accordance with Supplement 1 to NUREG-0737, Table 2.

Table 3-2 provides a correlation between major functional areas, major tasks, position title or expertise, as described in Table 2 of Supplement 1, NUREG-0737, and the similar tasks and titles in the emergency response organization. The alphanumeric codes that appear with staffing capability goals represent the emergency response organization positions used in this section of the plan. Facility activation goals/response times are described in Section 9, Emergency Facilities and Equipment.

**Table 3-1**

**LINE OF SUCCESSION  
 EMERGENCY COORDINATOR DUTIES**

<u>Duty Position</u>	<u>Personnel Assigned Duty Position</u>	<u>Classification Requiring Activation of Emergency Coordinator Function</u>			
		<u>UE</u>	<u>A</u>	<u>SAE</u>	<u>GE</u>
SM	SM is a normal shift duty assignment per station technical specification	X	X	X	X
EDO	Operations Manager or designee	X <sup>(1)</sup>	X	X	X
ERM	Filled by PSEG Nuclear Department Senior Management Personnel		X <sup>(2)</sup>	X	X

**NOTES:**

- 1) The EDO is contacted for all events classified as an Unusual Event or higher. The EDO may or may not respond to the Emergency Coordinator function of this level event. This response would be based on the conditions of the incident.
- 2) The ERM is contacted for all events classified as an Alert or higher. The ERM may or may not respond to the Emergency Coordinator function of this level event. This response would be based on the conditions of the incident.

**TABLE 3-2**  
**PSEG NUCLEAR**  
**CORRELATION TO SUPPLEMENT 1 OF NUREG-0737M TABLE 2**  
**(NUREG-0654, TABLE B-1)**

Major Functional Area	Major Tasks	Position Title or Expertise	On* Shift	Capability for Additions 30 min (Note 1) 60 min (Note 2)
Plant Operations and Assessment of Operational Aspects		Shift Manager (SM) (SRO)	1 A4	
		Control Room Supervisor (CRS) (SRO)	1 B2	
		Reactor/Plant Operator (R/PO)	2 B3	
		Nuclear Equipment Operator (NEO)	2 B5 (Note 8)	
Emergency Direction and Control (Emergency Coordinator)		Shift Manager (SM)(SRO)	1**A4	
Notification/Communication	Notify Licensee, State, Local and Federal personnel and maintain communication		1 B4	1B4 2F8/2I5
Radiological Accident Assessment and Support of Operational Accident Assessment	Near-site EOF-Manager	Emergency Response Manager (ERM)***		1 A1
	Offsite Dose Assessment	Shift RP Tech (SRPT)/RP Supervisor-Offsite		1 E4 (Note 3)
	Offsite Surveys	Technician (RPT)		2 D4(1 E3/1 E6) (Note 9) 2 D4
	Onsite (out-of-plant)	Technician (RPT)		1 E3 (Note 5) 1 E2
	In-plant Surveys	Technician (RPT)	1 E3 (Note 5)	1 E3 (Note 5)
	Chem/Radio-chemistry	Technician (CT)	1 E6	1 E5

**TABLE 3-2 (cont.)**  
**PSEG NUCLEAR**  
**CORRELATION TO SUPPLEMENT 1 OF NUREG-0737M TABLE 2**  
**(NUREG-0654, TABLE B-1)**

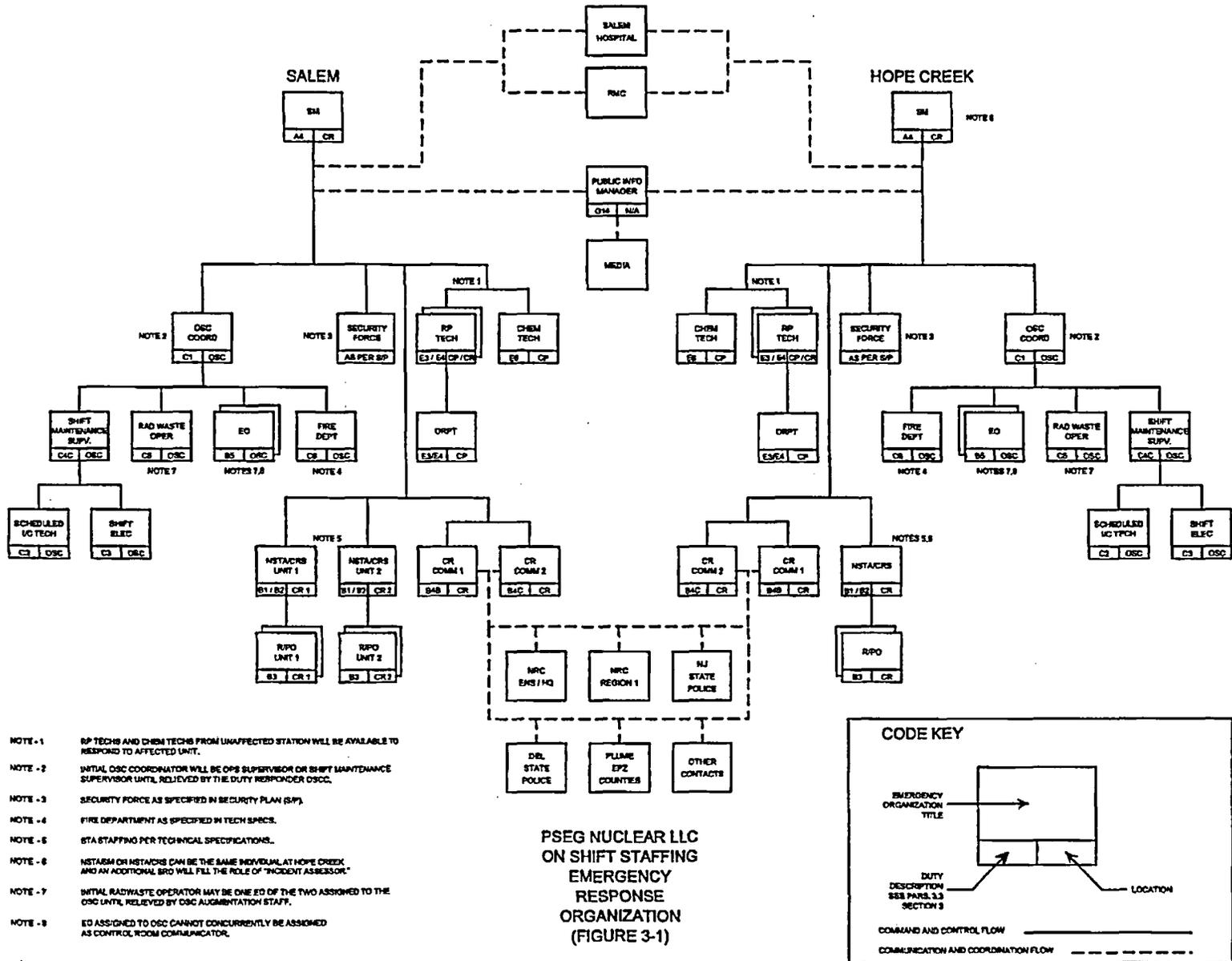
Major Functional Area	Major Tasks	Position Title or Expertise	On* Shift	Capability for Additions 30 min (Note 1) 60 min (Note 2)
Plant System Engineering, Repair and Corrective Actions	Technical Support	Nuclear Shift Technical Advisor (NSTA)	1 B1 (Note 6)	1 F6A (Note 4)
		Core/Thermal Hydraulics		1 F6A
	Repair and Corrective Actions	Electrical		1 F3
		Mechanical		1 F4
		Mechanical Maintenance/	1**C5 (Note 8)	1 C4B
		Rad Waste Operation		1 C5A
		Electrical Maintenance/	1**C3	1 C3 1 C5D
	Instrument and Control		1C2	
Protective Actions (In-plant)	Radiation Protection  a. Access Control  b. HP Coverage for repair, corrective actions, search and rescue, first aid, and fire fighting.  c. Personnel monitoring  d. Dosimetry	Technician (RPT)	2**E3 (Note 5)	2 (Note 7)  2 E2 (Unaffected Unit Rad. Pro. Exposure Control)
Fire Fighting			Fire Brigade per Tech. Spec. C6	Local Support

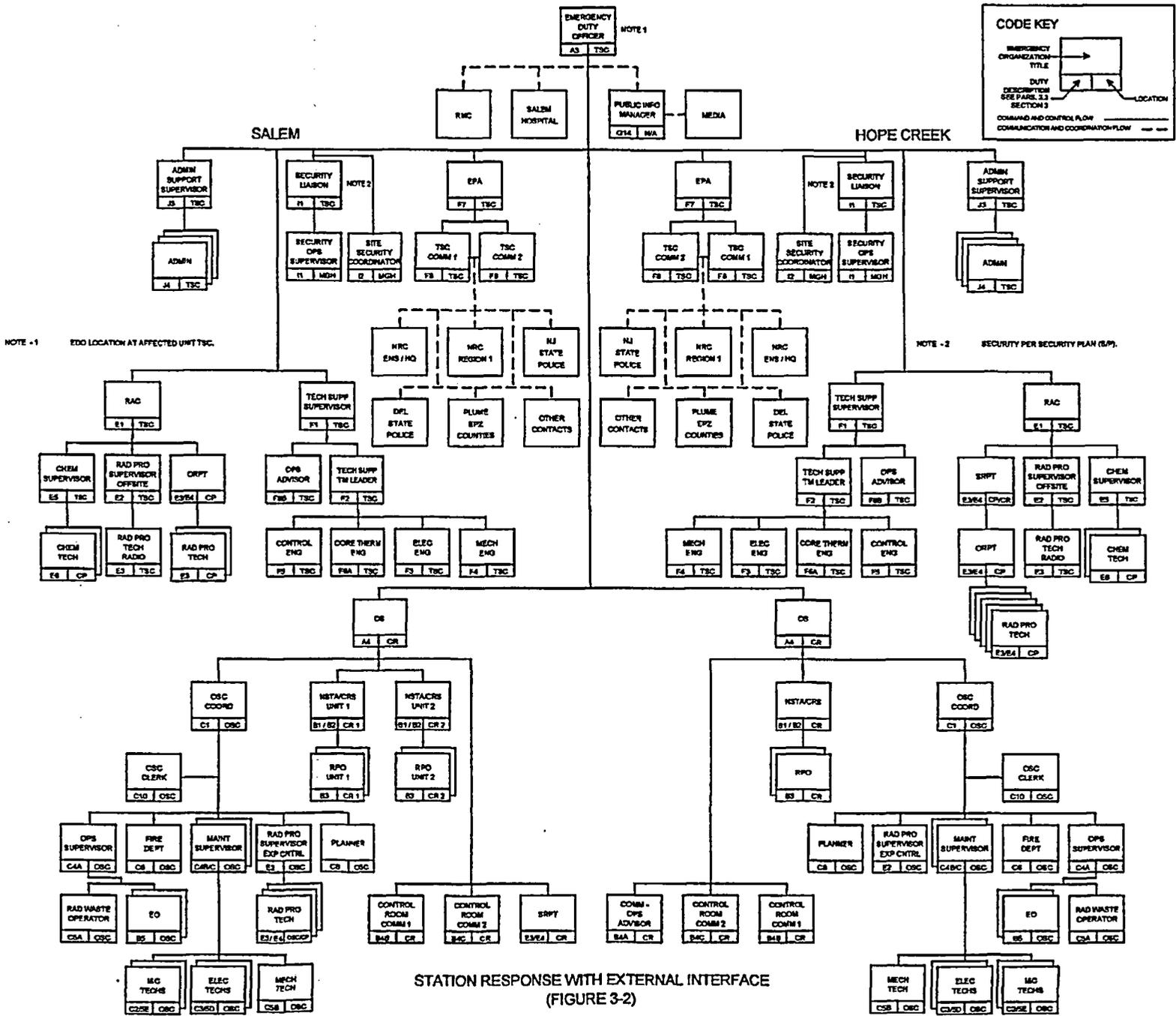
**TABLE 3-2 (cont.)**  
**PSEG NUCLEAR**  
**CORRELATION TO SUPPLEMENT 1 OF NUREG-0737M TABLE 2**  
**(NUREG-0654, TABLE B-1)**

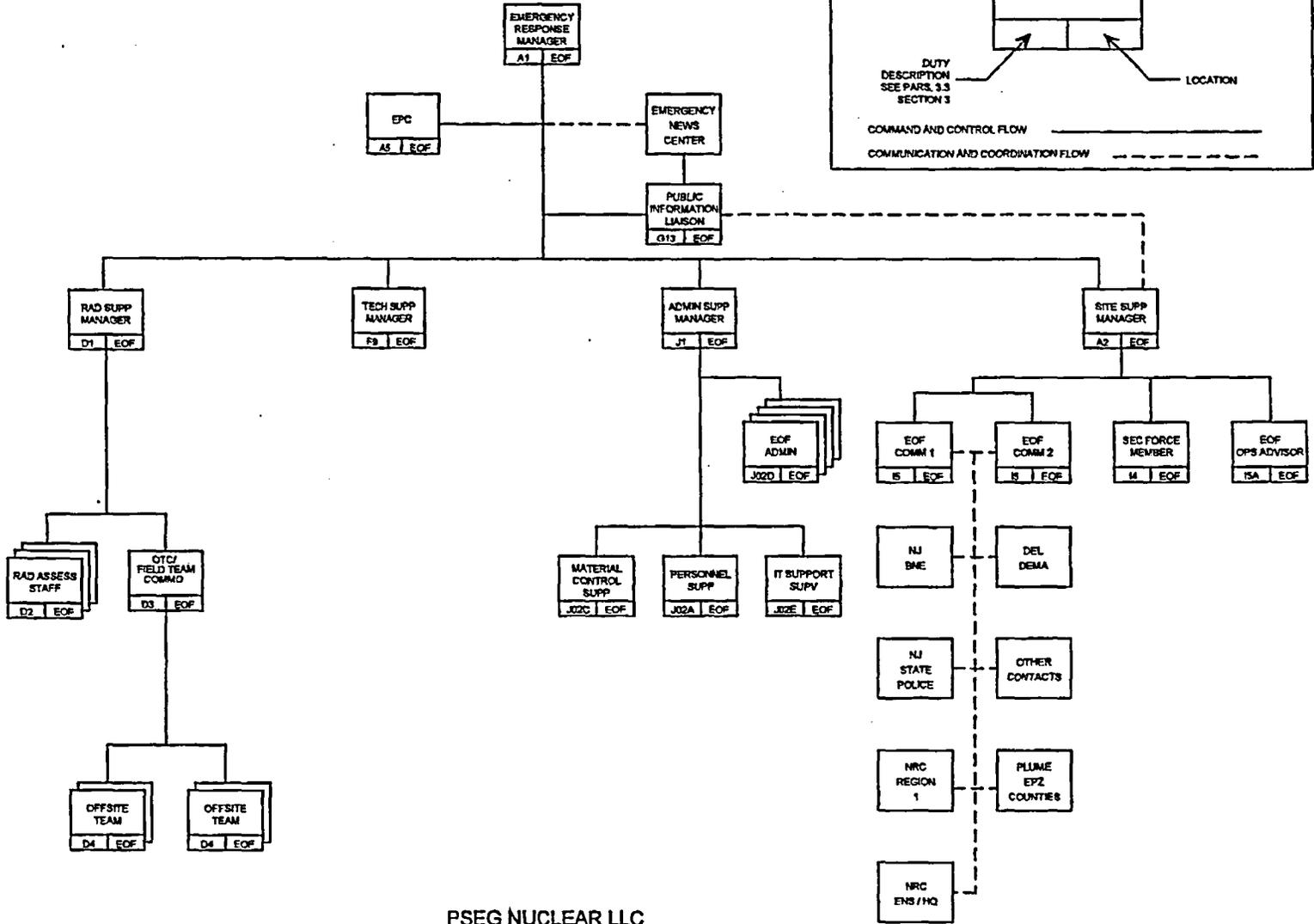
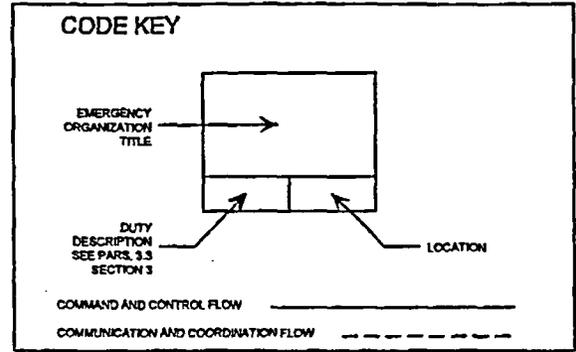
Major Functional Area	Major Tasks	Position Title or Expertise	On* Shift	Capability for Additions	
				30 min (Note 1)	60 min (Note 2)
Rescue Operations and First Aid			2**(C6)		Local Support
Site Access Control and Personnel Accountability	Security, Fire Fighting, Communications, Personnel Accountability	Security Personnel	All per Security Plan		Local and State Support
<b>Total</b>			<b>10</b>	<b>9</b>	<b>16</b>

**Notes:**

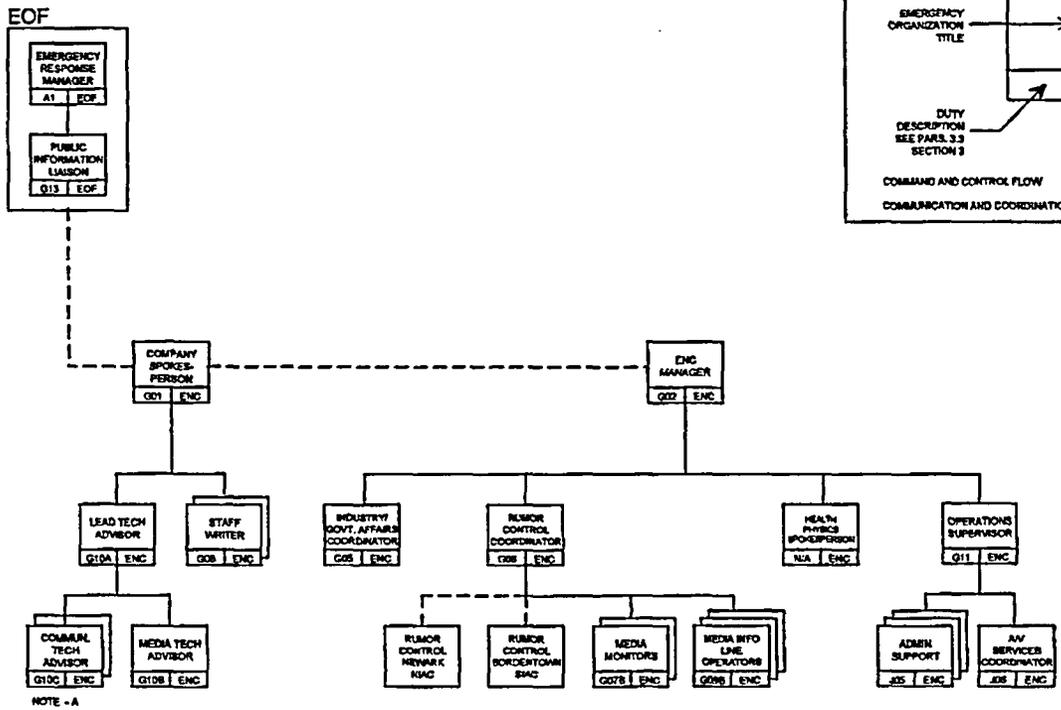
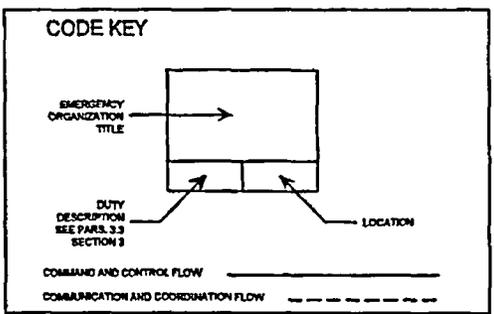
- \* For each unaffected nuclear unit in operation, maintain at least one Control Room Supervisor, one Reactor/Plant Operator and one Equipment Operator.
  - \*\* May be provided by Shift personnel assigned other functions.
  - \*\*\* Overall directions of facility response to be assumed by near-site EOF Emergency Response Manager when all centers are fully manned (activated).
- Note 1: All 30 minute responder positions are covered by onshift personnel. There is not a 30 minute callout process.
- Note 2: Staffing times for these positions are not necessarily implied under Additional Capability. This chart provides a table which easily correlates the emergency response organization to the position guidance of Table 2, NUREG-0737, Supplement 1. Staffing response times are as discussed in Section 9 of the Emergency Plan.
- Note 3: Will be performed by the Shift Radiation Protection Technician (E4) until relieved by the Radiation Protection Supervisor - Offsite.
- Note 4: Advisory function will be performed by Nuclear Shift Technical Advisor (NSTA) until relieved by Core Thermal - Hydraulics Engineer.
- Note 5: Additional radiation protection/chemistry personnel available from the unaffected station to support inplant activities.
- Note 6: At Hope Creek, NSTA can also be assigned the duties of the Control Room Supervisor or Shift Manager, in accordance with technical specification provisions.
- Note 7: Individuals who are self-monitor qualified may fulfill this position.
- Note 8: An onshift Equipment Operator (Salem) or Rad Waste Operator (Hope Creek) may concurrently fill the Mechanical Maintenance/Rad Waste Operator position until relieved by additional capability.
- Note 9: Until the offsite field monitoring team members report to the EOF, offsite surveys may be performed by the onsite field monitoring team, if needed based on projected or actual location of the plume.







PSEG NUCLEAR LLC  
 EMERGENCY OPERATIONS FACILITY  
 EMERGENCY RESPONSE ORGANIZATION  
 WITH EXTERNAL INTERFACE  
 (FIGURE 3-3)



NOTE - A

NOTE - A A SECOND COMMUNICATION TECH ADVISOR MAY BE SENT TO THE TSC TO GATHER INFORMATION AT THE DISCRETION OF THE LEAD TECHNICAL ADVISOR.

PSEG NUCLEAR LLC  
 EMERGENCY NEWS CENTER ORGANIZATION  
 WITH EXTERNAL INTERFACE  
 (FIGURE 3-4)

## SECTION 4

### EMERGENCY RESPONSE SUPPORT AND RESOURCES

#### 1.0 Local Services Support

The local services support to be relied on in the event of an emergency is classified into two general categories: Medical and Fire Protection.

#### 1.1 Medical Support

Medical support is provided by the Memorial Hospital of Salem County. The specific resources and capabilities of medical support are provided in Section 13.0 of this Plan.

#### 1.2 Fire Protection

Fire protection support is provided for Salem and Hope Creek Generating Stations in accordance with station technical specifications. The resources are provided at the request of the Shift Manager (SM) of the affected unit or Emergency Duty Officer (EDO). Additionally, local fire companies respond (in accordance with appropriate agreements) to fires at Salem and Hope Creek Generating Stations. While these personnel are onsite they will be under the direction and control of the SM or Control Room Supervisor (CRS) of the affected unit prior to OSC activation and under the direction and control of the initial OSC coordinator/OSC coordinator after the OSC is activated.

#### 2.0 State and County (Local) Government Response

For events classified as an Unusual Event, Alert or Site Area Emergency, the contact with the local governments and states is provided through the states. Following this initial contact, the states will be responsible for assessing the information provided, activating their response organization (as required) notifying the local governments, the U.S. Coast Guard and the public. If the states cannot be contacted within fifteen minutes, the affected station notifies the local governments (counties) and the U.S. Coast Guard directly.

For events classified as a General Emergency, Salem and Hope Creek Generating Stations make direct contact with the States of New Jersey and Delaware. If the states cannot be contacted within fifteen minutes, the affected station notifies the local governments (counties) and the Coast Guard. Following this initial contact the states, or if the states could not be contacted the counties, will be responsible for assessing the information provided, activating their response organization (as required), notifying appropriate local governments, and the public.

Following contact by the state, or PSEG Nuclear, LLC, each county and the U.S. Coast Guard are responsible for assessing the information provided and activating their response organizations.

The Plan provides the appropriate space and facilities to the principal State and Federal response organizations at the Emergency Operations Facility (EOF). PSEG Nuclear assigns a person to assist the States of New Jersey and Delaware in accordance with the Memorandum of Understanding with each State. This allows state response personnel to have immediate access to all station radiological and operational data. Additionally, PSEG Nuclear, LLC is prepared to provide representatives to the state EOCs to assist the state (at their request) in answering questions and contacting the appropriate utility personnel.

### 3.0 Federal Response

The federal response is expected to consist primarily of representatives from the U.S. Department of Energy (U.S. DOE), U.S. Nuclear Regulatory Commission (NRC), and U.S. Coast Guard (USCG). PSEG Nuclear, LLC provides space in the EOF as required. Since the federal response (other than NRC) is primarily related to offsite protective actions and radiological assessment, it is implemented at the request of the States of New Jersey and/or Delaware. The Federal Emergency Management Agency (FEMA) acts as coordinator of the federal response. Emergency Management from New Jersey and Delaware provides information and assistance to FEMA as required to assist it in coordinating the federal response.

#### 3.1 U.S. Nuclear Regulatory Commission

The NRC is notified via a dedicated telephone line (ENS) from the Control Room, Technical Support Center (TSC) or Emergency Operations Facility (EOF), to the Rockville, Maryland Operations Center within one hour after identifying the existence of an emergency condition. The NRC is responsible for the coordination of the federal government's technical response activities. Response support is initially supplied by the Office of Inspection and Enforcement, Region I, King of Prussia, Pennsylvania.

#### 3.2 U.S. Coast Guard (USCG)

The U.S. Coast Guard is notified of all emergency events at Salem and Hope Creek Generating Stations. At the request of the States of New Jersey or Delaware they will provide rescue and/or notification operations on the Delaware River and associated waterways.

#### 3.3 U.S. Department of Energy (DOE)

Radiological assistance teams are provided by Brookhaven National Laboratories, Brookhaven Area Office in Upton, New York. This assistance generally is requested by the States of New Jersey and Delaware. DOE is responsible for coordinating the offsite radiological monitoring and evaluation activities of the federal government.

#### 3.4 Federal Emergency Management Agency (FEMA)

FEMA has the responsibility for coordinating all offsite nontechnical response activities of the federal government. They serve as the primary point of contact for

requests for federal assistance from state and local officials, and other federal agencies.

### 3.5 National Weather Service

When requested, the National Weather Service provides backup meteorological data for Salem and Hope Creek Generating Stations.

### 4.0 Federal Resources

The resources of the Federal government through the implementation of the National Response Plan (NRP) Nuclear/Radiological Incident Annex may be used to supplement the onsite surveys or relieve utility offsite survey teams. This Plan does not use NRP resources for making protective action assessments or recommendations.

The individual assigned the emergency coordinator function is the utility individual who is authorized to request NRP resources. The NRP teams are instructed to go to the EOF and report to the Radiological Support Manager. Survey team efforts offsite are managed and survey data are assembled and analyzed at the EOF.

The EOF is also the location where the Federal response coordination will be conducted. Desks and phones are available at the EOF to support the Federal response by the lead federal agency - NRC. Figure 4-1 provides information on airports near the site.

### 5.0 Other Organizations

Other organizations that are available for emergency support duties are called upon and report to the Technical Support Center (TSC) or Emergency Operations Facility (EOF).

### 5.1 PSEG Maplewood Testing Services

The PSEG Maplewood Testing Services is a wholly owned research subsidiary of PSEG. Maplewood provides environmental sampling and meteorology consultation. The testing service located in Maplewood, New Jersey, has extensive facilities and equipment for analysis of materials, environmental radioactivity analysis, and radiation surveys. Equipment available for radiation analysis includes: low level alpha-beta counters, gamma spectroscopy system, beta-gamma counter, and several types of portable radiation survey instruments. The equipment is maintained and periodically calibrated to appropriate radiation standards.

In addition, the PSEG Maplewood Testing Services has manpower available to assist in sample collection in the aftermath of an incident involving the release of radioactive materials. The emergency services and manpower from the laboratory would be requested by the Emergency Coordinator.

5.2 Reactor Vendor

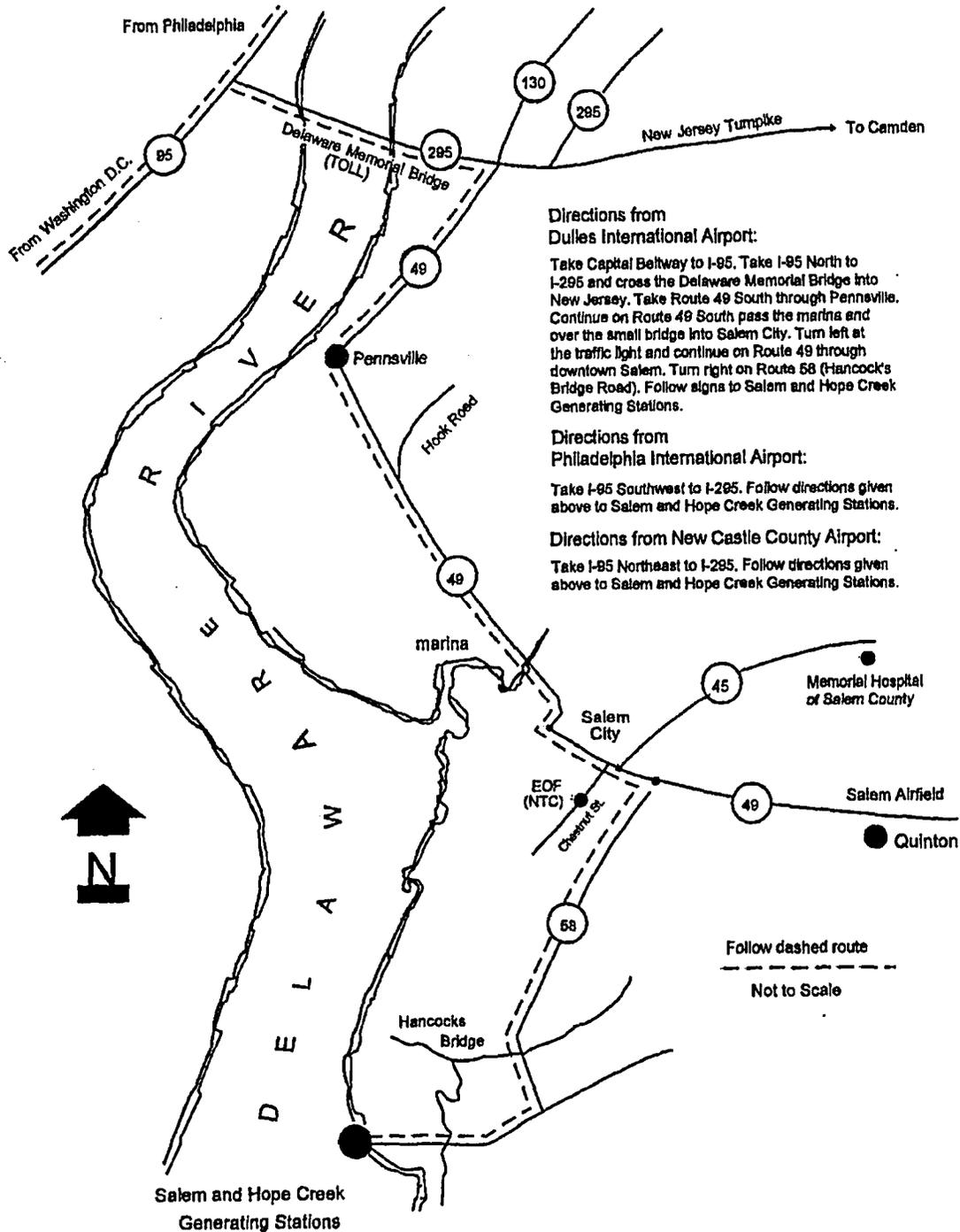
The emergency response capabilities of both Nuclear Steam Supply System (NSSS) vendors in support of Salem and Hope Creek Generating Stations are provided in supplements to the Plan listed in Emergency Plan attachment document.

5.3 Institute of Nuclear Power Operations (INPO)

INPO requested that all utilities with nuclear generating stations provide INPO with information concerning material and personnel resources. This information is available in their "Emergency Resources Manual," to which PSEG Nuclear is a signatory. This source of information, available on-line at the INPO website, is used by the emergency coordinator function in requesting assistance from other Utility Companies.

Supplementing this Plan in the Emergency Plan attachment document is the letter of agreement from INPO that outlines INPO's role in assisting a member utility during an emergency.

**FIGURE 4-1**  
**SALEM and HOPE CREEK GENERATING STATIONS**  
**ACCESS FROM AREA AIRPORTS**



## SECTION 5

### EMERGENCY CLASSIFICATION SYSTEM

The emergency classification system is designed to provide a consistent method for categorizing possible events or accidents into one of four emergency classifications: Unusual Event, Alert, Site Area Emergency, and General Emergency. Refer to the "Introduction" section of the Event Classification Guide (ECG) for a detailed description of the emergency classifications.

#### 1.0 Unusual Event (UE)

Unusual Events, as used for emergency planning purposes, characterize off-normal plant conditions, which may not in themselves be particularly significant from an emergency response standpoint. An Unusual Event could reasonably have the potential to increase in significance if proper action is not taken or if circumstances beyond the control of the operating staff render the situation more serious from a safety standpoint. For Unusual Events, the States of New Jersey and Delaware are notified promptly (within 15 minutes) following the declaration of the emergency. No offsite response is necessary.

#### 1.1 Alert

The Alert classification is the lowest level resulting in offsite emergency response. At this level, physical occurrences within the plant require station emergency response organization (ERO) response. This level, however, is associated with a judgment that the emergency situation can be corrected and controlled by the plant staff and it is unlikely that an offsite hazard will evolve.

For Alerts, the States of New Jersey and Delaware are notified promptly (within 15 minutes) following the declaration of the emergency. Furthermore, the onsite Technical Support Center (TSC) and Operational Support Center (OSC) are activated. Staffing of the Emergency Operating Facility (EOF) and Emergency News Center (ENC) is a planned option. Activation of the EOF will occur if, based on plant conditions, the emergency coordinator requires EOF support. State Emergency Operations Center (EOC) will activate, county and municipal EOC's may activate.

## 1.2 Site Area Emergency (SAE)

The Site Area Emergency classification reflects conditions where there is a clear potential for significant releases, such releases are likely, or they are occurring, but does not involve indications of a core melt situation based on current information. For Site Area Emergency, the States of New Jersey and Delaware are notified promptly (within 15 minutes) following the declaration of the emergency. "No protective actions are recommended at this time" is communicated to the states in the initial notification message following the declaration of a Site Area Emergency. Furthermore, the OSC, TSC, EOF, and ENC are activated. State, county, and municipal EOCs activate.

## 2.0 General Emergency (GE)

A General Emergency classification level reflects conditions involving an actual or imminent substantial core degradation or melting with the potential or loss of containment integrity. For General Emergency, the States of New Jersey and Delaware are notified promptly (within 15 minutes) following the declaration of the emergency. A protective action recommendation of either sheltering and/or evacuation out to a fixed distance is communicated to the states in the initial notification message following the declaration of a General Emergency. Furthermore, if not previously done, all PSE&G Emergency Response Facilities are activated. State, county, and municipal EOCs activate.

## 3.0 Event Classification Guide (ECG)

The Event Classification Guides (ECG) for Salem and Hope Creek list the action levels for all emergency and non-emergency reportable events required by NUMARC/NESP-007, station technical specifications, the Code of Federal Regulations, and special Licensee commitments.

The ECG's subject categories of initiating conditions are summarized for Salem (Attachment 5-1) and Hope Creek Generating Stations (Attachment 5-2). Like the Emergency Plan, the ECG is subject to specific reviews and approvals prescribed by Section 17 of this Emergency Plan. The current revision of the ECGs provides the current controlled, approved document.

The ECG volume guides the emergency coordinator to an immediate and appropriate emergency response specific to the event. The ECG volumes contain the initiating conditions and associated emergency action levels. Since these volumes have been provided to the NRC in accordance with 10CFR50, as approved or revised per 10 CFR50.54q and 10CFR50, Appendix E, they have been included in this plan as attachments. The ECG volumes are considered proper annexes of the PSEG Emergency Plan.

The EALs have been discussed and agreed upon by PSEG and the state governments. Further, the EALs will be reviewed annually as discussed in Section 17 of this Emergency Plan.

## SECTION 6

### NOTIFICATION METHODS - RESPONSE ORGANIZATIONS

#### 1.0 INITIAL NOTIFICATION

##### 1.1 PSEG NUCLEAR LLC EMERGENCY RESPONSE ORGANIZATION

The initial notification of an emergency or a change in emergency classification is in accordance with Figure 6-1. Table 6-1 provides an initial notification and action summary as discussed in NUREG-0654. The station plant paging systems are utilized to notify onsite personnel of emergency conditions and that activation of emergency response facilities may be required.

An automated Emergency Outdial System computer is utilized to callout the balance of emergency response personnel for full organizational augmentation and activation of emergency response facilities. The system activates the appropriate digital group pagers while simultaneously calling other personnel on the telephone. The system is interactive and recognizes emergency response personnel by their employee identification numbers.

Additional PSEG Nuclear LLC telephone notifications are made in accordance with applicable Event Classification Guide Attachments and Emergency Plan Implementing Procedures.

##### 1.2 INITIAL NOTIFICATION - STATES

The initial notification to the states of an emergency or a change in emergency classification is made to the State Police Headquarters of New Jersey and Delaware. Upon completion of the initial message, each State Police Headquarters verifies the call by performing a callback check and then makes the notifications indicated in Figures 6-2 and 6-3.

The procedures for initial notifications to the State of New Jersey and Delaware are identical for all emergency classes. Once activated however, the Delaware Emergency Management Agency (DEMA) will take initial notifications instead of the Delaware State Police. This notification is made promptly following the declaration of the emergency (within 15 minutes). An example of the message format for this initial notification used in the emergency procedures is provided as Figure 6-4. These notifications meet the requirements of NUREG-0654, Element E-3. Appropriate forms are utilized for each emergency classification.

##### 1.3 INITIAL NOTIFICATION - LOCAL

For events classified as an Unusual Event, Alert or Site Area Emergency classifications, each state, following notification by the utility, initially notifies the local authorities. If, however, the utility has not been able to contact a state, the utility directly notifies the local (county) authorities.

All initial notifications must be accomplished within 15 minutes. Accident assessment, protective action recommendations, and other information normally provided to the state are communicated to the local authorities (or other agencies as provided in the Memorandum of Understanding with the state) until the state assessment agency assumes its communications and assessment responsibilities.

For events classified as a General Emergency, Salem and Hope Creek Generating Stations make direct contact with the States of New Jersey and Delaware. If the states cannot be contacted within fifteen minutes, the affected station notifies the local governments (counties) and the Coast Guard. Following this initial contact the states, or if the states could not be contacted the counties, will be responsible for assessing the information provided, activating their response organization (as required), notifying appropriate local governments, and the public.

Following contact by the state, or PSEG Nuclear, each county and the U.S. Coast Guard are responsible for assessing the information provided and activating their response organizations.

#### 1.4 FOLLOWUP COMMUNICATION - STATES

The followup communication with the states is initiated by a return call from the authorized state agency. For the State of Delaware, the Delaware Emergency Management Agency is responsible for followup communications. For the State of New Jersey, the Department of Environmental Protection, Bureau of Nuclear Engineering and/or the New Jersey State Police Office of Emergency Management is responsible for followup communications.

The procedures for followup communications with the States of New Jersey and Delaware are identical for all emergency classes. An example message format for followup communications used in the emergency plan procedures is provided as Figure 6-5. These notifications meet the requirements of NUREG-0654, Element E-4. Appropriate forms are utilized for each emergency classification.

#### 1.5 FOLLOWUP COMMUNICATIONS - LOCAL

Followup communications with the local authorities are provided by the appropriate state agency for all emergency classifications.

#### 1.6 NOTIFICATION OF THE NRC

This plan provides for appropriate notification of the NRC for the events described in the Event Classification Guide.

2.0

PROMPT ALERTING AND NOTIFICATION OF THE PUBLIC

Following initial notification, the states make a determination on protective actions and activation of the Prompt Alerting and Notification System. This system can be activated directly by Salem County in New Jersey and by the Delaware State Police in Delaware for a rapidly developing emergency.

Land use within Salem and Hope Creek Nuclear Generating Stations plume exposure Emergency Planning Zone (EPZ) is principally rural.

The area within five miles of the stations is largely water and marsh land. This area attracts only a limited number of hunters and trappers, most of whom are local residents. The towns and city within ten miles of Salem and Hope Creek Nuclear Generating Stations are listed in Table 1-1.

2.1 SIREN SYSTEM AS THE FIRST PROMPT ALERTING SYSTEM

The Prompt Alerting and Notification System (operated by the states) (Figure 6-6) consists of subsystems which meet the criteria of FEMA REP-10. The system provides notification of the population within zero to five miles of the stations in 15 minutes and notification of the population within five to ten miles in 45 minutes. The first Prompt Alerting and Notification subsystem consists of a siren system controlled from a continuously (24 hour) staffed location in New Jersey and Delaware. Within zero to ten miles of Salem and Hope Creek Nuclear Generating Stations this system is designed to provide siren coverage for essentially 100% of the permanent resident population. In addition, it provides siren coverage of population centers throughout the plume exposure EPZ and selected coverage for the areas known to have recreational or transient populations. An area map showing this system is provided as Figure 6-7. Figure 6-7 includes a listing of siren locations and types. This system is as represented in the Alert and Notification System Report submitted by New Jersey, Delaware, and PSE&G to FEMA Region 2 on January 31, 1986 and tested on December 10, 1986.

2.2 PUBLIC ADDRESS SYSTEMS AS THE SECOND PROMPT ALERTING SYSTEM

The second prompt alerting and notification subsystem combines alerting, notification, and information into a single system. This system, which is used for waterborne transient boaters within the plume exposure EPZ, consists of a radio alert and notification system coordinated by the United States Coast Guard (USCG) on Marine Channel 16 and supplemented by broadcasts via Emergency Alert System (EAS) and National Oceanographic and Atmospheric Administration (NOAA) Weather Radio. The USCG and states also dispatch boats and helicopters to make direct contact with boaters.

2.3 TRANSIENT ALERTING AND NOTIFICATION SYSTEM

Prompt alerting and notification of the transient population within the plume exposure EPZ utilizes the prompt alerting and notification system for the permanent resident population. The States of Delaware, New Jersey and the USCG have established methods for augmenting the prompt alerting and notification system that provides additional assurance that transients are notified in the event of an emergency requiring implementation of protective actions for the public. In general, the agencies in charge of parks and recreation, the Delaware National Guard, the marine police and the state police assist in the notification of transients within their jurisdictions. The alerting and notification of transients may utilize motor vehicles, aircraft, boats or road blocks. The methods used inform/educate the transient population of the prompt alerting system and their required response is provided in Section 8.0 of this plan. These subsystems are augmented by the use of route alerting by police and fire personnel.

2.4 ROUTE ALERTING AS A BACK-UP ALERTING SYSTEM

The prompt alerting subsystems described previously are all augmented by the use of public address systems used by police and fire personnel.

2.5 ALERT NOTIFICATION SYSTEM REPORT

The Alert Notification System Report for Salem and Hope Creek Generating Stations, submitted to FEMA to meet REP 10 requirements, provides appropriate reports on the design, hardware, and other applicable components of the systems, including specific letters of agreement, plans and procedures.

TABLE 6-1  
NOTIFICATION AND ACTION SUMMARY

A. Unusual Event

<u>Class/Condition</u>	<u>Licensee Actions</u>	<u>Offsite</u>
1. Potential degradation of the level of safety of the plant OR Security threat to facility protection.	1. Promptly inform DE DSP/DEMA and NJ OEM authorities.	1. Verify event classification/status.
2. No radiological release requiring offsite response or monitoring is expected.	2. Assess event conditions and initiate corrective actions.	2. Notify key personnel.
	3. Augment on-shift resources as needed.	3. Provide assistance if requested.
	4. Escalate emergency level or terminate the event.	4. Standby until termination.

**TABLE 6-1 (cont)**  
**NOTIFICATION AND ACTION SUMMARY**

**B. Alert**

<u>Class/Condition</u>	<u>Licensee Actions</u>	<u>Offsite</u>
1. Potential/actual safety system degradation OR Security event that involves probable life threatening risk to site personnel or damage to site equipment because of hostile action.	1. Promptly inform DE DSP/DEMA and NJ OEM authorities.	1. Alert state response personnel & key county personnel.
2. Potential/actual radiological release is fraction of EPA PAG.	2. Activate the OSC	2. Activate state EOC. Alert to standby/activate Kent County, Cumberland County, New Castle County, and Salem County Emergency Coordinators.
	3. Mobilize additional personnel to activate TSC. Emergency Duty Officer assumes control as Emergency Coordinator. Provide periodic plant status updates to the states.	3. Initiate field monitoring, if appropriate.
	4. Assess event conditions & initiate corrective actions.	4. Escalate emergency level or terminate event.
	5. Dispatch field monitoring teams as applicable.	
	6. Provide states with escalated emergency level or terminate event.	

TABLE 6-1 (cont)

NOTIFICATION AND ACTION SUMMARY

C. Site Area Emergency

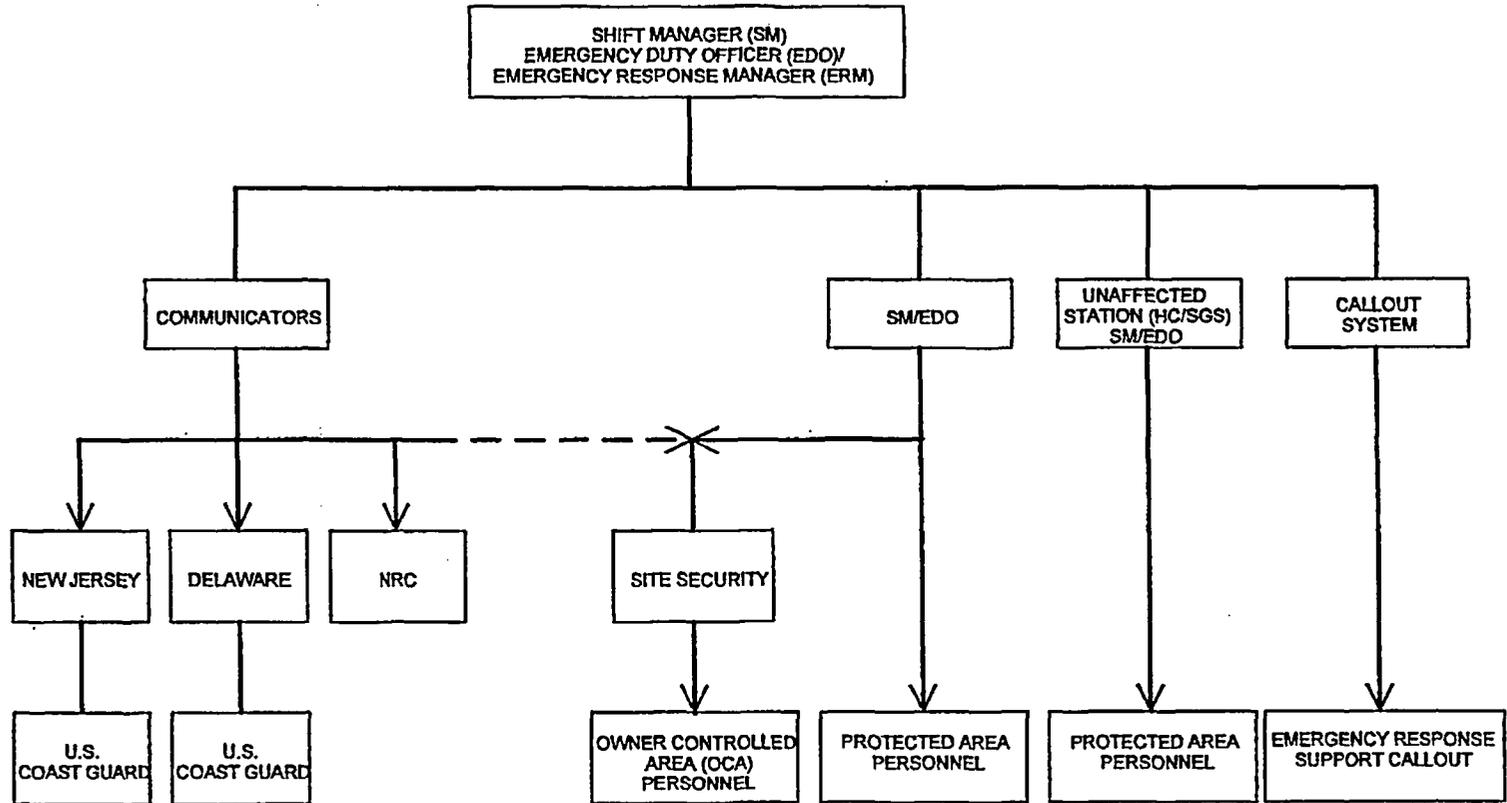
<u>Class/Condition</u>	<u>Licensee Actions</u>	<u>Offsite</u>
1. <u>Actual/likely major failure of plant function needed to protect public</u> OR Hostile action that results in intentional damage or malicious acts toward site personnel or equipment that could lead to likely failure of, or that prevents effective access to, equipment needed for protection of the public.	1. Promptly inform DE DSP/DEMA and NJ OEM authorities.	1. Initiate prompt notification and activate EAS and keep public informed.
2. Radiological release may exceed EPA PAG at site boundary.	2. Augment all resources to activate EOF. Emergency Response Manager assumes control as emergency coordinator.	2. Alert all emergency response personnel and activate specific functions. Activate state, county and local EOCs.
3. Possible degraded core.	3. Assess event conditions and initiate corrective actions.	3. Monitor appropriate locations.
4. Imminent loss of physical control of plant.	4. Conduct accountability and release nonessential personnel. 5. Dispatch radiological monitoring teams. 6. Provide states with: On/offsite radiological data, plant conditions, and meteorological data. 7. Provide state with dose projections and recommend protective actions. 8. Escalate or deescalate emergency class.	4. Alert contiguous and ingestion pathway states. 5. Provide assistance to the site, if required. 6. Escalate or deescalate emergency class.

**TABLE 6-1 (cont)**  
**NOTIFICATION AND ACTION SUMMARY**

**D. General Emergency**

<u>Class/Condition</u>	<u>Licensee Actions</u>	<u>Offsite</u>
1. Actual/imminent core degradation or melting with potential containment failure OR Hostile actions that result in an actual loss of physical control of the facility.	1. Promptly inform DE DSP/DEMA and NJ OEM authorities. Provide pre-determined (based on plant condition) protective action recommendations.	1. Activate emergency and protective action functions.
2. Actual/potential radiological release exceeding EPA PAG offsite.	2. Assess event conditions and initiate corrective actions.	4. Make and implement protective actions, including pathway measures.
3. Loss of two fission Product barriers and Potential loss of the third.	3. Augment all Resources.	5. Regularly inform the public of Emergency status.
	4. Keep federal and state authorities informed of event status and developments.	4. Coordinate field monitoring with federal, offsite and onsite teams.
	5. Regularly provide radiological and meteorological data to the States.	5. Continuously assess event effects upon the public.
	6. Initiate actions, mitigate the incident and terminate any radiological releases.	6. Reduce emergency and initiate recovery action.
	7. Initiate recovery action and reduce emergency class.	

FIGURE 6-1  
NOTIFICATION METHOD - PSE&G



**LEGEND**



COMMUNICATOR NOTIFIES SITE SECURITY  
OF CLASSIFICATION ONLY, TO PREPARE THEM FOR  
PROTECTIVE ACTION DECISIONS COMING FROM THE OS/EDO.

FIGURE 6-2  
 NOTIFICATION METHOD - NEW JERSEY

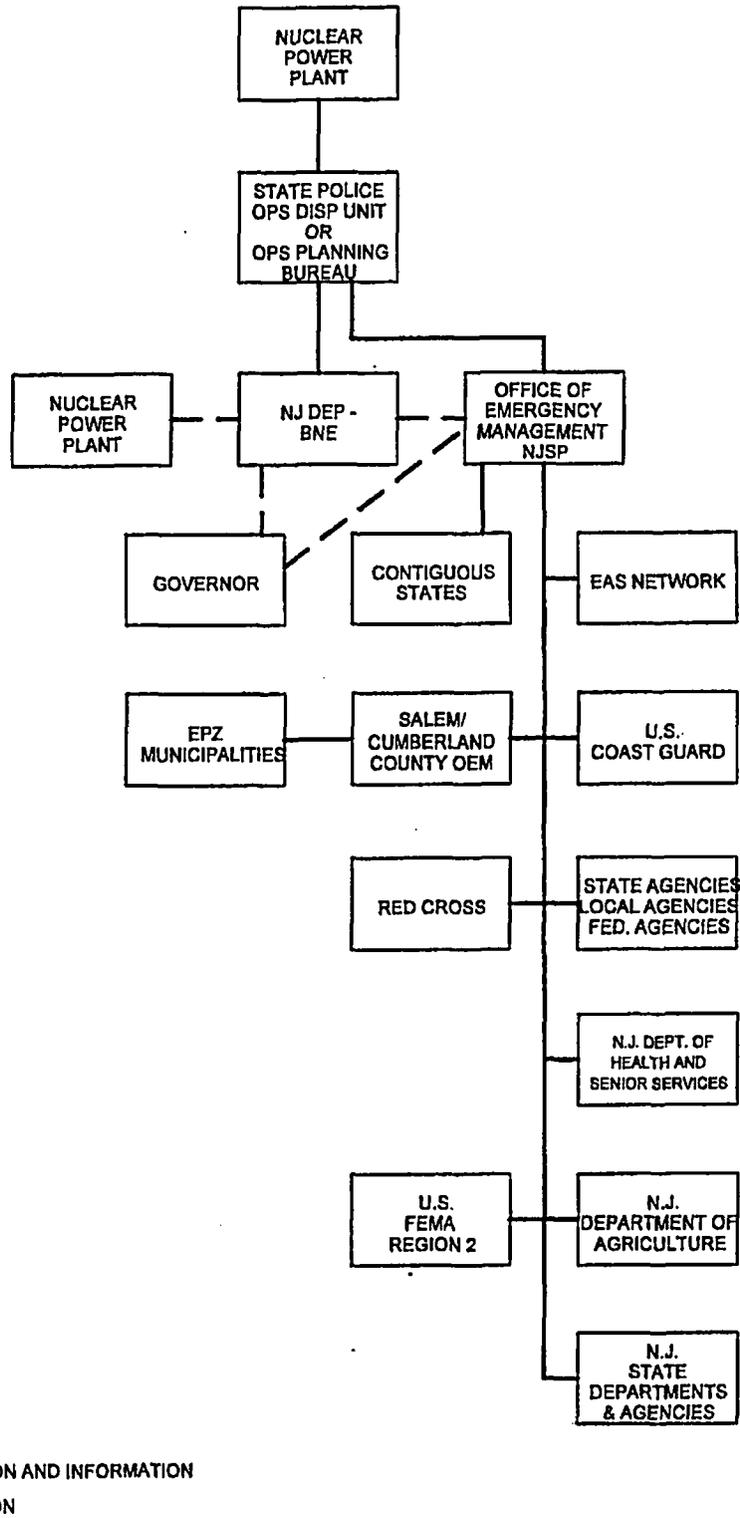


FIGURE 6-3

NOTIFICATION METHOD - DELAWARE

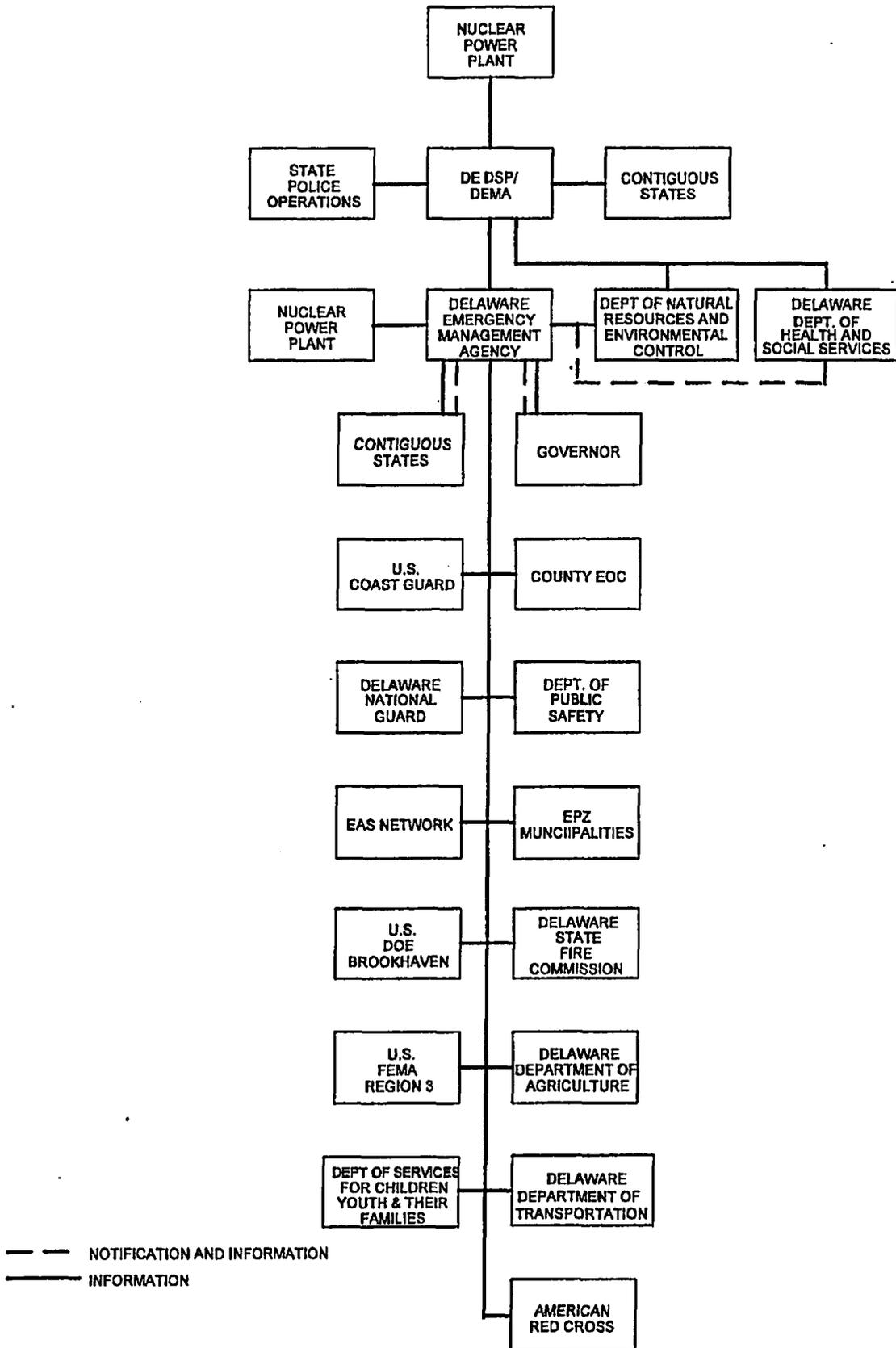


FIGURE 6-4  
TYPICAL INITIAL CONTACT MESSAGE FORM

INITIAL CONTACT MESSAGE FORM

I. THIS IS \_\_\_\_\_, COMMUNICATOR IN THE  CONTROL ROOM  
(NAME)  TSC  
 EOF  
AT THE SALEM NUCLEAR GENERATING STATION, UNIT NO. \_\_\_\_\_.

II.  THIS IS NOTIFICATION OF A SITE AREA EMERGENCY WHICH WAS  
DECLARED AT \_\_\_\_\_ ON \_\_\_\_\_  
(TIME - 24 HOUR CLOCK) (DATE)  
EAL #(s) \_\_\_\_\_,  
DESCRIPTION OF EVENT: \_\_\_\_\_

III.  NO RADIOLOGICAL RELEASE IS IN PROGRESS. } see NOTE  
 THERE IS A RADIOLOGICAL RELEASE IN PROGRESS. } for release  
definition

IV. 33 FT. LEVEL WIND DIRECTION (From): \_\_\_\_\_ WIND SPEED: \_\_\_\_\_  
(From MET Computer) (DEGREES) (MPH)

V.  NO PROTECTIVE ACTIONS ARE RECOMMENDED AT THIS TIME

\_\_\_\_\_  
EC Initials  
(Approval to Transmit ICMF)

**NOTE:** Radiological Release is defined as: Plant Effluent > Tech Spec Limit of  $2.42E+05$   $\mu$ Ci/sec Noble Gas  
or  $2.1E+01$   $\mu$ Ci/sec I-131.

FIGURE 6-5  
TYPICAL STATION STATUS CHECKLIST

SSCL

STATION STATUS CHECKLIST  
(Pg. 1 of 2)

Operational Information

SALEM GENERATING STATION Unit No. \_\_\_ Message Date \_\_\_ Time \_\_\_

Transmitted By: Name \_\_\_\_\_ Position \_\_\_\_\_  
(CR/TSC/EOF)

1. Date and Time Event Declared: Date \_\_\_\_\_ Time \_\_\_\_\_ (24 hr clock)

2. Event Classification:  Unusual Event  Site Area Emergency  
 Alert  General Emergency

3. Cause of Event: Primary Initiating Condition used for declaration

EAL #(s) \_\_\_\_\_

Description of the event \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Status of Reactor:  Tripped/Time \_\_\_\_\_  At Power  Startup  
 Hot Standby  Hot Shutdown  Cold Shutdown  Refuel

5. RZR/RCS Pressure \_\_\_\_\_ psig Core Exit TC \_\_\_\_\_ °F

6. Is offsite power available?  YES  NO

7. Are two or more diesel generators available?  YES  NO

8. Did any Emergency Core Cooling Systems actuate?  YES  NO

9. Is the Containment barrier failed? (Loss per EAL section 3.3)  YES  NO

10. Other pertinent information \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Approved: \_\_\_\_\_  
EC or TSS or SSM

**FIGURE 6-5 (cont)  
 TYPICAL STATION STATUS CHECKLIST**

**STATION STATUS CHECKLIST  
 ( PAGE 2 OF 2 )  
 RADIOLOGICAL INFORMATION**

SALEM GENERATING STATION UNIT NUMBER: \_\_\_\_\_ CALCULATION TIME: \_\_\_\_\_ DATE: \_\_\_\_\_

**I. GASEOUS RELEASE>TECH SPEC (T/S) LIMITS:**

(T/S LIMITS: 2.42 E+05  $\mu$ Ci/sec NG or 2.1E+01  $\mu$ Ci/sec IODINE)

YES: [ ] RELEASE START TIME: \_\_\_\_\_ DATE: \_\_\_\_\_  
 NO: [ ]

A. RELEASE TERMINATED: YES [ ] NO [ ] N/A [ ]

B. ANTICIPATED OR UNKNOWN DURATION OF RELEASE: \_\_\_\_\_ HOURS

C. TYPE OF RELEASE: GROUND [ ] ELEVATED: [ ] N/A [ ]

D. ADJUSTED WIND SPEED: \_\_\_\_\_ (mph) \_\_\_\_\_ (m/sec) WIND DIR (deg from) \_\_\_\_\_

E. STABILITY CLASS: \_\_\_\_\_ (A-G) DELTA T: \_\_\_\_\_ (deg C)

F. VENT PATH OF RELEASE: R41 [ ] R45B/C [ ] R44 [ ] R46 [ ]

G. NG RELEASE RATE: R41 \_\_\_\_\_ R45B/C \_\_\_\_\_ R44 \_\_\_\_\_  
 R46 \_\_\_\_\_ ( $\mu$ Ci/sec)

H. I-131 RELEASE RATE: R41 \_\_\_\_\_ R45B/C \_\_\_\_\_ R44 \_\_\_\_\_  
 R46 \_\_\_\_\_ DEFAULT ( $\mu$ Ci/sec) (circle if default)

I. TOTAL RELEASE RATE NOBLE GAS: \_\_\_\_\_ ( $\mu$ Ci/sec)

J. TOTAL RELEASE RATE IODINE-131: \_\_\_\_\_ ( $\mu$ Ci/sec)

**2. PROJECTED OFFSITE DOSE RATE CALCULATIONS:**

DISTANCE FROM VENT (IN MILES)	XU/Q (1/M2)	TEDE			
		TEDE RATE (MREM/HR)	DOSE (4 DAY) (MREM)	THYROID- CDE RATE (MREM/HR)	THYROID- CDE DOSE (MREM)
MEA 0.79	_____	_____	_____	_____	_____
2.00	_____	_____	_____	_____	_____
LPZ 5.00	_____	_____	_____	_____	_____
EPZ 10.00	_____	_____	_____	_____	_____

3. OTHER PERTINENT INFORMATION: \_\_\_\_\_  
 \_\_\_\_\_

**4. UPDATE TO STATES (IF VERBALLY TRASMITTED):**

	NAME	TIME	INITIALS
STATE OF NEW JERSEY:	_____	_____	_____
STATE OF DELAWARE:	_____	_____	_____
AGENCY:	_____	_____	_____

APPROVED: \_\_\_\_\_  
 EC or RAC or RSM

FIGURE 6-6  
 PROMPT NOTIFICATION SYSTEM

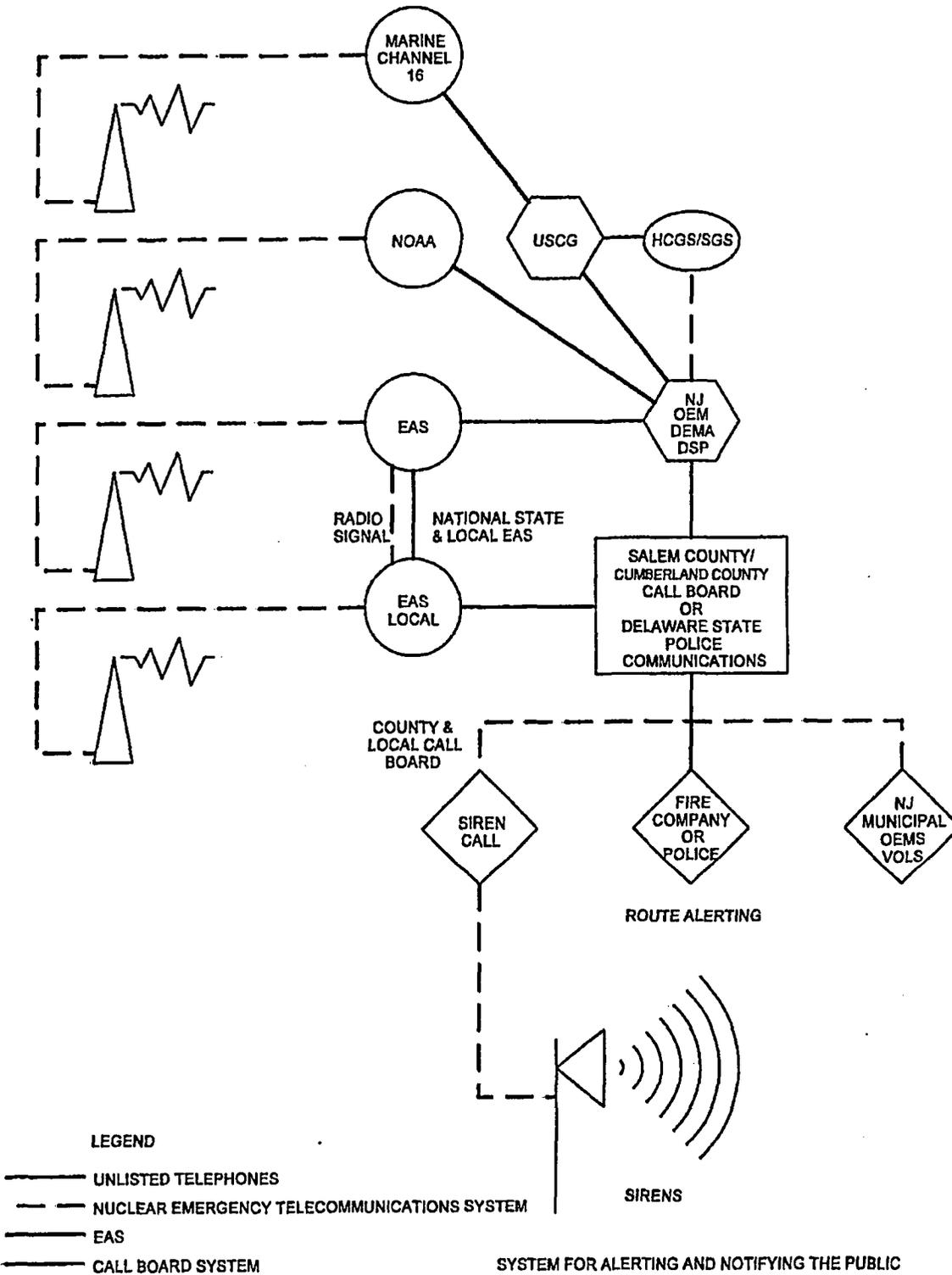
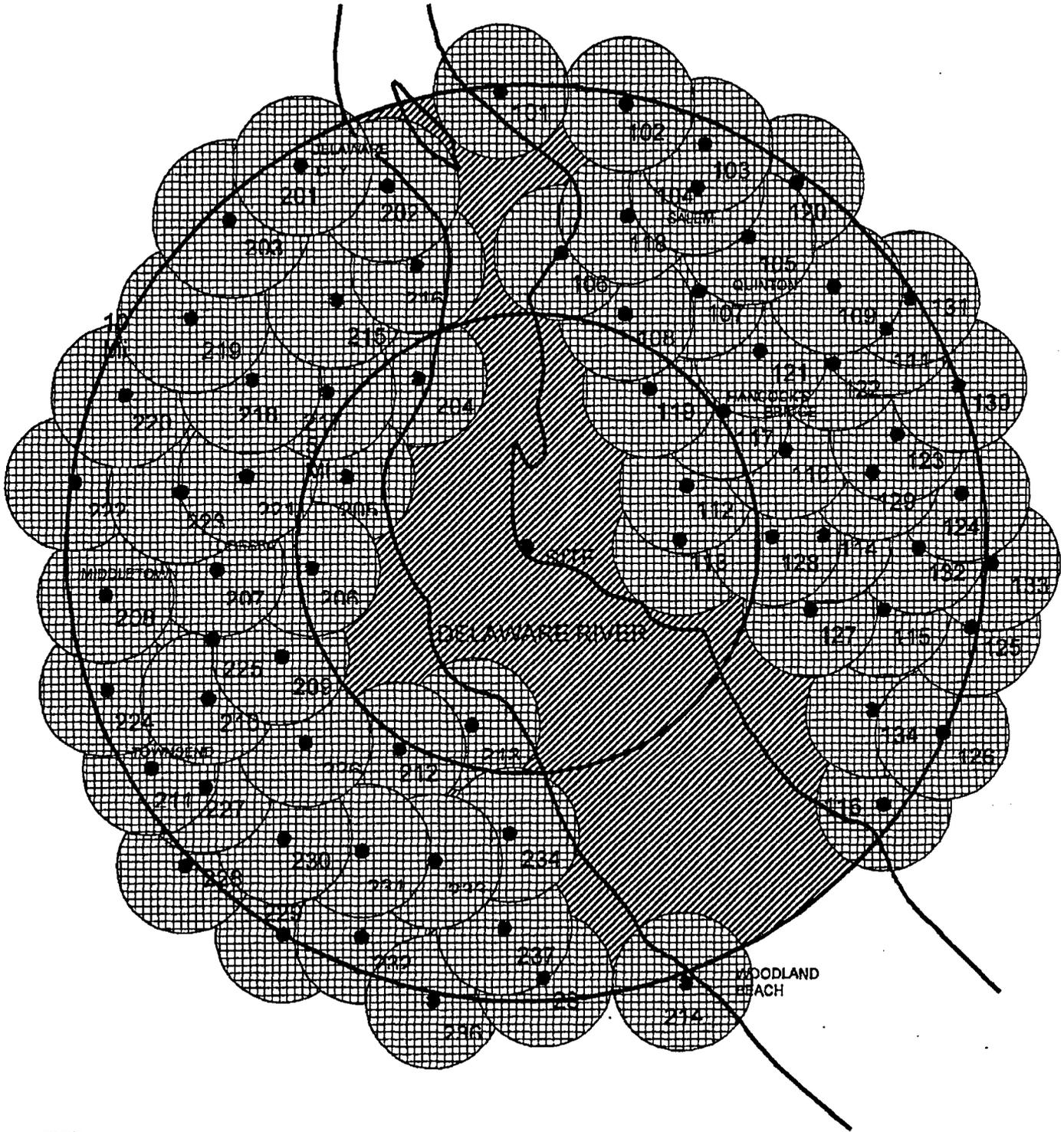


FIGURE 6-7  
APPROXIMATE AREA OF PROMPT NOTIFICATION SYSTEM COVERAGE



LEGEND  
SIREN COVERAGE [Grid Pattern]  
MARINE NOTIFICATION AND EVACUATION [Diagonal Hatching]  
KEY TO SIREN LOCATION NUMBERS FOLLOWS  
PSEG NUCLEAR LLC - EP

FIGURE 6-7 (cont)

ATTACHMENT 6  
 SIREN LOCATIONS

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type<sup>1</sup></u>	<u>db<sup>2</sup></u>
<u>New Jersey</u>				
101	NJ/Pennsville Salem Co.	Fort Mott Rd, 0.1 miles South of Fort Mott Park.	R	125
102	NJ/Pennsville Salem Co.	Route 49, 1000 ft. South of intersection with Harrisonville Lighthouse Rd.	O	125
103	NJ/Salem Salem Co.	Route 45, 0.2 miles East of intersection with Tide Mill Rd.	O	112
104	NJ/Salem Salem Co.	New Market St. at inter- section with Belden St.	O	125
105	NJ/Salem Salem Co.	Quinton Rd., 0.2 miles West of intersection with Harris Rd.	O	112
106	NJ/Elsinboro Salem Co.	Delaware Ave., 0.1 miles East of intersection with Locust Ave.	O	125
107	NJ/Haggerville Salem Co.	Salem-Hancocks Bridge Rd. 1 mile from intersection with Amwellburg Rd.	O	125
108	NJ/Elsinboro Salem Co.	Fort Elfsborg-Hancocks Bridge Rd., 1200 ft. South East of intersection with Money Island Rd.	R	125
109	NJ/Quinton Salem Co.	Quinton Fire Dept., at intersection of Rte 49 with Robinson Road.	O	125
110	NJ/Lower Alloways Creek Salem Co.	Harmersville-Pecks Corner- Cohansy Rd., 2000 ft. East of intersection with Mays Lane.	R	125
111	NJ/Quinton Salem Co.	Burden Hill Rd. 3000 ft. South West of intersection with Route 49.	R	125

FIGURE 6-7 (cont)

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type</u> <sup>1</sup>	<u>db</u> <sup>2</sup>
112	NJ/Lower Alloways Creek Salem Co.	Alloway Crk. Neck Rd. 2000 ft. South of intersection with Grosscup Rd. on Access Rd. to Artificial Island.	R	125
113	NJ/Lower Alloways Creek Salem Co.	Alloway Crk. Neck Rd. 1.8 miles South of intersection with Grosscup Rd. on Access Rd. to Artificial Island.	R	125
114	NJ/Lower Alloways Creek Salem Co.	Frog Ocean Rd., 1800 ft. East of intersection with Stow Neck Rd.	O	125
115	NJ/Stow Creek Cumberland Co.	Stow Creek Rd. 0.1 miles West of intersection with Canton Rd.	O	125
116	NJ/Greenwich Cumberland Co.	Bay Side Rd., 1.1 mile West of intersection with Tindall Island Rd.	R	125
117	NJ/Lower Alloways Creek Salem Co.	Buttonwood Road at the intersection with Cuff Road.	O	125
118	NJ/Elsinboro Salem Co.	Tilbury Road, 1500 feet south of the intersection with Sinnickson Landing Road.	R	125
119	NJ/Elsinboro Salem Co.	Abbott's Farm Rd., 4300 ft. South of intersection with Fort Elfsborg-Hancocks Bridge Rd.	R	125
120	NJ/Salem Salem Co.	Quaker Neck Rd. at intersection with Sandy Ridge Rd.	R	125
121	NJ/Lower Alloways Creek Salem Co.	Beasley Neck Rd., 2000 ft. North of intersection with Hogate Boulevard.	R	125

FIGURE 6-7 (cont)

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type<sup>1</sup></u>	<u>db<sup>2</sup></u>
122	NJ/Quinton Salem Co.	Cross Rd., 500 feet South of intersection with Hogate Boulevard.	R	125
123	NJ/Quinton Salem Co.	Quinton-Jericho Rd., at intersection with Mill Pond Rd.	R	125
124	NJ/Quinton Salem Co.	Quinton-Jericho Rd., 500 ft. North West of intersection with Gravelly Hill Rd.	R	125
125	NJ/Stow Creek Cumberland Co.	Willis Rd., 2500 feet East of Frank Davis Road South.	R	125
126	NJ/Greenwich Cumberland Co.	Gum Tree Corner Road, 3250. feet south of intersection with Stathems Neck Road	R	125
127	NJ/Lower Alloways Creek Salem Co.	Frog Ocean Rd. at intersection with Frogg Rd.	R	125
128	NJ/Lower Alloways Creek Salem Co.	Stow Neck Rd., 0.5 miles South of intersection with Long Bridge Rd.	R	125
129	NJ/Lower Alloways Creek Salem Co.	Maskell's Mill Rd. at intersection with Batter Cake Lane.	R	125
130	NJ/Quinton Salem Co.	Harmersville-Pecks Corner Cohansey Rd., 3500 ft. West of intersection with Route 49	R	125
131	NJ/Quinton Salem Co.	Burden Hill Rd., 2000 ft. North of intersection with Route 49.	R	125
132	NJ/Lower Alloways Creek Salem Co.	Buckhorn Rd. 8000 ft. West of intersection with Macanippuck Rd.	R	125

**FIGURE 6-7 (cont)**

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type<sup>1</sup></u>	<u>db<sup>2</sup></u>
133	NJ/Stow Creek Salem Co.	Macanippuck Rd., 2000 ft. South of intersection with Buckhorn Rd.	R	125
134	NJ/Greenwich Cumberland Co.	Stathems Neck Rd., 5500 ft. West of intersection with Gum Tree Rd. (At the bend in the road).	R	125
<u>Delaware</u>				
201	DE/Delaware City New Castle Co.	Route 72 at intersection with Clarks Corner Rd.	O	125
202	DE/Delaware City New Castle Co.	Clinton St. at inter- section with Second St.	R	125
203	DE/St. Georges New Castle Co.	Route 13, at intersection of Coxs Neck Lane.	R	125
204	DE/Port Penn New Castle Co.	Biddles Corner-Port Penn Rd., 0.1 miles west of intersection with River Rd.	R	125
205	DE/Bayview New Castle Co.	McDonough Bayview Rd., 0.2 miles west of intersection with Thomas Corner Rd.	R	125
206	DE/Thomas Landing New Castle Co.	Thomas Corner Road, 0.8 miles West of intersection with Old Corbit Road	R	125
207	DE/Odessa New Castle Co.	Marl Pitt Road at intersection with Fifth Street	R	125
208	DE/Middletown New Castle Co.	Main St. at intersection with New Rd.	O	125
209	DE/Mathews Corners New Castle Co.	Stump Corner Road, 0.6 miles south of intersection with Thomas Corner Road.	R	125

FIGURE 6-7 (cont)

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type</u> <sup>1</sup>	<u>db</u> <sup>2</sup>
210	DE/Fieldboro New Castle Co.	Noxontown Rd., 0.1 miles west of intersection with Route 13.	R	125
211	DE/Townsend New Castle Co.	Townsend Pine Tree Corner Rd., 0.1 miles west of intersection with Blackbird Middletown Rd.	R	125
212	DE/Taylors Bridge New Castle Co.	Flemings Landing Road, 1.8 miles east of intersection with Taylors Bridge Road.	R	125
213	De/Taylors Bridge New Castle Co.	2 miles east of Rte 9 on Cedar Swamp Rd.	R	125
214	DE/Woodland Beach Kent Co.	Route 6, 2.8 miles east of intersection with Route 9.	R	125
215	DE/Port Penn New Castle Co.	Route 9, 200 feet south of intersection with Dutch Neck Road.	R	125
216	DE/Port Penn New Castle Co.	Dutch Neck Rd, 9000 feet north east of intersection With Biddles Corner-Port Penn Road.	R	125
217	DE/Port Penn New Castle Co.	Boyd's Corner Road, 2000 feet west of intersection with Biddles Corner-Port Penn Road.	R	125
218	DE/St. Georges New Castle Co.	Route 13, 2500 ft. South of intersection with Biddles Corner-Port Penn Rd.	R	125
219	DE/Biddles Corner New Castle Co.	Biddles Corner Grove Road, 2600 feet north of intersection with County Road 412A	R	125
220	DE/Mt. Pleasant New Castle Co.	Ratlidge Rd, 1500 feet north of intersection with Mount Pleasant-Boyd's Corner Road.	R	125

FIGURE 6-7 (cont)

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type<sup>1</sup></u>	<u>db<sup>2</sup></u>
221	DE/McDonough New Castle Co.	Route 13, 1000 ft. south of intersection with McDonough-Bayview Rd.	R	125
222	DE/Armstrong New Castle Co.	Route 301, 1500 ft. north of intersection with Armstrong Corner Rd.	R	125
223	DE/Armstrong New Castle Co.	Shallcross Road, 5500 feet north of intersection with Armstrong Corner Road. (At bend in the road)	R	125
224	DE/Middletown New Castle Co.	Blackbird-Middleton Road 3000 feet south of intersection with Noxontown Road.	R	125
225	DE/Fieldboro New Castle Co.	Route 13, 2000 feet north of intersection with Chestnut Lane	R	125
226	DE/Blackbird New Castle Co.	Taylor's Bridge Rd. at intersection with Union Church Rd.	R	125
227	DE/Ginns Corner New Castle Co.	Route 13, 5000 feet north of intersection with Blackbird-Middletown Road.	R	125
228	DE/Blackbird New Castle Co.	Blackbird Station Rd 800 feet west of Blackbird Creek.	R	125
229	DE/Blackbird New Castle Co.	Route 13, 2950 feet south of intersection with Blackdiamond Road.	R	125
230	DE/Blackbird New Castle Co.	Gum Bush Rd., 2000 ft. north East of intersection with Blackbird Landing Rd.	R	125
231	DE/Walker New Castle Co.	Walker School Rd. at intersection with Gardner Road.	R	125

FIGURE 6-7 (cont)

<u>Siren No.</u>	<u>State/City &amp; County</u>	<u>Location</u>	<u>Type</u> <sup>1</sup>	<u>db</u> <sup>2</sup>
232	DE/Walker New Castle Co.	Paddock Rd., 1750 ft. north of intersection with Black Diamond and Walker School Rds.	R	125
233	DE/Taylor's Bridge New Castle Co.	Paddock Rd., 3500 ft. west of intersection with Route 9.	R	125
234	DE/Taylor's Bridge New Castle Co.	Thoroughfare Neck Rd., 6000 ft. east of inter- section with Route 9.	R	125
235	DE/Brick Store Kent Co.	County Rd. 82, 1000 ft. south of intersection with Route 9.	R	125
236	DE/Smyrna New Castle Co.	End of Brick Store Landing Rd., 1500 ft. east of intersection with County Rd. 503.	R	125
237	DE/Brickstore Kent Co.	Route 9, 2000 feet north west of intersection with County Road 317.	R	125

NOTES:

(<sup>1</sup>) Type sirens:

R = Rotational  
O = Omni-directional

(<sup>2</sup>) Other siren information:

db = minimum required decibel level at 100 ft to meet  
criteria of FEMA REP-10.

## SECTION 7

### EMERGENCY COMMUNICATIONS

1.0 The Plan provides for establishing communications on a continuous (24 - hours per day) basis with the following organizations:

- 1) The State of New Jersey
- 2) The State of Delaware
- 3) Salem County New Jersey
- 4) Cumberland County New Jersey
- 5) New Castle County Delaware
- 6) Kent County Delaware
- 7) Lower Alloways Creek Township
- 8) PSEG (Internal Communication)
- 9) U.S. NRC

The actual notification methods are outlined in Section 6.0 of this Plan.

#### 2.0 General Equipment and System Descriptions

To assure that external notifications and communications are available during an emergency, PSEG Nuclear LLC maintains both dedicated and commercial communications systems as part of its emergency response capabilities. Table 7-1 summarizes the dedicated and commercial communications services maintained in emergency response facilities on and offsite. The following descriptions of the available communications systems emphasize the features which distinguish them. All are highly reliable telephone systems.

#### 2.1 NETS

The Nuclear Emergency Telecommunications System (NETS) is a privately controlled, self-contained telephone exchange that operates as a closed system, not accessible from other phone exchanges. This feature allows the system to be dedicated to emergency response use. The system may use either PSEG microwave, commercial telephone system microwave, fiber optics, or buried cable transmission as needed. The exchange switching equipment is maintained at the Nuclear Training Center. As an independent system with an uninterruptible power supply, it may operate with or without local phone service or external power.

## 2.2 Centrex/ESSX 1

The Centrex/Electronic Switch System Exchange I (Centrex/ESSX 1) is also a privately controlled exchange, which PSEG operates with its own microwave signal system. This system is also independent of local phone service, since each circuit is independently wired. The microwave signal is generated from corporate facilities in Newark, NJ, separated from any local effects of weather or telephone use. The exchange is accessible from other exchanges, but circuits are located only in PSEG facilities. It is considered the primary backup for the NETS system.

## 2.3 DID

Direct Inward Dial (DID) system is named for the dominant feature of the commercial telephone service provided by the local telephone company for the site. DID allows station telephones to be extensions or tied lines of the same systems. These exchanges can take advantage of backup power supplies provided to the stations, and may use either PSEG microwave, commercial telephone system microwave, or buried cable transmission systems to maintain external communications. This commercial telephone service is available as an additional backup for the NETS and Centrex/ESSX 1 system.

## 3.0 Emergency Communications with the States of New Jersey and Delaware and Counties of Cumberland, Salem, Kent, and New Castle

### 3.1 Primary Emergency Communications

The primary communications system between Salem/Hope Creek Generating Stations, the states, and counties is the NETS system described above. NETS telephones are located in onsite emergency response facilities, and offsite emergency facilities of PSEG, as well as the Emergency Operations Center Facilities of the states and counties.

The system is used to notify the states for all emergency action levels and provide emergency communications with the counties. See Table 7-1 for a summary of NETS equipment and locations.

### 3.2 Secondary Communication

The secondary communications to the New Jersey and Delaware states and counties are provided by both the Centrex/ESSX 1 and DID systems, described above, which are strategically placed throughout emergency facilities. Both systems can be used to contact the states and counties via commercial telephone lines.

### 4.0 Additional Methods for State and County Contacts

EMRAD (Emergency Radio) radio frequency communications equipment is located in the Control Room areas in each station and the EOF, and provide still another means of contacting the state of New Jersey, and the New Jersey counties of Salem and Cumberland.

National Attack Warning and Alert System (NAWAS) communications, which are available in the Control Room areas, TSC, and the EOF, provide still another means of contacting the state of Delaware.

### 5.0 Emergency Communications with the NRC

A dedicated communications system with the NRC, the Federal Telecommunications System (FTS); consists of direct lines to the NRC. FTS lines are used to provide general accident information. These telephones are installed in the Control Rooms, TSC's, and the EOF.

### 6.0 PSEG Internal Communications

#### 6.1 Telephone Systems

Table 7-1 summarizes the equipment and locations for NETS access. Those locations include all PSEG emergency response facilities on and offsite.

As described above, NETS telephones are also used for PSEG internal communications for emergency response.

The NETS is used to initiate and expedite implementation of Emergency Plan Procedures. Any NETS locations may contact any other NETS location or access commercial back up services.

Centrex/ESSX 1 system also acts as a backup system for NETS in the PSEG internal communications network. DID, as described earlier, is the principal telephone system used for normal business at the site and is also a backup system for emergency response.

All PSEG emergency facilities on and offsite can be contacted from these systems.

## 6.2 Salem and Hope Creek Stations' Alarm Systems

### 6.3 Fire Alarm

At Salem Station the fire alarm consists of a location-coded series of tones that is broadcast over the PA system via the tone generator in the PA system. It is initiated by any of the following:

1. Automatic sprinkler actuation
2. Smoke detector actuation
3. Manual pull-stations

Each fire alarm sequence of tones indicates a different location. The fire alarm location code is broadcast three (3) times over the PA system and automatically shut off.

At Hope Creek station fire alarms are received on the computer in the Control Room. Control Room operators then contact Fire Protection for response.

### 6.4 Radiation Alert Alarm

The Salem and Hope Creek Stations radiation alert alarms are continuous, pulse-tone sounds, generated electronically in the tone generators of the PA systems. They are broadcast through-out each station via the PA page channels. The alarms are initiated manually by pushbutton from each control room.

### 6.5 Local Area Evacuation Alarms

There are three local area evacuation alarms at each station.

At Hope Creek Generating Station the alarms are:

1. Reactor Building High Radiation Alarm
2. Refueling Floor Evacuation Alarm
3. Emergency Diesel Room Evacuation Alarm

At the Salem Generating Station, the three alarms are:

1. Containment Evacuation Alarm
2. Fuel Handling Building Evacuation Alarm
3. Emergency Diesel Room Evacuation Alarm

These alarms signal that evacuation of these local areas is required immediately. These alarms are independent of each other and local only. They are loud klaxons.

#### 6.6 Refueling Floor Evacuation (HCGS)/Containment Evacuation (SGS)

The containment evacuation alarm, a klaxon, is sounded when the neutron count rate from source-range nuclear instrumentation exceed a preset level while the reactor is shut down.

This condition sounds the containment evacuation alarm and is annunciated in the control room. When this alarm is sounded, all personnel in the containment must exit, maintaining (or establishing) containment integrity as they leave. The alarm continues to sound as long as the neutron flux remains above the setpoint.

This alarm system is required by 10 CFR 70, and must be operable whenever nuclear fuel is stored in the fuel building. It has been designed in accordance with ANSI N16.2, 1969, to meet requirements for a Criticality Accident Alarm System.

#### 6.7 Refueling Floor Evacuation Alarms (HCGS)/Fuel Handling Building (SGS)

The detectors for the fuel building evacuation alarm are gamma monitors that serve both as area monitors and as criticality monitors for the fuel building.

If the activity level at either detector exceed the setpoint, the evacuation alarm is sounded. This alarm indicates the entire fuel building should be evacuated. This condition is annunciated in the control room (i.e., high radiation at specified location); the radiation monitoring panel shows that the detector has triggered the evacuation alarm. The alarm sounds as long as the set point is exceeded.

This alarm system is required by 10 CFR 70, and must be operable whenever nuclear fuel is stored in the fuel building. It has been designed in accordance with ANSI N16.2, 1969, to meet requirements for a Criticality Accident Alarm System.

#### 6.8 Emergency Diesel Generator Room Evacuation Alarm

Each emergency diesel generator room (four at HCGS, six at SGS) has an independent alarm system that sounds if a heat detector in a diesel room is actuated, indicating fire. The diesel room in which the alarm is sounding should be evacuated immediately. The heat detector in each diesel room, upon actuation, activates these system responses:

1. Alarms in the control room (part of the fire detection system),
2. Sounds the evacuation alarm in that particular emergency diesel room,
3. After the preset time delay, automatically discharges the carbon dioxide (CO<sub>2</sub>) fire extinguishing system for the effected diesel room into that room. (Note: CO<sub>2</sub> System discharge can also be manually initiated from outside the diesel room at any time via pullbox).

Thus, the emergency diesel room evacuation alarm warns anyone present that there is both a fire danger as well as an impending CO<sub>2</sub> danger.

#### 7.0 Salem and Hope Creek Stations Public Address (PA) Systems

Each station PA is a completely transistorized voice communication system. Hope Creek maintains six voice channels: one page and five party. Salem Station also maintains six voice channels: one page and five party. The system is designed for use in extreme environmental conditions such as dust, moisture, heat and noise. The system consists of handsets, speakers and their associated amplifiers.

The power for this system is 120 volts AC from an inverted DC source to provide reliable communications during an emergency.

#### 8.0 Salem and Hope Creek Stations Radio Systems

One of the stations' radio systems is the VHF security radio system. This radio system is used for security duties and is routinely tested in accordance with the Station Security Plan.

A second radio system is the Operations and Fire Protection Departments' UHF radio system. This multi-frequency system is used routinely by both station Operations Departments and the Fire Protection Department. When an emergency event is declared, these radio frequencies serve both station Operations Support Centers (OSC).

A third, 900-MHz radio system is used for both onsite and offsite field monitoring team communications. Two specific frequencies (talk groups) are assigned for field monitoring team communications. One talk group is assigned for onsite communications between the Control Rooms, TSCs, and onsite radiation monitoring team with a second talk group assigned for communications between the EOF and offsite radiation monitoring teams. In addition to the installed and portable 900-MHz radio hardware, backup communications devices are supplied to onsite and offsite field teams. The 900-MHz radio system is routinely tested in emergency preparedness drills and monitored by the IT department. This test frequency and monitoring has been determined to be more conservative than required by NUREG-0654 or 10CFR50, Appendix E.

#### 9.0 Notification of Owner Controlled Area

Notification of the Owner Controlled Areas, also discussed in Section 11, Protective Response, is provided for the protection of all personnel located external to the stations' protected area. The primary notification method for the owner controlled area is an onsite siren system which directs evacuation. The backup means for notifying the owner controlled area is through the use of security force members making specific contacts or utilizing public address equipment.

**TABLE 7-1**  
**NUCLEAR BUSINESS UNIT**

**EMERGENCY RESPONSE FACILITIES COMMUNICATIONS SUPPORT**

*LOCATION	NETS LINE	DID LINE	Centrex/ ESSX 1 LINE	FAX MACHINES	**SPECIAL EQUIPMENT
SA U/1 CR	2	2	1	-	A B G H I J
SA U/2 CR	2	2	1	-	A B G H I J
SA SMO	5	3	1	1	D F I J K
SA OSC	4	4	1	-	A E I
SA CP	3	2	-	1	E I
SA TSC	<sup>2</sup> 22	14	4	2	C E F I J L
EOF	35	21	14	4	D E F J L
ENC	18	-	-	3	36 Commercial Lines
HC CR	3	2	1	-	A G H I J
HC SMO	3	4	1	1	B D F G I J K
HC OSC	4	2	1	-	A E I
HC CP	3	2	-	1	I
HC TSC	21	13	4	2	B C E F I J L

Note <sup>1</sup> - Plus three NRC - NETS bridge extensions

\*

SA = Salem Generating Station      HC = Hope Creek Station  
 U/1 = Unit 1      CP = Control Point  
 U/2 = Unit 2      TSC = Technical Support Center  
 CR = Control Room      SMO = SM Office Complex  
 OSC = Operations Support Center      ENC = Emergency News Center  
 EOF = Emergency Operations Facility

\*\*

A = UHF Ops/FP/OSC RADIO      G = EMERGENCY EXT. 3333  
 B = VHF Security RADIO      H = SYSTEM OPERATOR (LOAD DISPATCHER)  
 C = OSC RADIO MONITOR      I = PLANT PAGE  
 D = EMRAD RADIO      J = NRC/ENS (FTS 2000)  
 E = WALKIE-TALKIES      K = STATE CALLBACK  
 F = NAWAS      L = 900-MHz RADIO SYSTEM

**TABLE 7-1 (Cont.)  
 NUCLEAR BUSINESS UNIT  
 EMERGENCY RESPONSE FACILITIES COMMUNICATIONS SUPPORT**

<b>LOCATION</b>	<b>NETS</b>	<b>SECONDARY NUMBERS</b>
NJ STATE POLICE (NJSP)	8	2
NJ - BNE	3	2
SALEM COUNTY	2	1 - NORMAL 1 - 24 HRS.
CUMBERLAND COUNTY	2	1 - NORMAL 1 - 24 HRS.
LOWER ALLOWAYS CREEK	1	1
DELAWARE (DEMA)	4	2
DEL STATE POLICE (DSP)	1	1
KENT COUNTY	1	1
NEW CASTLE COUNTY	1	1
WILMINGTON, DE (WDEL)	1	
MEMORIAL HOSPITAL OF SALEM COUNTY	1	
Telecopiers (fax machines) provided (1 each) to the NJSP, NJ-BNE, DSP and DEMA.		
<b>LOCATION</b>	<b>NETS</b>	
PSEG Security Department	2	
PSEG Fire Department	1	

## SECTION 8

### PUBLIC INFORMATION

#### 1.0 Public Awareness

The public information program consists of general information on the topics of nuclear energy, radiation, and emergency planning. Additionally, specific information on protective response is provided as an information insert in appropriate local publications at least annually.

#### 1.1 General Information - Program Content

The information on each general topic consists of material on the following:

#### 1.2 Nuclear Energy

- a. Definition of emergency in general terms.
- b. How nuclear energy produces electricity.
- c. Safeguards designed into nuclear power plants.
- d. Comparisons with other energy sources.
- e. Definitions of basic nuclear terminology.

#### 1.3 Radiation

- a. Radiation sources in the environment.
- b. Safeguards designed into nuclear power plants to prevent or minimize the release of radiation to the environment.
- c. Definitions of basic radiation terminology.

#### 1.4 Emergency Planning

- a. Description of the public response options of sheltering or evacuation.
- b. Evacuation methods, routes and relocation centers.
- c. Methods of notification.
- d. Special consideration for the handicapped.
- e. Special considerations for farms and agricultural concerns.

This information is provided in various forms (pamphlets, advertisements, or other means) either individually or as a set such that the general topic areas are covered annually.

### 1.5 Protective Response - Program Content

The program for protective response information is more specific in nature and contains material on the following:

- 1) Protective response options (sheltering and evacuation).
- 2) Evacuation methods, routes and relocation centers.
- 3) Methods of alerting and notification.

This information is provided in appropriate formats to the transient and permanent resident of the Plume Exposure Emergency Planning Zone (EPZ). Pamphlets, advertisements in locally distributed newspapers, or telephone books, placards, or postings at recreational facilities may be used, as appropriate, to maintain transient information. Annually, selected information is either updated and redistributed or verified to be in place at appropriate locations.

### 2.0 Public Information During an Emergency

Until activation of the EOF normal public information planning (incorporating both non-emergency events and emergency events as a plan basis) will be used. This system will be activated by the Communications Representative by calling the appropriate contact in the Public Affairs Department and appropriate media representatives.

Upon activation of the ENC, all information (news bulletin) formally provided to the media is approved by the Company Spokesperson or ENC Manager, and NJ during a declared state of emergency, in accordance with the agreements on news bulletins between the utility and the States.

The Public Information Liaison, located in the EOF, will ensure the necessary information is provided to the ENC by the emergency response organization. A timely exchange of information is ensured among the designated spokespersons for the Utility and representatives of the States of New Jersey and Delaware by systematically recording the receipt of news bulletins.

### 3.0 Media Awareness

An information program for the media and the general public is provided to present the information outlined in paragraph 1.1.

This program consists of distribution of training information along with an invitation to annually observe a training drill. All appropriate local news media representatives are provided the materials and are invited to attend the drill.

4.0

Rumor Control

Rumor control is provided to minimize the possibility that a source of public information (e.g., NRC, FEMA, State or utility) could be using out-of-date Utility information. This is accomplished by providing Utility information to other public information sources simultaneously and providing Public Information Officers with access to the Utility public information source. Additionally, telephone access numbers are listed in the annual public information brochure to allow access to quickly confirm or deny the accuracy of a given report or rumor.

## SECTION 9

### EMERGENCY FACILITIES AND EQUIPMENT

#### 1.0 PSEG Nuclear LLC - Emergency Facilities and Equipment

Emergency facilities and equipment are maintained for the PSEG Nuclear LLC both on and offsite. Equipment specifically for monitoring and assessment of operational, radiological, geophysical events, and similar instrumentation is described in Section 10, Accident Assessment. The Emergency Operations Facility and Emergency News Center are offsite facilities that serve the PSEG Nuclear LLC.

Although onsite facilities are described separately in paragraph sections 2.0 and 3.0, to reflect station specifics, they have common functions, and fulfill the same organizational and operational commitments.

#### 1.1 Control Rooms

Control Rooms continue their control functions during emergency response. Additional classification and notification responsibilities are met from the control room until other emergency facilities are activated. The emergency equipment and communications support that are available to each control room are shown in Tables 9-1 and 7-1. The specific features of major communications systems are described in Section 7, Emergency Communications.

#### 1.2 Operations Support Centers

Operations Support Centers (OSC) function as information relay stations, dispatching offices, assembly and assignment points, and also as accountability stations for teams assigned from the OSC. Emergency equipment and communication systems that are available to the OSC are presented in Table 9-1 and Table 7-1, respectively. Specific features of the communications systems are described in Section 7, Emergency Communications.

#### 1.3 Technical Support Centers

The Technical Support Centers (TSCs) also have common functions and similar equipment and support. The TSC provides a well equipped location onsite to support plant management during an emergency. The TSC functions as an augmented communication/analysis center of technical data to supplement the Control Room staff's technical analysis and to support plant operations personnel.

The TSC is used by members of the emergency response organization to relieve control room operators of (and remove from the control room) any plant specific duties not directly related to the direct handling of plant controls. Such duties include directing analysis and assessment of the emergency conditions and performing functions associated with the Emergency Operations Facility, when that is not activated.

The TSC is activated for Alert, Site Area Emergency, or General Emergency action levels. The TSC is used as the assembly point for utility personnel, onsite vendor support, NRC, or for the personnel who are directly involved in assessment of an accident and mitigation.

It is estimated that a TSC facility can be fully activated within one hour following initial notification of personnel assigned to the TSC. This estimate is only a target value and may vary based on initial notifications, travel, and other conditions.

The Emergency Duty Officer (EDO) determines when the TSC is staffed based on manning requirements as identified in the PSEG Nuclear LLC Emergency Organization Chart. The EDO's discretion may be used to declare the TSC activated with less than the staffing required in the organization chart based on extenuating circumstances and plant conditions. Efforts to staff all required positions shall continue until the positions are filled or the emergency is terminated.

Emergency equipment and communications support that are available to the TSC are presented in Table 9-1 and Table 7-1, respectively. The specific features of the communications systems are described in Section 7, Emergency Communications.

#### 1.4 Emergency Vehicles

An ambulance is available to transport injured or contaminated-injured personnel to Memorial Hospital of Salem County or another facility.

#### 2.0 Onsite Emergency Facilities and Equipment - Salem

Emergency facilities and equipment were developed to meet the intent of NUREG-0737, Supplement 1, except as indicated.

#### 2.1 Control Room Area

The Salem Control Rooms have been designed to meet the habitability requirements of the General Design Criteria 19 and Standard Review Plan Section 6.4. The emergency equipment

provided in the Control Rooms and Operations Support Center is shown in Table 9-1.

## 2.2 Operations Support Center (OSC)

The Salem Operations Support Center (OSC) is located in the Operations conference room adjacent to the Control Room. In the event of an emergency, operations personnel not on duty and other support personnel report to the OSC to form repair and corrective action teams. Additionally, an OSC Coordinator is designated to coordinate the teams' efforts. The Salem TSC will serve as a backup OSC if required.

## 2.3 Technical Support Center (TSC)

The Salem Technical Support Center (TSC) is located on the third floor of the Clean Facilities (B) Building isolated from the containment building. The TSC meets all habitability requirements outlined in NUREG-0737, Supplement 1. This center supplies technical support to the operations personnel in the Control Room area.

The analytical and assessment capabilities assigned to the Salem TSC include:

Safety Parameter Display System (SPDS)  
Computerized Dose Assessment  
Plant Engineering Support

Documentation available within the TSC supports emergency classification, procedures, and assessments. Document groups include:

Emergency Plans and Procedures  
Operating Procedures (Emergency and Normal)  
Departmental Support Documents  
Technical Specifications  
Engineering Support Material  
Updated Final Safety Analysis Report  
Technical Drawings

The Salem TSC is in proximity to the Technical Document Room (TDR), and has the capability to retrieve plant-specific documents or drawing groups as well as applicable codes, standards, and regulations utilizing the Document Control Records Management System (DCRMS). TDR has DCRMS work stations and printer available for use. The TSC Ventilation System services the TDR. The TSC is convenient to other support facilities within the B Building. Detailed information

on the TSC can be obtained by reviewing the "Salem TSC Configuration Baseline Documentation" [DE-CB.BBD-0012 (Z)].

#### 2.4 Control Point (CP)

During normal operations, this area serves Salem as the access control point for personnel entering or leaving the Radiological Controlled Area. The emergency equipment provided at this location is shown in Table 9-1. Communications equipment is described in Section 7, Emergency Communications.

#### 3.0 Onsite Emergency Facilities and Equipment - Hope Creek

Emergency facilities and equipment were developed to meet the intent of NUREG-0737, Supplement 1, except as indicated.

#### 3.1 Control Room Area

The HCGS Control Room (CR) areas have been designed to meet the applicable habitability requirements. Typical emergency equipment in the Control Room area and Operations Support Center (OSC) is shown in Table 9-1.

#### 3.2 Operations Support Center (OSC)

The Operations Support Center (OSC) is located in the Outage Control Center adjacent to the Control Room. In the event of an emergency, operations personnel not on duty and other support personnel report to the OSC to form repair and corrective action teams. Additionally, an OSC Coordinator is designated to coordinate the teams' efforts. The office space above the Hope Creek TSC will serve as a back up OSC, if required.

#### 3.3 Technical Support Center (TSC)

The Hope Creek TSC is located on Elevation 132' in the reactor building, but isolated and shielded from the rest of the reactor building. The TSC meets all habitability requirements outlined in NUREG-0737, Supplement 1.

The analytical and assessment capabilities assigned to the TSC includes:

Radiological Monitoring System (RMS)  
Control Room Integrated Display System (CRIDS)  
Safety Parameter Display System (SPDS)  
Computerized Dose Assessment  
Plant Engineering Support

Documentation available within the TSC assists in a variety of analyses and assessments. Document groups include:

Emergency Plan Implementing Procedures.  
Normal Operating Procedures.  
(Emergency) Abnormal Operating Procedures.  
Plant Technical Specifications.  
Updated Final Safety Analysis Report.  
Selected Vendor Manuals.  
Technical Drawings.

Additional documentation is immediately available in the Technical Document Room.

The TSC is located within the protected area convenient to the Control Room, Operations Support Center and Control Point and is a dedicated emergency response Facility. Access is controlled through single entry access. Other entries and exits are maintained locked.

Habitability is controlled to meet the same habitability standards as required in the Control Room. The heating, ventilating, and air conditioning (HVAC) systems include the use of high efficiency particulate absorber (HEPA) and charcoal filtration, which prolongs habitability should inplant conditions degrade.

Sufficient monitoring and protective equipment is kept in a secured area, the Radiation Protection Locker, of the TSC and available to the TSC staff.

### 3.4 Control Point (CP)

During normal operation, this area is located at the 137' elevation and serves as the regular Access Control Point for personnel entering or leaving the Radiological Controlled Area. Emergency equipment is provided at the Control Point and is listed in Table 9-1.

### 4.0 Offsite Emergency Facilities and Equipment

#### 4.1 Emergency Operations Facility - General Description

The Emergency Operations Facility (EOF) is controlled and operated by PSEG Nuclear LLC. It serves as the near site support center to form management of the aggregate response to a radiological emergency as defined by NUREG-0654, Revision 1, and Appendix 1. PSEG NUCLEAR commits to operating the EOF so as to fulfill the functional requirements of paragraph 4.1 of NUREG0737, Supplement 1. It should be noted that based on the

backup EOF exemption granted for the Salem Generation Station Plan, and the fact that the location of Salem and Hope Creek Generating Stations is treated as a single site, the exemption is applicable to all EOF requirements for Salem and Hope Creek Generating Stations.

The EOF provides facilities and equipment to support staff performance of four major functions:

1. Management of overall emergency response activities.
2. Coordination of radiological and environmental assessment.
3. Development of recommendations for protective actions for the public.
4. Coordination of emergency response operations with Federal, state, and local agencies in accordance with the Emergency Plan.

The communications systems available at the EOF are presented in Table 7-1. Specific features of those systems are described in Section 7, Emergency Communications.

It is estimated that the EOF Facility can be staffed and capable of activation within 60 minutes, following initial notification of personnel assigned to the EOF. The 60 minutes is only a target value and may vary based on initial notifications, travel, and other conditions.

Activation and use of the Emergency Operations Facility is at the option of PSEG Nuclear LLC at the Alert emergency classification. The option is exercised depending upon management's evaluation of the potential consequences of the situation based upon the nature of initiating conditions, trends subsequently perceived, and results of actions taken to mitigate potential consequences. EOF activation is mandatory in the event of declaration of a Site Area Emergency or General Emergency.

An individual who is designated as the Emergency Response Manager (ERM) manages the activated EOF. The ERM directs PSEG Nuclear LLC's offsite response activities and coordinates actions with and provides appropriate support to the Technical Support Center (Emergency Duty Officer). The EOF is staffed by PSEG Nuclear LLC and other (Federal, state, and support personnel, as required) emergency personnel designated by the PSEG Nuclear LLC Emergency Plan.

The ERM determines when the EOF is fully staffed based on manning requirements as identified in the PSEG Nuclear LLC Emergency Organization Chart. The ERM's discretion may be

used to declare the EOF activated with less than the staffing required in the organization chart based on extenuating circumstances and plant conditions. Efforts to staff all required positions shall continue until the positions are filled or the emergency is terminated.

Equipment is provided in the EOF for acquisition, recording, display and evaluation of containment and operational conditions, radiological releases, and meteorological data. The data is analyzed and evaluated to determine the nature and scope of any protective measures, which may be recommended to state and local officials for protection of the public health and safety, if the magnitude and potential effects of a radioactive release dictate. The equipment includes a display of information collected by the Radiological Monitoring System (RMS). All equipment, displays, and instrumentation to be used to perform essential EOF functions are located in the EOF.

Facilities are provided in the EOF for NRC, FEMA, New Jersey, Delaware and local emergency response agency personnel responsible for implementing emergency response actions for protection of the general public. This arrangement enhances coordination of activities and exchange of information among participating agencies and the PSEG Nuclear LLC emergency response organization. The agencies also operate from other offsite control centers located at their respective agency facilities.

To ensure EOF activation readiness, PSEG Nuclear LLC provides normal industrial security for the EOF complex including lock and key control, a personnel identification system, exterior lighting, and a perimeter security system providing offsite alarm notification and response by local police department. If the EOF is activated, access to the building and facility is restricted to authorized personnel by the industrial security system.

#### 4.2 Location, Structure, and Habitability

The Emergency Operations Facility is located in PSEG Nuclear LLC Training Center on Chestnut Street in Salem, New Jersey. This site is located 7.5 miles from the Technical Support Center. The site location is judged to provide operational and logistical benefits with regard to its relationship to the areas transportation system. Salem is at the intersection of the two state highways (Routes 45 and 49). Three county highways, Routes 557, 540, and 581, connect to Routes 45 and 49.

A freight only railroad and an airfield serve the city of Salem capable of accommodating small commercial aircraft. In addition, the Nuclear Training Center has a helicopter-landing pad. There is also a landing pad located just outside of the Protected Area. This makes possible rapid movement of personnel between the station and the EOF.

This transportation network makes the EOF readily accessible by road and air to designated personnel of all agencies and activities assigned an emergency response role by the emergency plan.

The physical structure of the facility has been well engineered for the design life of the plant. The building is a 65,000 square foot structure on reinforced concrete footings and floor slab, with supporting steel columns, beams, and joists. The built up roofing material is supported on a steel deck.

The EOF conforms to all applicable building codes and has been designed to withstand winds and floods with 100 year recurrence frequency. The State of New Jersey Department of Environmental Protection identifies the 10 year and 100 year high water levels at the EOF site as 7.1 feet and 8.9 feet above mean sea level, respectively. The floor elevation of the EOF is 9.0 feet. The elevation of the road to the EOF is slightly over 4 feet. Thus, record high water levels would flood the access road and preclude access to the EOF by vehicle and could hamper activities of mobile monitoring teams in some areas. The EOF would continue to be accessible by helicopter. Internal EOF operations would continue without adverse impact.

The SGS Final Safety Analysis Report, Environmental Report, Operating License Stage, Appendix B Report, Site environmental studies, identifies high winds with a 100 year recurrence frequency as having a maximum velocity of 100 miles per hour. It is not anticipated that such winds will significantly affect self contained internal EOF operations. This is due to the strength of building construction and the availability of backup power.

However, activities of mobile monitoring teams would have to be suspended. Under such conditions, radiation exposures would be correspondingly low. Remote monitoring would continue to be available to the extent transmission lines survive. Similarly, data transmission could be adversely impacted by damage to microwave and radio antennae and transmission lines, particularly if winds were accompanied by electrical storms, which are often associated with squall

lines, tornadoes and hurricanes. Under such circumstances, atmospheric conditions could be expected to intermittently affect data transmission and communications.

Protective clothing is maintained at the EOF, in accordance with the emergency plan. In addition, mutual support agreements with other utilities in the region include providing emergency equipment, including radiation survey devices and protective clothing. Potassium iodide for the staff is also stored in the EOF emergency equipment locker.

Additional supplies are available from Radiation Management Corporation, Philadelphia, Pennsylvania or other approved vendors. A description of the methodology to determine airborne I-131 concentrations is presented in Section 10 of the Emergency Plan. Detection limits for I-131 are less than  $1E-7$  uci/cc if not masked by noble gases. Masking is not expected to be a factor due to use of silver zeolite filter cartridges and adequate purge times in sample collections.

Full face respirators with charcoal filters are maintained in the EOF. However, airborne contamination is not expected to present a major problem at the EOF due to its location and the upgraded ventilation system.

#### 4.3 Size

The EOF meets or exceeds the space requirements of paragraph 8.4.1c of NUREG-0737, Supplement 1. Approximately 5240 square feet of floor space in the Nuclear Training Center is designated for use as the Emergency Operations Facility. This provides more than 75 square feet of workspace per person for a staff of up to 70 persons and 650 square feet for conference rooms.

Additional space is available in the building to accommodate another 100 persons in the unlikely event of a situation in which a greatly augmented staff would be required. Normal EOF occupancy by all concerned parties and agencies is not expected to exceed 80 persons.

The functional layout of the EOF depicts designated workspaces:

1. Space for EOF data system equipment for data transmission and reception (Data Center, Communications Center).
2. Space to repair, maintain and service equipment displays and instrumentation (in Nuclear Training Center workshops and labs).

3. Space to accommodate communications equipment and its use by EOF personnel to perform their assigned functions.
4. Space for ready access to functional displays of EOF data (Data Center, provisions for installation of remote terminal in the Dose Assessment Area).
5. Space for storage of plant records and historical data or space for the means to readily acquire and display the records.
6. Space for emergency response activities.
7. Office space for state, local and FEMA personnel.
8. Separate office space to accommodate a minimum of ten NRC personnel during emergency activation of the EOF (NRC offices).

Personnel are assigned to work areas in functional groups. Groups, which perform related tasks and therefore would have the most need for face to face interaction, are, in most cases, located adjacent to one another. Each workstation is assigned sufficient display space, equipped and staffed as appropriate to its function.

#### 4.4 Radiological Monitoring

The EOF complies with the radiation protection provisions of paragraph 8.4.1B of NUREG-0737, Supplement 1 by providing radiological monitoring equipment in the facility. This equipment provides the capability to monitor airborne radioactivity (gross beta, gamma, iodine, and particulates) to ensure that EOF personnel are not subjected to adverse radiological conditions. Available equipment and a table in a Emergency Plan Implementing Procedure permits the detection of radioiodines at a concentration as low as  $1.00E-07$  uCi/cc using a field counting methodology (A portable continuous air sampler collects iodine in a silver zeolite cartridge. The cartridge is then counted using a count rate meter. The corrected counts per minute value are then compared to a graph to find the iodine concentration).

The continuous air monitor sampler may be moved to various points in the facility, is equipped with a strip chart recorder, an alarm light, and an alarm bell. The alarm setting is variable and will be set slightly above background to give an early warning of adverse conditions, which may affect EOF habitability. In addition, the alarm light provides visual warning of radiation levels. The air sampler is maintained and calibrated on a regular schedule by station personnel.

More detailed counting analysis is available at the station (emergency situation permitting) or any other licensed facility (i.e. Peach Bottom, Limerick, etc.).

Survey meters are available, which have sensitivity ranges up to 50 R/hr. Additional EOF radiation monitoring equipment includes high and low range self reading dosimeters (or equivalent electronic dosimeters), TLDs, and air samplers. Radiation monitoring equipment is stored in the emergency equipment closet (Table 9-1). The radiological assessment staff performs habitability of the EOF, in accordance with procedure.

The Radiological Support Managers have a variety of radiological, health physics, and nuclear power plant experience.

#### 4.5 Instrumentation, Data System Equipment, and Power Supplies

The EOF complies with the provisions of paragraph 8.4 1G NUREG-0737, Supplement 1 by providing an EOF data system consisting of a Radiological Monitoring System, an operational parameter data information system, which provides plant variables to a computer system that displays data and is capable of being printed out.

The EOF data system performs its functions independently of personnel actions in the Control Room and the TSC and will not degrade or interfere with Control Room and plant functions.

Backup power is provided to ensure data system availability. Backup power is supplied by a diesel generator in conjunction with an automatic transfer switch, which activates the generator upon loss of power. The generator provides electrical output sufficient to supply all facility lighting, the telephone system and all EOF data and communications systems described in this document. Electrical equipment load in the EOF does not affect any safety related power source. The data system has been designed to preclude loss of any stored data vital to EOF functions due to power supply failure or circuit transient.

#### 4.6 Technical Data and Data System

The comprehensive EOF technical data system is capable of reliable collection, storage, analysis, display, and communication of information on containment conditions, radiological releases, and meteorology sufficient to determine site and regional status, determine changes in status, forecast status and take appropriate actions. Variables from

the following categories that are essential to EOF functions are available in the EOF.

- a. Appropriate variables from Table 1 of Regulatory Guide 1.97 (Rev. 2) and;
- b. The meteorological variables in Regulatory Guide 1.97 (Rev. 2) for site vicinity and regional data available via communication from the National Weather Service.

## 5.0 Emergency News Center

Emergency News Center (ENC) facilities are at the Salem County 911 Center. The ENC provides space for media briefings; media work area, and telephone access. Separate work areas are maintained for PSEG Nuclear LLC, NRC, State and County personnel. The facility is convenient to major highways. Designed for public use, the building has sufficient facilities to support use by 100 or more media personnel. If support for more than 100 media personnel is needed, PSEG Nuclear will coordinate the use of alternate media briefing locations with State and County officials. The communications equipment is described in Section 7 and summarized in Table 7-1. For media use, commercial telephone lines have been assigned from a physically distant exchange, which would reduce the load on local telephone services during an emergency.

Under appropriate circumstances, space for a limited number of press representatives may be made available at the EOF.

## 6.0 Additional Offsite Capabilities

### 6.1 Offsite Environmental Radiological Monitoring

Section 10, Accident Assessment presents a discussion of other assessment capabilities and instrumentation. The Stations are located on a man-made island, which, within four miles, is surrounded by tidal marshlands or river. The thermo luminescent dosimeter (TLD) points of the routine offsite environmental radiological monitoring program include TLDs in neighboring towns and cities and at schools and public assembly points, and at distances sufficiently close to the station to provide meaningful data in the event of an accident. No TLDs were deployed on marshlands where no serviceable roads existed. The Operational Radiological Monitoring program for the Station conforms to the NRC Radiological Assessment Branch Technical Position as described in Section 10 of the Emergency Plan.

### 6.2 Meteorological Monitoring

A meteorological program in accordance with the recommendation of NRC Regulatory Guide 1.23 "Onsite Meteorological Program" and Section 2.3.3 of NUREG 75/087 (Rev. 3) has been established. Monitoring and assessment capabilities are discussed in Section 10.

The dose calculation methodology of Section 10 of the Emergency Plan, concerning the transport and diffusion of gaseous effluents, is consistent with the characteristics of the Class A model outlines in NUREG-0654 (November 1980).

#### 7.0 Field Assessment and Monitoring

The EOF, once activated, is the location for collection and assessment of all offsite radiological monitoring information from the survey teams. Periodically the information on doses calculated in accordance with Section 10 of the Plan is multiplied by the projected sector population data from Emergency Plan Attachment 11 to provide an estimated integrated dose to the affected population.

#### 8.0 Administration and Maintenance of Emergency Facilities and Equipment

The emergency equipment listed in Table 9-1 is inventoried and operationally checked quarterly, and after each use to allow for replacement in the event of normal servicing and calibration. The instrument calibration frequency has been established in accordance with the appropriate technical guidance.

Table 9-1 is a generic listing of typical equipment maintained both on and offsite. Detailed listings are part of emergency preparedness inventory procedures.

TABLE 9-1  
 EMERGENCY EQUIPMENT SUMMARY  
 (TYPICAL)

Page 1 of 2

EQUIPMENT	CR/OSC	CP/Salem Field Team Kit	TSC/Hope Creek Field Team Kit	EOF/Field Team Kit
RO2A Survey Instrument *	L	L	L	E
RM14/EL14ON *	L	L	L	E
Teletector *	L	L	L	E
E520 Survey Instrument *	L	L	L	E
RO2 Survey Instrument *	L	L	L	E
High Range Dosimeters or Electronic Dosimeters *	L	L	L	E
Low Range Dosimeters or Electronic Dosimeters *	L	L	L	E
Dosimeter Charger (not needed for Electronic Dosimeters)	A	L	L	N/A
Air Sampler (A/S)	L	L	L	E
DC Powered A/S	A	A	A	N/A
Marinelli Beaker with A/S Head	A	L	N/A	N/A
Charcoal Cartridges for A/S	L	L	L	E
Silver Zeolite Cartridges for A/S (Sealed)	L	L	L	E
Particulate Filter Papers for A/S	L	L	L	E
Envelops for Particulate A/S	L	L	L	E
Flashlights with Batteries	L	L	A	E
Spare Batteries (replacement set for each instrument)	L	L	L	E
Sample Containers or Small Bags	L	L	L	E
Smears	L	L	L	E
Rad Info Signs	L	A	L	A
Barricade Rope or Ribbon and Stanchions	L	A	L	N/A
Tape	L	L	L	E

NOTES/LOCATION DESCRIPTIONS

- A = Accessible in general area of the Emergency Response Facility
- L = Located at Salem and Hope Creek Emergency Response Facilities
- E = Located in the EOF or EOF Field Team Kits
- N/A = Not applicable in that specific Emergency Response Facility
- \* = or equivalent

**TABLE 9-1**  
**EMERGENCY EQUIPMENT SUMMARY**  
**(TYPICAL)**  
 Page 2 of 2

EQUIPMENT	CR/OSC	CP/Salem Field Team Kit	TSC/Hope Creek Field Team Kit	EOF/Field Team Kit
Large Plastic Bags	L	L	L	E
Step-off Pads (SOP)	L	A	L	A
Paper or Cloth Coveralls	L	L	L	E
Shoe Covers	A	L	L	E
Rubber Gloves	A	L	L	E
Hoods and Caps	A	L	L	E
Respirators and Charcoal/Participate Cartridges	A	A	A	A
Emergency Plan Procedures (as applicable)	L	L	L	E
SCBAs	L	A	N/A	N/A
Check Sources (button) *	L	L	L	E
KI Tablets	L	L	L	E
Absorbent Material	N/A	L	L	E
Calculator/Computer	N/A	L	L	E
Dosimeters of Legal Record	L	A	L	E
Logs, Paper Supplies, Pens, Clip Boards, etc.	L	L	L	E
Plastic Sheeting	N/A	A	A	A
First Aid Kit	L	L	L	E

**NOTES/LOCATION DESCRIPTIONS**

A = Accessible in general area of the Emergency Response Facility  
 L = Located at Salem and Hope Creek Emergency Response Facilities  
 E = Located in the EOF or EOF Field Team Kits  
 N/A = Not applicable in that specific Emergency Response Facility  
 \* = or equivalent

1. The Control Room/Operations Support Center (CR/OSC) area comprises adjacent hallways, lockers, and storage areas.
2. Control Point (CP) comprises adjacent and accessible area including lockers, equipment issue areas, and dress out areas.
3. Technical Support Centers (TSC) are dedicated facilities.
4. Emergency Operations Facility (EOF) includes the adjacent meeting rooms and Room 50.
5. The EOF Field Team Kits describes materials reserved for Field Monitoring.

## **SECTION 10 ACCIDENT ASSESSMENT**

### **1.0 General**

#### **1.1 Emergency Action Level Determination**

The plant parameter and instrument values used to identify an emergency class are provided in Plan Attachment 5-1 and 5-2.

#### **2.0 Accident Assessment and Instrumentation - Salem Generating Station**

There are several monitoring systems used to support emergency planning activities at Salem Generating Station. The primary systems utilized are listed below.

- Radiation Monitoring System (See Radiation Monitoring System Manuals and CBD DE-CB. RM - 0064(Q))
- Safety Parameters Display System (SPDS)
- Reactor Coolant Sampling System

#### **2.1 Radiological Monitoring Instrumentation - Salem Generating Station**

The radiological monitors consist of process radiation monitors, effluent radiation monitors and area radiation monitors, (see Table 10-1). The system continuously displays and/or records the radiation levels in key areas. The Unit 1 Radiation Monitoring System (RMS) is a predominately analog system while the Unit 2 Radiation Monitoring System (RMS) is predominately a digital system. Both systems have been modified to comply with the recommendations of NUREG 0578.

The Unit 2 RMS consists of individual sensors with independent micro processors (MPs), which are able to perform a variety of tasks. The MPs can convert count rate pulses from the individual channels into various engineering units or factor in flow rate information to provide information to the operator to aid accident assessment. The information is fed to two mini computers, which are in a master-slave configuration for redundancy. The operator, by keying in certain commands, is able to display selected radiation monitoring channels in a particular elevation on his display screen. The information may be trended for pre-selected time periods, as required. The listing of the radiation monitoring channels, which may be used to assess an accident, is provided in Table 10-1.

Permanent monitor channels are not always available at a location of interest and the use of portable area monitors may be required during an accident. Unit 2 RMS uses a "communication loop" in which the radiation monitors in the "field" communicate to the computer via a loop of wire.

#### **2.2 Process and Area Monitors**

In order to provide the operators with essential information on plant conditions during an emergency, various plant processes are continuously monitored. Many of these processes involve Limiting Conditions for Operations (LCO) and are controlled by the Technical Specifications. If an LCO parameter "goes out of specification" it requires the operators to implement the action required by the associated action statement. The intent of this action is to take corrective measures under abnormal conditions before a situation becomes more serious. These parameters would be monitored closely during an accident for assessment purposes. These process indications that are monitored are also listed in Table 10-1.

### 2.3 Gaseous Release Path Monitoring

In addition to the main plant vent, a monitored vent, the other potential major release points from the plant during an accident are the main steam dump valves, pilot operated relief valves and the turbine driven auxiliary feed water pump. Procedures have been developed to monitor these potential release pathways and perform the necessary dose assessment.

### 2.4 Reactor Coolant and Containment Air Sampling - Salem Generating Station

Reactor coolant and containment gaseous activity sampling (normal and high activity/emergency samples) will be performed using station procedures and the normal day-to-day sampling systems. The plant vent, which is the final release point, is continuously monitored by the RMS for noble gases. The iodine cartridge can be physically removed and taken into a laboratory for analysis by a multi-channel analyzer available in the station (Hope Creek will provide backup analysis). There are also provisions provided in the plant vent for extracting a grab sample.

Analysis of reactor coolant and containment air samples provides detailed information on the status of the reactor core. These samples can be used to provide confirmation of a loss of the fission product barriers.

### 3.0 Accident Assessment Instrumentation - Hope Creek Generating Station

There are several monitoring systems used to support emergency planning activities for the Hope Creek Generating Station.

The plant computer systems and their functions are described in Final Safety Analysis Report (UFSAR). Specifically, the primary systems utilized to support emergency planning activities are:

- Control Room Integrated Display Systems (CRIDS)(UFSAR Section 7.5.1.3.3.1)

- Radiation Monitoring System (RMS) (UFSAR Sections 11.5 and 12.3.4), Hope Creek CBD DE-CB.SD - 0044(Z) and CBD DE-CB- SP.0044 (Q)
- Safety Parameters Display System (SPDS) (UFSAR Section 7.5.1.3.3.4)

### 3.1 Radiological Monitoring Instrumentation - Hope Creek Generating Station

The radiological monitors consist of process radiation monitors, effluent radiation monitors and area radiation monitors. The system continuously displays and/or records the radiation levels in key areas. The listing of the radiation monitoring channels, which may be used to assess an accident, are provided in Table 10-2. A complete description of the radiation monitor program is provided in UFSAR Sections 11.5 and 12.3.4. PSEG NUCLEAR – Radiation Protection (RP) also has portable hand held instruments, which can be used, if thought necessary.

### 3.2 Process and Area Monitors

In order to provide the operators with essential information on plant conditions during an emergency, various plant processes are continuously monitored. Many of these processes will involve Limiting Conditions for Operations (LCO) and are controlled by the Technical Specifications. If an LCO parameter "goes out of specification," it requires the operators to implement the action statement. The intent of this action is to take corrective measures under abnormal conditions before a situation becomes more serious. These parameters would be monitored closely during an accident for assessment purposes.

### 3.3 Gaseous Release Path Monitoring

There are four designed gaseous release pathways. These include the North Plant Vent, the South Plant Vent, the Filtration Recirculation Ventilation System (FRVS) and the Hardened Torus Vent (HTV). The North Plant Vent serves the off-gas system, the solid radwaste exhaust system, and the chemistry lab exhaust system.

The South Plant Vent serves the following systems:

- a. Reactor Building Ventilation System
- b. Radwaste Area Exhaust System
- c. Service Area Exhaust System
- d. Turbine Building Exhaust System
- e. Turbine Building Compartment Exhaust System
- f. Turbine Building Oil Storage Room Exhaust System
- g. Gland Seal Exhaust
- h. Mechanical Vacuum Pump Discharge
- i. Radwaste Decontamination Evaporator Exhaust

The locations of the North and South Plant Vents are shown on general arrangement drawings in the Hope Creek UFSAR (Figures 1.2-8 and 1.2-9).

In the Reactor Building Ventilation System exhaust ductwork, radiation monitors isolate the normal heating, ventilation and air-conditioning (HVAC) flow path and initiate FRVS upon sensing high radiation. With the reactor building isolated, FRVS recirculates the reactor building air through high-efficiency particulate absorbers (HEPA) and charcoal filters.

A small amount of effluent is then filtered and released via one of two vent fans. These fans discharge through a vent atop the reactor building to maintain the building at a negative pressure of approximately 0.25-inch water gauge.

The Hardened Torus Vent is a flow path designed to mitigate the effects of a loss of decay heat removal capability. This piping provides a direct venting of the primary containment to the environment, taking advantage of the scrubbing properties of the Torus water. The 12 inch diameter Torus vent pipe runs from the Torus, through the Reactor Building square roof and up the outside of the reactor building cylinder wall.

Continuous monitoring or sampling is provided for all expected radioactive release pathways, with main control room annunciation to indicate when levels are higher than allowed limits.

In addition to the systems mentioned above, a list of portable sampling and survey instrumentation has been provided in the Hope Creek UFSAR. Multi-channel analyzers for isotopic analysis are also available within the Hope Creek station with backup support available from Salem Station.

#### 3.4 Reactor Coolant and Containment Air Sampling - Hope Creek Generating Station

Analysis of reactor coolant and containment air samples provides detailed information on the status of the reactor core. These samples can be used to provide confirmation of a loss of a fission product barrier.

Reactor coolant and containment gaseous activity sampling (normal and high activity/emergency samples) will be performed using station procedures and the normal day-to-day sampling systems. The final release point will be continuously monitored by the RMS for noble gases and continuously sampled for particulates and iodines.

#### 4.0 Dose Assessment From Plant Effluent Monitors for Artificial Island

Plume dose calculation procedures use plant effluent monitor data to project offsite doses due to noble gases and iodines. The primary purposes of the offsite dose calculation are to determine the axial location of highest expected dose at selected distances from the release point, to project dose rates and time integrated doses for downwind portions of the Emergency Planning Zone, and to determine if protective actions are to be recommended. These procedures and calculation capabilities are to be available at the Hope Creek Control Point, Salem Control Room, Hope Creek

TSC, Salem TSC, and EOF. The procedures will use the meteorological dispersion factor ( $X/Q$ ), dose rate or commitment conversion factors, and plant effluent monitor readings to project an offsite dose. The  $X/Q$  are selected according to the existing temperature differentials, wind speed, and distance from the plant vent. The dose calculation is based on expected isotopic mixtures or specific mixtures if an isotopic mix has been determined. The plant effluent monitor readings are used in the calculations. The actual isotopic mix of the releases can be used if the releases have been sampled and analyzed. Calculated offsite doses are then compared to Protective Action Guides developed using EPA-400-R-92-001.

The Hope Creek Radiation Monitoring System computer and Salem Safety Parameter Display Systems provide early indication of abnormal radiological conditions from both process and area monitors. The computer systems provide monitoring capability for the radiological parameters identified in Regulatory Guide 1.97, including high range monitoring capability for effluent release paths. This data will be automatically provided to the MIDAS computers at Hope Creek and Salem Stations.

The Hope Creek Digital Radiation Monitoring System provides radiological release rate information. The Salem Computer Systems provide meteorological data acquisition for both Salem Units. MIDAS software provided by ABS Consulting (formerly PLG EQE International) has been installed in computer systems in each station to provide redundant emergency dose assessment modeling capability in manual mode and all modes at the EOF.

The MIDAS System for emergency response is operational on microprocessor based computers. Each system receives meteorological (MET) and Radiation Monitor System (RMS) data automatically from other plant computers via dedicated phone lines or manually via user entry. The user interface is made using graphics screen prompts where selections are made using a system mouse. Source term information is available using several release options including (1) RMS, (2) user entry of monitor data, (3) default accident release, (4) event trees, (5) release rate by isotope, and (6) back calculation. Dispersion is computed using either a straight line or variable trajectory dispersion model. Both models are time dependent and provide integrated doses as well as dose rates using EPA 400 dose factors. Ingestion pathway calculations including (1) airborne concentrations, (2) ground level contamination, (3) foodstuff contamination, (4) ground shine committed dose, and (5) population doses are performed in accordance with the intermediate phase objectives provided in EPA 400.

Several choices are available to the user for determining the source term. If a Design Basis Accident is assumed, but the release rate is unknown, preset release scenarios can be used for up to ten accident scenarios. Otherwise, real time data from effluent monitors will be used.

Upon declaration of a General Emergency (which is done by evaluating specific system parameters), a predetermined Protective Action Recommendation (PAR) is provided to the State governments in New Jersey and Delaware.

The predetermined PARs are developed as outlined in NUREG-0654, Rev. 1, Appendix 1, and Inspection and Enforcement Information Notice 83-28. These PARs are incorporated into both the Event Classification Guide and Emergency Plan Implementing Procedures for Protective Action Recommendations. The use of predetermined PARs allows the transmission and consideration of protective actions in a manner, which affords timely notification of the Emergency Planning Zone (EPZ) municipalities/counties.

The dose calculations use the best information available from the plant effluent monitoring and sample system and the field monitoring team surveys. The doses are integrated over the appropriate sectors and distances around the station.

Transient population is not expected to affect person-rem dose calculations significantly within 10 miles of the plant.

#### 5.0 Dose Assessment From Containment Radiation Monitoring

Dose assessment, utilizing containment high range dose rate monitors, can be obtained with the use of dose assessment computer programs.

#### 6.0 Dose Estimates When Instruments Are Off-Scale or Out of Service

##### 6.1 Defaults for Salem Generating Station

Emergency Plan Procedures describe in detail how projected dose calculations will be made if radiation monitors normally used for monitoring the Containment or Plant Vent are inoperable or off-scale. The procedures call for determining the type of accident, which is occurring and classifying it according to five (5) classes, which are described below.

<u>Class</u>	<u>Conditions Associated with Accident Class</u>
Default 1 (LOCA)	Severe core damage is postulated. Fuel melting is evident by thermocouple readings indicating that the melting point of uranium oxide has been reached. It is also assumed that one hundred percent of the noble gases become airborne in the Containment along with 25% of the iodines. The Containment is assumed to be leaking at the maximum design leakage rate.
Default 2 (LOCA)	Reactor coolant is postulated to be leaking at a rate fast enough to increase the temperature of the fuel cladding to the point where there is threshold damage to the fuel rods. In this case it is assumed that all of the gap activity (the gases contained between the fuel itself and the zircalloy cladding) is released into the coolant and then into the Containment. The Containment is then assumed to be leaking at the maximum design leak rate. In Default 2, LOCA, it is up to the Operations

	Superintendent or the Emergency Duty Officer to determine that there has been no fuel melting. If there is any uncertainty about fuel melting, Default 1 is assumed.
Default 3 (Gas Decay Tank Rupture)	If local area monitors in the vicinity of (Gas Decay the gas decay tanks indicate a Gas Decay Tank Rupture) Tank has ruptured, a Default 3 incident is assumed to have occurred.
Default 4 (Fuel Handling)	In this accident it is assumed that radioactivity is drawn into the Fuel Handling Building Ventilation System and subsequently released through the Plant Vent.
Default 5 (Steam Generator Tube Rupture)	Available instrumentation indicates that a steam generator tube has ruptured. Normally, the activity discharge can be determined from the Plant Vent monitors. However, in this case it is assumed that the vent monitors and steam generator blow down monitors are inoperable or are not capable of quantifying the releases.

Once a determination of the type of accident has been made, Total Effective Dose Equivalent (TEDE) and thyroid committed doses are projected in accordance with Emergency Plan Implementing Procedures.

## 6.2 Defaults for Hope Creek Generating Station

Emergency Plan Procedures are developed to describe in detail how projected dose calculations are made if radiation monitors normally used for monitoring plant conditions are inoperable or off-scale. The procedures are developed for determining the type of accident, which is occurring and classifying it. These procedures contain methodology and guidance including defaults that are derived from the HCGS UFSAR, Section 15. The associated radiological assumptions are described in HCGS UFSAR Appendix 15 A.

<u>Class</u>	<u>Conditions Associated with Accident Class</u>
Default (1) LOCA - 1 hour Duration	These events involve the postulation of a spectrum of piping breaks inside primary containment varying in size, type, and location. The break type includes steam and/or liquid process system lines (HCGS, UFSAR, Section 15.6.5).
Default (2) LOCA - 24 Hour Duration	
Default (3) Steam Line Break	It is postulated that a main steam line breaks downstream of the isolation valve. The plant is designed to immediately detect such an

occurrence, initiate isolation of the broken line, and actuate the necessary protective features (HCGS, UFSAR, Section 15.6.4).

Default (4)  
Feed water Line  
Break

The postulated break of the feed water line representing the largest liquid line outside the Primary Containment provides the design basis for this event. The break is assumed to be complete and already past the outermost isolation valve. (HCGS, UFSAR, Section 15.6.6).

Default (5)  
Offgas  
Treatment

A failure of an active component of the gaseous radwaste treatment system is assumed to occur. This event results in System Failure the activity normally processed by the off gas system being released to the Turbine Building, and subsequently released through the ventilation system to the environment without treatment. (HCGS, UFSAR, Section 15.7.1).

Default (6) Control Rod Drop	The radiological consequences of a control rod drop accident (a design basis accident) are Postulated in the HCGS UFSAR Appendix 15 A, Section 15A. This postulated accident assumes cladding failure of several hundred fuel rods, fuel melting localized failure, and subsequent circumstances resulting in radiological releases. (HCGS, UFSAR, Section 15.4.9).
Default (7) Fuel Handling Accident	The fuel handling accident is assumed to occur as a consequence of a failure of the fuel assembly lifting mechanisms resulting in the dropping of a raised fuel assembly onto other fuel assemblies. A variety of events, which qualify for the class of accidents termed "fuel handling accidents", were investigated (HCGS, UFSAR, Section 15.7.4).
Default (8) Instrument Line failure	This event involves a postulated small break in a steam or liquid line inside or outside the Primary Containment but within the Reactor Building structure. It is assumed that a small instrument line breaks at a location where the break may not be able to be isolated and where immediate detection is not automatic or apparent.

#### 7.0 Dose Assessment From Field Monitoring – Salem–Hope Creek

The Salem and Hope Creek Offsite Dose Calculation Manuals (ODCM's) summarize Environmental Radiological Monitoring. Field monitoring within the plume exposure EPZ takes place whenever the radiological emergency response organization is fully activated. Field teams take direction from the radiological support personnel in the TSC and/or EOF. Data is obtained and updated quarter hourly and hourly on the meteorological variables of wind direction, speed and vertical temperature change (Delta T). This data is used to direct the onsite and offsite survey teams. Each field monitoring team is capable of performing the necessary functions required to obtain reliable data. Communications are accomplished by the use of emergency radios and cellular phones by each team. Deployment times range from 30 to 60 minutes for the onsite and offsite emergency radiation survey team(s). Field monitoring is performed in accordance with Emergency Plan Implementing Procedures. Procedures have been prepared which allow personnel to determine release rates from field data and then calculate doses at other locations.

Station survey instruments are able to detect radioiodine concentrations as low as  $1.0E-07$  uCi/cc provided that noble gases and background radiation (which can adversely affect the Minimum Detectable Activity (MDA) are minimized. In order to

achieve this, silver zeolite cartridges, which can be placed in portable field samplers, are used. The silver zeolite cartridges have better iodine to noble gas adsorption ratio than standard charcoal cartridges. Since high background can also adversely affect readings, survey team personnel are pre-directed to count the cartridges in low background areas.

Emergency Plan Implementing Procedures list equipment required for a field survey team. This equipment provides the means for directly measuring or relating measured field contamination levels to dose rates. The dose rate due to contamination and the plume are obtained directly from the dose rate meter.

## 8.0 Dose Assessment from Liquid Sample Activity Concentration

Since the Delaware River is not a source of potable water in the vicinity of the Station, the major critical pathways by which a population would receive a radiation exposure from liquid effluent releases are swimming and boating activities.

The radiation dose received by such activities is dependent upon three factors:

- a. The isotopic mixture of the release;
- b. The concentration of the nuclides at the point of interest;
- and
- c. The time period of exposure.

All three factors are highly variable, but certain assumptions can be made to calculate a conservative dose conversion factor. The isotopic mixture varies according to the operating history of the plant and on the status of the radwaste system at the time of the incident. The concentration of the nuclides is also dependent upon plant conditions but of equal importance is that this factor varies according to the hydrological mixing and dilution during transport of the liquid release to the site of interest. Based on predicted surface temperature profile data, a dilution factor of 10 can be assumed for swimming and boating activities near Artificial Island.

In the event of a radioactive release to the Delaware River, water samples will be taken and counted. The total counts per minute determined would then be converted to a gross gamma concentration.

### 8.1 Water Immersion (Swimming)

The radiation dose from water immersion (swimming) depends upon the concentration of the nuclides present at the location of the immersion and the period of exposure. Dose rate conversion factors have been calculated on the

assumption that the swimmer is completely submerged and surrounded on all sides by a large volume of water. This physical arrangement approximates  $4\pi$  geometry for gamma radiation and  $2\pi$  for beta radiation.

## 8.2 Normalized Conversion Factors for Water Immersion and Boating

Based on a typical isotopic mixture, general dose equations can be formulated which incorporate a weighted average dose rate conversion factor, a gross isotopic concentration value, and the time period of exposure.

Based on sample analysis, exposure time, and the normalized conversion factors, dose can be calculated for any swimming or boating activities in the vicinity of Artificial Island. A comparison would then be made of these calculated doses with State Action Levels as indicated in the State Radiological Emergency Response Plan for Nuclear Power Plants.

## 9.0 Other Onsite Emergency Equipment- Assessment

Onsite instrumentation, which can be used to initiate emergency measures, is described in the implementing procedures of this plan.

## 9.1 Meteorological Monitoring

A meteorological program in accordance with the recommendation of NRC Regulatory Guide 1.23 "Onsite Meteorological Programs" and Section 2.3.3 of NUREG 75/087 (Rev. 1) has been established.

The primary meteorological monitoring system measures wind speed and direction at three elevations (300 ft., 150 ft., and 33 ft.). Temperature difference is measured between 300 ft. and 33 ft. and between 150 ft. and 33 ft., in order to provide vertical lapse rates for air stability estimates. Calculated sigma theta values of the wind direction at the three elevations are also provided.

Backup meteorological data is provided by a backup tower located onsite approximately 500 ft. south of the primary meteorological tower. Backup meteorological data is provided through wind speed and wind direction sensors mounted on a ten-meter pole. In addition to the 15-minute averaged wind speed and wind direction, a computed sigma theta value is provided. The primary as well as the backup meteorological information is available in the Control Rooms, Salem and Hope Creek TSC, and the EOF.

The meteorological monitoring system is provided with a dedicated battery backup power supply. The system is calibrated quarterly using equipment traceable to an NBS Standard. The Meteorological Monitoring Program is reviewed biennially in accordance with the Hope Creek and Salem UFSAR. (A detailed description of the onsite meteorological measurements program is provided in Section 2.3.3 of the Hope Creek and Salem UFSARs).

A system to provide alternate remote interrogation of the meteorological system is available by way of direct telephone dial-up capability.

The Emergency Plan Implementing Procedures provide for meteorological support from the closest NOAA Weather Station (National Weather Service-NWS). Information, including synoptic weather conditions, forecast, regional precipitation and severe weather alerts from this NWS station is available on a 24-hour-per-day basis. Monthly communication checks with this NWS station are made in accordance with Section 15.0 of this Plan. It has been determined that the data from this nearby NOAA weather station is representative of the combination of local and regional meteorology. Backup communication with this weather station uses the Delaware NAWAS.

## 9.2 Seismic Monitoring

A Control Room alarm is provided in the event of seismic activity associated with the Operating Basis Earthquake (OBE). Seismic monitoring is performed using triaxial accelographs (with a range of +1g and sensitivity of 0.01g) multi-channel recorders and response spectrum analyzers. Time history accelographs are placed throughout the plant site. (A complete discussion of seismic instrumentation is provided in Hope Creek UFSAR, Section 3.7.4. and Salem UFSAR, Section 3.7).

## 9.3 River Level Monitoring

River water levels at each service water pump sump, upstream of the intake structure, are indicated at the Control Room. This system includes two (2) level sensing elements, two (2) transmitting/recording channels, and a signal conditioner.

The geophysical instrumentation monitors the parameters required for evaluating action levels contained in the Event Classification Guide (ECG) and Emergency Plan Implementing Procedures.

## 9.4 Fire Detection

Both station Fire Protection Systems are designed in general accordance with the National Fire Protection Association's standards. Any fire initiates fire alarms and the protection systems as appropriate. An alarm is initiated by automatic sprinkler actuation, smoke detector actuation, heat sensor actuation or by manual action.

**TABLE 10-1**  
**SALEM GENERATING STATION RADIATION MONITORS UNIT ONE**

<b><u>CHANNEL</u></b>	<b><u>DESCRIPTION OF MONITOR</u></b>
R1A	CONTROL ROOM GENERAL AREA
R1B	CONTROL ROOM INTAKE DUCT
R2	LOW RANGE GENERAL AREA CTMT 130'
R3	CHEMISTRY LAB
R4	CHARGING PUMP GENERAL AREA
R5	SPENT FUEL POOL GEN AREA FUEL HANDLING BLDG
R6A	PRIMARY SAMPLE LAB
R7	INCORE SEAL TABLE CTMT 100'
R9	NEW FUEL STORAGE FUEL HANDLING BLDG
R10A	PERSON HATCH GEN AREA CONTAINMENT 100'
R10B	PERSON HATCH GEN AREA CONTAINMENT 130'
R11A	CONTAINMENT PARTICULATE
R12A	CONTAINMENT NOBLE GAS
R12B	CONTAINMENT IODINE
R13A, B, C, D, & E	FAN COIL COOLING WATER
R13F & G	FAN COIL UNIT BACKGROUND
R15	CONDENSER AIR EJECTOR
R17A #11	COMPONENT COOLING
R17B #12	COMPONENT COOLING
R18	LIQUID RAD WASTE
R19A ,B, C, & D	STEAM GENERATOR BLOWDOWN
R20B	CHEMISTRY COUNT ROOM
R23	P.S. CONTROL POINT
R26	REACTOR COOLANT FILTER
R31A	LETDOWN HX FAILED FUEL (GROSS)
R32A	FUEL HANDLING CRANE
R34A	MECHANICAL PENETRATION GENERAL AREA
R36	EVAP & FDWTER PREHEAT CONDENSATE
R40	CONDENSATE FILTER
R41A	PLANT VENT LOW RANGE NOBLE GAS
R41B	PLANT VENT MID RANGE NOBLE GAS
R41C	PLANT VENT HIGH RANGE NOBLE GAS
R44A	CONTAINMENT GENERAL AREA HIGH RANGE 130'
R44B	CONTAINMENT GENERAL AREA HIGH RANGE 100'
R45A	PLANT VENT NOBLE GAS BKGD SUBTRACT
R45B	PLANT VENT NOBLE GAS MEDIUM RANGE
R45C	PLANT VENT NOBLE GAS HIGH RANGE
R45D	PLANT VENT FILTER MONITOR
R46A, B, C, & D	MAIN STEAM LINES
R46E	REDUNDANT FOR R46A,B,C&D
R47	ELECTRICAL PEN. GENERAL AREA HIGH RANGE
R51	TECHNICAL SUPPORT CENTER INDUCT

**TABLE 10-1 (cont.)**  
**SALEM GENERATING STATION RADIATION MONITORS UNIT TWO**

<b><u>CHANNEL</u></b>	<b><u>DESCRIPTION OF MONITOR</u></b>
R1A	CONTROL ROOM GENERAL AREA
R1B	CONTROL ROOM INTAKE DUCT
R2	LOW RANGE GENERAL AREA CTMT 130'
R4	CHARGING PUMP GENERAL AREA
R5	SPENT FUEL POOL GENERAL AREA
R7	INCORE SEAL TABLE CTMT 100'
R9	NEW FUEL STORAGE
R10A	PERSONNEL HATCH GENERAL AREA CTMT 100'
R10B	PERSONNEL HATCH GENERAL AREA CTMT 130'
R11A	CONTAINMENT PARTICULATE
R12A	CONTAINMENT NOBLE GAS
R12B	CONTAINMENT IODINE
R13A, B, & C	FAN COIL COOLING WATER
R15	CONDENSER AIR EJECTOR
R17A & B	#21 & 22 COMPONENT COOLING
R18	LIQUID RAD WASTE
R19A, B, C, & D	STEAM GENERATOR BLOWDOWN
R26	REACTOR COOLANT FILTER
R31	LETDOWN HX FAILED FUEL
R32A	FUEL HANDLING CRANE
R34	MECHANICAL PENETRATION GENERAL AREA
R36	EVAPORATOR PREHEAT CONDENSATE
R37	NON-RADIOACTIVE LIQUID WASTE BASIN
R40	CONDENSATE FILTER
R41A	PLANT VENT LOW RANGE NOBLE GAS
R41B	PLANT VENT MID RANGE NOBLE GAS
R41C	PLANT VENT HIGH RANGE NOBLE GAS
R44A	CONTAINMENT GENERAL AREA HIGH RANGE 130'
R44B	CONTAINMENT GENERAL AREA HIGH RANGE 100'
R45A	PLANT VENT NOBLE GAS BKGD SUBTRACT
R45B	PLANT VENT NOBLE GAS MEDIUM RANGE
R45C	PLANT VENT NOBLE GAS HIGH RANGE
R45D	PLANT VENT FILTER MONITOR
R46A, B, C, & D	MAIN STEAM LINES
R46E	REDUNDANT FOR R46A,B,C&D
R47	ELECTRICAL PEN. GENERAL AREA HIGH RANGE
R52	PASS RM (LOCAL)
R53A, B, C, & D	N16 MAIN STEAMLINE MONITOR

**TABLE 10-2**  
**HOPE CREEK GENERATING STATION RADIATION MONITORS**

<b><u>CHANNEL</u></b>	<b><u>DESCRIPTION OF MONITOR</u></b>
9RX500	RACS
9RX501	SACS A
9RX503	SACS B
9RX505	TBCW
9RX506	CTB MEAS. CONC.
9RX507	DLD RMS
9RX508	LIQ. RADWASTE
9RX509	MSL A
9RX510	MSL B
9RX511	MSL C
9RX512	MSL D
9RX513	HSCD
9RX514	HSCW
9RX516	HTV N/G LOW
9RX517	HTV N/G HIGH
9RX518	HTV EFF
9RX580	SPV EFF
9RX581	SPV N/G HIGH
9RX590	NPV EFF
9RX591	NPV N/G HIGH
9RX596	SPV N/G PIG
9RX597	NPV N/G PIG
9RX598	CTB CALC CONC
9RX599	CTB EFF
9RX600	NPV PART
9RX601	NPV IODINE
9RX602	NPV N/G LOW
9RX603	NPV N/G MID
9RX604	SPV PART
9RX605	SPV IODINE
9RX606	SPV N/G LOW
9RX607	SPV N/G MID
9RX610	FRVS N/G MID
9RX611	FRVS N/G HIGH
9RX612	NFS A
9RX613	NFS B
9RX614	RX. BLDG. VENT. EXH.
9RX615	TB. BLDG. EXH.
9RX616	RADW. EXH. SYS.
9RX617	GAS. RADW. AREA EXH.
9RX618	TB. BLDG. COMP. EXH.
9RX619	RADW. AREA EXH.
9RX620	TECH. SUP. CTR.
9RX621	OFFGAS A
9RX622	OFFGAS B

**TABLE 10-2 (cont.)**

**HOPE CREEK GENERATING STATION RADIATION MONITORS**

<b><u>CHANNEL</u></b>	<b><u>DESCRIPTION OF MONITOR</u></b>
9RX625	OFFGAS TREATED A
9RX626	OFFGAS TREATED B
9RX627	RFE A
9RX628	RFE B
9RX629	RFE C
9RX630	CRV C
9RX631	CRV C1
9RX632	RBE A
9RX633	RBE B
9RX634	RBE C
9RX635	DAPA A
9RX636	DAPA B
9RX637	CRV D
9RX638	CRV D1
9RX640	FRVS N/G LOW
9RX680	FRVS EFF
9RX698	OUTER TIP RM ARM
9RX699	INNER TIP RM ARM
9RX700	PERS. AIRL.
9RX701	MDT. EQPT. HATCH
9RX702	OPEN EQPT. HATCH 145'
9RX703	OPEN EQPT. HATCH 162'
9RX704	SAFEG. INST. RM.
9RX705	EQPT. AIRLOCK
9RX706	RCDSE
9RX707	SPENT FUEL SP
9RX708	RBSS
9RX709	RADW. DRUM SHIP AREA
9RX710	MAIN CR
9RX711	CHEM. LAB. SPL.
9RX712	AUX. HATCHWAY
9RX713	RESTR. MS. 1
9RX714	RESTR. MS. 2
9RX715	TECH. SUP. CTR. INLET.
9RX716	OG VIAL SAMP. STA.
9RX717	RADW SAMP. STA.
9RX720	FRVS LRP
9RX721	FRVS SKID
9RX722	LIQ. RADW. CR
9RX723	ORBSS
9RX724	OFFGAS CR
9RX720	FRVS LRP
9RX721	FRVS SKID
9RX722	LIQ. RADW. CR
9RX723	ORBSS
9RX724	OFFGAS CR

## SECTION 11

### PROTECTIVE RESPONSE

#### 1.0 Onsite Protective Response

The onsite protective response consists of warning, notification, assembly, accountability, and protective actions.

#### 1.1 Onsite Warning

The alarm systems and onsite communication system are presented in Section 7.0 of this Plan. These communications and alarm systems are used to notify site personnel of the emergency or, in the case of the alarm systems the specific area to be evacuated or actions to be taken.

#### 1.2 Assembly and Accountability

The sheltering of personnel is performed only for the specific area affected, or as determined necessary by the Emergency Coordinator (EC), for emergencies classified as Unusual Events. However, the EC has the option of initiating accountability if he thinks it is beneficial.

For emergencies classified as an Alert, Site Area Emergency or General Emergency, assembly/evacuation of onsite personnel and personnel accountability (optional at Alert) are performed and the initial personnel accountability is completed thirty minutes after the accountability message has been announced over the station page. Any personnel not accounted for within thirty minutes are paged and then called at home prior to initiating search and rescue. This accountability includes all personnel (site personnel, visitors or contractor personnel) who remain within the Protected Area. Essential utility personnel are detained at accountability stations until the Shift Manager (SM)/Emergency Duty Officer (EDO) is assured that they can be released, sheltered, or evacuated. Non-essential personnel (utility and contractor) in the Protected Area are directed to exit the site and evacuate the OCA. Evacuation of non-essential personnel (utility personnel, contractor personnel or the general public) outside the Protected Area, but within the Owner Controlled Area (OCA), is accomplished through notification by either a site siren system or by the security force.

The accountability system is based in the security computer that maintains normal logs of personnel entering and exiting onsite (the Protected Area) and utilizes the photobadge issued to each person able to access the site. Upon initiation of Assembly, onsite personnel report to their assigned accountability stations. It should be noted that when Assembly is initiated, nonessential station personnel and contractors exit the Protected Area (conditions permitting) to reduce the number of personnel subject to the accountability process.

After accountability is initiated, personnel will pass their photobadge through dedicated accountability card readers installed at the various accountability stations. The security computer then generates a report for the security supervisors that indicates the names of unaccounted-for personnel. The security supervisor will inform the SM/EDO of the accountability results.

After it is determined which personnel have not been accounted for, actions are taken to locate the missing persons, including the use of search & rescue teams if appropriate.

Site protective actions during security related events are taken in accordance with station abnormal operating procedures that deal with "airborne threats" and "security events" and take priority ahead of the normal assembly/accountability process as outlined in NRC Bulletin 2005-02.

### 1.3 Protective Actions

Once personnel accountability has been performed, specific instructions on appropriate protective actions to be taken by station personnel will be issued using a public address system. Warning of personnel in the OCA is accomplished through the combined use of the owner controlled area siren system and Security Force Members in vehicles.

The protective action options of sheltering and evacuation are combined with a consideration of the necessity for keeping specific technical or management personnel at the station for implementation of this Plan. The evacuation routes and transportation for nonessential onsite personnel are part of the evacuation study for the entire area around Salem and Hope Creek Generating Stations which is provided as Emergency Plan Attachment 11.

Evacuations are performed utilizing the site evacuation procedures, which provides guidance to the Emergency Coordinator function on actions required for site evacuation and guidance to the security force for their assistance in site evacuations.

A separate site warning system is used at Salem and Hope Creek Generating Stations for OCA evacuations. This system provides siren coverage of the habitable portions of the OCA. A siren signal is provided to all personnel in accordance with security procedures. Signs are in place to inform personnel in the owner controlled area to evacuate should the OCA sirens sound.

The access road to the station is the only route for evacuating the site. However, appropriate sheltering is available if circumstances preclude evacuation of personnel via the access road.

2.0

Personnel Monitoring and Decontamination

For emergencies classified as an Unusual Event or Alert, monitoring of personnel will be restricted to those who have potentially been exposed to or in contact with radioactive materials. The initial monitoring and decontamination will be performed onsite in the decontamination area at each control point or other suitable location within the controlled access areas of the station. Methods for personnel decontamination (skin) are described in Emergency Plan Implementing Procedures and in Table 12-2. If the skin cannot be decontaminated below the acceptable values, medical support personnel will be consulted in accordance with Section 13 of this plan and applicable Radiation Protection Department instructions.

For emergencies classified as a Site Area Emergency or General Emergency the same general criteria for monitoring and decontamination will be used as for the Unusual Event or Alert. Should an actual release of radioactive material have been made, the source, wind direction, and survey results will be used to determine if general monitoring of station personnel will be required. If general monitoring of personnel is determined to be required, the monitoring and decontamination will be performed in accordance with Emergency Plan Implementing Procedures. Once evacuated from the Owner Controlled Area, non-emergency workers that are PSEG employees, also known as non-essential personnel, will normally be treated as the general public concerning decontamination processes. Monitoring of personnel or vehicles will be performed by offsite officials at an appropriate reception center.

If thought appropriate by the emergency coordinator, personnel may be evacuated to or asked to report to the EOF, which serves as an offsite assembly area. The EOF has facilities for personnel monitoring and decontamination.

Individual respiratory protection, protective clothing and potassium iodine will be available for onsite emergency response personnel.

3.0

Offsite Protective Response

The States of New Jersey and Delaware are using similar basis for recommending protective actions within the Plume Exposure Pathway. PSEG Nuclear make recommendations to the States in case of a General Emergency. PSEG Nuclear uses basis similar to those established by the States to make recommendations. Recommended action levels consistent with those indicated in both State Plans (and adopted from EPA-400-R-92-001) are being used as guidance in making a determination as to what protective actions, if any, should be recommended.

For projected TEDE + 4 Day Dose of 1 rem and Thyroid Commitment Dose Equivalent (CDE) of 5 rem (child or adult) the option exists to recommend seeking shelter or initiating evacuation (or a combination of two depending on distance and direction of plume). The decision will be based primarily on a comparison of the projected plume travel time, evacuation time estimates, ambient meteorology, anticipated duration of release, and degree of protection afforded by local residential units. A list of representative shielding factors provided by typical structures against direct exposure to the plume is provided in Table 11-1. If an evacuation can be completed prior to the plume passing over the affected population, then an evacuation recommendation may be made, while considering other environmental factors, in the case of a projected 1 rem TEDE + 4 Day Dose or 5 rem Thyroid CDE. A sheltering recommendation may be made, if a "puff" radiological release occurred and it was not expected that evacuation could be completed within the plume travel time.

3.1 Evacuation Time Estimate

The evacuation time estimate for the Plume Exposure Pathway EPZ is provided in Emergency Plan Attachment 11.

3.2 Population Distribution

The population distribution within ten miles of Salem and Hope Creek Generating Stations is provided in Emergency Preparedness Implementing Procedures.

TABLE 11-1

**REPRESENTATIVE SHIELDING FACTORS FROM GAMMA CLOUD SOURCE**

<b><u>Structure Description</u></b>	<b><u>Shielding Factor</u> <sup>(1)</sup></b>	<b><u>Representative Range</u></b>
Outside	1.0	--
Vehicles	1.0	--
Wood-frame house <sup>(2)</sup> (No Basement) (no basement)	0.9	--
Wood-frame House (Basement)	0.6	0.1 to 0.7 <sup>(3)</sup>
Masonry House (No Basement)	0.6	0.4 to 0.7 <sup>(3)</sup>
Large Office or Industrial Building	0.2	0.1 to 0.3 <sup>(3,4)</sup>

**NOTES:**

- (1) The ratio of the dose received inside the structure to the dose that would be received outside the structure.
- (2) A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.
- (3) This range is mainly due to different wall materials and different geometry.
- (4) The shielding factor depends on where the personnel are located within the building, such as in the basement or an inside room.

**Source:** SAND 77-1725 (Unlimited Release)

## SECTION 12

### RADIOLOGICAL EXPOSURE CONTROL

#### 1.0 Onsite Exposure Guidelines

Site evacuation criteria, protective action recommendation guidance, emergency worker exposure limits, and decontamination guidance to be used by the emergency coordinator function, Radiation Protection Supervision, and radiation protection personnel during an emergency are provided in emergency plan implementing procedures.

The specific goal within the radiation protection program is the positive control of personnel exposure to radiation and radioactive material.

#### 1.1 Onsite Emergency Radiation Protection Program

The radiation protection program provides the following emergency capabilities:

- 1) 24 hour-per-day dose determination recording and record retention capability;
- 2) Contamination control;
- 3) Onsite and offsite decontamination of site personnel;
- 4) Respiratory protection; and
- 5) Life saving dose risk assessment.

24-hour-per-day dose determination capability for doses received by emergency personnel, including the provisions for distribution of dosimeters and the maintenance of dose records will be implemented. If the nature of the incident is such that additional personnel will be arriving onsite, the dosimetry group will prepare additional thermoluminescent dosimeters (TLDs), pocket dosimeters, etc., and ensure the necessary dosimetry is available and ready for use. If it becomes necessary to evacuate during an emergency condition, necessary dosimetry equipment, both internal and external, may be relocated to lower dose rate areas in order to provide the means for exposure evaluation.

## 1.2 Contamination Control

Decontamination of vehicles is performed in accordance with the Emergency Plan Implementing Procedure for vehicle survey. Decontamination of personnel is performed as outlined in the Emergency Plan Implementing Procedure and/or Station Radiation Protection Procedures. This was developed using Table 12-2 as a guide. The limit of acceptable surface contamination levels (Table 12-1) are used as a guide for the release of equipment. Release of station personnel is performed utilizing normal station operational limits as incorporated into Emergency Plan Implementing Procedures. These values may be increased at the discretion of the Radiation Assessment Coordinator or the Emergency Duty Officer.

Once evacuated from the Owner Controlled Area, non-emergency workers that are PSEG employees, also known as non-essential personnel, will normally be treated as the general public concerning decontamination processes. Monitoring of personnel or vehicles will be performed by offsite officials at an appropriate reception center.

If thought appropriate by the emergency coordinator, personnel may be evacuated to or asked to report to the EOF, which serves as an offsite assembly area. The EOF has facilities for personnel monitoring and decontamination.

Bottled drinking water and food supplies are shipped to the site from outside vendors. Onsite drinking facilities having the local ground water as their source would be considered contaminated until sampled. Access control to the controlled areas of the station is maintained. Personnel assigned to this area monitor personnel coming in and out of the controlled access areas.

Criteria for permitting return of areas and items to normal use are established. Restoration levels and personnel exposures do not exceed 10CFR20 limits. Disposal of decontamination waste is in accordance with routine Radiation Protection Procedures.

## 1.3 Decontamination of Site Personnel

Procedures for decontaminating relocated onsite personnel, including provisions for extra clothing and decontaminants suitable for the type of contamination expected are established. In all cases, first aid efforts take precedence over decontamination efforts unless the contamination itself is life threatening. Relocated onsite personnel can be decontaminated at the control point of either station or at the Emergency Operations Facility. Extra clothing and decontaminants are housed in the main warehouse onsite.

## 1.4 Internal Exposure Control

The Radiation Protection Department is responsible for ensuring that internal and external radiation exposure at the worksite is kept as low as reasonable achievable (ALARA). Title 10CFR20.1201 sets limits on the sum of internal and external dose, which a nuclear worker may receive. Respiratory protection shall be used in a manner that keeps total dose (the sum of internal and external dose) ALARA.

To limit expected and potential respiratory contamination from radioactive dust, aerosols, or gases, engineering controls such as work procedures, setting local containments (like tents or glove bags), and ventilation or filtration measures may be recommended by the Radiation Protection Department.

In an emergency, there are situations in which prompt actions need to be taken before engineering controls can be set up and before airborne contamination levels can be measured or evaluated. In all of the above cases, personnel are required to wear respiratory protective devices to assure that inhalation of radioactive contaminants is held to a minimum.

#### 1.5 Performance of Life Saving/Corrective Actions and Dose Risk Assessment

Procedures have been established, which address radiological exposure control. Any planned exposure greater than regulatory limits is considered an emergency exposure requiring authorization. Twenty five rem is established as the upper limit for performance of actions to save station equipment required to mitigate the emergency. The upper limit for life saving actions is 75 rem.

Life saving activities applies to the following:

- 1) Removal of injured persons;
- 2) Undertaking corrective actions;
- 3) Performing assessment actions;
- 4) Providing first aid;
- 5) Performing personnel decontamination;
- 6) Providing ambulance service; and
- 7) Providing medical treatment services.

Emergency exposure requires the approval of the Emergency Duty Officer (EDO). If the EDO is not available, the Shift Manager (SM) with the advice of the Shift Radiation Protection Technician makes the authorization decision. The Emergency Plan Implementing Procedure on emergency exposure authorization is used. It describes both oral and written exposure authorization methods to ensure timely reentry as required for emergency actions.

The following guidance for life saving and emergency mitigating actions is used.

- 1) Life Saving Actions
  - a. Rescue personnel should be volunteers or professional rescue personnel (e.g., firemen who volunteer by choice of employment).
  - b. Rescue personnel should be broadly familiar with the consequences of exposure.
  - c. Declared pregnant women shall not take part in these actions.
  - d. Other things being equal, volunteers above the age of 45 should be selected.
  - e. Planned External Dose Equivalent (EDE) shall not exceed 75 rem.
  - f. Hands and forearms may receive additional doses of up to 200 rem.
  - g. Internal exposure shall be minimized by the use of the best available respiratory protection, and contamination controlled by the use of available protective clothing.
  - h. Exposure under these conditions shall be limited to once in a lifetime.
  - i. Persons receiving exposures, as indicated above, should avoid procreation for a few months.

**2) Emergency Mitigating Actions**

- a. Persons performing the planned actions should be volunteers broadly familiar with exposure consequences.**
- b. Declared pregnant women shall not take part in these actions.**
- c. Planned EDE dose shall not exceed 25 rem.**

**TABLE 12-1**

**ACCEPTABLE SURFACE CONTAMINATION LEVELS<sup>(1)</sup>**

**"LOOSE CONTAMINATION"**

$\leq 1000$  dpm/100cm<sup>(2)</sup>  
Gross Beta/Gamma

$\leq 20$  dpm/100cm<sup>(2)</sup>  
Gross Alpha

**"COMBINED (LOOSE & FIXED) CONTAMINATION"**

$\leq 5000$  dpm/100cm<sup>(2)</sup>  
Gross Beta/Gamma

$\leq 100$  dpm/100cm<sup>(2)</sup>  
Gross Alpha

**NOTES:**

- (1) Reference - INPO 85-0047, Guidelines for Radiation Protection at Nuclear Power Stations.
- (2) Reference - NC.NA-AP.ZZ-0024(Q), Radiation Protection Program.

**TABLE 12-2**

**PERSONNEL DECONTAMINATION METHODS**

**NOTE:**

This table is adapted from U.S. HEW, "Radiological Health Handbook", Washington, D.C., 1970.

Begin with the first listed method and then proceed, step-by-step, to the more severe method as necessary.

<b><u>Method</u></b>	<b><u>Surface</u></b>	<b><u>Technique</u></b>
Mild soap & water	Skin & hair	Wash 2-3 min. Do not scrub with a brush.
Lava, soap, soft brush & water	Skin	Use light pressure with heavy lather. Use care not to scratch or erode the skin.
Tide or other detergent	Hair	Wash hair, rinse thoroughly and repeat.
Flushing	Eyes, ears, nose, & mouth	Roll back the eyelid, flush with large amounts of water. Use Isotonic irrigants if available.
Flushing	Wounds	Wash wound with large amounts of water & spread edges to stimulate bleeding, if not profuse <sup>(1)</sup> .

**NOTE:**

( 1 ) If bleeding is profuse:

- Stop bleeding first
- Clean edges of wound
- Bandage

If any contamination remains, it may be removed by normal cleaning methods as noted above.

## SECTION 13

### MEDICAL SUPPORT

#### 1.0 PSEG Nuclear's Medical Support

##### 1.1 Normal Operations – Onsite Medical Support

The Medical Department provides the utility initial employment physical examinations and coordinates the regular examinations of utility radiation workers.

The PSEG Nuclear ambulance provides the equipment and capability to safely transport injured and/or contaminated personnel to an offsite medical facility. This ambulance is operated by members of the Fire Department who provide first aid during transport. A member of the station's radiation protection staff accompanies the patient to provide health physics coverage if required.

##### 1.2 Emergency Medical Support

The Memorial Hospital of Salem County (MHSC) will provide emergency medical support. The Memorial Hospital of Salem County has agreed to accept contaminated patients for emergency medical and surgical treatment on a 24-hour basis per day, and for subsequent observation and/or treatment if the capabilities of the hospital allow such subsequent care. A letter of agreement with the MHSC operator South Jersey Health Corporation is provided in the Emergency Plan Attachment document. In order to handle contaminated patients safely, without disrupting other hospital operations, MHSC has a designated Radiation Emergency Area (REA). Procedures for implementing the hospital's radiological medical emergency preparedness plan (EPP) have been prepared and are known to the hospital personnel responsible for handling the treatment of radiological accident victims.

Upon notification of MHSC that a contaminated patient may or will be transported by the plant operations department, the hospital's EPP is activated.

All communications with the hospital concerning the possible or actual referral of a patient from the plant to the hospital are directed to the Emergency Department Triage Nurse (EDTN) or alternate.

The EDTN notifies the other key personnel involved in the implementation of the hospital's radiation emergency procedures. Equipment and supplies are maintained at MHSC.

PSEG Nuclear LLC performs maintenance of the hospital's EPP and the equipment required to support the plan. Radiological survey equipment and other required equipment is inventoried annually. PSEG Nuclear LLC performs calibration of the radiological survey equipment as required by the appropriate technical guidance for the specific equipment.

MHSC is located near Salem, New Jersey as indicated in Section 4 of this Emergency Plan. All station and local ambulance drivers and support personnel are familiar with directions to the hospital.

If for any reason the MHSC cannot provide emergency medical treatment of contaminated personnel, other area hospitals are equipped to provide treatment of contaminated personnel.

### 1.3 Backup Medical Support

An Emergency Medical Assistance Program is in effect with REAC/TS. The program provides for backup medical treatment of radioactively contaminated patients. The primary backup for MHSC is Southern Ocean County Hospital. If additional support is needed, both Christiana and Wilmington Hospitals in Delaware are capable of and approved to provide backup medical treatment of radioactively contaminated patients.

### 2.0 Offsite Medical Support

Local ambulance squads provide secondary first aid and transportation support to the site. As indicated in the New Jersey Radiological Emergency Response Plans for Salem County and its municipalities, the Salem County Office of Emergency Services is responsible for the overall coordination of emergency medical units. A letter of agreement between PSEG Nuclear and the Salem County Office of Emergency Services, provided in the Emergency Plan Attachment document, ensures that this coordination is maintained for the emergency medical support required by PSEG Nuclear.

### 3.0 Coordinated Communication

The primary communications link between the onsite and offsite organizations responsible for medical support is provided by commercial telephone. The telephone numbers are listed in the Emergency Telephone List. Individual organizations maintain communications with mobile medical facilities (ambulances, etc.) operating under their direction. Communications directing or requesting mobile medical facilities are made to the organization responsible for the mobile medical facility requested.

## SECTION 14

### RECOVERY AND REENTRY PLANNING

#### 1.0 Termination or Reduction of an Emergency

Termination of an emergency is an available option and is based on no emergency actions levels in the Event Classification Guide (ECG) being applicable. Termination of the emergency by entering recovery is another option discussed in part 2.0 below.

Reduction of an emergency classification level is an available option and is based upon improving conditions and the selection of the appropriate Emergency Action Level in the Event Classification Guide. Upon reduction of the emergency classification the Emergency Coordinator (EC) may modify the emergency response organization.

#### 2.0 Initiation of Recovery Operations

The Emergency Coordinator (EC) determines if the emergency is under control prior to securing the emergency response and entering into recovery operations. Termination of the emergency and entry into recovery may be considered when the following guidelines are met.

1. Full time operations of Emergency Response Facilities may be curtailed.
2. Radiation levels in all areas are either stable or decreasing with time.
3. Releases of radioactive materials to the environment from the plant are within allowable federal limits.
4. Fire, flooding, or similar emergencies no longer present an emergency situation to plant operation.
5. The plant is in a safe status and further degradation of a safety system is not expected.

#### 3.0 Recovery Operations

Notification is made to offsite agencies when it has been determined that an emergency has been terminated and recovery entered as defined above and in accordance with implementing procedures. Recovery Operations will be under the direction of a qualified Emergency Coordinator. Termination and entry

into recovery operations of an alert or higher classification requires the concurrence of the affected Station VP, or in his absence the Chief Nuclear Officer & Senior Vice President or designee. Recovery Operations consist of the following efforts:

1. An orderly evaluation of the causes and effects of the emergency.
2. Measures necessary to place the plant back into operation.
3. An analysis of exposure records maintained by onsite emergency workers during the emergency response.
4. The assembling of an appropriate Recovery Management Organization (RMO) to implement Recovery Operations. This RMO will be determined by the Emergency Coordinator and the Recovery Manager based on the cause and extent of the emergency.
5. Coordination of additional assistance to offsite organizations.
6. Reentry (defined in part 4.0 below)

The extent of these efforts will depend upon the nature of the incident and its effect upon plant systems.

The EC will notify all key emergency response managers/supervisors and offsite state and local support agencies of the initiation of recovery actions through established communications methods. This will be performed in accordance with Emergency Plan Implementing Procedure on Recovery Operations.

All recovery operations that may have offsite consequences, i.e., controlled release of radioactive material or transport of significant amounts of radioactive wastes, will be coordinated with appropriate offsite agencies.

#### 4.0 Reentry

Reentry (onsite) consist of planned and deliberate access to areas of the plant that were evacuated or controlled as limited access areas as the result of an emergency. The Radiological Assessment Coordinator (RAC) or Radiological Support Manager (RSM) determines what is needed to reenter affected areas. Reentry activities may occur prior to termination of the emergency, or they may be conducted as a part of recovery operations. Reentry does not include the initial corrective or protective actions taken to establish effective control of the emergency situation. The primary function of reentry is to perform comprehensive radiological

surveys of the plant or to perform assessments of damaged plant equipment so that detailed recovery plans can be established. The following areas are considered when planning reentry:

- Contamination and ALARA controls
- Dose Limits
- Back out Dose Limits and Rates
- Decontamination requirements
- Posting of radiological areas
- Site access

Offsite reentry is the responsibility of state and local authorities in accordance with their plans and procedures.

## SECTION 16

### RADIOLOGICAL EMERGENCY RESPONSE TRAINING

Emergency response training is a shared responsibility between Site Access Training and the Emergency Preparedness Group. Emergency response training is divided into two major categories: (1) training for personnel who are not part of the emergency response organization (ERO) and (2) training for personnel assigned to the ERO.

#### 1.0 General Employee Training Program

Personnel badged for unescorted access to the Protected Area receive a basic Emergency Plan overview as part of the General Employee Training (GET) program. Re-qualification is required annually to maintain unescorted access to the Protected Area. Individuals, who meet training/experience criteria established in the Access Training procedure, can take an examination based on the initial program objectives to maintain their access, if passed.

The Emergency Preparedness Manager, or designee, periodically reviews the content of the GET program to ensure it contains adequate guidance for personnel not assigned an emergency response position. In addition, the Emergency Preparedness Manager, or designee, is one of several disciplines that maintain approval authority over this lesson material to ensure it is maintained current and accurate.

#### 1.1 Training of Assigned Emergency Response Personnel

All personnel assigned to emergency response positions are to receive annual emergency preparedness training. Annual emergency preparedness training is described in ERO position specific qualification guides. Training methods may include classroom instruction, computer based instruction, drill training, evaluation, individual knowledge discussions or evaluations, and are outlined in the position specific Qualification Guides.

The Emergency Preparedness Group has the primary responsibility for coordination of emergency preparedness training. The Emergency Preparedness Group is also responsible for conducting drills and exercises. Course content and qualification guides are created using position specific job task analysis (JTA), which describe the elements necessary to perform the job function.

The emergency planning administrative training procedure and the Nuclear Training Center's desktop guide describes the process for the development and presentation of this training material.

### 1.1.1 Emergency Preparedness Training Instruction

Training and qualification requirements are based on the emergency response assignment duties. The codes for and the description of these assignments are contained in Section 3 (Emergency Organization, subsection 9 of the Emergency Plan.

The Emergency Preparedness Supervisor, or designee, will approve lesson plans and qualification guides used for emergency preparedness training.

### 1.1.2 Emergency Plan Drills

Emergency Plan Drills are used as tools to practice, train, and demonstrate the skills learned in training and to exercise the interface between PSEG Nuclear and offsite agencies. All drills and exercises will be conducted in accordance with Section 15 of the Emergency Plan.

### 1.1.3 Deficiency Correction

If deficiencies are identified during drills, the following corrective measures will be taken:

- 1) Individual Deficiencies - on-the-spot correction by a qualified drill COACH or CONTROLLER (or during post-drill critique sessions).
- 2) Deficiencies identified in drills or exercises are tracked per the Corrective Action Program.
- 3) The NRC evaluated (graded) exercise results are rolled out to senior management at the NRC evaluated exercise exit meeting, through the evaluated exercise final critique, and through the station morning meetings.
- 4) The EP Manager or designee, reviews and approves all drill and exercise critique reports.

### 2.0 Program Administration

The Emergency Preparedness Group is responsible for administering the Emergency Plan training program. Records will be maintained in accordance with the PSEG Nuclear training department procedures or guidance.

### 3.0 Offsite Support Training

Training is provided for the Lower Alloways Creek Fire and Rescue Company, Inc and the LAC EMS and Rescue, Inc. in the event they are needed onsite to supplement station manpower. PSEG training is conducted on station response procedures. Radiation protection techniques training is conducted in accordance with state plans and procedures. Dial 911 notification procedures are used, as in any emergency, therefore, no additional training is needed. Offsite ambulance squad personnel are trained and qualified in courses equivalent or superior to the

Red Cross Multi-Media course. All other training and retraining given to offsite (including hospital staff), state, and municipal emergency response personnel will be provided in accordance with the appropriate state, county, and municipal emergency response plans.

4.0 Training of Emergency Preparedness Staff

Periodic training is provided to the emergency preparedness staff. Staff members are assigned to attend at least one training program, drill, conference, or seminar annually. Attendance is assigned on the basis of the individual responsibilities of staff members.

5.0 Emergency Plan Instruction for Untrained Personnel

All individuals entering the Protected Area, who are not badged for unescorted access, will be continuously escorted. This escort is responsible to ensure the untrained individual adheres to all station procedures and policies while within the protected area. During emergencies unbadged personnel will be escorted to the security center (by the escort or security personnel) and given directions to depart the facility.

**TABLE 16 – 1**  
**EMERGENCY PLAN TRAINING MATRIX**  
 Page 1 of 5

COURSE/QG <sup>1</sup>	Qual Guide (QG) Number	EP MGMT	OPS	RSM	EOF RAD ASSESS	EOF DOSE ASSESS	OFFSITE MON	OFFSITE TEAM COORD	RAC	TECH DUTY	OSC	COMM	ENC	SECURITY	ADMIN
Emergency Response Manager (ERM) / A01	1	X													
Site Support Manager (SSM) / A02	1	X													
Emergency Duty Officer (EDO) / A03	1	X													
Shift Manager (SM) / A04	2		X												
Emergency Preparedness Coordinator (EPC) / A05	1	X													
Nuclear Shift Technical Advisor (NSTA) / B01	2		X												
Control Room Supervisor (CRS) / B02	2		X												
Reactor Operator/Plant Operator (RO/PO) / B03	10 & 16		X												
Control Room Communicators (CM1/CM2) / B04	16											X			
Communicator - OPS Advisor (Hope Creek Only) / B04A	16											X			
Equipment Operators (EO) / B05	10										X				
Operations Support Center Coordinator (OSCC) / C01	9										X				
Shift Controls Technician (I&C) / C02	10										X				
Shift Controls Technician Electrical / C03	10										X				
OSC Operations Supervisor / C04A	9										X				
OSC Maintenance Supervisor (Mech) / C04B	9										X				
Shift Maintenance Supervisor (Controls) / C04C	9										X				
OSC Radwaste Operator / C05A	10														

**TABLE 16 - 1**  
**EMERGENCY PLAN TRAINING MATRIX**  
 Page 2 of 5

COURSE/QG <sup>1</sup>	Qual Guide (QG) Number	EP MGMT	OPS	RSM	EOF RAD ASSESS	EOF DOSE ASSESS	OFFSITE MON	OFFSITE TEAM COORD	RAC	TECH DUTY	OSC	COMM	ENC	SECURITY	ADMIN
POSITION/EP CODE															
Nuclear Tech - Mechanical/ C05B	10										X				
Controls Tech Electrical / C05D	10										X				
Controls Tech - I&C / C05E	10										X				
Fire Brigade / C06	10										X				
Planner / C08	10										X				
OSC Clerk / C10	10										X				
Radiological Support Manager (RSM) / D01	20	X		X											
Radiological Assessment Staff - EOF Duty / D02A	22					X									
Radiological Assessment Staff - EOF Supp / D02B	23				X										
Radiological Assessment Staff - EOF Supp / D02C	23				X										
Field Team Communicator / D03	24							X							
Offsite Team Monitor / D04A	25						X								
Offsite Team Driver / D04B	25						X								
Radiological Assessment Coordinator (RAC) / E01	21	X							X						
Radiation Protection Supervisor (Offsite) / E02A <sup>2</sup>	19														
Radiation Protection Supervisor (Exp Cntrl) / E02B <sup>2</sup>	19														
Shift Radiation Protection Technician (SRPT)/Onsite Radiation Protection Technician (ORPT) E03/E04 <sup>2</sup>	19														
Chemistry Supervisor - CP/TSC / E05 <sup>3</sup>	18														
Chemistry Technician (CT) / E06 <sup>3</sup>	18														

**TABLE 16 – 1**  
**EMERGENCY PLAN TRAINING MATRIX**  
 Page 3 of 5

COURSE/QG <sup>1</sup>	Qual Guide (QG) Number	EP MGMT	OPS	RSM	EOF RAD ASSESS	EOF DOSE ASSESS	OFFSITE MON	OFFSITE TEAM COORD	RAC	TECH DUTY	OSC	COMM	ENC	SECURITY	ADMIN
POSITION/EP CODE															
Technical Support Supervisor (TSS) / F01 <sup>4</sup>	1	X													
Technical Support Team Leader (TSTL) / F02	4 or 5									X					
Engineer - Electrical / F03	4 or 5									X					
Engineer - Mechanical / F04 <sup>4</sup>	4 or 5									X					
Engineer – Controls	4 or 5									X					
Core-Thermal Hydraulics Engineer / F06A	4 or 5									X					
Emergency Preparedness Advisor (EPA) – TSC / F07	16											X			
TSC Communicator / F08	16											X			
Ops Advisor – TSC/F08B <sup>4</sup>	16											X			
Technical Support Manager (TSM) / F09	3									X					
Company Spokesperson (CS) / G01 <sup>5</sup>	12												X		
Emergency News Center Manager (ENCM) / G02 <sup>5</sup>	12												X		
Industry/Government Affairs Coordinator (IGAC) / G05	11												X		
Rumor Control Coordinator (RCC) / G06	11												X		
Media Monitors / G07B	11												X		
Staff Writer Duty/ G08A	11												X		
Staff Writer Support / G08B	11												X		
Media Information Line Operator / G09B	11												X		
Lead Technical Advisor (LTA) / G10A	11												X		

**TABLE 16 - 1**  
**EMERGENCY PLAN TRAINING MATRIX**  
 Page 4 of 5

COURSE/QG <sup>1</sup>	Qual Guide (QG) Number	EP	MGMT	OPS	RSM	EOF RAD ASSESS	EOF DOSE ASSESS	OFFSITE MON	OFFSITE TEAM COORD	RAC	TECH DUTY	OSC	COMM	ENC	SECURITY	ADMIN
POSITION/EP CODE																
Media Technical Advisor (MTA) / G10B	11													X		
Communications Technical Advisor (CTA) / G10C	11													X		
ENC Operation Supervisor (ENCOS) / G11	11													X		
Public Information Liaison (PIL) / G13	11													X		
Security Liaison (TSC)/Security Operations Supervisor-Main Guard House (MGH) / I01 Site Security Coordinator / I-02	17														X	
Security Force Member / I04	13														X	
EOF Communicators EOF1/EOF2 / I05	16												X			
Site Support Staff - OPS Advisor / I05A	16												X			
Administrative Support Manager (ASM) / J01	14															X
Admin Support Staff - Personnel Supv. / J02A	15															X
Admin Support Staff - Purchasing / J02B	15															X
Admin Support Staff - Administrative / J02D	15															X
Admin Support Staff - Information Technology Support Supervisor / J02E	15															X
Administrative Support Supervisor (ADMSS) / J03	14															X
TSC Administrative Staff / J04	15															X
ENC Administrative Support / J05	11													X		

**TABLE 16 – 1**  
**EMERGENCY PLAN TRAINING MATRIX**  
 Page 5 of 5

COURSE/QG <sup>1</sup>	Qual Guide (QG) Number	EP MGMT	OPS	RSM	EOF RAD ASSESS	EOF DOSE ASSESS	OFFSITE MON	OFFSITE TEAM COORD	RAC	TECH DUTY	OSC	COMM	ENC	SECURITY	ADMIN
Audio/Visual Services Coordinator / J06	11												X		
Delaware Offsite Representative / Z03	26	X													

**Notes:**

- 1 -Key to EP Training qualification guide and training course subject areas
  - 2 -OJT/OJE in accordance with Radiation Protection Program.
  - 3 -Routine system sampling training and high activity sampling is provided as job qualification training for Chemistry.
  - 4 -These positions also require Severe Accident Management Evaluator Training coordinated by ESP Training Program
  - 5 -These positions also require "ENC Company Spokesperson Training" coordinated by Nuclear Communications
- See next page for training course titles and qualification guide titles**

**TABLE 16 - 2**  
**EMERGENCY PLAN COURSE CONTENT DESCRIPTION**  
**Page 1 of 2**

**EP Management Duties**

- Emergency Plan Overview
- Event Classification Guide
- Emergency Plan Implementing Procedures
- Core Damage Overview

**EP SRO Comm/OSC/SM Duties**

- Emergency Plan Overview
- Event Classification Guide
- Emergency Plan Implementing Procedures

**EOF Radiological Support Manager Duties**

- Emergency Plan Overview
- Event Classification Guide
- Emergency Plan Implementing Procedures
- Core Damage Overview

**EOF Radiological Assessment Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**EOF Dose Assessment Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures
- Use Of Dose Assessment Computer Program

**Offsite Field Monitoring Team**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**Offsite Team Coordinator / Field Team Communicator Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**TABLE 16 - 2**  
**EMERGENCY PLAN COURSE CONTENT DESCRIPTION**  
**Page 2 of 2**

**Radiological Assessment Coordinator (RAC) Duties**

- Emergency Plan Overview
- Event Classification Guide
- Emergency Plan Implementing Procedures
- Core Damage Overview •

**Communicator Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**Operations Support Center Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**Emergency News Center (ENC) Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**Security Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**Administrative Support Duties**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures

**Technical Duties (EOF or TSC)**

- Emergency Plan Overview
- Emergency Plan Implementing Procedures
- Abnormal and Emergency Operating Procedures Overview (TSC only)
- Core Damage (Only required for F06A position)
- Severe Accident Management Eval Training (Only required for F01, F04, and F08B positions)

## SECTION 17 EMERGENCY PLAN ADMINISTRATION

### 1.0 Responsibility

#### 1.1 General

The Senior Vice President & Chief Nuclear Officer - PSEG Nuclear LLC has the overall responsibility for the development and updating of emergency planning and coordination of the plans with other response organizations.

The EP Manager has been delegated the authority to approve the Emergency Plan and Implementing Procedures for adequacy and consistency. He/She is assigned the responsibility for ensuring that the Emergency Plan and Implementing Procedures are appropriately interfaced with the plans, procedures, and training of offsite support agencies as required to maintain suitable timely notifications and development of protective action recommendations. The organization for coordination and direction of emergency planning matters is shown in Figure 17-1.

#### 1.2 Review and Approval of Emergency Preparedness Documents

The Emergency Preparedness Manager approves all revisions to Emergency Preparedness documents. The Salem/Hope Creek Plant Managers approve applicable non-editorial changes to the Emergency Plan, Event Classification Guides, and Emergency Plan Implementing Procedures. Non-editorial revisions to the Emergency Plan, Event Classification Guides, and Emergency Plan Implementing Procedures require a 10CFR50.54(q) review. Station Operations Review Committee (SORC) reviews EP related documents if a 10CFR50.54(q) review indicates a potential decrease in effectiveness of the emergency plan. The review and approval of the Emergency Plan documents will be done in accordance with Table 17-1. (EP96-004)

#### 1.3 Training Procedures/Lesson Plans

It is the responsibility of the EP Manager, or designee, to review and revise the Training Procedures/Lesson Plans in accordance with the Nuclear Emergency Preparedness Training Program. The Training Procedures/Lesson Plans are based on the approved Emergency Plan and Procedures.

## 2.0 Revisions

Revisions to the Emergency Plan, and Emergency Plan Implementing Procedures are made whenever such changes are necessary to ensure that the Emergency Plan can be implemented. The details are contained in the Emergency Preparedness Administrative Procedures.

Any holder of the Emergency Plan, and/or Emergency Plan Implementing Procedures may prepare revision(s) to any section or procedure. Under normal circumstances, implementing procedure changes are coordinated by the department head responsible (Table 17-1) for the given procedure.

The person requesting the revision, in accordance with appropriate PSEG Nuclear LLC procedures, should initiate a revision request via the corrective action program.

A list of each section or procedure is maintained in front of the Emergency Plan and Emergency Plan Implementing Procedures indicating the latest revision number and effective date.

## 3.0 Distribution

All revisions are distributed in accordance with current PSEG Nuclear procedures.

## 4.0 Annual Review

The Emergency Plan and associated documents are reviewed at least once each year. As part of the review, the Event Classification Guide is reviewed with the state and local governments. The Emergency Plan and associated documents are updated and procedures are improved, based upon training exercises/drills, and changes onsite or in the environs.

Agreement letters from offsite agencies and local support groups are verified or updated biennially or when changes/revisions to the Plan are implemented which could affect their responsibilities. Updating of telephone numbers is done quarterly. The EP Manager, or designee, coordinates this review.

5.0 Independent Review

The Emergency Plan and associated documents receive an independent review, at least once per 24 months in accordance with current requirements.

Management directives provide instructions for evaluation and correction of audit findings, training, readiness testing, and emergency equipment. The results of the review and actions taken are forwarded to PSEG Nuclear LLC senior management. The records of these reviews are retained for five (5) years (EP96-004).

6.0 Maintenance of Documents

The persons holding controlled copies of the Emergency Plan and associated documents are responsible for their maintenance, which consists of promptly incorporating all revisions, additions and deletions, replacing any lost or damaged portions. Replacements for any pages are supplied upon request.

Each such distribution shall be accompanied by instructions for insertion into the document indicating which pages are to be replaced, deleted or added. The distribution shall be mailed to copyholders in accordance with current PSEG Nuclear LLC procedural requirements. A file of master copies of each revision of the plan is retained either by EP, or on PSEG Nuclear LLC approved media.

7.0 References

- 7.1 EP96-004, Remove reference to Tech Specs and add clarification to Review and Approval of Emergency Plan Documents matrix.

**TABLE 17-1  
 REVIEW AND APPROVAL OF EMERGENCY PLAN DOCUMENTS \***

Document	50.54q	Responsible Manager	EP Manager	QA Manager	SORC	Salem/Hope Creek Plant Managers
Emergency Plan All Sections	Yes	EPM	Yes	Yes	As Required	Yes
SGS ECG	Yes	SPM	Yes	As Required	As Required	Yes
HCGS ECG	Yes	HCPM	Yes	As Required	As Required	Yes
<u>Common</u>						
100	Yes	HCPM; SPM	Yes	As Required	As Required	Yes
200	Yes	HCPM; SPM	Yes	As Required	As Required	Yes
300	Yes	ED/EPM RPM; CM	Yes	As Required	As Required	Yes
<u>Salem</u>						
200	Yes	ED; EPM	Yes	As Required	As Required	Yes
300	Yes	RPS; CM	Yes	As Required	As Required	Yes
<u>Hope Creek</u>						
200	Yes	ED; EPM	Yes	As Required	As Required	Yes
300	Yes	RPM; CM	Yes	As Required	As Required	Yes
<u>EOF</u>						
400	Yes	EPM	Yes	As Required	As Required	Yes
500	Yes	ED	Yes	As Required	As Required	Yes
600	Yes	RPM	Yes	As Required	As Required	Yes
700	Yes	EPM	Yes	As Required	As Required	Yes
<u>ENC</u>						
800	Yes	MNC	Yes	As Required	As Required	Yes
<u>Security</u>						
900	Yes	SECM	Yes	As Required	As Required	Yes
<u>EP Admin</u>						
1000 (EPAP)	Yes	EPM	Yes	As Required	As Required	N/A

CM	Chemistry Radwaste and Environmental Manager (Salem or Hope Creek)
EPM	EP Manager
HCPM	Hope Creek Plant Manager
SECM	Security Manager
MNC	Manager Nuclear Communications
RPM	Radiation Protection Manager (Salem or Hope Creek)
SPM	Salem Plant Manager
ED	Engineering Director (Salem or Hope Creek)

**NOTES \***

Editorial changes to Emergency Plan documents only require EP Manager approval.

As Required means, review is required if a 10CFR50.54(q) indicates a potential decrease in effectiveness of the Emergency Plan (EP96-004).

If more than one Responsible Manager is listed for a series of procedures, the manager of the personnel performing the procedure becomes the Responsible Manager. For common procedures where a Salem and Hope Creek Manager exist, both managers become responsible for that procedure.

## Figure 17-1 ORGANIZATION FOR COORDINATION OF EMERGENCY PLANNING

**Emergency Preparedness Manager**

Onsite Planning, Facilities and Equipment		Offsite Planning
Onsite Emergency Planning	Emergency Facilities	Offsite Emergency Planning and Liaison
Develop and implement PSEG Nuclear Emergency Plan administrative procedures	Maintain the emergency response facilities program.	Maintain Emergency Preparedness agreements for offsite programs
Coordinate, develop and maintain the Emergency Plan procedures	Evaluate and coordinate facilities and equipment changes	Coordinate state, county, local and offsite agency interface.
Maintain Emergency Preparedness Administrative Programs	Conduct surveillance and maintenance of ERF documents	Conduct drill/exercise program and interface for offsite programs
Develop drill/exercise scenarios	Conduct communications system surveillance program	Assist offsite agencies with annual 44CFR350 certification
Conduct drill/exercise program and ensure readiness	Implement correction of identified facilities and equipment deficiencies	Maintain ANS program documentation
Implement the overall deficiency identification and corrective action program	Maintain emergency response activation system	
Conduct EP self-assessment program		
Maintain EP training program		