VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

February 27, 1995

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Serial No. 95-075
NEP/SAH
Docket Nos. 50-280
50-281
License Nos. DPR-32
DPR-37

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
SURRY POWER STATION UNITS 1 AND 2
REVISIONS TO STATION EMERGENCY PLAN
REVISIONS TO EMERGENCY PLAN IMPLEMENTING PROCEDURES

Pursuant to 10 CFR 50.54(q), enclosed are revisions to the Surry Power Station Emergency Plan and selected Emergency Plan Implementing Procedures. These revisions include acceptable deviations to Emergency Action Levels (EALs) as described below, and do not implement actions which decrease the effectiveness of our Emergency Plan. The Emergency Plan and Implementing Procedures continue to meet the standards of 10 CFR 50.47(b). Please update your manual by performing the actions described in Attachment 1, Tabulation of Changes.

These revisions include modifications to EALs which are based, in part, on the NRC document titled, "Branch Position on Acceptable Deviations to Appendix 1 to NUREG-0654/FEMA-REP-1," dated July 11, 1994. This document provides "acceptable deviations to the emergency classification guidance in Appendix 1 to NUREG-0654/FEMA-REP-1, Revision 1, 'Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants' based upon a review of the [NRC] staff's regulatory analysis of NUMARC/NESP-007." NUMARC/NESP-007 guidance was also utilized to enhance other EALs and, as a result, complement Virginia Power's emergency classification system as a whole. It should be noted that these changes were discussed with and agreed upon by State and local officials in accordance with Appendix E to 10 CFR Part 50.

Your attention is also directed to Attachment 2, Surry Emergency Plan Revision 38 Summary. This information is provided to facilitate your review of the enclosed Emergency Plan revision.

Very truly yours,

James P. O'Hanlon

James P. O'Hanlon
Senior Vice President - Nuclear

A045

Enclosures

cc: U. S. Nuclear Regulatory Commission
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Mr. M. W. Branch (w/o enclosures)
NRC Senior Resident Inspector
Surry Power Station

ATTACHMENT 1
TABULATION OF CHANGES

VIRGINIA ELECTRIC AND POWER COMPANY
REVISIONS TO SURRY POWER STATION EMERGENCY PLAN
AND EMERGENCY PLAN IMPLEMENTING PROCEDURES

Enclosed are revisions to the Surry Power Station Emergency Plan and selected Emergency Plan Implementing Procedures (EPIPs). Please take the following actions in order to keep your manual updated with the most recent revisions.

REMOVE AND DESTROY:	EFFECTIVE DATE:	INSERT:	EFFECTIVE DATE:
Surry Power Station Emergency Plan, Rev. 37 (entire document)	12/21/94	Surry Power Station Emergency Plan, Rev. 38 (entire document)	02/01/95
EPIP-1.01, Rev. 33	01/01/94	EPIP-1.01, Rev. 34	02/01/95
EPIP-1.02, Rev. 09	11/01/94	EPIP-1.02, Rev. 10	02/01/95
EPIP-1.03, Rev. 13	11/01/94	EPIP-1.03, Rev. 14	02/01/95
EPIP-1.04, Rev. 13	11/01/94	EPIP-1.04, Rev. 14	02/01/95
EPIP-1.05, Rev. 15	11/01/94	EPIP-1.05, Rev. 16	02/01/95
EPIP-1.06, Rev. 1	01/01/94	EPIP-1.06, Rev. 2	02/01/95
EPIP-4.01, Rev. 11	10/20/94	EPIP-4.01, Rev. 12	02/01/95
EPIP-4.02, Rev. 14	12/21/94	EPIP-4.02, Rev. 15	02/01/95
EPIP-4.07, Rev. 6	06/15/94	EPIP-4.07, Rev. 7	02/01/95
EPIP-4.20, Rev. 7	09/11/92	Not Applicable (procedure deleted)	Not Applicable
EPIP-5.01, Rev. 12	06/15/94	EPIP-5.01, Rev. 13	02/01/95

Emergency Plan Privacy and Proprietary Material has been removed.
Reference Generic Letter No. 81-27.

ATTACHMENT 2
SURRY EMERGENCY PLAN REVISION 38 SUMMARY

NOTE: Deleted Initiating Conditions (ICs) are listed on pages 8 and 9 of this attachment. A matrix correlating previous IC numbers (from Surry Emergency Plan Rev. 37) to the numbering system presented in Revision 38 appears on page 10 of this attachment.

Section 4:

Update Tables 4.1 through 4.4, Initiating Conditions for Notification of Unusual Events, Alerts, Site Area Emergencies and General Emergencies, respectively. These changes correspond with updated Initiating Conditions reflected in Appendix 10.8 and, in part, implement modifications addressed in the NRC Office of Nuclear Reactor Regulation, Division of Radiation Safety and Safeguards, Emergency Preparedness Branch, position paper, subject: Acceptable Deviations from Appendix 1 to NUREG-0654 Based Upon the Regulatory Analysis of NUMARC/NESP-007, "Methodology for Development of Emergency Action Levels," hereafter referred to as the EPBTP.

Page 6.12:

Added degree designations to sector wind spider on 10 mile EPZ map.

Page 7.21:

Corrected abbreviations: RSCL, PMCL

Page 10.5.3:

Delete reference to EPIP-4.20. Provisions are included in normal station HP procedures.

Page 10.8.2:

NOUE IC #1: This revision deletes "Mode Reduction required by Tech. Spec. LCO" and inserts "Inability to reach required...condition within technical specification time limits." The following extract from page 2 of the EPBTP is provided: "Exceeding technical specification limits for the period designated in the action statement is an analyzed condition of the plant and does not, by itself, represent an emergency. If plant conditions are outside of technical specification limits and those conditions do result in a degradation in the level of plant safety, other initiating conditions would trigger an appropriate classification within an acceptable time frame. . . . When the plant cannot be brought to the required operating mode within the allowable action statement time, <u>then</u> declaration of an Unusual Event would be warranted."

NOUE IC #2: Replaces existing indications with more precise, measurable parameters related to valve closure.

Page 10.8.3:

NOUE IC #3: Text in the Indication column is modified to incorporate appropriate operations terminology.

NOUE IC #4: Criteria revised per page 3 of the EPBTP. The following extract is provided: "For EALs related to loss of annunciator or indication in the Control Room, licensees may use the technical bases in . . . NUMARC/NESP-007 to enhance their classification schemes." In this instance, the existing IC is replaced with, "Unplanned loss of most or all safety system annunciators for greater than 15 minutes." Indications for computer availability and increased surveillance are not included as computer availability is the expected default, and increased surveillance is required per station APs regarding loss of annunciator response.

NOUE IC #5: This new IC combines NOUE ICs 8 and 9 into one generic IC addressing leak rates exceeding T.S. leakage limits. The following extract from page 2 of the EPBTP is provided: "Exceeding technical specification limits for the period designated in the action statement is an analyzed condition of the plant and does not, by itself, represent an emergency. If plant conditions are outside of technical specification limits and those conditions do result in a degradation in the level of plant safety, other initiating conditions would trigger an appropriate classification within an acceptable time frame. . . . When the plant cannot be brought to the required operating mode within the allowable action statement time, <u>then</u> declaration of an Unusual Event would be warranted. Therefore, licensees who propose to eliminate the above ICs should incorporate an IC for 'inability to reach required shutdown within technical specification limits.' Also licensees must maintain or add Unusual Event ICs for coolant activity exceeding technical specifications and for RCS leakage exceeding technical specifications."

NOUE IC #6: Modify fuel damage indication, to reflect T.S. activity limits exceeded in conjunction with reduction in power, load or temperature. The following extract from page 2 of the EPBTP is provided: "Exceeding technical specification limits for the period designated in the action statement is an analyzed condition of the plant and does not, by itself, represent an emergency. If plant conditions are outside of technical specification limits and those conditions do result in a degradation in the level of plant safety, other initiating conditions would trigger an appropriate classification within an acceptable time frame. . . . When the plant cannot be brought to the required operating mode within the allowable action statement time, <u>then</u> declaration of an Unusual Event would be warranted. Therefore, licensees who propose to eliminate the above ICs should incorporate an IC for 'inability to reach required shutdown within technical specification limits.' Also licensees must maintain or add Unusual Event ICs for coolant activity exceeding technical specifications and for RCS leakage exceeding technical specifications." Also, the word "to" is added to the Letdown indicator.

Page 10.8.4:

NOUE IC #8: Effluent release:

- Delete reference to Technical Specification allowable limits and insert ODCM. The limits are calculated using ODCM methodology.
- Modifies Discharge Tunnel monitor indication to accommodate installation of new detector, where:

  $\% = CPM \times 1.31E\text{-}9\ \mu Ci/ml/cpm,\ CO\text{-}60 \times \frac{100}{3.0E\text{-}5\ (CO\text{-}60\ Effluent\ Conc.\ Value)}$,

  % = CPM x 4.37E-3

  100% = 2.29E+4 CPM

NOUE IC #9: The existing procedure reference is replaced with the indicator "Uncontrolled Loss of Secondary Coolant in progress."

Page 10.8.5:

NOUE IC #10: The loss of power indication was modified for consistency with other loss of power ICs, and the order of the indications was changed to be consistent with the Condition Statement.

NOUE IC #11: The phrase, "fire fighting efforts begin" is modified to read "Fire Brigade - Dispatched."

NOUE IC #13: Correct spelling, "bona fide."

Page 10.8.6:

NOUE IC #15: The word "onsite" was replaced with "within the Protected Area or Switchyard" to improve clarity. The area of applicability is unchanged as the Surry Emergency Plan defines "onsite" as "within the Protected Area or Switchyard."

NOUE IC #16: Minor wording changes, i.e., "On or nearsite" became "Onsite or nearsite" in the condition column and "OR" became "or" in two places in the indication column.

NOUE IC #19: The word "onsite" was replaced with "within the Protected Area or Switchyard" to improve clarity. The area of applicability is unchanged as the Surry Emergency Plan defines "onsite" as "within the Protected Area or Switchyard."

Page 10.8.7:

NOUE IC #21: Added flood level indicators (monitor mark numbers, pump levels).

NOUE IC #22: Delete indication, "Intentional reduction in power, load or temperature...an LCO." This is redundant to new NOUE IC #1 (page 10.8.2). The redundancy impedes the EAL review process and is unnecessary.

Page 10.8.8:

Alert IC #2:

- Modify second bullet indication to incorporate appropriate operations terminology.
- Add new indication to clarify need for manual trip, i.e., "manual trip - REQUIRED." A spurious trip signal can be generated (e.g., instrument card failure) which is not indicative of a transient, and manual trip may not be required. This event yields entry into a Technical Specification Action Statement and is not representative of an Alert situation.
- Modified listed operating conditions from Power & HSB to Power Operations and Hot Shutdown, thus using correct operations terminology for conditions under which ATWT may occur.

Page 10.8.9:

Alert IC #3: Criteria revised per page 3 of the EPBTP; the following extract is provided: "For EALs related to loss of annunciator or indication in the Control Room, licensees may use the technical bases in . . . NUMARC/NESP-007 to enhance their classification schemes." In this instance, the existing IC is replaced with, "Unplanned loss of all safety system annunciators with . . . transient in progress."

Alert IC #5: "50 gpm" is deleted from the Condition column but is maintained in the Indication column. This forces the user to analyze the Indications so that Pressurizer level is evaluated, preventing classification is not made solely on leak rate.

Alert IC #6: Indication of power loss is changed from voltmeter indication to "de-energized" for consistency with EAL H.1 and B.6. Indication is also modified to cite specific leakage limit T.S.

Page 10.8.10:

Alert IC #7: Replace existing procedure reference with specific indicators related to SGTR and SI.

Alert IC #8: Added the word "to" to Letdown indicator. This prevents having to establish a background/baseline indication (normally in the low hundred range) after the fact.

Page 10.8.13:

Alert IC #13:

- Delete reference to Technical specification allowable limits (calculated using ODCM) and inserted ODCM.
- Modifies Discharge Tunnel monitor indication to accommodate installation of new detector, where:

  $$\% = CPM \times 1.31E\text{-}9\ \mu Ci/ml/cpm,\ CO\text{-}60 \times \frac{100}{3.0E\text{-}5\ (CO\text{-}60\ Effluent\ Conc.\ Value)},$$

  % = CPM x 4.37E-3

  100% = 2.29E+4 CPM

Page 10.8.14:

Alert IC #14:

- Replace existing procedure reference with "Uncontrolled Loss of Secondary Coolant in progress."
- The EAL does not apply when leakage occurs on one pathway, but unrelated indications are representative of another (e.g., indications from multiple pathways are not intended to be combined). The intent is for indications to be representative of a particular affected pathway. Therefore, the phrase, "on affected pathway" is added to the indication.

Alert IC #15: Changed ammeter indications to "...buses - DE-ENERGIZED" for consistency with other loss of power ICs.

Page 10.8.15:

Alert IC #20: Restructures Indication column format by combining items.

Alert IC #21: Adds "that affects plant operations" to Indication. The "Alert" is not justified if plant activities/systems are not affected.

Page 10.8.16:

Alert IC #26: Adds "structures" to Indication. A tornado in the vicinity that does not strike equipment does not justify the classification.

Alert IC #28: Added flood level indicators.

Page 10.8.17:

Alert IC #29: Modify condition to more accurately reflect applicability to an "Alert" classification. Precautionary public notifications/PARs are not made at an Alert.

Page 10.8.18:

Site Area IC #2:

- Modify indication to incorporate appropriate operations terminology.
- Modified listed operating conditions from Power & HSB to Power Operations and Hot Shutdown, thus using correct operations terminology for conditions under which ATWT may occur.

Page 10.8.19:

Site Area IC #3: Criteria revised per page 3 of the EPBTP; the following extract is provided: "For EALs related to loss of annunciator or indication in the Control Room, licensees may use the technical bases in . . . NUMARC/NESP-007 to enhance their classification schemes." In this instance, the existing IC is replaced with, "Inability to monitor a significant transient in progress."

Page 10.8.20:

Site Area IC #6: Delete procedure reference "E-3, Steam Generator Tube Rupture - IMPLEMENTED" and insert specific indicators for power loss and steam release.

Page 10.8.23:

Site Area IC #11:

- The phrase "Faulted steam generator as indicated by E-1..." is better characterized by the indication, "Uncontrolled loss of secondary coolant in progress."
- The EAL does not apply when leakage occurs on one pathway, but unrelated indications are representative of another (e.g., indications from multiple pathways are not intended to be combined). The intent is for indications to be representative of a particular affected pathway. Therefore, the phrase, "on affected pathway" is added to the indication.

Page 10.8.24:

Site Area IC #12: Modified loss of power indicators for consistency with other loss of power ICs (replaced ammeters with de-energized).

Page 10.8.25:

Site Area IC #18: A Site Area Emergency is required if release of toxic or flammable agents causes evacuation of vital areas. This is an antinomy in that it conflicts with Alert IC #4, page 10.8.9, which requires an Alert if the Control Room is evacuated. This apparent discrepancy exists because of auxiliary shutdown capability. This is corrected by revising the IC to read, "Evacuation of Vital Area other than Control Room - REQUIRED."

Page 10.8.26:

Site Area IC #21: Deleted "onsite" from Indication. It is given that the event occurs onsite. Further, confirmation does not occur onsite (within PA or Switchyard) as meteorological towers are located outside the PA.

Site Area IC #22: Added "station operating level" for reference point/operator aid.

Site Area IC #23: Modify condition to more accurately reflect applicability to a "Site Area Emergency" classification. Precautionary notification may be made to the public at this classification level. Activation of emergency response facilities occurs at the Alert level.

Page 10.8.27:

General Emergency IC #1: Under "Indication" column, item C: Delete "T.S. 1.O.G definition of containment integrity" and insert, "Release path to environment exists." By technical specification definition, loss of the ability to automatically close containment isolation valves (e.g., via loss of bus) meets loss of integrity criteria, even though the valves may be closed. The purpose of the IC is to classify the event based on loss of barrier considerations, that is, determination as to whether or not a release path to the environment exists.

Page 10.8.28:

General Emergency IC #2:

- "Indication" column, item A: Delete reference to CHRRMS monitors, which are indicative of a LOCA event. Insert Letdown High Range Monitor indications, which are more appropriate, being indicative of failed fuel.
- "Indication" column, item B: Change wording to "Safety Injection - REQUIRED." An SI can occur on conditions other than RCS low pressure. Should this occur, the existing indication, "RCS Low Pressure SI - INITIATED" would not be achieved. The modified wording eliminates this situation.
- "Indication" column, item C: The EAL does not apply when leakage occurs on one pathway, but unrelated indications are representative of another (e.g., indications from multiple pathways are not intended to be combined). The intent is for indications to be representative of a particular affected pathway. Therefore, the phrase, "associated with ruptured Steam Generator pathway indicates" is added to the indication. Reference to procedure E-1 is also replaced by the indicator, "Loss of secondary coolant outside containment - in progress."

Page 10.8.29:

General Emergency IC #3:

- Delete procedure reference and insert characteristic indication.
- Modify third bullet item: If RCS pressure is elevated, LHSI flow would not be expected to occur. Therefore, the indication is revised to read, "High or Low Head ECCS flow NOT being delivered to the core (if expected by plant conditions).

Page 10.8.30:

General Emergency IC #6: Procedure reference is replaced with specific indicator, "Loss of all onsite and offsite AC power" to more clearly characterize the situation.

Page 10.8.31:

General Emergency IC #7:

- Procedure reference is replaced with specific indicator.
- If RCS pressure is elevated, LHSI flow would not be expected to occur. Therefore, the indication is revised to read, "High or Low Head ECCS flow NOT being delivered to the core (if expected by plant conditions).
- Cooling capability is not lost if only one Containment Spray and Recirculation Spray train is lost. Both trains must be lost to meet this EAL. Therefore, the last indication is revised to read, "All Containment Spray and Recirculation Spray Systems - NOT OPERABLE."

Page 10.8.32:

General Emergency IC #11:

- The phrase, "or may warrant evacuation of the public" is added to more accurately reflect General Emergency criteria.
- Correct spelling, "singly."

Deletions:

NOUE IC #1 from Rev. 37, "Non-spurious ECCS initiation," is deleted. The following extract from page 3 of the EPBTP is provided: "...an inadvertent discharge of ECCS to the vessel, in and of itself, does not represent an emergency condition." Challenges to RCS barrier are adequately addressed via the following:

NOUE IC #5, page 10.8.3, RCS leak rate requiring plant shutdown.
Alert IC #5, page 10.8.9, RCS leak rate exceeds 50 gpm.
SAE IC #5, page 10.8.20, RCS leak rate exceeds make-up capacity.

NOUE IC #5 from Rev. 37, "Failure of meteorological instrumentation required to perform offsite dose calculations," is deleted. The following extract from page 2 of the EPBTP is provided: "...loss of meteorological instrumentation is no longer considered to meet the threshold of an Unusual Event."

NOUE IC #7 from Rev. 37, "Safety limit RCS...exceeded," is deleted. The following extract from page 2 of the EPBTP is provided: "If plant conditions are outside of technical specification limits and those conditions do result in a degradation in the level of plant safety, other initiating conditions would trigger an appropriate classification within an acceptable time frame."

NOUE IC #12 from Rev. 37, "Loss of Containment Integrity," is deleted.
The following extract from page 2 of the EPBTP is provided: "Exceeding technical specification limits for the period designated in the action statement is an analyzed condition of the plant and does not, by itself, represent an emergency. If plant conditions are outside of technical specification limits and those conditions do result in a degradation in the level of plant safety, other initiating conditions would trigger an appropriate classification within an acceptable time frame. . . . When the plant cannot be brought to the required operating mode within the allowable action statement time, <u>then</u> declaration of an Unusual Event would be warranted.
Therefore, licensees who propose to eliminate the above ICs should incorporate an

IC for 'inability to reach required shutdown within technical specification limits.'"

NOUE IC #14 from Rev. 37: Delete item, "Transportation of contaminated injured individual to off-site medical facility." The following extract from page 1 of the EPBTP is provided: "This event does not meet the threshold of the emergency class and is not a precursor to a more serious event."

Alert IC #6 from Rev. 37, "RCP locked rotor leading to fuel damage," is deleted. The following extract from page 3 of the EPBTP is provided: "This IC is unnecessary because the concern is the fuel failure and not the seizure of the pump." The condition is adequately addressed under Appx. 10.8, page 10.8.10, Alert IC #9, Severe Fuel Clad Damage.

EAL SEQUENCE NUMBER CHANGES
BETWEEN SEP REVISIONS 37 (OLD) AND 38 (NEW)

Notification of Unusual Event		Alert		Site Area Emergency		General Emergency	
OLD	NEW	OLD	NEW	OLD	NEW	OLD	NEW
1	*	1	1	1	1	1	1
2	1	2	2	2	2	2	2
3	2	3	3	3	3	3	3
4	4	4	4	4	4	4	4
5	*	5	5	5	5	5	5
6	3	6	*	6	6	6	6
7	*	7	6	7	7	7	7
8	5 +	8	7	8	8	8	8
9	5 +	9	8	9	9	9	9
10	6	10	9	10	10	10	10
11	7	11	10	11	11	11	11
12	*	12	11	12	12		
13	8	13	12	13	13		
14	*	14	13	14	14		
15	9	15	14	15	15		
16	10	16	15	16	16		
17	11	17	16	17	17		
18	12	18	17	18	18		
19	13	19	18	19	19		
20	14	20	19	20	20		
21	15	21	20	21	21		
22	16	22	21	22	22		
23	17	23	22	23	23		
24	18	24	23				
25	19	25	24				
26	20	26	25				
27	21	27	26				
28	22	28	27				
		29	28				
		30	29				

* Deleted
+ Consolidation of 2 ICs

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VIRGINIA POWER

Station Emergency Plan

Title: **Surry Power Station Emergency Plan**

Revision Number:	**Effective Date:**
37	December 21, 1994

Revision Summary:

Revision 37 updates the Surry Power Station Emergency Plan in its entirety. Revised material includes (but is not limited to) the following:

- Updating definitions, acronyms, abbreviations.
- Incorporating provisions to allow assignment of effective dates to implementing procedures.
- Inserting text in accordance with NRC Rev. 36 plan review, dated May 27, 1994 (NLP SN. 94-356).
- Inserting updated (1994) Letters of Agreement.
- Modifying Emergency Kit and survey instrumentation inventory and operational check surveillance frequency from monthly to quarterly, in accordance with NRC approval (letter dated October 3, 1994, NLP SN. 94-600).
- Incorporating miscellaneous editorial changes.

Recommended Approval:	J E Collins Director Nuclear Emergency Preparedness	11.1.94 Date
Recommended Approval:	Thomas B Sowers, III SNSOC Chairman	12/1/94 Date
Approved By:	[illegible] Station Manager	12-1-94 Date

Form No. 723758(Apr 91)

SURRY POWER STATION
EMERGENCY PLAN
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SURRY POWER STATION
EMERGENCY PLAN

SECTION 1
DEFINITIONS

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1.0	Definitions	1.2
1.1	Acronymns and Abbreviations	1.5

1.0 Definitions

Annually - 12 months +/- 3 months.

Biannual - Occurring twice a year.

Biennial - Occurring every two years.

Buffer Sectors - Two 22 1/2° sectors flanking each side of the 22 1/2° primary sector.

Commonwealth of Virginia Radiological Emergency Response Plan (COVRERP) - Annex to Volume II of the Commonwealth of Virginia Emergency Operations Plan - Peacetime Disasters.

Deep Dose Equivalent (DDE) - Measure of direct external radiation exposure to the body (e.g., cloud shine, contamination or direct radiation). DDE is assumed equivalent to Effective (external) Dose Equivalent (EDE) with respect to uniform exposure.

Drill - A supervised instruction period aimed at testing, developing and maintaining skills.

Effective Date - Date of change; implementation date assigned by approval authority; date from which 30-day NRC submittals are required in accordance with 10 CFR 50, Appendix E.V.

Emergency - Any situation that may result in undue risk to the health and safety of the public and/or site personnel, or significant damage to property or equipment.

Emergency Action Levels - Events, such as equipment malfunctions, natural phenomena, radiological dose rates, etcetera, that may be used as thresholds for initiating such specific emergency measures as designating a particular class of emergency, initiating a notification procedure, or initiating a particular protective action.

Emergency Plan Implementing Procedures (EPIPs) - Emergency response procedures that implement the Emergency Plan.

Emergency Planning Zones (EPZs)

Plume Exposure EPZ - An area delineated by an approximate ten-mile radius circle around the Surry Power Station.

Ingestion Pathway EPZ - An area delineated by an approximate fifty-mile radius circle around the Surry Power Station with the potential of internal exposure from the ingestion of radioactive material through the food pathway.

Exclusion Area - The area within 1650 feet of Surry Unit 1 containment owned by Virginia Power.

Exercise - A test of the response capabilities of the emergency organization that permits the evaluation of training and response to a given situation. Exercises are conducted in accordance with pre-planned scenarios with defined objectives.

Interim - A temporary or provisional emergency response position or facility which is augmented or transferred as resources become available.

Local Communities - This term shall be used to denote the counties of Surry, Isle of Wight, York and James City and the cities of Williamsburg and Newport News located in the approximate ten (10) mile Emergency Planning Zone.

Local Emergency Operations Facility (LEOF) - A near site facility where the Recovery Manager controls overall emergency response efforts.

Local Media Center (LMC) - This facility provides a near site location for official media releases. The LMC is in the Surry Nuclear Information Center.

Nearsite - Within the Exclusion Area, but beyond Protected Area.

Offsite - Beyond the Exclusion Area.

Onsite - The Protected Area (area surrounded by security fence) and Switchyard.

Operational Support Center (OSC) - An assembly area located in the Maintenance Building where augmentation personnel report and await assignments from the SEM. The OSC also serves as a staging area for the Damage Control, Fire, First Aid, and Search and Rescue teams.

Primary Sector - The 22½° sector which bounds the existing wind direction.

Projected Dose - An estimated radioactive dose which affected population groups could potentially receive if no protective actions are taken.

Protected Area - The immediate area surrounding the operating units, enclosed by a fence or other barrier.

Protective Action Guides (PAG) - The projected dose to individuals in the general population which warrants taking protective actions.

Protective Actions - Those emergency measures taken before or after an uncontrolled release of radioactive material has occurred for the purpose of preventing or minimizing radiological exposures.

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

Rem (Roentgen Equivalent Man) - A unit of radiation dose that relates exposure to the biological effects of the exposure (absorbed exposure or dose). A unit related to the rem is the millirem (mrem). 1 mrem = 1/1000 rem.

Restricted Area - Any area where access is controlled for the purpose of radiation protection.

Semi-annual - Occurring once during each of the first and last six months of the calendar year.

Station Emergency Manager (SEM) - Designated onsite individual having the responsibility and authority for implementing the Emergency Plan.

Technical Support Center (TSC) - A facility located adjacent to the Unit I Control Room which will be the central control center for the onsite emergency response organization after shift augmentation.

Thyroid Committed Dose Equivalent (CDE) - Radiation exposure to the thyroid through inhalation or ingestion of radioactive material assuming a 50 year exposure period from uptake.

Total Effective Dose Equivalent (TEDE) - The sum of external and internal dose.

Unrestricted Area - Any area where access is not controlled for the purpose of radiation protection of individuals from exposure to radiation and radioactive materials, and any area used for residential quarters.

1.1 Acronyms and Abbreviations

A/E	-	Architect/Engineer
AC	-	Alternating Current
ANSI	-	American National Standards Institute
APs	-	Abnormal Procedures
ARD	-	Automatic Ringdown Line
Asst.	-	Assistant
B & W	-	Babcock & Wilcox
cc	-	Cubic Centimeter
CEDE	-	Committed Effective Dose Equivalent
CEOF	-	Corporate Emergency Operations Facility
CERC	-	Corporate Emergency Response Center
CERP	-	Corporate Emergency Response Plan
CERT	-	Corporate Emergency Response Team
cm	-	Centimeter
COVRERP	-	Commonwealth of Virginia Radiological Emergency Response Plan
cpm	-	counts per minute
CRO	-	Control Room Operator
CSD	-	Cold Shutdown
DBA	-	Design Basis Accident
DC	-	Direct Current
DDE	-	Deep Dose Equivalent
DES	-	Department of Emergency Services
DOE	-	Department of Energy
dpm	-	disintegrations per minute
EALs	-	Emergency Action Levels
EBS	-	Emergency Broadcast System
ECC	-	Emergency Control Center
ECCS	-	Emergency Core Cooling System
ENS	-	Emergency Notification System (NRC Communications System)
EP(s)	-	Emergency (Operating) Procedures
EPA	-	Environmental Protection Agency
EPIP(s)	-	Emergency Plan Implementing Procedures
EPZs	-	Emergency Planning Zones
ERDS	-	Emergency Response Data System
ERFCS	-	Emergency Response Facility Computer System

ERGs	-	Emergency Response Guidelines
ESFs	-	Emergency Safeguards Features
EWS	-	Early Warning System
FEMA	-	Federal Emergency Management Agency
FRMAP	-	Federal Radiological Monitoring and Assessment Plan (FRMAP)
FTS	-	Federal Telecommunications System
HP	-	Health Physics
HPN	-	Health Physics Network (NRC Communications System)
HP Tech	-	Health Physics Technician
HRSS	-	High Radiation Sampling System
HSD	-	Hot Shutdown
I & C	-	Instrumentation and Control
ISD	-	Intermediate Shutdown
LAN	-	Local Area Network
LEOF	-	Local Emergency Operations Facility
LOCA	-	Loss of Coolant Accident
MCL	-	Management Counterpart Link
MCV	-	Medical College of Virginia
MIDAS	-	Meteorological Information and Dose Assessment System
mph	-	miles per hour
mR/hr	-	Milli Rem per hour
MSL	-	Mean Sea Level
NRC	-	Nuclear Regulatory Commission
NSSS	-	Nuclear Steam Supply System
OPX	-	Off-Premises exchange (Communications System)
OSC	-	Operational Support Center
P & ID	-	Process and Instrument Diagram
PAGs	-	Protective Action Guides
PBX	-	Private Branch exchange (Communications System)
PMCL	-	Protective Measures Counterpart Link
QC	-	Quality Control
RAA	-	Remote Assembly Area
Reg. Guide	-	Regulatory Guide
Rem	-	Roentgen Equivalent Man
R/hr	-	Roentgen per hour
RERP	-	Radiological Emergency Response Plan

RERT	-	Radiological Emergency Response Team
RMS	-	Radiation Monitoring System
RO	-	Reactor Operator
RSCL	-	Reactor Safety Counterpart Link
S & W	-	Stone & Webster
SCBA	-	Self contained breathing apparatus
SEM	-	Station Emergency Manager
SEP	-	Surry Emergency Plan
SI	-	Safety Injection
SNSOC	-	Station Nuclear Safety & Operating Committee
SPDS	-	Safety Parameter Display System
SPS	-	Surry Power Station
SRO	-	Senior Reactor Operator
SUPT	-	Superintendent
SUPV	-	Supervisor
Tavg	-	Average Temperature
Tech. Spec.	-	Technical Specification
TEDE	-	Total Effective Dose Equivalent
THY	-	Thyroid
THYROID CDE	-	Thyroid Committed Dose Equivalent
TLD	-	Thermoluminescent Dosimeter
TRNEE	-	Trainee
TSC	-	Technical Support Center
μCi	-	Micro (μ) Curie
UHF	-	Ultrahigh frequency (radio)
V	-	Volt(s)
W	-	Westinghouse

SURRY POWER STATION
EMERGENCY PLAN

SECTION 2

SCOPE AND APPLICABILITY

Part	Subject	Page No.
2.0	Site Specifics	2.2
2.1	Emergency Plan	2.2

2.0 Site Specifics

The Surry Power Station consists of two units, each of which include a three loop pressurized light water reactor nuclear steam supply system (NSSS) and turbine generator furnished by Westinghouse Electric Corporation. The balance of the station was designed and constructed by the Company with the assistance of its Architect/Engineer (A/E), Stone and Webster Engineering Corporation. Each reactor was designed for initial core output of 2477 MWt which results in a gross electrical output of approximately 822 MWe. The units are located in Surry County, Virginia, on a point of land called Gravel Neck, which juts out into the James River from the South. The 840 acre site is located approximately 25 miles NW of Hampton, Virginia; and, approximately 7.0 miles south of Williamsburg, Virginia. Cooling water is obtained from the James River.

Portions of Surry, Isle of Wight, James City and York counties and the cities of Newport News and Williamsburg lie within 10 miles of the station. Newport News, Williamsburg and the counties of James City and York are dominated by growing population centers and large transient tourist trade. The counties of Surry and Isle of Wight, which surround the site on the south side of the James River, are predominately rural and characterized by farmland, wooded land and marshy wet lands. Surry County has the largest agricultural area within the 10 mile zone, covering over 9000 acres of major cropland. Peanuts, corn and soybeans are the principal crops of the area. Two (2) dairy farms are in this zone, located close to Bacon's Castle.

2.1 Emergency Plan

The Surry Power Station Emergency Plan describes the organization, facilities, emergency response measures, and functional interfaces with offsite agencies which can be used to respond to a broad range of defined emergencies. The organization has well defined responsibilities and specific authorities which provide for effective control and coordination of the emergency response, both onsite and offsite.

The organization is augmented, as required, to address situations with the most serious potential consequences.

The Plan is formulated for compatibility with existing Local, State, and Federal organizations which have responsibilities to render assistance should the need exist. Coordinating the response effort between Virginia Power and offsite agencies supports mutual goals of protecting public health and safety and of minimizing damage to both public and private properties.

The basic purposes of the Plan are as follows:

1) To define potential types of emergencies;
2) To establish an organization for managing an emergency;
3) To provide measures for coping with an emergency;
4) To provide facilities from which to perform selected measures;
5) To provide for a recovery program following an emergency; and,
6) To provide methods for maintaining the Plan active and current.

Emergency Plan Implementing Procedures (EPIPs) provide instructions for accomplishing the provisions established in the Plan. The procedures guide the classification of the emergency, provide for offsite notifications, and activation of the full response organization. They also provide techniques for estimating the consequences of offsite releases and making recommended protective action recommendations.

SURRY POWER STATION
EMERGENCY PLAN

SECTION 3

SUMMARY OF EMERGENCY PLAN

Part	Subject	Page No.
3.0	Summary of Emergency Plan	3.2

3.0 Summary of Emergency Plan

Types of emergencies are divided into four classifications which cover a broad spectrum of potential occurrences. These classifications range from a "Notification of Unusual Event," in which offsite officials are notified of an unusual condition, through a "General Emergency," in which onsite and offsite evacuation may be required and a major state of emergency exists. This classification scheme is compatible with existing State and local emergency response plans.

An emergency response organization is established with specific duties and responsibilities defined, and points of contact between onsite and offsite supporting agencies designated. Augmentation of the emergency organization will occur at the "Alert" level, which includes activation of both station and corporate emergency response teams. Provisions for prompt notification of the State, Local and Federal agencies are established and include transmittal of pre-planned information which may be required for offsite agency response.

Methods and procedures provide corrective and protective actions including evaluation of the operability of the unaffected unit; the use of protective equipment, protective action guides and exposure limits are pre-specified. The facilities available for assessment and management of the emergency consist of emergency onsite and offsite response centers, communication systems, and portable or fixed equipment for detection and measurement of those parameters causing or resulting from the emergency. Medical facilities are also available.

A recovery program describes the organization and procedural approach required to re-start the affected unit. The recovery program provides guidance for relaxing protective measures that have been instituted and requires the periodic estimation of total population exposure.

The Emergency Plan and Emergency Plan Implementing Procedures are reviewed annually. The Station Nuclear Safety and Operating Committee (SNSOC) evaluates the review and may provide additional recommendations as necessary. Periodic drills and exercises involving communications, fire fighting, radiological monitoring and Health Physics activities are routinely conducted. A joint exercise involving Federal, State and local response agencies will be held on odd-numbered years at Surry (the even-numbered years being held at North Anna) to ensure all major elements of the Plan are tested within a five year period. Critiques of each implementation of the Plan allow for critical reviews of technique, methods, and shortcomings. Improvements will be factored into the plan and/or implementing procedures, through revisions.

SURRY POWER STATION EMERGENCY PLAN

SECTION 4

EMERGENCY CONDITIONS

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4.2	Emergency Classification System	4.3
4.3	State and Local Government Classification System	4.9
4.4	Requirements for Written Summaries of Emergency Events	4.9

4.0 Emergency Conditions

The following guidelines describe the criteria used by station personnel in classifying or determining the type of an emergency. The types of potential accidents or emergencies are numerous and vary in magnitude. Accordingly, the classification system is wide-range, although flexible and straight forward. The four classifications are defined in accordance with Appendix 1 of NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants". The classification system is not intended to include minor deviations during normal operation.

4.1 Spectrum of Postulated Accidents

The spectrum of emergencies peculiar to nuclear power stations range from accidents with minor implications on health and safety to the postulation of major occurrences resulting in the release of significant quantities of radioactive material. Examples of minor accidents that may occur include small spills of radioactive liquid, external contamination of personnel or personal effects, unplanned or uncontrolled releases of small amounts of radioactive material, or equipment malfunctions.

Major occurrences, though not expected to take place, have been postulated for planning and design purposes. These events, further described in Surry Power Station UFSAR, Section 14, are as follows:

a. Major reactor coolant pipe ruptures (LOCA).
b. Major secondary system pipe rupture (steam line break).
c. Steam generator tube rupture.
d. Fuel handling accidents.
e. Rupture of a control rod drive mechanism housing (rod cluster control assembly ejection).

Of the accidents listed above and analyzed in the UFSAR, three are considered to release significant amounts of radioactivity. These are the loss of coolant accident, the steam generator tube rupture and the fuel handling accident. The nature of these three accidents is such that a radiological safety analysis can produce results that vary in terms of consequences. This analysis depends on assumptions used concerning such items as the status of primary coolant radioactivity content, meteorological conditions, or performance of station safety systems. The Emergency Plan and implementing procedures are written in anticipation of having to contend with these worst case consequences.

4.2 Emergency Classification System

Emergency conditions which may develop will be categorized as one of the following emergency classifications:

1. Notification of Unusual Event.
2. Alert.
3. Site Area Emergency.
4. General Emergency.

The Notification of Unusual Event classification requires notification of appropriate offsite support groups and station management personnel that an abnormal condition exists at the station. The purpose of this notification is to increase the awareness of key offsite support organizations and station management of a condition which can currently be managed by the onsite resources, but which could escalate to a more serious condition. The on-shift operations personnel are assigned response tasks in accordance with the pre-augmentation organization responsibilities defined in Section 5 of this plan.

The Alert classification is indicative of a more serious condition which has the potential for radioactive release. As a result, the Virginia Power emergency response organization is notified to augment onsite resources and activate corporate emergency response facilities.

The Site Area Emergency classification reflects conditions where some significant radiation releases are likely or are occurring, but where a core melt situation is not currently indicated. In this situation, there would be full mobilization in the nearsite environs of monitoring teams and associated communications. A Site Area Emergency can be declared for reasons other than radiological releases.

The General Emergency classification is indicative of actual or imminent substantial core degradation or melting with the potential for loss of containment, or non-radiological events which could endanger public health and/or safety. Within fifteen minutes of declaring a General Emergency, predetermined protective action recommendations will be made to the State based on plant and meteorological conditions.

Tables 4.1 - 4.4 list initiating conditions for each emergency classification. Appendix 10.8 provides the specific plant parameters for the classification of events. In Attachment 1 to EPIP-1.01, "Emergency Manager Controlling Procedure", these conditions are grouped by event category for easy reference and identification. For each condition, specific indications available from instruments and unit operating response are defined in EPIP-1.01 to confirm that the proper thresholds have been met for declaring a given classification.

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT - TABLE 4.1

1. Safety Injection System (Emergency Core Cooling) initiation not caused by spurious signal.
2. Technical Specifications Limiting Conditions of Operation, including Engineered Safety Features and Fire Protection System, have been exceeded.
3. Failure of a safety or relief valve in a safety related system to close following reduction of applicable pressure.
4. Process or effluent indicators or alarms required for incident assessment not available.
5. Loss of meteorological instrumentation.
6. Loss of communications capability.
7. Safety limits of the Technical Specifications have not been met or have been exceeded.
8. RCS leak rate requiring plant shutdown IAW T.S.3.1.C.
9. Primary to Secondary leakage greater than 1 gpm.
10. Indications of damage to fuel.
11. Indications of damage to spent fuel storage cask.
12. Loss of Containment integrity.
13. Effluent release GREATER THAN T.S. allowable limit.
14. Transportation of contaminated injured individual from site to offsite hospital.
15. Loss of Secondary Coolant System.
16. Loss of offsite power or onsite AC capability.
17. Fire in the Protected Area or Switchyard which lasts more than ten (10) minutes.
18. Security threat, unauthorized attempted entry or attempted sabotage.
19. Bomb threat or discovery.
20. Aircraft crash or unusual aircraft activity.
21. Onsite explosion.
22. On or nearsite release of toxic or flammable liquids or gases.
23. Turbine rotating component failure with no casing penetration.
24. Earthquake detected.
25. Tornado onsite.
26. High winds.
27. Flood or low water level.
28. Other station conditions exist that warrant increased awareness on the part of State and/or Local offsite authorities.

INITIATING CONDITIONS: ALERT - TABLE 4.2

1. Loss of a function needed for unit Cold Shutdown.
2. Failure of the reactor protection system to initiate and complete a trip, when required.
3. All annunciators lost with unit not in a shutdown condition.
4. Evacuation of the Control Room is anticipated or required, with local control of shutdown systems established within 15 minutes.
5. Primary coolant leak rate exceeding 50 gpm.
6. Reactor coolant pump locked rotor at power leading to fuel failure.
7. Steam generator tube failure with loss of offsite power.
8. Gross steam generator tube failure.
9. Severe loss of fuel cladding.
10. Fuel damage with release of radioactivity to the Containment or Fuel building.
11. Loss of cask/fuel containment barriers or accidental criticality.
12. Containment radiation (high-high monitor) and pressure or temperature exceed specified limits.
13. High radiation levels or high airborne contamination levels which indicate a severe degradation in the control of radioactive materials.
14. Effluent release GREATER THAN 10 TIMES T.S. allowable limit.
15. Steam line break with significant primary to secondary leakage or failure of a Main Steam Trip Valve to close.
16. Loss of offsite power and all onsite power.
17. Loss of all onsite DC power.
18. Fire potentially affecting safety systems.
19. Ongoing security compromise.
20. Bomb potentially affecting station safety systems.
21. Aircraft crash on the facility.
22. Explosion damage to the facility.
23. Entry of toxic or flammable gases or liquids into plant facility.
24. Missile damage to safety related equipment or structures.
25. Turbine failure with penetration.
26. Earthquake greater than operating - basis earthquakes levels.
27. Tornado striking facility.

(Continued on next page)

INITIATING CONDITIONS: ALERT - TABLE 4.2 (Continued)

28. Extreme winds.
29. Flood or low water level near design levels.
30. Other station conditions exist that warrant precautionary activation of the Technical Support Center and the Local Emergency Operations Facility.

INITIATING CONDITIONS: SITE AREA EMERGENCY - TABLE 4.3

1. Loss of all functions needed to take the unit to hot shutdown.
2. Reactor Protection System required trip failure.
3. Loss of all main board annunciators and unit computer for more than 15 minutes during a unit transient.
4. Evacuation of the Control Room where control of the shutdown system is not established within 15 minutes.
5. Loss of coolant accident (LOCA) in which RCS leak rate exceeds makeup capability.
6. Gross steam generator tube failure and loss of offsite power.
7. Core damage with possible loss of cooling capability.
8. Major fuel damage with release to containment or fuel building.
9. Containment radiation (high-high monitor) and pressure or temperature exceed specified limits.
10. Release imminent or in progress and site boundary doses projected to exceed 0.1 Rem TEDE or 0.5 Rem Thyroid CDE.
11. Steam line break with primary to secondary leakage greater than 50 gpm and indication of fuel damage.
12. Loss of offsite power and onsite AC power for more than 15 minutes.
13. Loss of all onsite DC power for more than 15 minutes.
14. Fire affecting safety system.
15. Imminent loss of control of the physical security of the station.
16. Aircraft damage to vital plant systems.
17. Severe explosive damage.
18. Entry of toxic or flammable gases into plant vital area.
19. Severe missile damage to safety systems.
20. Earthquake greater than design - basis earthquake levels.
21. Extreme winds above design basis conditions.
22. Flood or low water level above design levels.
23. Other station conditions that warrant activation of emergency centers and monitoring teams and a precautionary public notification.

INITIATING CONDITIONS: GENERAL EMERGENCY - TABLE 4.4

1. Loss of 2 and potentially all 3 fission product barriers.
2. Fuel failure with Steam Generator tube rupture.
3. Core melt with LOCA and Emergency Core Cooling System (ECCS) failure.
4. Core melt with loss of heat sink.
5. Core melt with loss of Reactor Protection System.
6. Loss of AC power and all feedwater.
7. LOCA with loss of ECCS and Containment Cooling.
8. Extremely high containment radiation, pressure and temperature.
9. Release imminent or in progress and site boundary doses projected to exceed 1.0 Rem TEDE or 5.0 Rem Thyroid CDE.
10. Loss of control of physical security of the Station.
11. Any major internal or external event which singularly or in combination causes massive damage to Station facilities.

4.3 State and Local Government Classification System

The Commonwealth of Virginia Radiological Emergency Response Plan (COVRERP) emergency classification system defines two levels of projected radiological doses resulting from the release of radioactive materials from a fixed nuclear facility. Virginia Power will provide projected radiological doses based on plant parameters. Provisions are in COVRERP for dose assessments within 50 miles of the station for the ingestion of radioactive material via the food pathway.

The projected radiation doses and response levels are:

Projected Radiation Dose	Radiological Response Level
Exceeds 1.0 Rem TEDE exposure or exceeds 5.0 Rem Thyroid CDE.	GENERAL EMERGENCY
0.1 Rem to 1.0 Rem TEDE exposure or 0.5 Rem to 5.0 Rem Thyroid CDE.	SITE AREA EMERGENCY

A Site Area Emergency or General Emergency can also be declared for reasons other than radiological releases.

COVRERP's and local government's protective actions are based on projected doses recommended in Table 2.1 of EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents.

4.4 Requirements for Written Summaries of Emergency Events

A written summary is provided to the Virginia Department of Emergency Services following activation of the Surry Emergency Plan. The schedule for submitting the written summary of a Notification of Unusual Event is within 72 hours of its declaration; for any other classification, the schedule for submitting the written summary is within 8 hours of its termination. This schedule was established with the concurrence of the Virginia Department of Emergency Services. (Reference Letter Serial No. 84-302 dated 5-31-84.)

SURRY POWER STATION
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SECTION 5

ORGANIZATIONAL CONTROL OF EMERGENCIES

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5.0 Organizational Control of Emergencies

An integral part of this Emergency Plan is to assure that classifications of Notification of Unusual Event, Alert, Site Area Emergency, and General Emergency are consistently made in a timely manner. All employees are instructed to contact the Shift Supervisor to report any emergency. This notification and information is available to the Shift Supervisor in the Control Room to enable a timely classification of the emergency and subsequent actions.

The Shift Supervisor or Assistant Shift Supervisor initially acts in the capacity of the Station Emergency Manager and takes actions as outlined in the EPIPs. If required by the emergency classification, or if deemed appropriate by the Station Emergency Manager, emergency response personnel will be notified and instructed to report to their emergency response locations. The Shift Supervisor is relieved as Station Emergency Manager when the Station Manager or his designated alternate reports to the station (normally to the Control Room) and is updated as to the status of the emergency. Following this relief, the Station Emergency Manager may relocate to the onsite Technical Support Center.

The Local Emergency Operations Facility (LEOF) is activated simultaneously with, but independent of, the Technical Support Center (TSC). The LEOF is staffed by station and corporate personnel, including the Recovery Manager, who directs the activities of this facility. Once the LEOF is staffed, the Recovery Manager becomes the liaison between the inplant emergency response effort headed by the Station Emergency Manager and the Corporate Emergency Response Team (CERT). Responsibilities of the Recovery Manager, once the LEOF has been activated, include communicating emergency status to the State and local governments, directing the efforts of the offsite monitoring teams, making radiological assessments, and recommending offsite protective measures to the State. Other primary duties are to arrange through the CERT for the dispatch of any special assistance or services requested by the station and to review news releases to the public and the media. Specific information relating to the staffing and reporting structure of the LEOF organization is provided in the Corporate Emergency Response Plan (CERP). The Recovery Manager reports to the Corporate Response Manager who directs the activities of the CERT at the Corporate Emergency Response Center (CERC). The CERC will be activated at an Alert or higher emergency classification. The Corporate Response Manager is a senior level company executive who is responsible to the President of the Company for the total execution of the company's emergency response effort. He has the ultimate authority to commit company resources and set policy as part of managing the long term recovery effort. More detailed information on the composition of the CERT and their responsibilities is provided in the CERP.

5.1 Normal Station Organization

The Station Manager is ultimately responsible for the operation of the Station. The minimum staff required to conduct Station operation is maintained at the station at all times. For purposes of the Emergency Plan, the onshift manning is assumed to be on back-shift because the normal Station complement of personnel is only present during the daytime from Monday through Friday.

The basic shift (back-shift) complement of personnel is comprised of Operations, Health Physics, Chemistry, and Security personnel with coverage by Maintenance on designated shifts. In addition, technical/engineering support is available on all shifts from the Shift Technical Advisor (STA). Administrative procedures provide the details of the normal station organization including reporting relationships.

5.2 Onsite Emergency Organization

The first line of control in an emergency at Surry Power Station lies with the onshift personnel. The shift complement is staffed with personnel qualified to take the initial actions necessary to respond to an emergency. The organizational relationship of the on-shift emergency organization prior to augmentation is shown in Figure 5.1. Also, personnel assigned to the Search and Rescue Team, the First Aid Team, and the Fire Team may be assigned other functions until their services are required. The capabilities of the assigned onshift personnel are adequate to assess the condition of the affected unit(s), take initial mitigative actions in accordance with emergency operating procedures, make notifications to off-site authorities, and initiate a callout of supplementary emergency response personnel as required. The EPIPs are used procedurally to control these actions.

Should the Station Emergency Manager deem that additional emergency response personnel are needed or the emergency classification is upgraded to Alert or higher, Station Security will commence callout of supplementary emergency response personnel. Table 5.1 represents the minimum number of personnel that are required to augment emergency operations and the estimated response times of these personnel. The composition of the emergency response personnel assigned on shift and those who make up the augmentation crews are consistent with the staffing level goals promulgated by Supplement 1 to NUREG 0737. Sufficient training has been provided for the on-shift personnel to ensure that the response actions needed to bring the affected unit(s) to a stable condition in preparation for the longer term recovery will be taken.

If an emergency occurs on one of the two units, the Shift Supervisor or Assistant Shift Supervisor assumes the operational responsibility for the unaffected unit. This allows the other Supervisor to assume the position of Station Emergency Manager until relieved. Figure 5.2 shows the station emergency organization after full augmentation.

5.2.1 Station Emergency Position and Team Descriptions

The Station Emergency Organization, when fully implemented, will consist of at least the positions discussed below. Reporting relationships are as depicted in Figure 5.2. Additional personnel may be designated by Station Management as emergency responders providing special expertise deemed beneficial, but not mandatory, to the planned response. The individuals assigned as interim, primary and alternate responders for the emergency positions will be designated by Station Management based on the technical requirements of the position. A listing of candidates, based on normal duty titles is presented in administrative procedures. The designated individuals will receive training for their emergency response duties.

5.2.1.1 Station Emergency Manager

The Station Emergency Manager (SEM) has the responsibility of managing and directing emergency operations during the course of the emergency. He normally operates from the Control Room or the Technical Support Center and reports to the Recovery Manager. His responsibilities shall include, but not be limited to:

1) Classifying the emergency,
2) Authorizing notifications to the NRC, State and local agencies of the emergency status,
3) Recommending protective actions,
4) Authorizing emergency exposure limits,
5) Activating emergency personnel and facilities,
6) Reducing power or shutting down both reactors,
7) Committing company funds as necessary,
8) Acquiring emergency equipment or supplies,
9) Ordering site evacuation,
10) Restricting access to the site,
11) Notifying company management,
12) Implementing work schedules, and
13) Directing onsite emergency activities.

Items 1 through 4 above may not be delegated. Upon activation of the Local Emergency Operations Facility (LEOF), the Recovery Manager will be responsible for notifying the State and local agencies of the emergency status. In addition, the Recovery Manager will be responsible for recommending offsite protective measures to the State.

5.2.1.2 Emergency Communicators

The Emergency Communicators report to the SEM in the Control Room prior to activation of the TSC, and to the TSC after its activation. The primary duties of the Emergency Communicators are to initially notify and periodically update the Emergency Operations Centers of the counties within the 10-mile Emergency Planning Zone, the State Department of Emergency Services (DES), and the NRC. Upon activation of the LEOF, the LEOF staff becomes responsible for notification of State and local governments. The minimum information to be conveyed is specified in the EPIPs.

5.2.1.3 Emergency Procedures Coordinator

The Emergency Procedures Coordinator (EPC) reports to the SEM in the TSC as part of the augmentation of the onshift emergency organization. The responsibilities of the EPC include:

1) Assisting the SEM in assuring all appropriate procedures and responses are initiated,
2) Monitoring emergency action level entry conditions,
3) Assisting the SEM in maintaining a working document of the controlling EPIPs and other appropriate procedures,
4) Assisting the SEM in obtaining all procedures generated as a results of the emergency,
5) Reviewing procedures for accuracy and completeness; and,
6) Assisting in the preparation of these documents for review by the Station Nuclear Safety and Operating Committee.

5.2.1.4 Emergency Operations Director

The Emergency Operations Director (EOD) reports to the SEM in the TSC as part of the augmentation of the onshift emergency organization. His duties include directing the activities of Operations personnel, advising the SEM on emergency operations, and directing the development of procedures necessary for conducting emergency operations.

5.2.1.5 Emergency Maintenance Director

The Emergency Maintenance Director (EMD) reports to the SEM in the TSC as part of the augmentation of the onshift emergency organization. The EMD is responsible for advising the SEM on emergency maintenance activities including prioritization, status and providing interface with the Operational Support Center (OSC) Director (when necessary).

5.2.1.6 Emergency Technical Director

The Emergency Technical Director (ETD) reports to the SEM in the TSC as part of the augmentation of the on-shift emergency organization. He directs the activities of the Technical Support Team.

The ETD will analyze mechanical, electrical, instrumentation and control, hydraulic, thermodynamic, and reactor physics problems, and develop solutions to the problems. He shall provide technical support to the SEM and assist in developing procedures necessary for conducting emergency operations and maintenance.

5.2.1.7 Shift Technical Advisor

The Shift Technical Advisor (STA) will remain in the Control Room to advise the Shift Supervisor or Assistant Shift Supervisor on engineering and accident assessment matters. STA coverage is provided on a 24-hour per day, 7-days per week on-shift basis to enable timely assistance in the Control Room.

5.2.1.8 Emergency Administrative Director

The Emergency Administrative Director (EAD) reports to the SEM in the TSC as part of the augmentation of the on-shift emergency organization. The EAD directs activities of the Administrative Support Team and advises the SEM on emergency first aid, fire protection, security, administrative and logistical support activities. He coordinates the acquisition of equipment, supplies, personnel, and other assistance needed to cope with the emergency. He ensures that the TSC log keeper maintains a chronological record of key events.

5.2.1.9 Radiological Assessment Director

The Radiological Assessment Director (RAD) reports to the SEM in the Technical Support Center after relieving the interim director who was the Senior Health Physics representative onsite at the initiation of the emergency. He directs the activities of the Radiation Protection Supervisor in maintaining the Radiation Protection Program onsite during an emergency. He also directs the activities of the Dose Assessment Team and Offsite Monitoring Teams in determining offsite consequences of radiological releases until control is assumed by the Radiological Assessment Coordinator at the LEOF.

Other duties of the RAD are to provide status of offsite releases to the SEM, to direct activities of the Chemistry Team following augmentation, to evaluate radiological conditions and recommend onsite and offsite protective actions to the SEM, to provide recommendations and Health Physics coverage for onsite corrective actions, to direct decontamination efforts, and to provide HP coverage for evacuation of onsite personnel.

5.2.1.10 Radiation Protection Supervisor

The position of Radiation Protection Supervisor (RPS) will be filled upon augmentation of the on-shift emergency organization. The RPS normally operates from the Station HP Office and reports to the RAD. The RPS directs the activities of the In Plant Monitoring Team, the Sample Analysis Team, the Personnel Monitoring and Decontamination Team, the Onsite (Out of Plant) Monitoring Team, and the Evacuation Monitoring Team. The RPS will also provide radiological support, as needed, to the Search and Rescue Team, and the First Aid Team. Additional duties include evaluating onsite radiological conditions, ensuring that appropriate monitoring and sampling are performed, verifying the appropriate personnel monitoring is performed and personnel exposures are evaluated, and maintaining dose records. The RPS shall also recommend onsite protective measures to the RAD and provide him with survey results and sample analysis results needed for offsite dose assessment.

5.2.1.11 Operational Support Center Director (OSC Director)

The position of OSC Director will be filled upon augmentation of the on-shift emergency organization. The OSC Director operates from the Operational Support Center and reports to the SEM, normally through the EMD. The duties and responsibilities of the OSC Director include planning, scheduling and material requesitioning in support of damage control tasks. The OSC Director also accounts for, dispatches and controls the Fire Team, the First Aid Team, the Search and Rescue Team, and the pool of personnel who compose damage control teams, including mechanics, electricians, instrument technicians and standby operations personnel.

5.2.1.12 OSC Support Team

The OSC Support Team operates out of the OSC under the direction of the OSC Director after augmentation of the on-shift emergency organization. The OSC Support Team plans required maintenance evolutions, develops emergency maintenance procedures, arranges for material acquisition, coordinates the efforts of the Damage Control Teams (if activated) and provides logistical and communications support, as necessary.

5.2.1.13 Technical Support Team

The Technical Support Team operates out of the TSC under the direction of the ETD after augmentation of the on-shift emergency organization. The Team members include a Reactor Engineer, a Mechanical Engineer, an Electrical Engineer and Operational

Advisor. The on duty Shift Technical Advisor has the required training to provide technical support until the Team is fully staffed.

The Team shall assist the ETD in analyzing electrical, mechanical, instrumentation and control, reactor physics, hydraulic and thermodynamic problems and in developing solutions to the problems. The Team shall also assist in developing procedures necessary to deal with the emergency condition.

5.2.1.14 Chemistry Team

The Chemistry Team, after augmentation, reports to the RAD and operates from the designated Chemistry Team staging area. The Chemistry Team will conduct the necessary chemistry sampling and sample analysis. The Team will also obtain post accident liquid and gaseous samples, as directed.

5.2.1.15 Administrative Support Team

The Administrative Support Team will assist the EAD on emergency fire protection, security, administrative and logistical support activities. The Team will also provide clerical and records support.

If the emergency is Security related, the Administrative Support Team Leader will report directly to the SEM.

If the emergency is a fire or first aid emergency, the Safety/Loss Prevention representative will report directly to the SEM.

5.2.1.16 Security Team

The Security Team reports to the EAD. This Team will maintain personnel accountability, control search activities for unaccounted for personnel, provide site access control, provide station security, and activate the LEOF. The Team will also maintain liaison and communications with local law enforcement agencies when directed to do so by the SEM.

5.2.1.17 Dose Assessment Team

This Team will operate under the direction of the RAD. The Dose Assessment Team maintains contact with and transmits instructions to Offsite Monitoring Teams, performs offsite dose assessment calculations, and provides the RAD with offsite release calculations and dose projections. The Team will also assign an individual to transmit Health Physics and environmental information to the NRC using the Health Physics Network (HPN) phone.

Once the LEOF is activated, the Dose Assessment Team Leader will report results of

5.2.1.23 Onsite (Out of Plant) Monitoring Team

This Team reports to the RPS and operates out of the Station HP Office. The team will perform monitoring and sample collection within the owner controlled area but outside the protected area.

5.2.1.24 Fire Team

The Fire Team members arriving at the Station to augment the on-shift Fire Team will report to the OSC Director in the OSC and remain there until their services are needed. Upon activation, the Team will report to the Administrative Support Team Safety/Loss Prevention Representative, the SEM, or the responsible Emergency Director as needed.

The Fire Team will combat fires in accordance with the Station Fire Protection Program. The on-shift Fire Team members with other duties will not report to the OSC, but will remain in their normal duties unless called out to combat a fire.

5.2.1.25 First Aid Team

The First Aid Team members reporting to the Station to augment the on-shift First Aid Team will report to the OSC Director in the Operational Support Center until their services are needed. Upon activation, the Team will report to the Administrative Support Team Safety/Loss Prevention representative, the SEM or a designated Emergency Director as needed.

The Team will respond to first aid emergencies in accordance with the Station Administrative Procedures and in accordance with standard first aid practices.

The on-shift First Aid Team members with other duties will not report to the OSC, but will remain in their normal duties unless activated to respond to a first aid emergency.

5.2.1.26 Damage Control Team

The Damage Control Team reports to the OSC Director. When support is required, designated personnel may report to the EMD or the responsible emergency director.

The Damage Control Team is a pool of foremen, mechanics, electricians, instrument technicians and operators from which Damage Control Task Teams are formed to conduct emergency assessment and repairs. Damage Control supervisors may be designated to assist in the selection of personnel for Damage Control Task Teams and monitoring of emergency maintenance activities.

offsite releases and dose projections to date to the RAC in the LEOF. The Dose Assessment Team Leader will also inform the RAC of the locations of Offsite Monitoring Teams and of the current data received from these Teams.

Control of Offsite Monitoring Teams and responsibility for making HPN notifications will transfer to the LEOF. The Dose Assessment Team will then provide support to the RAD regarding onsite response and interface with the LEOF.

5.2.1.18 Offsite Monitoring Teams

These Teams will report to the Dose Assessment Team in the TSC or the LEOF, once activated. These Teams will provide offsite monitoring and sample collection as directed by the Dose Assessment Team.

5.2.1.19 Evacuation Monitoring Team

This Team is under the direction of the RPS and is activated at the Remote Assembly Area only if a site evacuation is ordered.

The duties of this Team include monitoring station personnel at the Remote Assembly Area following a site evacuation, collecting evacuated personnel dosimetry, and decontaminating personnel as necessary.

5.2.1.20 In-Plant Monitoring Team

The In-Plant Monitoring Team reports to the RPS in the Station HP Office. This Team will perform monitoring and sample collection inside the protected area. The team will also provide monitoring services to the Search and Rescue Team, the Damage Control Team, the Fire Team, and the First Aid Team, if required.

5.2.1.21 Sample Analysis Team

The Sample Analysis Team reports to the RPS in the Station HP Office. The team shall analyze samples collected offsite as well as post accident liquid and gaseous samples.

5.2.1.22 Personnel Monitoring and Decontamination Team

This Team reports to the RPS in the Station HP Office. The Team will monitor personnel, decontaminate personnel and provide monitoring services to the Search and Rescue Team, the Damage Control Team, the Fire Team, and the First Aid Team, if required.

5.2.1.27 Search and Rescue Team

This Team will report to the OSC Director in the OSC until circumstances require their function to be performed. Upon activation, the Team will report to the SEM, the Administrative Support Team Safety/Loss Prevention representative, or the designated Emergency Director as needed.

The Search and Rescue Team will search for and rescue personnel following an explosion, a fire, or any other hazardous event.

5.2.2 LEOF Emergency Position and Team Descriptions

The LEOF Emergency Organization, when fully implemented, will consist of the positions and teams as described in the Corporate Emergency Response Plan. A listing of candidates, based on normal duty titles, is presented in administrative procedures.

5.3 Augmentation of Onsite Emergency Organization

The SEM has the authority to request assistance from any organization which he deems necessary to mitigate the conditions causing the emergency. In addition, the SEM may request offsite assistance in fire fighting, rescue services, law enforcement, and medical support prior to augmentation of the onsite emergency organization (see Figure 5.3).

The participating agencies and support services with whom emergency support services have been negotiated are listed, by letters of agreement, in Appendix 10.1 of this Plan.

If conditions at the Station require an Alert or higher classification, the CERC, LEOF, TSC and OSC shall be activated. The SEM would normally forward information or request additional support through the Recovery Manager located in the LEOF (See Figure 5.4). Upon completion of the notification, the Recovery Manager would notify the Corporate Response Manager and provide recommendations concerning additional manpower, equipment, services, and the overall participation of the Corporate Emergency Response Team (CERT). Additional resources shall be obtained through personnel assigned to the CERT. Those additional personnel directed to report to the site during the emergency shall report to either the SEM or Recovery Manager for assignment, as appropriate.

The Corporate Response Manager has the ultimate responsibility for directing the corporate emergency response. Corporate support would be coordinated between the SEM onsite and the Recovery Manager at the LEOF. The Recovery Manager and his staff will serve as control point of contact between the Station, corporate emergency response in Richmond, and governmental authorities. In the event that the LEOF becomes uninhabitable, the functions of the LEOF will be transferred to the CEOF located in Glen Allen, Virginia.

5.3.1 CERT Notification and Response

The EPIPs provide for notification of Corporate Security to activate the Corporate Emergency Response Team in the event of an Alert, Site Area Emergency or General Emergency. This will also activate the Corporate Emergency Response Plan as the team members report to the Corporate Emergency Response Center (CERC) in Glen Allen, Virginia. Upon activation of the LEOF, the Recovery Manager will become the liaison between the Station and the CERC. He will provide recommendations concerning the corporate response based on the emergency classification. The Corporate Emergency Response Plan establishes the necessary guidelines for both the CERC and the LEOF to assist the station staff in managing the emergency. These include the following functions which may be necessary for emergency mitigation and recovery:

5.3.1.1 Environmental Monitoring

Provisions for obtaining additional environmental monitoring personnel shall be the responsibility of the CERT.

5.3.1.2 Logistics Support for Emergency Personnel

CERT Administrative Services will be responsible for all administration and logistics including accommodations, corporate communications, purchasing, finance, commissary, sanitary, transportation, and security services.

5.3.1.3 Technical Support for Planning and Re-entry/Recovery Operations

Technical support for recovery and subsequent re-entry would be directed by the Recovery Manager. Trained technical personnel are available in the areas of nuclear fuel management, water quality, air quality, Quality Assurance, Engineering, Health Physics, and Chemistry. Additional technical support would be obtained from North Anna Power Station, A/E, and NSSS vendor. Consulting services would be obtained as necessary.

5.3.1.4 Notification of Governmental Authorities

CERT management is responsible for contacting governmental agencies when coordinating mobilization of resources or requesting additional support. The LEOF, once activated, serves as principal point of interaction between the Station and governmental authorities once they are mobilized.

5.3.1.5 Release of Information to News Media

News releases shall be coordinated with the Public Affairs Department or Public Affairs representative in the Joint Public Information Center. The Chief Technical Spokesperson is

responsible for meeting with the news media. Releases will be coordinated with the appropriate governmental authorities. Briefings can be conducted at the Joint Public Information Center in the Corporate offices and the Local Media Center in the Surry Nuclear Information Center (SNIC). The process for preparing, reviewing and distributing information to the public during emergencies is detailed in the CERP.

5.3.2 Vendor and Contractor Support

Support will be obtained from Stone & Webster (the A/E) and Westinghouse (the NSSS vendor) as needed for emergency and recovery operations. Experienced personnel with indepth expertise in station design, engineering and construction will be obtained to aid in solving critical technical problems.

This support is normally solicited by the Corporate Response Manager or his representative. In the event of an emergency, both Westinghouse and Stone & Webster will be informed of the plant status. In addition, the Institute of Nuclear Power Operations can be contacted to provide sources of additional support, if necessary.

5.3.3 Local Services Support

Agreements have been arranged to provide fire fighting, rescue squad, medical and hospital services. Procedures for obtaining offsite services are provided in Abnormal Procedures and EPIPs. Responding rescue squads are trained in the handling, treatment, and transportation of injured personnel.

The Medical College of Virginia (MCV), Virginia Commonwealth University, has developed an emergency plan designed to provide medical care in the case of a radiation emergency. The MCV Radiation Emergency Plan supports the Virginia Power nuclear power stations in the case of occupational and/or major accidents, including contaminated personnel. In the event of a need for their support, a call ahead to MCV will be made to alert them to activate their emergency plan. A copy of the MCV Radiation Emergency Plan is maintained on file by the Nuclear Emergency Preparedness department.

In addition, radiological count laboratory resources are available through the Commonwealth to respond to an emergency at the station. These (with estimated response time), include:

1. University of Virginia, Charlottesville, VA (3 hours)
2. Virginia Commonwealth Laboratories, Richmond, VA (75 minutes)
3. Medical College of Virginia, Richmond, VA (75 minutes)
4. Newport News Shipbuilding & Drydock, Newport News, VA (45 minutes)
5. Norfolk Naval Shipyard, Norfolk, VA (60 minutes)
6. Bureau of Radiological Health State Mobile Laboratory (75 minutes)

7. College of William and Mary, Williamsburg, VA (75 minutes)

If required at the time of the event, additional resources can be obtained through purchase agreements with private institutions. These agreements would not be prepared in advance, but would be negotiated on an as needed basis.

Letters of Agreement in support of the Surry Emergency Plan will be renegotiated once every 2 years. These agreements and any new agreements will be included in Appendix 10.1 upon the next plan revision. Negotiation responsibility lies with the Director Nuclear Emergency Preparedness. Letters of Agreement are limited to Federal, State, local and volunteer organizations.

5.4 Coordination with Participating Government Agencies

The State organization for response to radiological emergencies is based on normal governmental structures and channels of communication. The Governor, in his role as Director of Emergency Services, directs the response through the State Coordinator of Emergency Services. The State Coordinator of Emergency Services coordinates the overall response and the Department of Health provides technical advice and assistance on radiological accident assessment, protective action, radiological control, and radiological monitoring.

Responsibility for radiological emergency response rests primarily with the elected officials of local governments. As time is a major factor in realizing the benefits of protective action in the event of a radiological emergency, certain of these actions are predetermined and agreed upon by the local governing body and are implemented without delay upon notification of a radiological emergency. An insta-phone (dedicated hot-loop system), continuously monitored by the Operations shift in the Control Room, with extensions available in the TSC and LEOF, is used for normal transmission of emergency notifications to these authorities (See Section 7.2.2.5). Procedures for authentication of an emergency via the use of restricted, unpublished call-back telephone numbers are maintained in State and local Radiological Emergency Response Plans should verification be desired. When this notification is received, the Commonwealth of Virginia Radiological Emergency Response Plan is also implemented and the State Department of Health initiates action to assess and evaluate the radiological situation in order to provide guidance and assistance to local governments. After the initial immediate action, subsequent protective actions are made based on the results of the State evaluation of the radiological situation and Virginia Power recommendations. State and Federal agencies provide assistance, as required. Response operations at the State level are coordinated by the Department of Emergency Services.

5.4.1 Commonwealth of Virginia Department of Emergency Services (DES)

The State Coordinator of Emergency Services coordinates the overall response operations at the State level and performs specific duties as defined in the COVRERP.

The State Emergency Operations Center (EOC) is located in Richmond, Virginia. There are local EOCs in each of the local communities. Additionally, the DES will send appropriate liaison personnel to the LEOF upon activation.

5.4.2 Commonwealth of Virginia Department of Health

Department of Health personnel, in coordination with the DES, provide technical advice and assistance on radiological accident assessment, protective actions, radiological exposure control, and radiological monitoring. (Reference COVRERP for more specific information). Upon either an Alert or higher classification, the Department of Emergency Services will notify the Bureau of Radiological Health, State Department of Health. The Department of Health will implement its response procedures. The local county health department is the primary health response agency, with the State Department of Health providing assistance to them, as required, with emphasis on the special requirements for those individuals who are contaminated with radioactivity. Accident assessment personnel, as part of the Radiological Emergency Response Team (RERT), will operate from the State EOC.

5.4.3 Additional State Agencies

Other State organizations having possible responsibilities in a radiological emergency are: Department of Agriculture and Consumer Services, Department of Air Pollution Control, Department of Conservation and Recreation, Division of Consolidated Laboratory Services, Department of Corrections, Department of Forestry, Department of Game and Inland Fisheries, Department of Transportation, Department of Military Affairs, Marine Resources Commission, Department of Mental Health, Mental Retardation and Substance Abuse Services, Department of State Police, State Water Control Board, Department of Motor Vehicles, the Department of Social Services, and the Virginia Cooperative Extension Service. If services are required from any of these organizations, the requested services will be coordinated through DES by the SEM or the Recovery Manager.

5.4.4 Surry County

The authority and responsibilities of Surry County presented in the Surry County Radiological Emergency Response Plan (RERP) applies to radiological emergencies within the county caused by events at the Surry Power Station. The plan:

a. Assigns responsibilities to county offices and organizations in radiological emergency

The State will also provide police support in the event of the activation of this plan. In the event of an emergency, the dispatcher at the State Police Headquarters in Richmond, Virginia may be called. First response would be from police units normally based in the local areas. These would soon be supplemented by additional units dispatched from other parts of the state. The State Police would provide traffic control and additional security.

The local Sheriff's departments of Surry and Isle of Wight counties also respond to this plan. They perform essentially the same functions as the State Police and coordinate their efforts with that organization.

The Company also maintains liaison and agreement with local Fire Departments and Rescue Squads that will provide assistance, if requested, by the SEM.

In the event of an emergency, the Station will be in communication with the Directors of Emergency Services in the local communities who have the capability of activating their Emergency Operations Centers.

The Station relies upon Surry and Isle of Wight Counties to provide assistance in the event an evacuation from the site requires a remote assembly point or any services the counties are capable of providing to mitigate any results of the emergency.

The Station will also maintain close contact with NRC Headquarters and the Region II Offices in Atlanta. This is an important function to ensure that accurate information and assessment of the emergency are available to the Federal Government. As a results of these communications the NRC can best appraise their response to the emergency. In a like manner, the U.S. Department of Energy, Oak Ridge Operations, will provide radiological assistance to the Station in the event of an emergency. The Station will provide the necessary assembly point and information of the emergency. This agency will coordinate all its efforts with the participating Federal, State and local agencies responding to the emergency.

The Station has the responsibility to provide to supporting agencies involved in the recovery of the facility or participating in controlling the emergency the necessary information to permit them to use their resources. In the case of the local counties the Company provides communication, and when needed, training. This training takes the form of participation in drills and exercises by the county and radiological training for members of local volunteer rescue squads and fire departments. Local Police are trained by State agencies. The Company will also arrange drills and exercises on a routine basis to ensure the plan is workable and to gain experience in its implementation. The total effort of all parties involved shall be directed toward minimizing the results of an emergency and working toward the recovery of the facility with the least impact on the population at large.

response and preparedness.

b. Sets forth procedures for disseminating warning of radiological emergencies to the citizens of the county.

c. Specifies response actions for specific emergency classifications.

d. Delineates the policies and concepts under which the county government will operate in radiological emergency response.

Upon notification from the SEM, the County Sheriff's Office will notify the County Coordinator of Emergency Services, or their representative, who shall:

a. Verify the notification from Surry Power Station

b. Initiate the key county official's alert system

c. Initiate public warning procedures, as ordered by appropriate State authority

d. Commence evacuation of people from the affected area when directed by the appropriate State authority.

The County Coordinator of Emergency Services or their representative will activate and ensure that the EOC is manned 24 hours per day.

Once initial notifications are complete, the SEM or Recovery Manager provides periodic status reports to the County Coordinator of Emergency Services. These reports include any changes in status or emergency classification. The County Sheriff's Office will serve as the local point for communications prior to the establishment of the County EOC.

The County Office of Emergency Services with its EOC is located in the Surry County Government Center. The Surry County Radiological Emergency Response Functional Organization is shown in the Surry County RERP.

5.4.5 James City, Isle of Wight and York Counties, and the Cities of Williamsburg and Newport News

The authority and responsibilities of the above counties and cities during a radiological emergency are presented in their respective RERP. The RERPs apply to the radiological emergencies within these locations caused by events at the Surry Power Station. The James City/Williamsburg, Isle of Wight, York and Newport News RERPs are similar to the Surry RERP (as described in Section 5.4.4 above) except for information that is specific to Surry County.

In the event of an emergency of any classification, the SEM will notify all local jurisdictions (Surry County, York County, James City County, Isle of Wight County, Williamsburg City, and Newport News City) and the DES by using the Insta-phone loop. If the Insta-phone is out of service, commercial telephone lines will be used to make the notifications. The above localities have a system to call back to the power station and verify the message.

5.4.6 Counties and Cities Within the Fifty Mile Ingestion Pathway Zone

The local communities directly involved in the emergency plan are Surry, Isle of Wight, James City, Williamsburg, York and Newport News. They have emergency response functions as previously stated in this section.

The communities within the fifty mile EPZ are listed in Figure 5.5a and depicted in Figure 5.5b. In the event of an emergency, notification of and interaction with these entities is a function of the DES.

5.4.7 Oak Ridge Operations, Emergency Preparedness Program, Section II Radiological Assistance Plan Region 2, U.S. Department of Energy (DOE)

The SEM, the Recovery Manager or the Corporate Response Manager can request assistance from DOE, Oak Ridge Operations (Oak Ridge, TN) and can request implementation of the Federal Radiological Monitoring and Assessment Plan (FRMAP).

The DOE Radiological Assistance Program provides radiological advice and assistance to minimize injury to people, to minimize loss of property, to cope with radiological hazards, and to protect the public health and safety whenever the DOE believes that such action is necessary or upon request from DOE contractors, NRC and State licenses, Federal, State, and local agencies, private organizations or private persons.

FRMAP was developed to coordinate the activities of participating Federal agencies with those State and local health, police, fire, and civil defense agencies which provide rapid and effective radiological assistance in handling radiological incidents. The DOE is the coordinating agency for the FRMAP.

Further information concerning objectives and organization is provided in the DOE Plan (See Appendix 10.3). The expertise and resources of DOE and its contractors in handling and radiological incidents are outlined in Section IV of the DOE Plan.

The Company will provide designated facilities for the Federal response agencies in the LEOF. Telephones will be made available, as necessary. There are three commercial air terminals close to Surry Power Station: Newport News/Williamsburg International Airport in Newport News, Virginia; Richmond International Airport in Richmond, Virginia; and Norfolk International Airport in Norfolk, Virginia. Since all of these facilities are within 75 minutes driving time of the station, it is estimated that from the time of initiation of the Federal response that the DOE could be expected at the site within 5 hours.

MINIMUM SHIFT MANNING REQUIREMENTS
TABLE 5.1

Major Functional Area	Major Tasks	Position Title	Additional within approximately: Shift	30 Min.	60 Min.
Plant Operations and Assessment of Operational Aspects	Plant Operations	Shift Supervisor (SRO)	2*	--	--
		Control Room Operator (RO)	3*	--	--
		Control Room Operator (AO)	4	--	--
Emergency Direction and Control	Direction and Control of onsite Emergency Activities	Station Emergency Manager	1***	--	
Notification/Communication	Notify station, local, State, and Federal personnel and maintain communication	Emergency Communicator	2***	--	2
Radiological Accident Assessment and Support of Operational Accident Assessment	Local Emergency Operations Facility (LEOF)	Recovery Manager	(Refer to Table 5.2)		
	TSC Offsite Dose Assessment	Radiological Assessment Director	1***	--	1
	LEOF Offsite Dose Assessment	Radiological Assessment Coordinator	(Refer to Table 5.2)		

MINIMUM SHIFT MANNING REQUIREMENTS
TABLE 5.1

Major Functional Area	Major Tasks	Position Title	Additional within approximately: Shift	30 Min.	60 Min.
Radiological Accident Assessment and Support of Operational Accident Assessment [cont.]	Offsite Surveys	Offsite Monitoring Team Leader	—	—	2
		Offsite Monitoring Team Member	--	--	2
	Onsite (out of plant) Surveys	Onsite Monitoring Team Leader	--	--	1
		Onsite Monitoring Team Member	--	--	1
	Inplant Surveys/ Radiochemistry	Inplant Monitoring Team Leader	1	--	1
		Inplant Monitoring Team Member	1	--	1
	Chemistry	Chemistry Team Leader	--	--	1
		Chemistry Team Member	1	--	1
Plant System Engineering, Repair and Corrective Action	Technical Support	Shift Technical Advisor (STA)	1*	--	--
		Operational - Technical Support Team Member (Operational Advisor)	—	—	1(1)
		Core - Technical Support Team Member	--	--	1(2)

MINIMUM SHIFT MANNING REQUIREMENTS
TABLE 5.1

Major Functional Area	Major Tasks	Position Title	Additional within approximately: Shift	30 Min.	60 Min.
Plant System Engineering Repair and Corrective Action [cont.]	Technical Support [cont.]	Electrical - Technical Support Team Member	--	--	1
		Mechanical - Technical Support Team Member	--	--	1
	Repair and Corrective Action	Mechanical Maintenance Damage - Control Team Member	1**	1	1
		Rad Waste Operator - Damage Control Team Member	1***	--	--
		Electrical Maintenance - Damage Control Team Member	1**	--	2
		Instrument and Control - Damage Control Team Member	--	--	2
Protective Actions	Radiation Protection: a. Access Control b. HP Coverage for repair, corrective actions, search and rescue, first aid, and firefighting. c. Personnel monitoring d. Dosimetry	Personnel Monitoring Team Leader	1***	--	2
		Personnel Monitoring Team Member	1***	--	2

MINIMUM SHIFT MANNING REQUIREMENTS
TABLE 5.1

Major Functional Area	Major Tasks	Position Title	Additional within approximately: Shift	30 Min.	60 Min.
Firefighting and Rescue Operations	Firefighting	Fire Team Members	5***	5*** plus local support	
First Aid and Rescue Operations	First Aid and Rescue	First Aid Team Members	2***	2*** plus local support	
Site Access Control and Personnel Accountability	Security and Personnel Accountability	Security Personnel	(Proprietary)		
		Total	13	1	26

NOTES:

* Station Technical Specifications allowances for reduced staffing with both units in cold shutdown condition apply.

** Mechanical and electrical maintenance personnel are normally onsite on a 16 hour per day, 7 day per week basis. This coverage may be provided by personnel who are assigned to other functions during the period that mechanical and electrical maintenance personnel are not onsite.

*** This coverage is provided by personnel who may be assigned other functions.

(1) The candidates for this position are limited to qualified STAs, SROs, former STAs, or former SROs. Concurrence for change to position title and resource pool used to staff position provided by NRC via letter dated July 22, 1993.

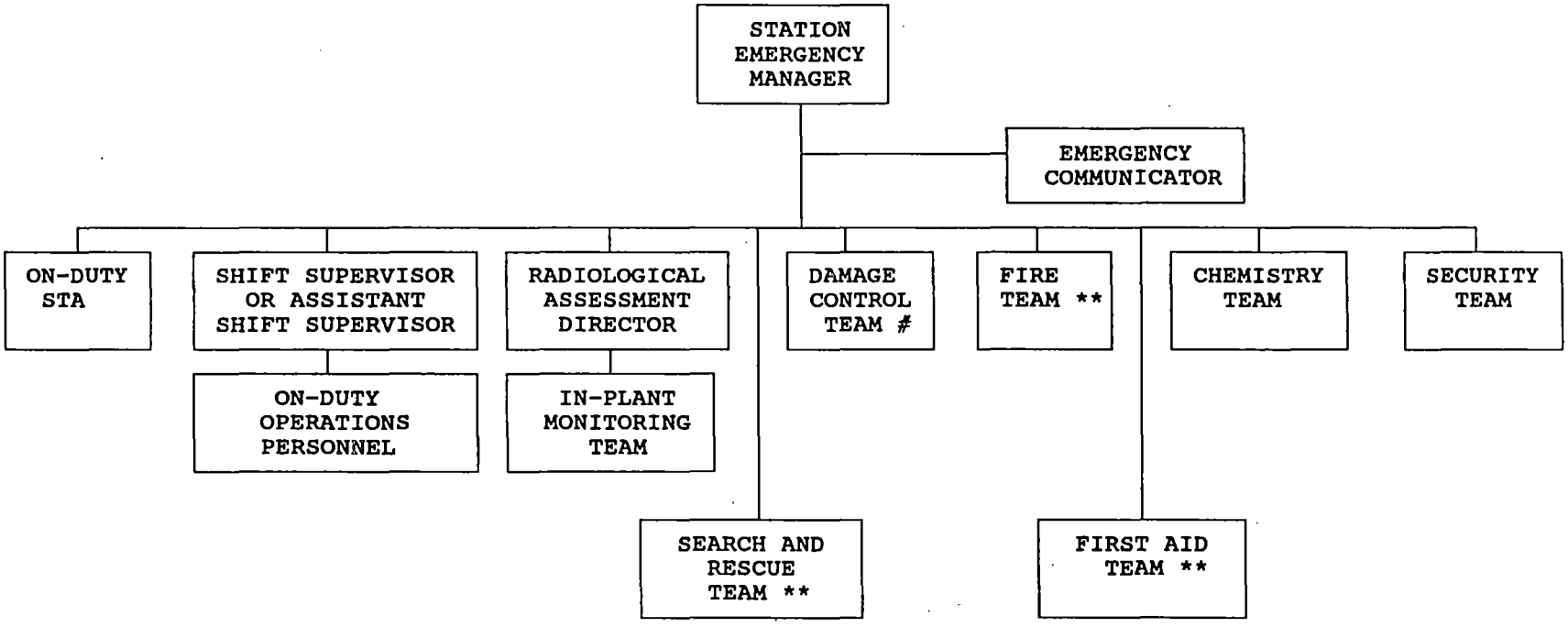
(2) This coverage previously required within approximately 30 minutes. Change Approved per NRC Region II letter, Subject: Surry and North Anna Proposed Emergency Plan Changes, May 18, 1990. The on-duty Shift Technical Advisor performs the responsibilities of this position prior to augmentation. Approval was based on factors outlined in the referenced letter remaining constant.

EMERGENCY AND RECOVERY CORPORATE RESPONSE REQUIRED FOR NUCLEAR STATION EMERGENCIES
ALERT (AND HIGHER) EMERGENCY CLASSIFICATIONS

TABLE 5.2

Major Functional Area (Emergency Position Title)	Major Task	Available In:
Management of Local Emergency Operations Facility (Recovery Manager)	To coordinate the Company's response to emergency with Federal, State and local authorities	1½ hrs.
Health Physics & Chemistry (Radiological Assessment Coordinator)	Report to Recovery Manager to conduct radiological assessment	1½ hrs.
Technical Support (Technical Support Manager)	Reports to the Corporate Response Manager to provide technical and evaluation support.	1½ hrs.
Plan/Design/Construction (Plan/Design/Construction Manager)	Reports to the Corporate Response Manager to to provide engineering, technical and vendor support in areas dealing with construction or design changes.	1½ hrs.
News Center Interface (Chief Technical Spokesman)	Reports to the Corporate Response Manager to become the Company Spokesman for statements to the news media.	1½ hrs.

STATION EMERGENCY ORGANIZATION PRIOR TO AUGMENTATION *
FIGURE 5.1



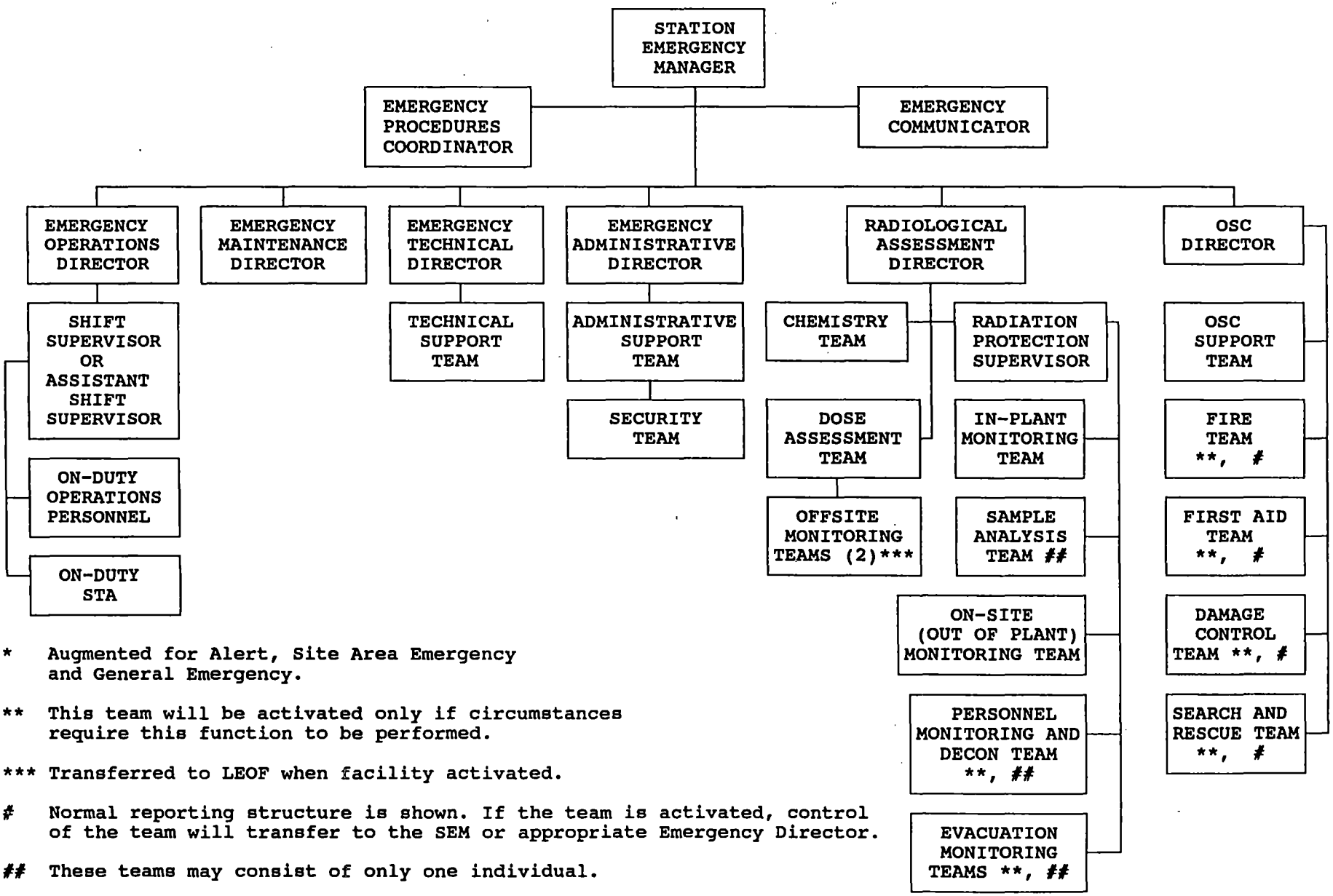
* Augmented for Alert, Site Area Emergency and General Emergency.

** This coverage is provided by personnel who may be assigned other functions.

\# This coverage may not be provided on a full time basis.

STATION EMERGENCY ORGANIZATION FOLLOWING AUGMENTATION *

FIGURE 5.2



* Augmented for Alert, Site Area Emergency and General Emergency.

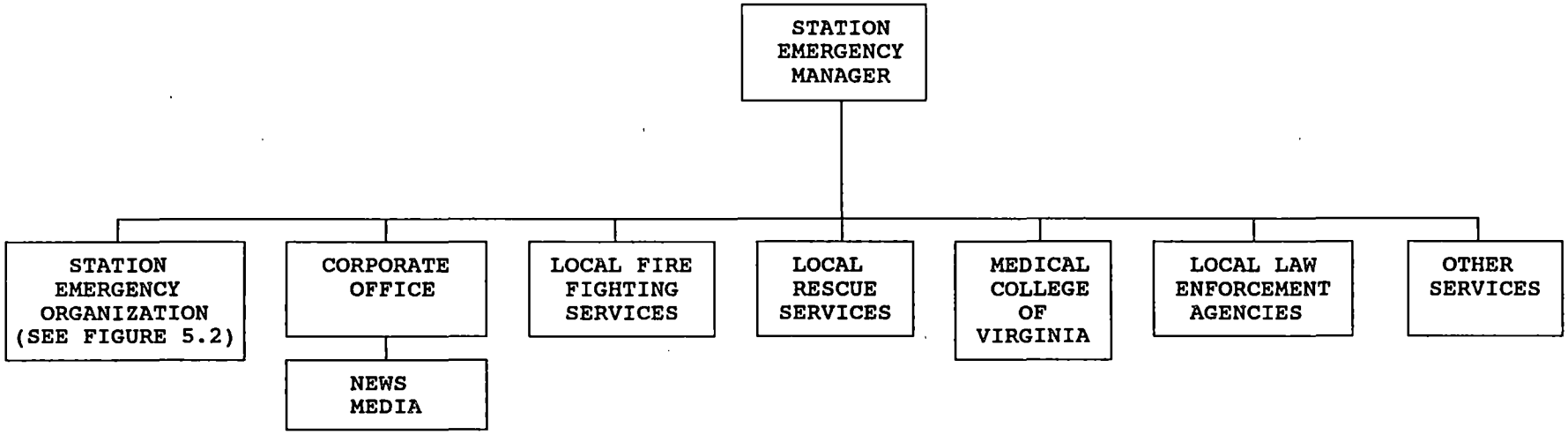
** This team will be activated only if circumstances require this function to be performed.

*** Transferred to LEOF when facility activated.

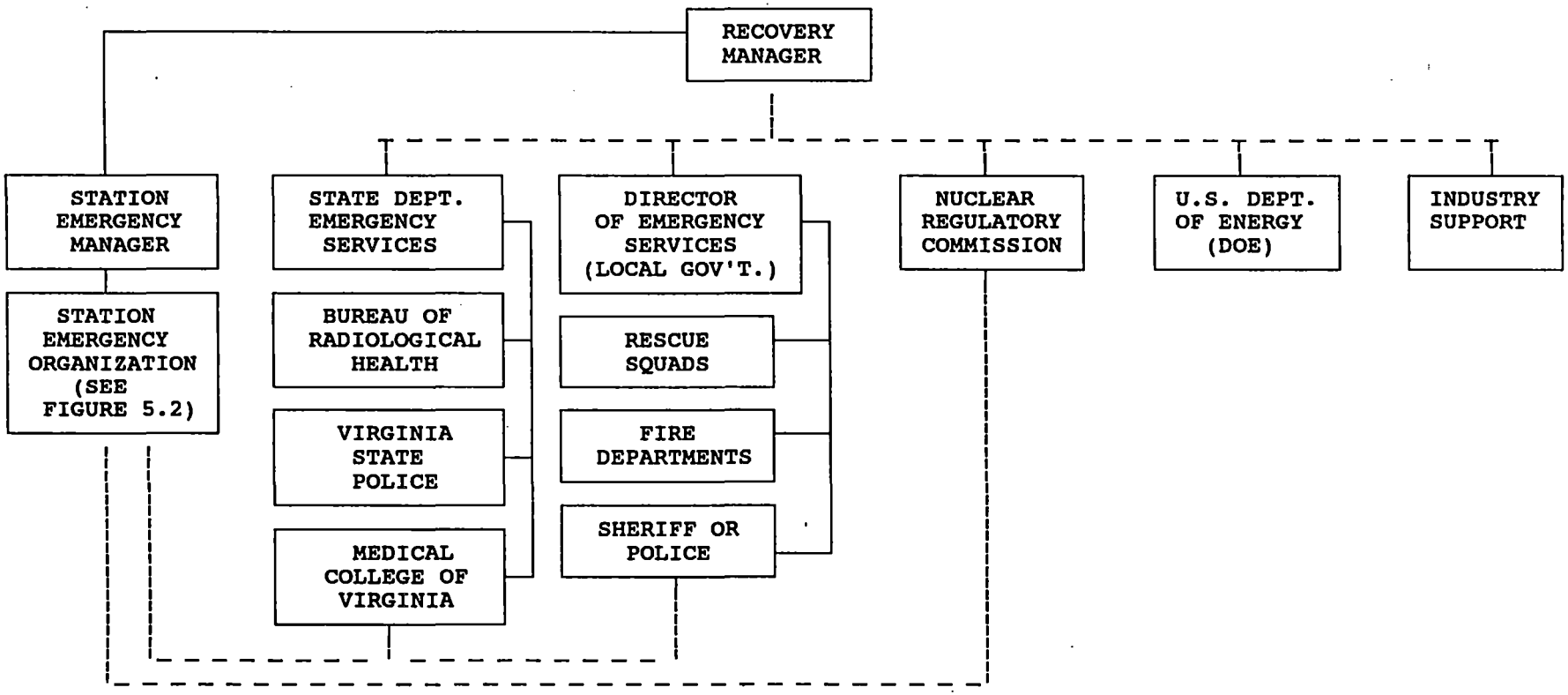
\# Normal reporting structure is shown. If the team is activated, control of the team will transfer to the SEM or appropriate Emergency Director.

\#\# These teams may consist of only one individual.

STATION TO SUPPORT GROUP INTERFACE
PRIOR TO AUGMENTATION OF THE ONSITE EMERGENCY ORGANIZATION
FIGURE 5.3



STATION TO SUPPORT GROUP INTERFACE
FOLLOWING LEOF ACTIVATION
FIGURE 5.4



SYMBOLS:

MANAGEMENT CONTROL ————————

COORDINATION AND ASSISTANCE ----------

SURRY POWER STATION
CITIES AND COUNTIES WITHIN THE 50 MILE EMERGENCY PLANNING ZONE*
FIGURE 5.5a

VIRGINIA COUNTIES

1. Surry
2. Isle of Wight
3. Southhampton
4. James City
5. York
6. Charles City
**7. Henrico
**8. Chesterfield
9. Northhampton
10. Northumberland
11. Lancaster
12. Richmond
**13. Essex
14. Middlesex
15. Mathews
16. Gloucester
**17. King & Queen
**18. King William
**19. Hanover
20. New Kent
21. Prince George
22. Dinwiddie
23. Sussex

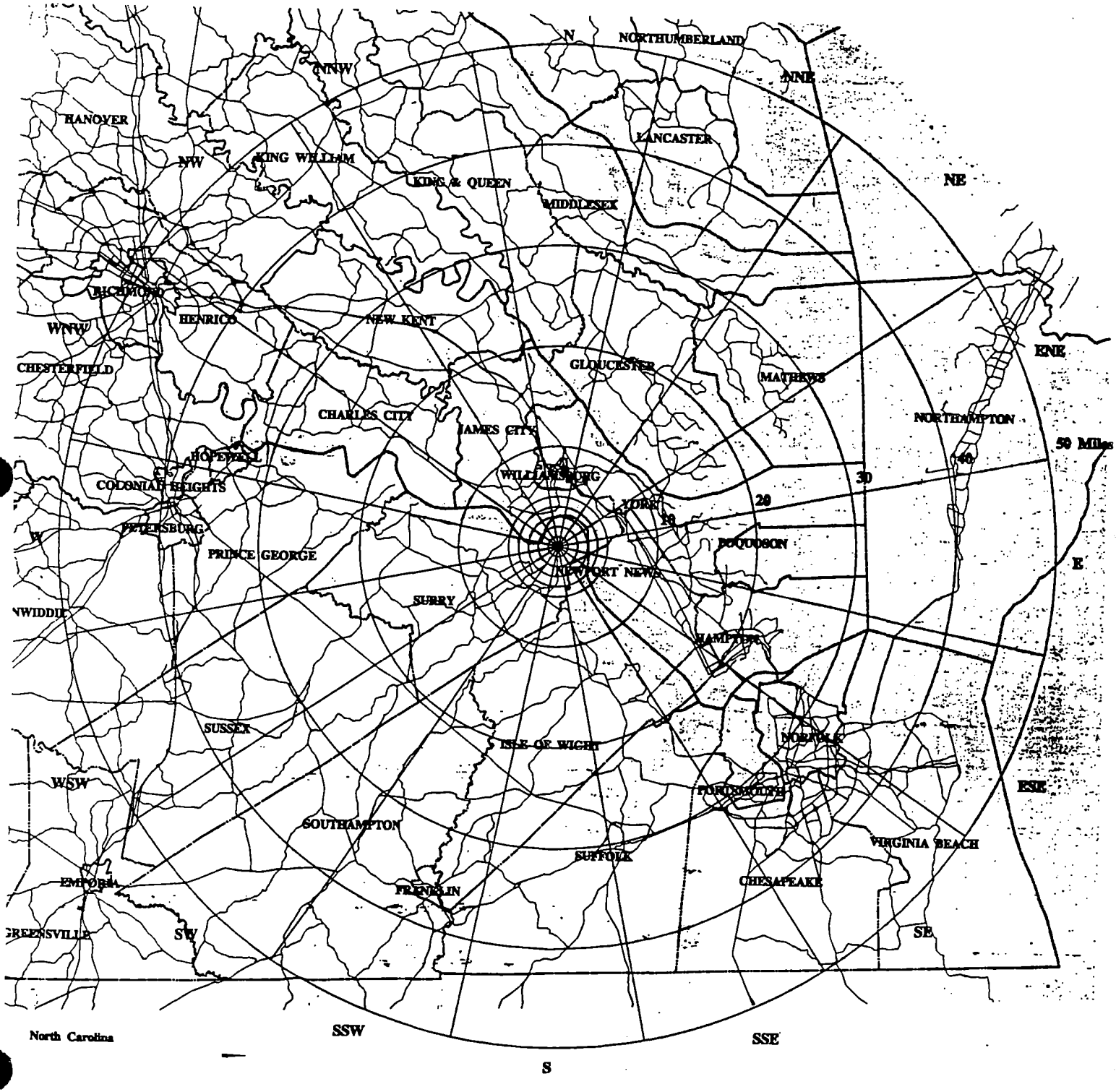
VIRGINIA CITIES

24. Suffolk
25. Williamsburg
26. Chesapeake
27. Newport News
28. Hampton
29. Portsmouth
30. Norfolk
**31. Richmond
32. Virginia Beach
33. Colonial Heights
34. Hopewell
35. Petersburg
36. Franklin
37. Poquoson

* That portion of the State of North Carolina lying within the 50 Mile Zone has been excluded (reference NRC letter, January 13, 1981, Serial Number 39).

** Within 50 miles of North Anna Power Station and Surry Power Station. Reference Figure 5.5b.

SURRY POWER STATION
FIFTY MILE EMERGENCY PLANNING ZONE
FIGURE 5.5.b



SURRY POWER STATION
EMERGENCY PLAN

SECTION 6

EMERGENCY MEASURES

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6.2	Assessment Actions	6.3
6.3	Protective Actions	6.4
	6.3.1 Offsite Criteria for the 10 Mile Emergency Planning Zone (EPZ)	6.4
	6.3.2 Onsite Criteria for the Exclusion Area	6.6
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6.0 Emergency Measures

Emergency measures provide pre-planned actions, methods, and criteria which guide personnel during the course of an emergency.

The initial response to any emergency condition will be the activation of the Emergency Plan. After activation, the emergency organization that is formulated by activation of the Emergency Plan performs the necessary assessment activities to classify the type of emergency. If the emergency is radiological in nature, the potential consequences of the emergency will be evaluated for the necessary offsite and onsite protective actions to guard the health and safety of the population. If additional assistance is required, offsite support will be requested as provided for in letters of agreements established with a variety of government agencies and volunteer organizations.

6.1 Activation of the Emergency Plan

Each full-time employee of the station is required to be familiar with the provisions of the Emergency Plan. Any employee, upon becoming aware of an emergency condition, shall immediately notify the Shift Supervisor on duty unless it is apparent that notification has already taken place. Upon such notification or other indication, the Shift Supervisor or Assistant Shift Supervisor assumes the responsibilities of the Station Emergency Manager (SEM). The SEM classifies the emergency and proceeds to take appropriate actions and make specific recommendations to offsite agencies as stated in the EPIPs. Notifications will be made to state and local community officials within 15 minutes after declaration of an emergency, and to the NRC as soon as possible, but within 1 hour. Dedicated communicators will be available to maintain a continuous channel of communications with the NRC and to provide regular updates to state and local officials approximately every 30 minutes, when conditions change or as otherwise agreed. The initial information provided to the NRC and state and local governments is defined by specific report forms which are included in the EPIPs. The content of the messages have been established in conjunction with state and local governments and include the class of emergency, whether a release is in progress, and any recommended protective measures. Additional information will be provided as it becomes available to formulate recommendations to offsite agencies.

6.2 Assessment Actions

EPIP-1.01, Emergency Manager Controlling Procedure, is the controlling procedure for categorizing the event and classifying the emergency. If the event has the potential for radiological consequences, the HP Shift Supervisor initiates EPIP-4.01, Radiological Assessment Director Controlling Procedure. This procedure may call for other EPIPs which provide guidance for dose assessment, source term determination, atmospheric diffusion factor determination, monitoring team activities, personnel monitoring and decontamination, monitoring of onsite facilities, evacuation,

respiratory protection, sampling and sample analysis, and use of the Meteorological Information and Dose Assessment System (MIDAS) computer model to be implemented as necessary.

Once the emergency classification has been determined, the appropriate EPIPs are initiated to direct the activation of the required emergency response facilities and call out of designated emergency response personnel. The design of the facilities and data retrieval and monitoring capabilities provide the information needed to make timely assessments and formulate appropriate protective actions.

6.3 Protective Actions

The Recovery Manager or the SEM (if the LEOF is not yet activated) is responsible for recommending offsite protective actions to the state. The state and local governments are responsible for notification of the public and implementation of the appropriate protective measures.

6.3.1 Offsite Criteria for the 10 Mile Emergency Planning Zone (EPZ)

Dose contribution from key isotopes such as those listed in Table 6.5 are used to calculate offsite doses for comparison to protective action recommendation thresholds specified in EPIPs. These protective action recommendations shall be no less conservative than the thresholds provided in Table 6.3a.

Protective action recommendations are required to be made to the State within 15 minutes of declaring a General Emergency. Based on the guidance in Table 6.3b, specific initial protective action recommendations tied to plant conditions have been included in an EPIP in order to comply with this time requirement.

Follow-up protective action recommendations that the station may make to the state will be based upon current meteorological data such as wind direction, speed, stability class and dose projections. Protection afforded by dwellings in the plume exposure pathway are factored into sheltering recommendations (if made). Representative shielding factors from gamma cloud source and for surface deposited radionuclides were based on SAND 77-1725, "Public Protection Strategies for Potential Nuclear Reactor Accidents." (see Tables 6.1 and 6.2).

A Site Area Emergency will be declared when offsite doses are projected to exceed 0.1 Rem TEDE or 0.5 Rem Thyroid CDE. A General Emergency will be declared when offsite Protective Action Guides (PAGs) of 1.0 Rem TEDE or 5.0 Rem Thyroid CDE are likely to be exceeded due to a direct radiation or inhalation hazard, or when non-radiological conditions exceed General Emergency EALs. These thresholds are reflected in Table 6.3a.

Warnings to the public within the 10-mile EPZ (Figure 6.2) will be the responsibility of State and local officials who will be assisted by the State Department of Police upon request.

The primary method of warning the public is by the use of the Early Warning System sirens. Other warning methods may include telephone communications, television and radio Emergency Broadcast System stations, public address systems, bull horns from patrol cars and personal contact. Special facilities are notified by the DES.

It is estimated that the primary sector and the two buffer sectors (spanning 67 1/2°) can be alerted of the emergency within 15 minutes using the Early Warning System.

Evacuation zones, routes, and relocation centers have been established in the event that an evacuation is recommended. This information is published in brochures and distributed by the state. Population distribution and evacuation time estimates are maintained on file by the Nuclear Emergency Preparedness Department and are summarized in Tables 6.4a and 6.4b. The existing evacuation time estimate studies will be provided to the State Department of Emergency Services following the 10-year census. At that time, the State will make the determination whether or not a new study is required for the EPZ.

Written preplanned messages intended for transmittal to the public via radio and television stations will be consistent with the classification scheme. They will be released to the media by the State or Local Coordinator of Emergency Services or his designated representative. The messages will give instruction with regard to specific actions to be taken by the occupants of the inhabited area. The messages will, as appropriate, give instruction on the aspects of sheltering, thyroid blocking, evacuation, the nature of the emergency, and recommended protective actions. The local governments are charged by COVRERP with the responsibility to conduct information programs to educate their citizens on:

1. Radiological hazards,
2. Procedures for notification of a radiological emergency;
3. Evacuation routes and assembly points; and,
4. Other protective measures.

The COVRERP identifies the methods to be utilized in preventing or minimizing direct or subsequent ingestion exposure to radioactive materials deposited on the ground or other surfaces.

Upon notification of a radiological emergency within the state which may affect livestock, crops, or farmlands, the State Department of Agriculture and Consumer Services will institute a program to assess the impact upon the agriculture community. Members of the department will take samples of milk from dairy cattle in the affected area for analysis and will monitor soil, crops and farm equipment for contamination.

Samples will be taken at localities where radiation levels exceed 0.05 mR/hr at one inch. The Department of Agriculture and Consumer Services will supply uncontaminated feed for dairy cattle and livestock removed from contaminated farmland. The ingestion pathway is

monitored within an approximate 50-mile radius of the station.

Follow-up action includes the disposition of radiologically contaminated materials. The local government(s) has the prime responsibility of affected area ingress and egress. Assistance from the State Police shall be supplied as requested by local officials.

Waller Mill, Harwood Mill, Bethel and Newport News Reservoirs supply water for the Williamsburg, Newport News and Hampton areas. The respective local public health departments are the primary health response agencies for monitoring water supplies, with assistance given by the State Department of Health. There are no withdrawals of James River water for public or private water supplies within Surry, James City, Isle of Wight, and York counties and the cities of Williamsburg and Newport News. Most of Surry County and Isle of Wight County water supplies come from wells.

The 10-mile EPZ may be returned to a status not requiring Protective Action Recommendations when projected doses to the public are expected to be less than 1.0 Rem TEDE, less than 5.0 Rem Thyroid CDE, and less than 0.05 mR/hr ground contamination above normal background.

6.3.2 Onsite Criteria for the Exclusion Area

The area within 1650 feet of Surry Unit 1 is defined as the Exclusion Area for the purposes of this Plan. Company employees, contractor personnel, and occasional visitors at the site may be in the Exclusion Area. The immediate area surrounding the units which has been enclosed by a security fence is defined as the Protected Area. The Station Emergency Manager is responsible for making the decision to evacuate the Protected Area, and will take appropriate measures in cooperation with state and local agencies for evacuation of persons in the Exclusion Area and those members of the public who may be passing through the site or within Company property. Virginia Power will also commit Company personnel and appropriate equipment (search lights, power amplified loudspeakers) to clear the Exclusion Area when required.

Visitors to the Protected Area of the station are under continuous escort by personnel knowledgeable in emergency personnel accountability procedures. Contractor personnel are also trained in personnel accountability procedures.

Onsite personnel will be immediately notified of an emergency that is initially classified as an Alert or higher event, unless doing so poses a threat to personnel safety. For example, hurricane force winds, a tornado, or a security breach may dictate suspension or deferral of assembly, accountability and/or initiation of facility staffing. However, these activities would be implemented as quickly as achievable given the specific situation. Normally, alarms will be sounded and announcements will be made to conduct personnel accountability or, if

necessary, a site evacuation of non-essential workers. Those individuals within the Exclusion Area will be alerted by station personnel and Security. In the event of an evacuation, radiation monitoring teams will be dispatched to the appropriate Remote Assembly Area.

Emergency Assembly Areas have been established outside the Protected Area to facilitate the dissemination of information to personnel. The Station has the capability to conduct personnel accountability for individuals inside the Protected Area within approximately 30 minutes using an EPIP established for this purpose. After accountability is completed, an evaluation is made and search teams may be dispatched to locate any individual noted as missing or unaccounted.

If onsite evacuation is to occur, Security collects only the security badges, not the dosimetry, of all personnel leaving the Protected Area. Continuous accountability of personnel in the Protected Area not evacuating the site shall be maintained throughout the emergency. Evacuees, who may use personal vehicles, proceed to either the primary or secondary remote assembly area (See Figure 6.1).

At the remote assembly area, the station evacuees will be surveyed for contamination and decontaminated if necessary prior to being released. Decontamination agents and supplies are available at the station which can be transported to the remote assembly areas to provide decontamination capabilities.

6.3.3 Use of Onsite Protective Equipment and Supplies

6.3.3.1 Respiratory Protection

Virginia Power has a comprehensive respiratory protection program at its nuclear stations. VPAP 2101, "Radiation Protection Plan", establishes the Respiratory Protection Program which is implemented by HP procedures. Those individuals likely to wear respirators are given a pulmonary examination and formal classroom training on respiratory protection including a practical examination. A "fit test" is given before an individual is allowed to enter an area requiring respiratory protection.

6.3.3.2 Protective Clothing

The station maintains an adequate inventory of protective clothing in the Clean Change Room. Contaminated clothing is washed at the station and reissued provided contamination is below established radiation criteria. A Radiation Work Permit system is utilized whereby HP establishes personnel protective clothing and equipment criteria. Such clothing may consist of cotton coveralls, hoods, cotton glove inserts, rubber gloves, plastic shoe covers, rubber shoe covers and rubber

boots. Station personnel are given formal classroom training on how to don and remove protective clothing so as to minimize personal contamination or introduction of contamination into adjacent areas.

6.3.3.3 Thyroid Blocking Agent

The Company's Employee Health Services Department, with the advice of its Physician Consultant, has authorized the use of a thyroid blocking agent for a potential radioiodine inhalation situation. EPIP-5.07 addresses the approval process for administering the drug.

6.4 Aid to Affected Personnel

The Company has made arrangements with the Medical College of Virginia (MCV), Virginia Commonwealth University, to provide medical assistance to personnel injured or exposed to radiation and/or radioactive material. MCV has developed its own plan for responding to the emergency. MCV's plan establishes a specialized area of the hospital for treatment with appropriate Health Physics functions, and implements a coded system to alert hospital team members. Radiation monitoring equipment, dosimetry, and protective clothing are available at MCV.

The station will provide and distribute self-reading and cumulative type dosimeters to all personnel involved in emergency onsite response, regardless of their affiliation with the Company, in accordance with procedures established for this purpose. The station shall have this capability on a 24-hour basis. Dose records shall be maintained and checked throughout the emergency.

6.4.1 Emergency Exposure Limits

Upon authorization by the SEM, emergency response personnel may, because of necessity, receive exposures to contamination and radiation in excess of normal established limits. Selection criteria for volunteer emergency workers includes consideration of those who are in good physical health, are familiar with the consequences of emergency exposure, and are not declared pregnant adults. It is preferable, though not mandatory, that volunteers be older than 45 years of age and not be a female capable of reproduction.

Emergency exposure may be authorized for such needs as: removal of injured personnel, undertaking corrective actions, performing assessment actions, providing first-aid, performing personnel decontamination, providing ambulance service, providing medical treatment, etc. Guidelines for emergency exposure limits, including life saving actions, are specified in the EPIPs. These guidelines are consistent with EPA Emergency Worker and Life Saving Activity Protective Action Guides.

6.4.2 First Aid and Decontamination

The station has a First Aid Facility that contains the normal complement of first aid supplies and equipment necessary to treat those injuries not involving hospitalization or professional medical services.

At least two First Aid Team members are trained, certified, and available to respond to personnel injuries onsite.

In addition, the following Medical facilities and services are available:

1. Company nurse available on a part-time basis
2. Company Ambulance
3. Company designated physicians in the area
4. Local Rescue Squads
5. Medical College of Virginia

Station Health Physics Procedures and EPIPs specify levels of permissible radioactive contamination for workers and equipment. Actions are required to be taken when levels for equipment or areas exceed the limits established in the Health Physics Procedures. Any detected personnel contamination will initiate appropriate evaluation and decontamination in accordance with these procedures.

The Station has onsite contamination control procedures that provide for access control. These procedures state the criteria for permitting the return of the areas and their contents to normal use.

No food supplies are grown on the site and the water supplies come from deep wells. However, there are procedures to monitor contamination in areas designated permissible for employees to eat and drink during the emergency and recovery phases of operation.

If onsite personnel are required to relocate or routinely leave the site during an emergency, the station will provide adequate supplies for personnel decontamination, clothing and means to provide for decontamination of the clothing. If contamination of the skin is determined, provisions will be made to provide for decontamination as specified in Health Physics Procedures.

An EPIP has been developed to provide for the monitoring of vehicles and personnel at the Remote Assembly Areas (RAA). Should decontamination of vehicles or personnel be warranted, Health Physics personnel can perform the task at the station, the RAA, or if necessary, at Surry County High School.

Virginia Power Security personnel may patrol the land area to ensure eviction of unauthorized personnel. Since the station's drinking water supply is from deep wells, there is no agricultural production in this area, and there are no milk cows in this area, contamination control methods affecting these are unnecessary. The area may be returned to a status not

requiring evacuation when projected doses to the majority of non-essential workers is expected to be less than 1 Rem TEDE, less than 5 Rem Thyroid CDE, and less than 1000 dpm/100 cm^2 Beta-Gamma contamination.

6.4.3 Medical Transportation

A Station ambulance is available to transport contaminated injured personnel. Contaminated injured personnel will be suitably clothed or prepared to prevent the spread of contamination in the transporting vehicle. Communication can be maintained with MCV from the station. The station can also communicate with the ambulance by use of a Virginia Power UHF radio, and the ambulance can communicate with MCV by way of the HEAR system. In addition arrangements have been made with local volunteer rescue squads to transport injured contaminated personnel to MCV. Response team members have received training concerning transportation of contaminated injured individuals. A Health Physics technician, with appropriate instrumentation, would normally accompany contaminated injured personnel to MCV. The approximate time to transport a patient to MCV is 75 minutes. The estimated time local rescue squads to arrive at the station is 30 minutes.

6.4.4 Medical Treatment

The MCV-Virginia Power Radiation Emergency Plan, maintained on file by the Nuclear Emergency Preparedness department, provides guidance for the treatment of contaminated injured personnel by qualified individuals. In addition, the State Department of Health maintains a list of facilities that have the capability of receiving and treating injured and/or contaminated individuals. In the event the facilities at MCV become over extended, the State Department of Health would be called to coordinate further assistance.

6.5 Offsite Support

In addition to the offsite agencies listed above, volunteer fire departments in the counties of Surry and Isle of Wight have agreed to assist in fighting fires. A list of services and equipment is included in the Letters of Agreement in Appendix 10.1.

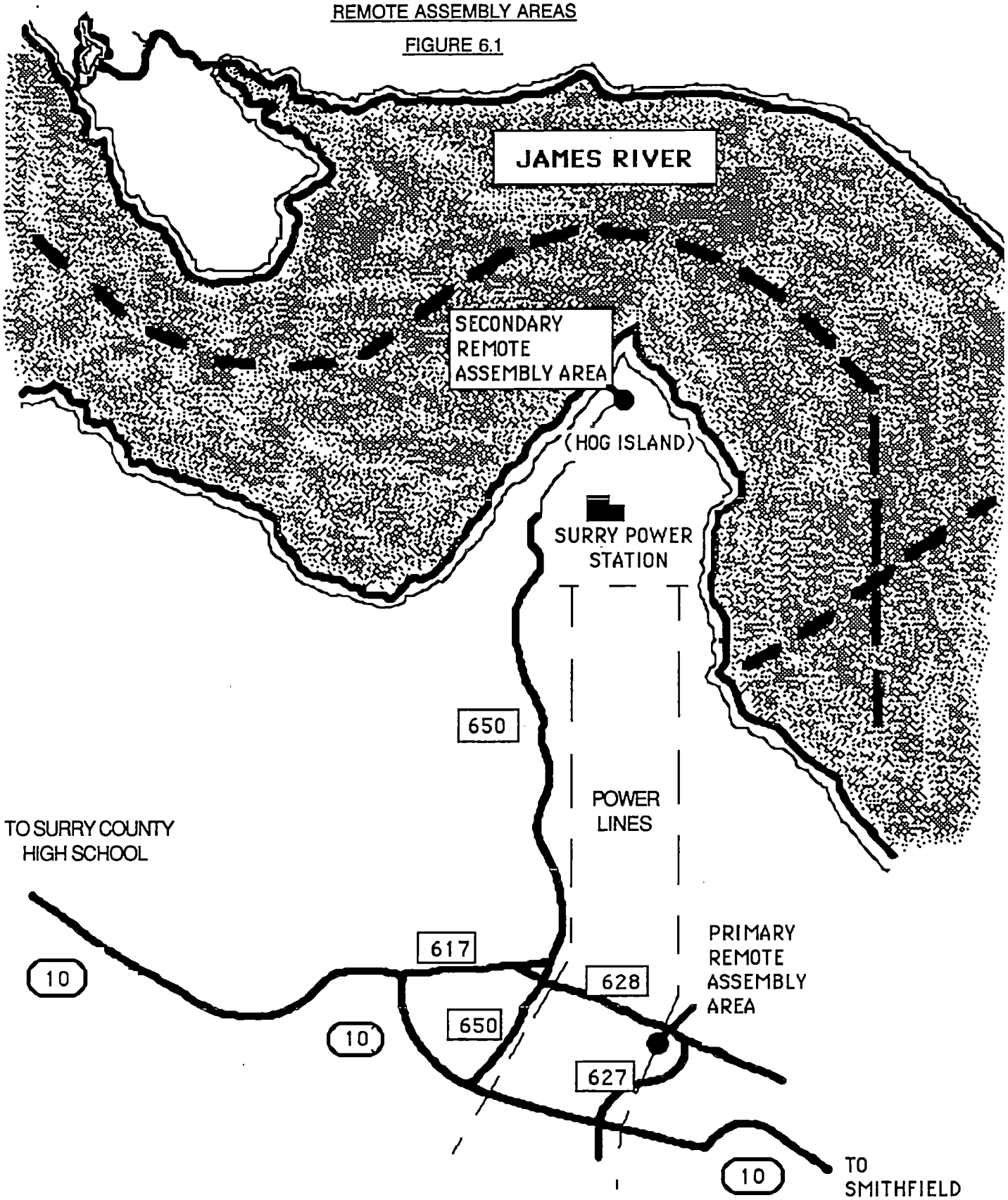
The time of response of volunteer fire departments from Surry and Smithfield, Virginia varies from 30 minutes to 45 minutes, unless adverse weather conditions prevail.

Police support for an emergency is provided by state and local governments, as detailed in the respective Emergency Plans.

SURRY POWER STATION

REMOTE ASSEMBLY AREAS

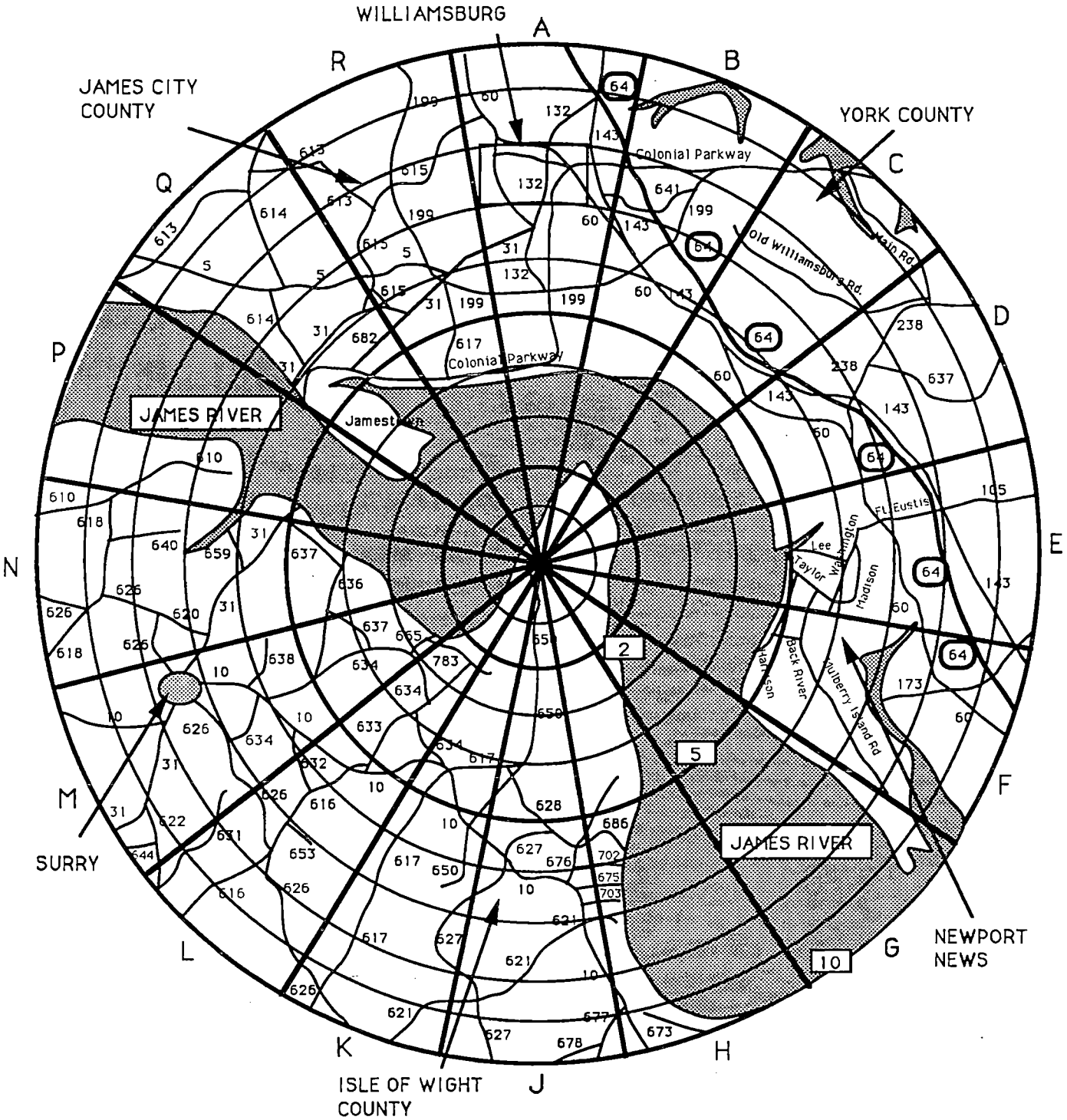
FIGURE 6.1



SURRY POWER STATION

10 - MILE EMERGENCY PLANNING ZONE (EPZ)

FIGURE 6.2



REPRESENTATIVE SHIELDING FACTORS FROM GAMMA CLOUD SOURCE

TABLE 6.1

Structure or Location	Shielding Factor [a]	Representative Range
Outside	1.0	-
Vehicles	1.0	-
Wood-frame house[b] (no basement)	0.9	-
Basement of wood house	0.6	0.1 to 0.7[c]
Masonry house (no basement)	0.6	0.4 to 0.7[c]
Basement of masonry house	0.4	0.1 to 0.5[c]
Large office or industrial building	0.2	0.1 to 0.3[c,d]

(a) The ratio of the dose received inside the structure to the dose that would be received outside the structure.

(b) A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.

(c) This range is mainly due to different wall materials and different geometries.

(d) The shielding factor depends on where the personnel are located within the building (e.g., the basement or an inside room).

REPRESENTATIVE SHIELDING FACTORS FOR SURFACE DEPOSITED RADIONUCLIDES
TABLE 6.2

Structure or Location	Representative Shielding Factor[a]	Representative Range
1 m above an infinite smooth surface	1.00	-
1 m above ordinary ground	0.70	0.47-0.85
1 m above center of 50-ft roadways 50% decontaminated	0.55	0.4-0.6
Cars on 50-ft road:		
Road fully contaminated	0.5	0.4-0.7
Road 50% decontaminated	0.5	0.4-0.6
Road fully decontaminated	0.25	0.2-0.5
Trains	0.40	0.3-0.5
One- and two-story wood-frame house (no basement)	0.4[b]	0.2-0.5
One- and two-story block and brick house (no basement)	0.2[b]	0.04-0.40
House basement, one or two walls fully exposed:	0.1[b]	0.03-0.15
One story, less than 2 ft of basement, walls exposed	0.05[b]	0.03-0.07
Two stories, less than 2 ft of basement, walls exposed	0.03[b]	0.02-0.05
Three- or four-story structures, 5000 or 10,000 ft^2 per floor:		
First and second floors	0.05[b]	0.01-0.08
Basement	0.01[b]	0.001-0.07
Multistory structures, 10,000 ft^2 per floor:		
Upper floors:	0.01[b]	0.001-0.02
Basement	0.005[b]	0.001-0.015

(a) The ratio of dose received inside the structure to the dose that would be received outside the structure.
(b) Away from doors and windows.

EPA PAG AND PROTECTIVE ACTIONS FOR NUCLEAR INCIDENTS[1]
TABLE 6.3a

Projected exposure (Rem) to the general population[2]	Recommended Actions [3]	Comments
Less than 1.0 Rem TEDE[4] Less than 5.0 Rem Thyroid CDE	1. No protective action required. 2. State may issue an advisory to seek shelter and await further instructions or to voluntarily evacuate. 3. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
1.0 Rem TEDE[4] 5.0 Rem Thyroid CDE	1. Conduct evacuation (or, for some situations, sheltering[5]) 2. Monitor environmental radiation levels and adjust area for evacuation based on these levels. 3. Control access.	

(1) EPA-400-R-92-001

(2) State PAGs are within these limits.

(3) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take into consideration the impact of existing constraints.

(4) Sum of the Effective Dose Equivalent (EDE, assumed equivalent to the Deep Dose Equivalent, DDE) resulting from exposure to external sources and the Committed Effective Dose Equivalent (CEDE) incurred from all significant inhalation pathways during the early phase.

(5) Sheltering may be the preferred protective action when it will provide protection equal to or greater than evacuation, based on consideration of factors such as source term characteristics, and temporal or other site-specific conditions as described in EPA-400-R-92-001, Section 2.3.1.

GENERAL EMERGENCY OFFSITE PROTECTIVE ACTIONS[1]
TABLE 6.3b

Event	Recommended Actions [2]
A. CORE DEGRADATION SEQUENCES OR SECURITY EVENTS:	
1. Minimum recommendation	• Evacuate 360°, 0 - 2 miles. • Evacuate downwind sectors, 2 - 5 miles. • Shelter downwind sectors, 5 - 10 miles. • Shelter unaffected sectors, 2 - 10 miles.
2. With high containment source term, pressure, or integrity challenged	• Evacuate 360°, 0 - 5 miles. • Evacuate downwind sectors, 5 - 10 miles. • Shelter unaffected sectors, 5 - 10 miles. OR • Evacuate 360°, 0 - 5 miles. • Shelter 360°, 5 - 10 miles.
B. SIGNIFICANT RELEASE POTENTIAL	
• Site Boundary projected dose exceeds 1.0 Rem TEDE or 5.0 Rem Thyroid CDE.	• Evacuate 360°, 0 - 2 miles. • Shelter downwind sectors, 2 - 5 miles. • Adjust per Health Physics recommendations.
C. MISCELLANEOUS EVENTS	
• Major events which individually or in combination could cause massive damage to the station, or, in the judgement of the SEM, a situation exists which requires actions to protect the health and safety of the public.	• Shelter 360°, 0 - 2 miles. • Shelter downwind sectors, 2 - 5 miles.

(1) References: NUREG-0654/FEMA-REP. 1., Rev 1, Appendix 1; EPA-400-R-92-001; IEIN 83-28; RTM-92.

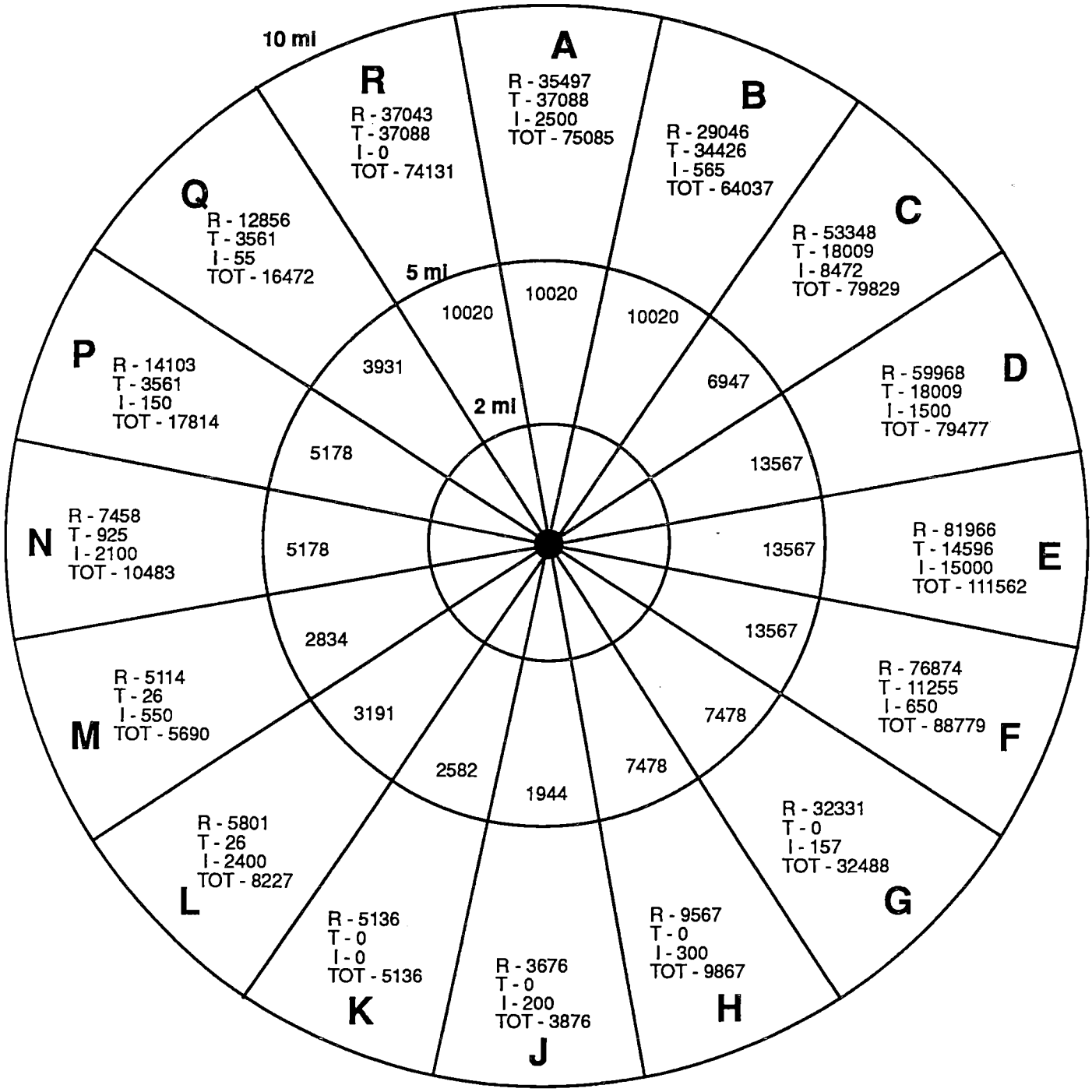
(2) Protective action decisions at the time of an incident must consider impact of existing conditions and constraints.

SURRY POPULATION DISTRIBUTION AND EVACUATION TIME ESTIMATES
TABLE 6.4a

AREAS	Permanent Population	Permanent Pop. Vehicles	Transient Population	Transient Pop. Vehicles	Evacuation Capacity Per Hour	Notification Time *	Preparation Time *	Permanent Pop. Response Normal Conditions	Permanent Pop. Response Adverse Conditions	Transient Pop. Response Normal Conditions	Transient Pop. Response Adverse Conditions	General Pop. Evac. Time Normal Conditions	General Pop. Evac. Time Adverse Conditions	Confirmation Time	Special Pop. Evac. Time Normal Conditions	Special Pop. Evac. Time Adverse Conditions
						WITHIN 2 MILES										
ALL AREAS	858	858	0	0	-	15	15	30	45	-	-	30	45	45	-	-
						WITHIN 5 MILES										
ALL AREAS	18973	10088	27555	4235	-	30	30	90	90	90	90	215	262	60	-	-
						WITHIN 10 MILES										
QUAD 1	82474	43486	23020	6439	-	60	30	90	90	90	90	280	500	120	-	-
QUAD 2	84055	42790	9059	3140	-	60	30	90	90	90	90	320	505	120	-	-
QUAD 3	7203	4122	17	9	-	30	15	90	90	90	90	130	165	120	-	-
QUAD 4	40570	22503	23036	6442	-	60	30	90	90	90	90	305	500	120	-	-
ALL AREAS	113310	60387	54171	12798	-	90	30	120	120	120	120	450	580	-	-	-

Adjusted median values from the report, "An Analysis of Evacuation Time Estimates Around 52 Nuclear Power Plant Sites" prepared for the U. S. Nuclear Regulatory Commission by T. Urbanik II, Texas Transportation Institute, May 1981.
Source Document: POPULATION AND EVACUATION TIME STUDY, April 6, 1990, VPI & SU.

SURRY POWER STATION POPULATION DATA BY SECTOR
TABLE 6.4b



Note: For every sector, total population includes the population of zones lying within that sector as well as zones lying in the two adjacent sectors.

Legend:
R - Permanent Residents
T - Transient Population
I - Institutions/Special Facility

Source Document: POPULATION AND EVACUATION STUDY, April 6, 1990, VPI & SU

RADIONUCLIDES WITH SIGNIFICANT CONTRIBUTION TO DOMINANT EXPOSURE MODES[1]
TABLE 6.5

Radionuclides with Significant Contribution to Thyroid Exposure

Radionuclide	Half Life (days)
I-131	8.05
I-132	0.0958
I-133	0.875
I-134	0.0366
I-135	0.280
Te-132	3.25

Radionuclides with Significant Contribution to TEDE Exposure

Radionuclide	Half Life (days)
I-131	8.05
Te-132	3.25
Xe-133	5.28
I-133	0.875
Xe-135	0.384
I-135	0.280
Cs-134	750
Kr-88	0.117
Cs-137	11,000

Radionuclides with Significant Contribution to Lung Exposure (Lung only controlling when thyroid dose is reduced by iodine blocking or there is a long delay prior to release)

Radionuclide	Half Life (days)
I-131	8.05
I-132	0.0958
I-133	0.875
I-134	0.0366
I-135	0.280
Cs-134	750
Kr-88	0.117
Cs-137	11,000
Ru-106	365
Te-132	3.25
Ce-144	284

(1) Derived from NUREG 0654.

SURRY POWER STATION
EMERGENCY PLAN

SECTION 7

EMERGENCY FACILITIES AND EQUIPMENT

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7.0 Emergency Facilities and Equipment

The facilities required in the implementation of the Emergency Plan consist of the Control Room (shared for both Unit 1 and 2), the Operational Support Center (OSC), the Technical Support Center (TSC), the Local Emergency Operations Facility (LEOF), the Local Media Center, the Corporate Emergency Response Center (CERC) and the Corporate Emergency Operations Facility (CEOF). These facilities were designed to meet the intent of the guidance in NUREG-0696 and the clarification in NUREG-0737 Supplement 1. A description of each is given below.

7.1 Emergency Response Facilities

7.1.1 Control Room

The Control Room of the affected unit(s) shall be the initial location for command and control of the emergency response effort. Controls and instrumentation needed to diagnose plant conditions and to take immediate actions to place the affected unit(s) in a safe condition are available in the Control Room. Within the Control Room, the Station Emergency Manager has access to the information needed to classify the emergency. Redundant communication system are also available in the Control Room to make the required onsite and offsite notifications. The Control Room has the required shielding and ventilation system to remain habitable during the emergency. Access to the Control Room shall be limited to these individuals responsible for carrying out assigned emergency response tasks plus other technical advisors, as necessary.

7.1.2 Operational Support Center

The Operational Support Center (OSC), located in the Maintenance Building, is the designated reporting location for the pool of workers who compose Damage Control Teams, the Fire Team, the First Aid Team, and the Search and Rescue Team. Station Operations personnel not required for Control Room operation may also assemble at the OSC unless already performing an emergency function outside the Control Room (or otherwise instructed by the Shift Supervisor/SEM). A separate area has been designated for use as an Alternate OSC in the event that the primary facility is unavailable.

7.1.3 Technical Support Center

The TSC is located adjacent to Unit 1 Control Room, and its alternate location is the Control Room. Emergency response personnel will assemble at the primary TSC unless otherwise instructed by the SEM. The primary location contains controlled copies of selected manuals, procedures, drawings, and other documents as designated by Administrative Services Department directives. Information about plant conditions is available via real time data displays from the Emergency Response Facility Computer System (ERFCS). Dedicated phone line communications have also been established with the Control Room to keep TSC personnel knowledgeable on current operating evolutions and to provide consultation and recommendations to the Control Room staff.

The construction of the facility walls and design of the ventilation system are such that the whole body and thyroid doses received by occupants of the TSC are below General Design Criteria (GDC) limits. Radiation monitoring equipment for making airborne particulate and direct radiation measurements is installed in the TSC. The TSC houses the ERFCS Data Communications Processors (redundant units). The inputs from plant sensors are processed by these units and the information is transmitted to the Control Room, LEOF, and CEOF for display on video terminals.

7.1.4 Local Emergency Operations Facility

The station's LEOF is adjacent to the Surry Training Facility. The facility is provides work stations for Corporate, Federal and State officials who may be assembled at this location. This facility is the designated central collection point for the receipt and analysis of all field monitoring data and the coordination of sample media. Plant data is available via an independent I/O unit of the ERFCS which drives the terminals in the LEOF. The ERFCS provides information, through a data link, to the MIDAS computer which is used primarily by the Radiological Assessment Coordinator to estimate offsite doses.

The LEOF was designed to provide a specified protection factor from gamma radiation. The facility also has a specially designed ventilation system to limit the exposure of its occupants and further assure its availability during an emergency. Radiation monitoring equipment for making airborne particulate and direct radiation measurements is installed in the LEOF. Should the LEOF become unavailable during an emergency the responsibilities assigned to the LEOF will be transferred to the backup facility known as the Corporate Emergency Operations Facility.

7.1.5 Local Media Center

The LMC for Surry Power Station is located on Route 650 on Virginia Power property. The facility is designated as the Surry Nuclear Information Center in normal operation. There are dedicated rooms for Virginia Power, NRC, FEMA, State, and media representatives as well as an auditorium that will accommodate 200 people.

Provisions have been made to accommodate TV cameras, copying machines, typewriters, and other equipment needed for press conferences. Should the LMC become uninhabitable, small groups of the media, no more than 20, can be accommodated in the LEOF with the approval of the Recovery Manager.

7.1.6 Corporate Emergency Response Center and Corporate Emergency Operations Facility

Space is designated for the Corporate Emergency Response Center (CERC) and the Corporate Emergency Operations Facility (CEOF) at the Innsbrook Technical Center in Glen Allen, Virginia. The facility will be manned by members of the Corporate Emergency Response Team as defined in the Corporate Emergency Response Plan. The CERC has access to plant data from the ERFCS via an independent I/O processor.

7.2 Communications System

The station communications system is designed to provide redundant means to communicate with all essential areas of the station associated with Surry Units 1 and 2 and to essential locations remote from the station during normal operation and under accident conditions. Communication systems vital to Units 1 and 2 operation and safety are designed so that failure of one component would not impair the reliability of the total communications system. The EPIPs and the State and local emergency response plans define the responsibilities of designated personnel for use of the communication systems.

7.2.1 Communication System Within the Station

The systems which provide for communications within the Station are discussed below.

7.2.1.1 Public Address and Intercom System

A five channel public address and intercom system (Gai-Tronics System) is installed in the Station. The system power is supplied from a power supply which will maintain the system in an operational condition in the event of a normal station service power failure. Zones are provided within the Station to ensure operability of a major portion of the system should equipment in a zone become inoperative. Loudspeaker

and paging phone stations are located throughout the Station. The coverage of the loudspeakers permits broadcasts to be heard throughout the Station. In the event of an emergency, the system is used to alert Station Personnel of any emergency situation and to direct emergency response actions required of on-site personnel.

7.2.1.2 Radio Communications System (Onsite)

A UHF two-way radio trunking system is provided at the Station consisting of base stations/repeaters, mobile units installed in emergency vehicles, and hand-held portable radios. The radio trunking system provides system redundancy and independent emergency backup equipment for designated station functions.

7.2.1.3 Private Branch Telephone Exchange (PBX)

The PBX system provides switched local and trunked telephone service. The PBX switching equipment is physically located within the Protected Area and is connected to a commercial telephone exchange in Smithfield, Virginia.

7.2.1.4 Sound Powered Telephone System

A sound powered telephone communications system is installed which serves Surry Units 1 and 2. This system is a multiple channel system connecting selected operating areas of the plant. Headsets consisting of an earphone and microphone are connected to a two wire channel for direct communication between persons in different areas. Operation of this system is not dependent on the availability of the electrical power system. During an emergency, the system would provide an alternate means of relaying messages.

7.2.2 Offsite Communications Systems

Those systems provided for communication between the Station and offsite are described below and depicted in Figures 7.3 and 7.4.

7.2.2.1 Commercial Telephone

Commercial telephone lines are provided between the Station and a commercial telephone exchange in Smithfield, Virginia. These lines are connected into the Station PBX. In addition, lines are provided for communications between the Station and the commercial telephone network independent of the PBX system.

7.2.2.2 Microwave System (OPX)

A microwave system is provided for communication between the Station and the General Office Phone Network and the Systems Operator's Office in Richmond, Virginia. The system provides Automatic Ringdown Phone (ARD) communication from station emergency response facilities to the State Department of Emergency Services (DES), to the counties of Surry and James City, and to the CERC. It also supports ARD communications between the LEOF and the TSC. In addition, the microwave system provides the communication link to the Early Warning System (EWS) transmitter located at Surry. The system is battery operated at all locations to provide continuous operation upon loss of AC power.

7.2.2.3 Radio Communications System (Offsite)

The same UHF two-way radio trunking system that provides onsite communications also provides for communications within a ten mile radius of the Station. During an emergency, this system will allow direct contact with Radiation Monitoring Teams, Security vehicles, and a separate channel (Talk Group) between the Security Central Alarm Station and the Surry County Sheriff's Department.

7.2.2.4 Dedicated NRC Communications

Separate commercial telephone lines are dedicated to the NRC and include the following:

- Emergency Notification System (ENS): The ENS is the system on which initial notifications, as well as ongoing information about plant systems, status and parameters, are provided to the NRC. ENS lines are located in the Control Room, TSC and LEOF.
- Health Physics Network (HPN): Provides for communications regarding radiological and meteorological conditions, assessments, trends, and protective measures. HPN lines are located in the TSC and LEOF.
- Reactor Safety Counterpart Link (RSCL): Allows for internal NRC discussions regarding plant and equipment conditions. RSCL lines are located in the TSC and LEOF.
- Protective Measures Counterpart Link (PMCL): Allows for the conduct of internal NRC discussions on radiological releases, meteorological conditions, and protective measures. PMCL lines are located in the TSC and LEOF.
- Emergency Response Data System (ERDS): Allows for transmittal of reactor

parametric data from the site to the NRC. ERDS data is transmitted from the ERFCS computer, via modem, to the NRC Operations Center.

- Management Counterpart Link (MCL): This system has been established for internal discussions between the NRC Executive Team Director/members and the NRC Director of Site Operations or licensee management. MCL lines are located in the TSC and LEOF.
- Local Area Network (LAN) Access: Provides access to the NRC local area network. Telephone jacks are provided in the TSC and LEOF for NRC LAN access.

7.2.2.5 Instaphone Loop

An Instaphone Loop permits simultaneous telephone-speaker communications from the station to the counties of Surry, Isle of Wight, James City and York; cities of Williamsburg and Newport News, and the State DES on a 24-hour per day basis. This loop can be activated at the station from the Control Room, TSC, or LEOF.

7.2.3 Communication System Reliability

A failure of one communication system will not affect the operation of other communication systems at the Station. The communication systems within the Station have diverse power supplies. The public address system has an emergency backup, and the sound powered phone system does not rely on any Station power system. Since the onsite communication systems normally will be in use, or periodically tested, equipment failure will not go unnoticed. The multiplicity of onsite communications networks ensures the availability of adequate communications. Equipment for these systems is located in different areas of the Station thus ensuring that an accident in one area of the Station would not incapacitate all communication systems. Failure of normal power supplies will not deprive the station of offsite communication capability since, in most cases, backup power is provided. Dedicated telephone lines are checked using specified schedules.

7.2.4 Emergency Response Facility Communications

The communication systems discussed above are used extensively in the emergency response facilities. A summary of the types of communications is provided in Table 7.1.

7.2.5 Communication Responsibilities

7.2.5.1 Station Emergency Manager

The SEM has the responsibility for communicating with the Virginia Department of Emergency Services; Surry, Isle of Wight, York and James City counties; and the cities of Williamsburg and Newport News. All of these agencies/jurisdictions provide 24-hour dispatcher coverage. Upon activation of the LEOF, the Recovery Manager is responsible for notifying State and local governments of emergency status.

7.2.5.2 State and Local Entities Contiguous to the 10 Mile EPZ

The station will not inform political jurisdictions within the 50 mile zone other than those listed above. The State performs this function.

7.2.5.3 Federal Response

The SEM or Recovery Manager shall communicate with Federal Emergency Response organizations. When calling the NRC they communicate with the Operations Officer. The Recovery Manager may contact DOE (FRMAP) and communicate with the duty officer. Other Federal Agencies are normally contacted by the State DES.

7.2.5.4 Local Emergency Facilities

It shall be the responsibility of the SEM to ensure that communications are established between and to the LEOF, TSC, and OSC. Communication shall also be maintained by the field monitoring teams using two-way radios. This information will be radioed to the TSC and/or LEOF.

7.2.5.5 Emergency Personnel

The SEM shall implement EPIP-1.01, Emergency Manager Controlling Procedure, which will ensure activation of the CERP and the rapid activation of station personnel to deal with the emergency if the station requires such action.

7.2.5.6 Communication with Local Emergency Operations Facility

In the event that the severity of the emergency calls for the activation of the LEOF, the Recovery Manager shall take steps to ensure that telephone communications are operable between the LEOF and the TSC. Information from field monitoring teams shall be radioed to the LEOF where the Radiological Assessment Coordinator is assigned.

7.3 Assessment Facilities Available Onsite

A number of instrumentation and monitoring systems are available onsite for emergency assessments. These systems are described below.

7.3.1 Seismic Monitoring

The Seismic Monitoring System is designed to detect the occurrence of an earthquake at the Surry site, to alert the Control Room via panel indications and annunciation, and to provide records of the intensity, duration, and frequency of the earthquake. Active sensors provide indication and recording of seismic activity in the Control Room, while passive sensors record seismic activity by etching marks on metal plates which are later retrieved and evaluated.

7.3.2 Radiological Monitoring

The installed Radiation Monitoring System (RMS) consists of process monitors and area monitors which read out and record in the Control Room. The process system continuously monitors selected lines for radioactive effluents. The system's function is to warn personnel of increasing radiation levels, to give early warning of a system malfunction, and to record and control discharges of radioactive liquids and gases to the environment.

High range process monitors are installed to provide accurate indication of plant releases during and following an accident. The flow paths monitored include the ventilation vents, the process vent (part of the Gaseous Waste System), the main steam lines, and the turbine driven auxiliary feedwater pump exhaust. High range area monitors, located inside the containments, are installed to provide additional information on core integrity during and after a design basis accident.

In addition to the fixed radiation monitoring equipment, portable radiation monitoring equipment would be used to perform dose assessments. The equipment consists of low and high range instruments to measure gamma, alpha, beta, and neutron radiation. This equipment is maintained by the Radiological Protection Department and is used on a routine basis. Portable gamma detection instruments are also dedicated for emergency kit use (See Appendix

10.7). The kits are set aside solely for emergency use and are inventoried and checked for calibration and operability on a quarterly basis.

Portable equipment is also available to take low or high volume air samples. Battery operated air samplers can be used to collect low volume samples either onsite or offsite. Silver Zeolite cartridges would be used for sampling radioiodine with a minimum detectable activity capability of $5X10^{-8}$ microcuries per cc. Silver Zeolite has a low retention efficiency for Xenon and therefore, interference should be minimal. Plastic bags and bottles are available to collect water, soil, foodstuffs or other samples.

EPIPs provide the methodology for determining the magnitude of a release by three separate and independent methods: (1) using data or samples continuously obtained by the onsite Radiation Monitoring System, (2) using known inventory data for the system(s) affected, and (3) obtaining offsite data from air samplers or dosimeters which are continuously in place, or taking radiation surveys and appropriate samples, and using this data to calculate releases.

Equipment designated for use in environmental surveillance such as air samplers and theromoluminescent dosimeters (TLDs) is used to obtain offsite data. The radiological monitoring instrumentation and sampling devices used by the station meet the minimum requirements of the NRC Radiological Assessment Branch Technical Position for Environmental Radiological Monitoring Programs. Two Virginia Power TLDs have been placed in each of the accessible sectors within an approximate 5 mile radius of the station for accident monitoring. Further details can be found in VPAP-2103, "Offsite Dose Calculation Manual". The State also has TLD monitoring points located around the Station used for verification purposes. Dosimetry and air sampler locations within the 10 mile EPZ are shown on Figures 7.1 and 7.2.

Surry maintains fixed laboratory equipment to support sampling analysis and monitoring. The equipment includes Multichannel Analyzers, whole body counters and TLD reading processors.

7.3.3 Meteorological Monitoring

The station's Meteorological Monitoring System provides the capability for making predictions of atmospheric effluent transport and diffusion. The system consists of a primary and a backup tower, the locations of which were chosen so as to be representative of regional conditions. The data which is input to the Emergency Response Facility Computer System (ERFCS) for use in the MIDAS model and which is transmitted to the Control Room and the Environmental Services Group in Richmond is derived from instrumentation located at these towers. Table 7.2 provides a listing of the parameters measured.

The meteorological equipment was designed to meet the criteria of Regulatory Guide 1.23, "On Site Meteorological Programs", dated February 1972.

7.3.4 Plant Process Parameter Monitoring

Installed in the Control Room are the necessary instrumentation readouts to assess station status under all conditions. Information is available from meter displays, chart recorders, annunciators, and the plant process computers to assist the operator in contending with accident conditions.

In order to support the data acquisitions need of the emergency response facilities, the ERFCS has been installed. The ERFCS provides plant monitoring, data acquisition, and critical plant data in the form of real-time status displays for the purpose of making a rapid evaluation of the reactor plant's safety status. ERFCS monitors are located in the Control Room, TSC, LEOF, and CERC. The ERFCS includes the Safety Parameter Display System (SPDS), Emergency Response Guidelines (ERGs), process and instrument displays (P & IDs), and pressure-temperature plant displays. Monitor displays are continuously updated by the computer system as they collect and process parametric data from the various plant sensors.

7.3.5 Fire Detection

The Station's Fire Protection System is designed to furnish water and other extinguishing agents with the capability of extinguishing any single or probable combination of simultaneous fires that might occur. Smoke and heat detectors are utilized for fire detection resulting in automatic fire suppression initiation and/or alarming. These systems are designed in accordance with the standards of the National Fire Protection Association.

7.3.6 Post Accident Sampling

The Sentry High Radiation Sampling System (HRSS) has been installed to accommodate post accident sampling requirements. The HRSS is designed to secure timely samples from the reactor coolant system, containment sump, and the containment atmosphere while minimizing exposure to the sample analysis team. The system is designed to minimize operator exposure by providing shielding, in-line dilution for coolant and gases, flushing capability, and direct connections to rad waste or the containment sump for disposal. Further design criteria were implemented for rapid sampling and analysis by use of directional indicating valves and system mimics to aid operator understanding of system functions. Cooling, depressurization, and handling casks for high activity samples are also provided.

7.4 Facilities and Equipment for Offsite Monitoring

The facilities and equipment located at the North Anna Power Station may be utilized, as applicable, during emergency conditions at the Surry Station. Such equipment may include meteorological and/or seismic data, respiratory protection equipment, portable radiation detection instrumentation and count room facilities. Seismic data may be obtained from the National Earthquake Information Service. Meteorological data can be obtained from the following:

LOCATION	ORGANIZATION	DISTANCE FROM SURRY (MILES)
Chesterfield	Virginia Power	55
Yorktown	Virginia Power	13
Richmond International Airport	National Weather Service	50
Newport News/ Williamsburg Int'l Airport	Federal Aviation Administration	11
Norfolk Naval Air Station	US Navy	32
Fort Eustis	US Army	06
Langley Air Force Base	US Air Force	22
Milford Haren	US Coast Guard	35
South Island	US Coast Guard	40

7.5 Damage Control Equipment and Supplies

The station maintains an adequate supply of damage control equipment and supplies, and could rely on additional equipment and supplies from the North Anna Power Station. The station maintains a normal supply of mechanical tools and equipment which are used in the day to day maintenance of the station. The Warehouse maintains an inventory of supplies required for the normal operation of the station. These supplies are in various tool cribs in the station and at the Warehouse. Other equipment and supplies include full face respirators with proper filters or canisters, SCBA respirators, air supplied respirators, protective clothing, radioactive waste containers, ion-exchange resin (liquid waste processing), portable radios, pagers, various communication devices, portable lighting equipment, and Company-owned vehicles. Where appropriate, calibration and inventory are conducted in accordance with station procedures. Equipment and supplies will be transferred to the OSC as needed.

7.6 Early Warning System

Prompt alerting and notification of the population within the 10-Mile EPZ is accomplished using the Early Warning System (EWS). The EWS consists of sirens installed and maintained by the Company, route alerting utilizing State and local emergency vehicles, institutional alerting initiated by State and local governments, the Emergency Broadcast System (EBS), and personal notifications. The Federal Emergency Management Agency (FEMA) has determined that the alert and notification system installed around the Surry Power Station satisfies the requirements of NUREG-0654/FEMA-REP-1, Revision 1, and FEMA-REP-10.

The purpose of the system is 1) to allow initial notification to the residents of 10-Mile EPZ within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent actions, 2) to ensure that essentially 100% of population within 5 miles from the site can be alerted within this time, and 3) to ensure that essentially 100% of the population from 5 to 10 miles from the site can be alerted within 45 minutes from this time.

The State and local governments bear the ultimate responsibility for warning the public. Should it be necessary, State and local authorities will alert the public within the 10-Mile EPZ using alternative methods (reference COVRERP, Appx. 3) Members of the public within the 10-Mile EPZ shall be informed of what actions to take following activation of the EWS. Upon hearing the sirens, they have been instructed to turn on their radios or television sets to EBS stations to receive further instructions. Surry and James City counties and the State have 24 hour capability to activate the EWS sirens. Messages sent out over the EBS are initiated by the State DES.

ERF COMMUNICATIONS

TABLE 7.1

Control Room

1. Automatic Ring Downs (ARDs) to the System Operator, TSC, OSC, Security Shift Supervisor, DES, Control Room Annex, Emergency Switchgear Room, and Condensate Polishing Building
2. Instaphone
3. Station PBX phones
4. Virginia Power OPX phones
5. Radio System
6. NRC Emergency Notification System (ENS)
7. Commercial Phone
8. Public Address Intercom and Sound Powered Phone System
9. Emergency Response Data System (ERDS)

Technical Support Center

1. ARDs to the Control Room, OSC, LEOF, CERC, Primary Remote Assembly Area, Security Shift Supervisor and Radiation Protection Supervisor.
2. Insta-Phone
3. Station PBX Phones
4. Virginia Power OPX Phones
5. Commercial Phones
6. NRC Emergency Notification System (ENS)
7. Public Address Intercom
8. Radio System
9. NRC Health Physics Network (HPN)
10. NRC Reactor Safety Counterpart Link (RSCL)
11. Protective Measures Counterpart Link (PMCL)
12. Emergency Response Data System (ERDS)
13. Management Counterpart Link (MCL)
14. Local Area Network (LAN) Access

ERF COMMUNICATIONS

TABLE 7.1

Operational Support Center (OSC)

1. Public Address Intercom
2. ARDs to Control Room and TSC
3. Radio System
4. Station PBX phone

Local Emergency Operations Facility (LEOF)

1. ARDs to TSC, CERC, JPIC, LMC, DES, Surry County and James City County
2. Insta-phone
3. Commercial Phones
4. Radio System
5. Station PBX Phones
6. Virginia Power OPX Phones
7. NRC Emergency Notification System (ENS)
8. NRC Health Physics Network (HPN)
9. NRC Reactor Safety Counterpart Link (RSCL)
10. Protective Measures Counterpart Link (PMCL)
11. Management Counterpart Link (MCL)
12. Local Area Network (LAN) Access

Local Media Center (LMC)

1. Commercial Lines
2. ARDs to LEOF and JPIC

Corporate Emergency Response Center (CERC)

1. Virginia Power OPX Phones
2. ARDs to LEOF and TSC
3. Insta-phone monitor

METEOROLOGICAL MONITORING SYSTEM PARAMETERS [1]
TABLE 7.2

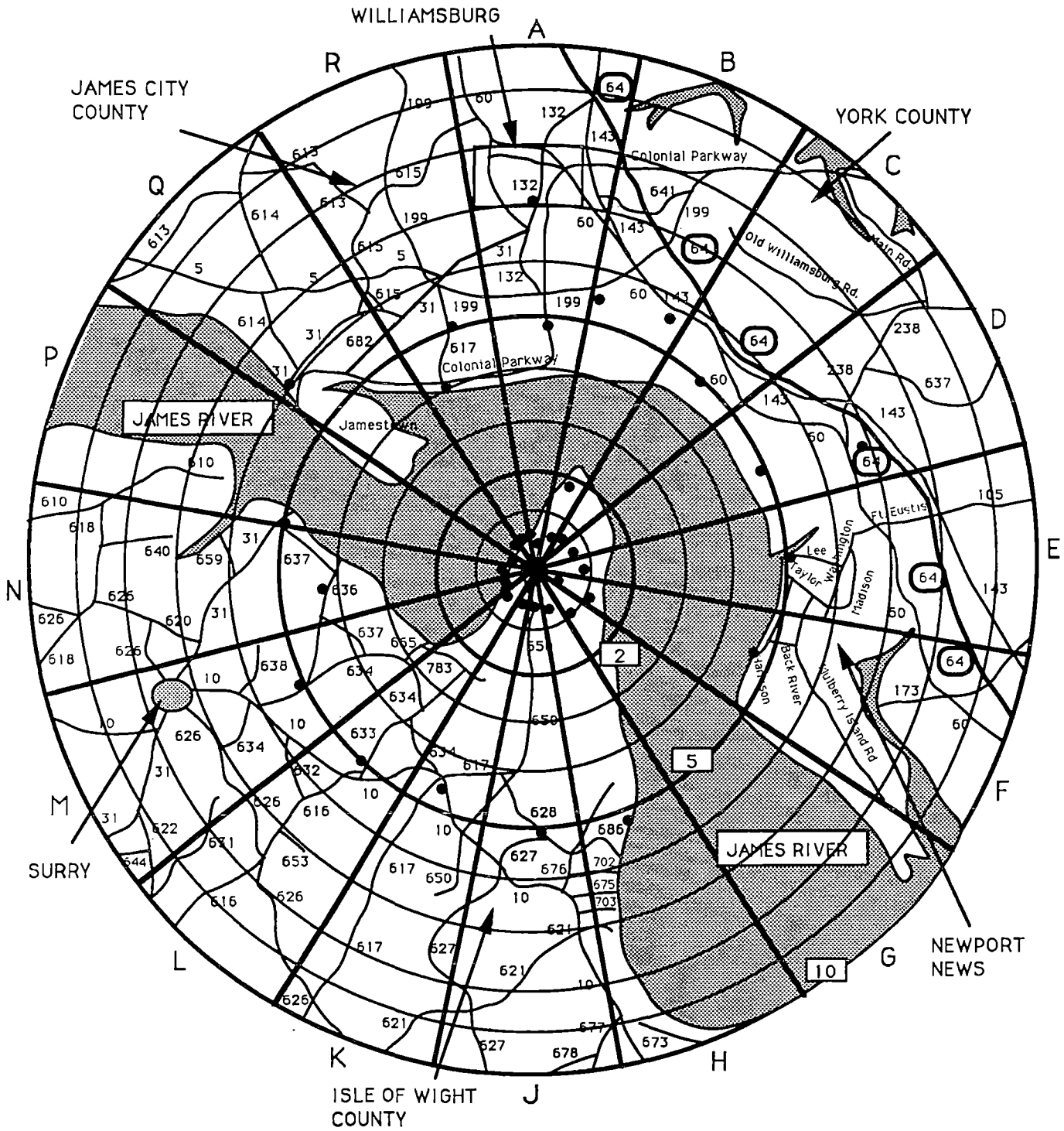
Measurement	Primary Tower 150.0 feet	Primary Tower 34.0 feet	Ground	Backup Tower 30.3 feet	Control Rm. Readout
Wind Speed	x	x		x	x
Wind Direction	x	x		x	x
Sigma-theta	x	x		x	x[2]
	147.4 feet	31.5 feet			
Temperature		x			x
Differential Temperature	x	x			x
Dew Point Temperature		x			
Precipitation			x		

(1) All data available via dial-up link at Meteorological Operations in Richmond.

(2) Signal from Backup Tower only.

Reference Document: SPS UFSAR, Rev. 20, 8/93.

SURRY POWER STATION
ENVIRONMENTAL MONITORING LOCATIONS
FIGURE 7.1



Note: Specific locations are provided on the next page.

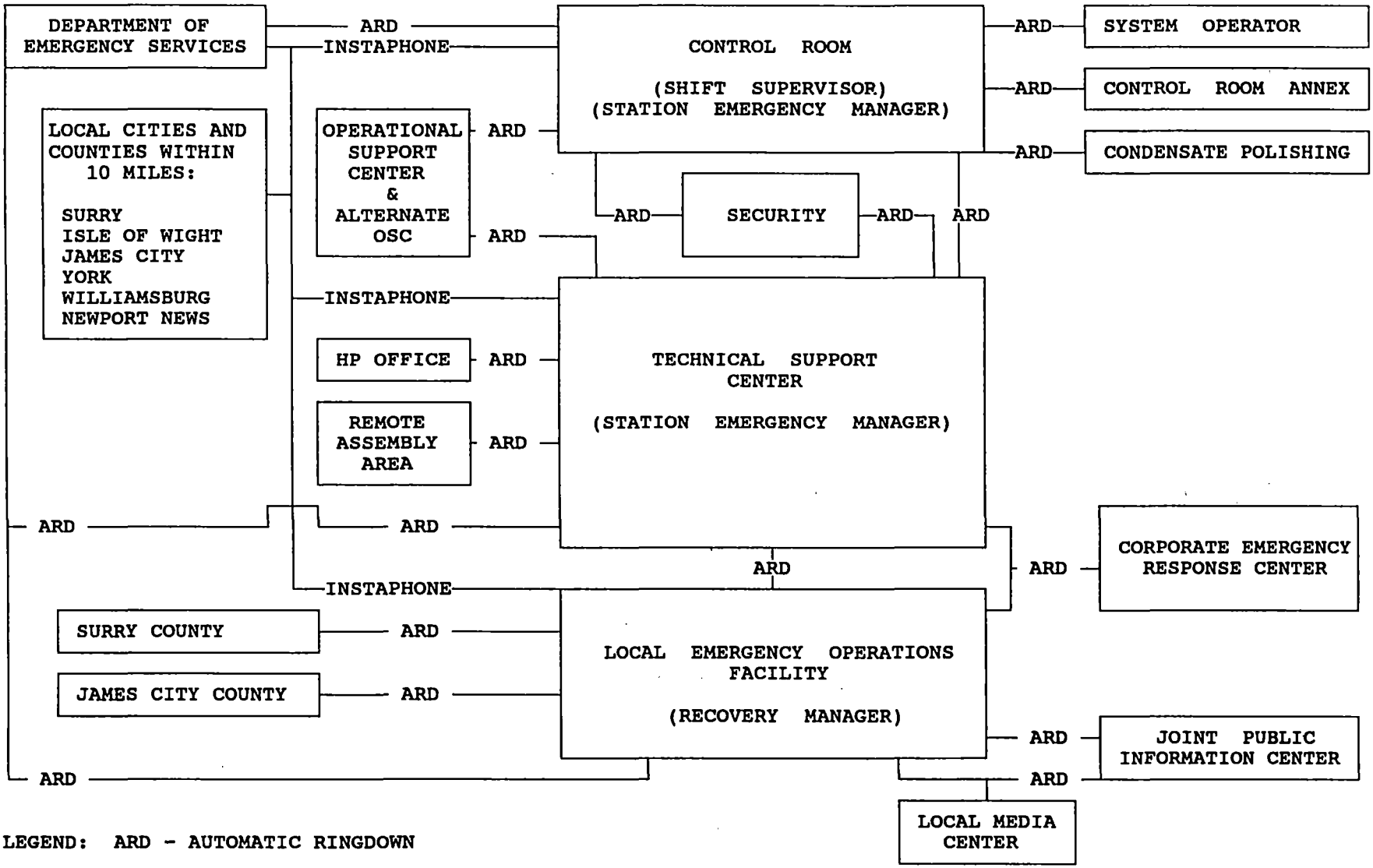
Reference document:Annual Radiological Environmental Operating Report; Surry Emergency Plan Map.

SURRY POWER STATION
ENVIRONMENTAL MONITORING LOCATIONS LISTING(*)
FIGURE 7.2

Sample Media	Location	Station #	Distance (miles)	Direction	Degrees	Sector
Environmental (TLDs)	Control	00	-	-	-	A
	West North West	02	0.17	WNW	292	P
	Surry Station Discharge	03	0.6	NW	309	Q
	North North West	04	0.4	NNW	330	R
	North	05	0.33	N	357	A
	North North East	06	0.28	NNE	22	B
	North East	07	0.31	NE	45	C
	East North East	08	0.43	ENE	68	D
	East (Exclusion)	09	0.31	E	90	E
	West	10	0.40	W	270	N
	West South West	11	0.45	WSW	250	M
	South West	12	0.30	SW	225	L
	South South West	13	0.43	SSW	203	K
	South	14	0.48	S	180	J
	South South East	15	0.74	SSE	157	H
	South East	16	1.00	SE	135	G
	East	17	0.57	E	90	E
	Station Intake	18	1.23	ESE	113	F
	Hog Island Reserve	19	1.94	NNE	26	B
	Bacon's Castle	20	4.45	SSW	202	K
	Route 633	21	3.5	SW	224	L
	Alliance	22	5.1	WSW	248	M
	Surry	23	8.0	WSW	250	M
	Route 636 and 637	24	4.0	W	270	N
	Scotland Wharf	25	5.0	WNW	285	P
	Jamestown	26	6.3	NW	310	Q
	Colonial Parkway	27	3.7	NNW	330	R
	Route 617 and 618	28	5.2	NNW	340	R
	Kingsmill	29	4.8	N	2	A
	Williamsburg	30	7.8	N	0	A
	Kingsmill North	31	5.6	NNE	14	B
	Budweiser	32	5.7	NNE	27	B
	Water Plant	33	4.8	NE	41	C
	Dow	34	5.1	ENE	70	D
	Lee Hall	35	7.1	ENE	73	D
	Goose Island	36	5.0	E	88	E
	Fort Eustis	37	4.8	ESE	107	F
	Newport News	38	16.5	ESE	102	F
	James River Bridge	39	14.8	SSE	157	H
	Benn's Church	40	14.5	S	180	J
	Smithfield	41	11.5	S	180	J
	Rushmere	42	5.2	SSE	157	H
	Route 628	43	5.0	S	180	J
Air Charcoal and Particulate	Surry Station	SS	0.37	NNE	15	B
	Hog Island Reserve	HIR	2.0	NNE	26	B
	Bacon's Castle	BC	4.5	SSW	202	K
	Alliance	ALL	5.1	WSW	248	M
	Colonial Parkway	CP	3.7	NNW	330	R
	Dow Chemical	DOW	5.1	ENE	70	D
	Fort Eustis	FE	4.8	ESE	107	F
	Newport News	NN	16.5	ESE	122	F

* Reference document: VPAP-2103, Attachment 22, Surry Environmental Sampling Locations.

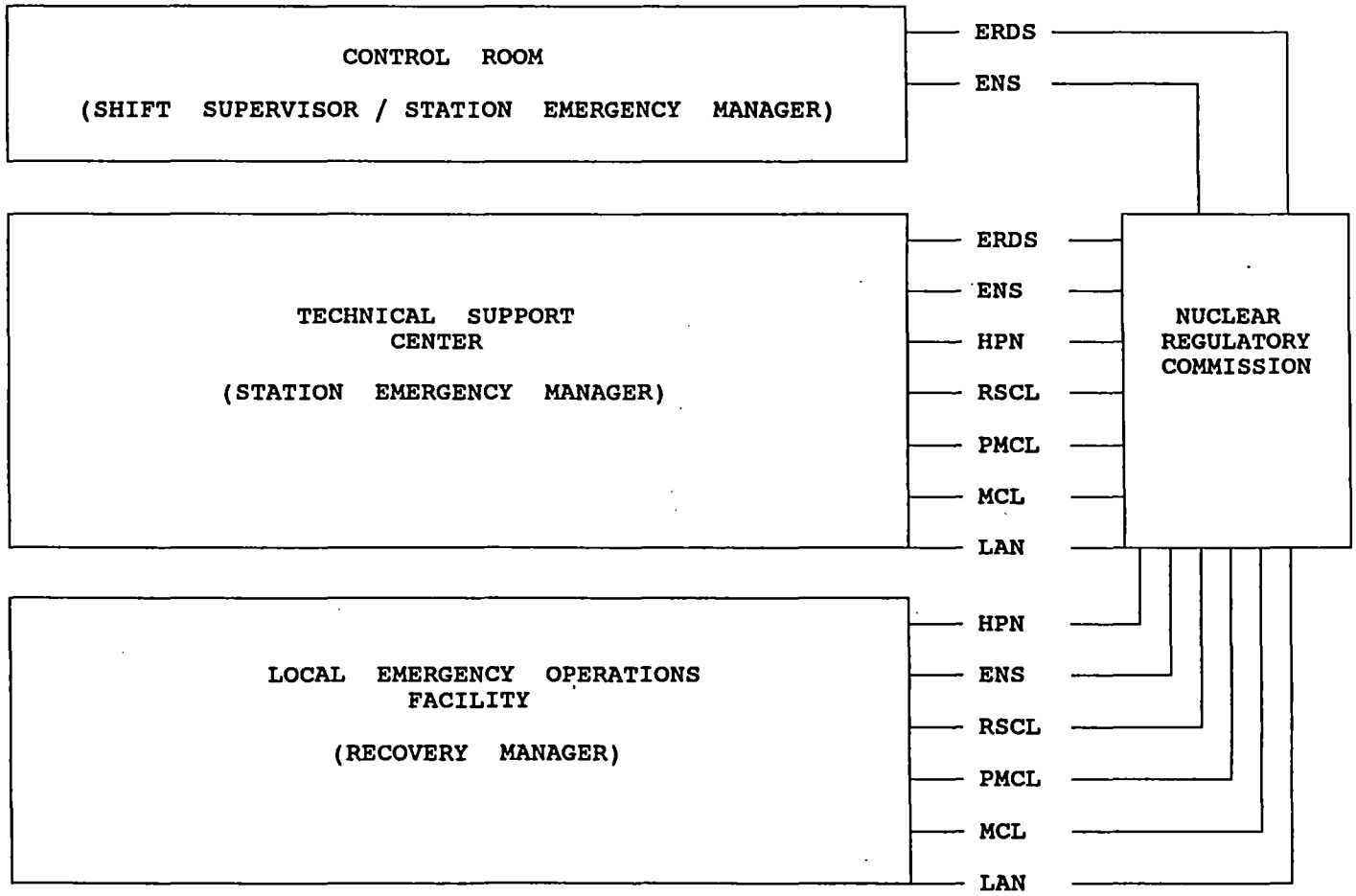
COMMUNICATIONS LINKS
FIGURE 7.3



LEGEND: ARD - AUTOMATIC RINGDOWN

NOTES:
1. PUBLIC ADDRESS INTERCOM SYSTEM AVAILABLE THROUGHOUT THE STATION.
2. BASE, PORTABLE AND MOBILE RADIOS ARE USED TO COMMUNICATE BETWEEN FACILITIES, MONITORING AND DAMAGE CONTROL TEAMS, ETC.
3. PBX, OPX AND COMMERCIAL TELEPHONE LINES ARE ALSO AVAILABLE.

COMMUNICATIONS LINKS - NRC
FIGURE 7.4



LEGEND:

ERDS	-	Emergency Response Data System
ENS	-	Emergency Notification System
HPN	-	Health Physics Network
RSCPL	-	Reactor Safety Counterpart Link
PMCPL	-	Protective Measures Counterpart Link
MCL	-	Management Counterpart Link
LAN	-	Local Area Network

SURRY POWER STATION EMERGENCY PLAN

SECTION 8

MAINTAINING EMERGENCY PREPAREDNESS

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8.0 Maintaining Emergency Preparedness

Virginia Power has instituted an emergency preparedness program to support development, maintenance and coordination of the company's emergency response capability. The Emergency Plan and associated Emergency Plan Implementing Procedures, which provide specific guidance to emergency response personnel, are revised as required and reviewed at least annually in accordance with this program.

Personnel who may be required to fill emergency response positions receive initial and annual training in their functional responsibilities. Training is also provided to various offsite groups that have agreed to support the station response to an emergency. Dedicated emergency response equipment is kept operational through testing in accordance with an established periodic surveillance program. Periodic drills and an annual exercise are conducted for training and to identify program strengths and weaknesses. Additionally, the emergency preparedness program provides for the issuance of public information material. This material provides the public with a description of the emergency notification process and guidelines used to protect public health and safety in an emergency. Independent reviews of the emergency preparedness program are also conducted.

8.1 Responsibilities for Maintaining Emergency Preparedness

The Senior Vice President - Nuclear, assigned the overall authority for maintaining emergency preparedness, has delegated the responsibility for program maintenance to the Vice President - Nuclear Services and the responsibility for program implementation to the Vice President - Nuclear Operations. The Vice President - Nuclear Services has delegated the responsibility for maintaining corporate emergency preparedness to the Director Nuclear Emergency Preparedness. The Vice President - Nuclear Operations has delegated the responsibility for station emergency preparedness to the Station Manager, who has in turn designated the Assistant Station Manager, Nuclear Safety and Licensing (NS&L) as responsible for the station emergency preparedness program. These responsibilities have ultimately been delegated to the Station Coordinator Emergency Planning. The hierarchy for program maintenance is further outlined in VPAP-2601, "Maintaining Emergency Preparedness."

8.2 Maintenance of the Emergency Plan, Emergency Plan Implementing Procedures, and Emergency Personnel Notification List

Station documents that are required to ensure emergency preparedness include: (1) the Surry Emergency Plan (SEP) and (2) the Emergency Plan Implementing Procedures (EPIPs). The Station Coordinator Emergency Planning shall review design changes and initiate appropriate revisions to the SEP and EPIPs when appropriate.

8.2.1 Review of the Emergency Plan and Emergency Plan Implementing Procedures

The Station Coordinator Emergency Planning shall review the SEP and its implementing procedures at least every 12 months and certify that they are adequate and current. He shall also review the results of independent assessments of the emergency preparedness program and critiques of exercises and drills to evaluate their impact on station emergency preparedness documents. The results of these reviews shall be reported to the Station Nuclear Safety and Operating Committee (SNSOC) and the documentation filed in Station Records. The SNSOC shall review proposed revisions to these documents and recommend action to the Station Manager who is responsible for their approval. If a proposed revision is judged to decrease the effectiveness of these documents with respect to 10CFR50.47(b) or 10CFR50, Appendix E, it shall be submitted to the NRC for approval in accordance with the requirements of 10CFR50.54(q) prior to implementation. Revisions to these documents shall be dated and marks will be placed on the affected pages to indicate where changes have been made.

8.2.2 Review of the Emergency Personnel Notification List

The Station Coordinator Emergency Planning shall review Emergency Personnel Notification List at least quarterly for accuracy and shall ensure that required revisions are made. Documentation of this review shall be filed in Station Records.

8.2.3 Distribution of Emergency Plans and Implementing Procedures.

In accordance with 10CFR50, Appendix E, revisions to the Emergency Plan and implementing procedures shall be submitted to the NRC within 30 days following the assigned effective date. The Station Coordinator Emergency Planning shall also ensure that revisions to the SEP are distributed to those offsite agencies that require them in order to perform their emergency response functions.

8.3 Training of Station Personnel

The effectiveness of a response to a station emergency relates directly to the level of emergency preparedness maintained by station personnel. Emergency preparedness of station personnel is maintained through an integrated program that includes general orientation for all persons badged at the station and additional detailed training for persons assigned specific emergency response functions to supplement the general orientation and normal job related training.

The primary objectives of this emergency preparedness training program are to:

a) Ensure emergency response personnel maintain familiarity with the Surry Emergency Plan, its implementing procedures and their functional responsibilities during an emergency

b) Inform emergency response personnel of their functional role and responsibilities during an emergency

c) Familiarize emergency response personnel with significant changes to the Surry Emergency Plan and its implementing procedures

8.3.1 Responsibilities for Maintaining Emergency Preparedness Training

To ensure that regulatory requirements and guidance for conducting emergency preparedness training are met, a Nuclear Training Program Guide has been developed. Responsibilities for ensuring adequate emergency preparedness training are provided as follows:

a. The Station Manager is responsible for ensuring station personnel are adequately trained in accordance with the Nuclear Power Station Emergency Preparedness Training (NPSEPT) Program Guide.

b. Department superintendents and supervisors are responsible for ensuring their personnel receive training. This includes designating individuals who may serve as primary, interim or alternate emergency response personnel and ensuring they successfully complete the training specified by the NPSEPT Program Guide.

c. The Superintendent Nuclear Training is responsible for developing and scheduling training programs that meet the requirements of this plan, and for maintaining records to document the training.

d. The Station Coordinator Emergency Planning is responsible for independently verifying that the training required by the NPSEPT Program Guide and this plan is accomplished.

8.3.2 Nuclear Power Station General Employee and Visitor Training

All persons badged to enter the Protected Area unescorted receive, as part of Nuclear Power Station General Employee Training, initial classroom training and annual retraining in the following subjects:

a) Station Policies and Procedures including, in part:

1) Reporting abnormal conditions (e.g., fire, first aid event, etc.)

2) Fire and First Aid alarms and announcements

3) Response to Fire and First Aid emergencies

b) Radiation Protection Training including basic principles of radiological safety

c) Emergency Preparedness Training Overview including:

1) General scope and overview of the Emergency Plan
2) Station Emergency Alarm and announcements
3) Response to Station Emergency Alarm
4) Personnel accountability
5) Visitor control during an emergency
6) Site evacuation
7) Emergency Plan Implementing Procedures
8) Emergency Organization
9) Emergency Control Centers (Emergency Response Facilities)

As appropriate, certain station visitors receive training in some or all of the above subjects in accordance with station administrative procedures.

8.3.3 Emergency Response Personnel Training

Personnel designated to fill interim, primary or alternate emergency response positions will receive training in accordance with the NPSEPT Program Guide. This guide establishes the initial training and annual retraining requirements for emergency response positions. Table 8.1 provides a listing of select emergency response positions along with an overview of the training provided. Revisions to the NPSEPT Program Guide that affect those descriptions referenced in Table 8.1 will be reflected in the next scheduled revision of this Plan. Equivalency credit for required training sessions may be awarded based on an individual's knowledge of the subject matter. Such credit requires the approval of the Superintendent Nuclear Training and the Station Manager.

8.3.4 Cognitive Evaluations

Cognitive evaluations may include self critiques, group discussions, and/or written tests administered following completion of NPSEPT classroom training. Evaluations are normally administered by the course instructor and may be scheduled at the end of a work shop, learning activity, instructional unit, or a number of related units. A minimum score of 70% is considered passing on NPSEPT written tests. For NPSEPT training incorporated into regularly scheduled continuing training programs, the passing criteria for that training program applies. Individuals failing to successfully complete the required training within the required time frame will be relieved of their emergency response assignments.

8.3.5 Task Performance Evaluations

Task performance evaluations are prescribed for individuals who must perform tasks as responders which are outside of their normal day-to-day responsibilities and may be satisfied through completion of a Job Demonstration Guide (JDG), participation in an appropriate Virginia Power Drill or Simulator Exercise, or included in classroom learning activities as part of the classroom training requirement. JDG evaluations are conducted by the applicable primary responder, team leader or instructor and are scored on a pass/fail basis.

8.3.6 Training Records

The Superintendent Nuclear Training is responsible for ensuring that required emergency preparedness training records are maintained. These records are maintained in the Surry Training Center records vault. The required emergency preparedness training records include:

a) Program Records: Attendance sheets, master copies of Job Demonstration Guides, master copies of tests and answer keys, copies of instructor guides, NPSEPT Training Rosters and NPSEPT extensions.

b) Trainee Records: Completed tests and Responder Training Records.

8.4 Training of Offsite Support Personnel

The various offsite organizations which support the station during an emergency receive training as part of their own emergency preparedness programs. For example, Virginia Power corporate personnel receive emergency preparedness training as part of the Corporate Emergency Response Plan, and the State and local governments conduct training for their personnel as part of their Radiological Emergency Response Program. However, in order to promote effective emergency response capability, the station offers site specific emergency response training on an annual basis to local offsite emergency support organizations which have agreed to provide assistance. The organizations include the Virginia Department of State Police and local county sheriff's department, volunteer fire companies, and rescue squads.

The annual training shall address the following:

a) The basic scope of the Surry Power Station Emergency Plan

b) Emergency classifications

c) Notification methods

d) Basic radiation protection

e) Station access procedures

f) The individual, by title, in the station emergency response organization who will direct their activities onsite

g) Definition of their support roles

The Station Coordinator Emergency Planning is responsible for ensuring training is offered and for coordinating training with the Supervisor Safety and Loss Prevention or Superintendent Security. Safety and Loss Prevention, Security and Nuclear Training assist in the conduct of offsite training. The Station Coordinator Emergency Planning shall ensure that records of the training are maintained and filed in Training Records. These records shall include letters of invitation (or record of telephone invitation), attendance sheets, and curriculum outline.

8.5 Emergency Drills

As a part of maintaining emergency preparedness, periodic drills shall be conducted. The primary objectives of drills are to:

a) Verify that facilities, equipment, and communication systems function as required

b) Demonstrate the adequacy of procedures used during an emergency response

c) Familiarize station emergency response personnel with planned emergency response actions

d) Disclose deficiencies which may require corrective action

Drills may be conducted independently, in conjunction with another drill, or as part of an exercise. The individual responsible for the drill shall ensure that all necessary documentation is maintained.

A scenario will be developed to support the conduct of each drill. The scenario should be designed to allow for open decision-making (free-play). If a drill is conducted in conjunction with another drill or as part of an exercise, the drill scenario, objectives and narrative shall be incorporated into the overall drill/exercise package. Drill packages shall include:

a) Objectives of the drill

b) Evaluation criteria for the drill

c) Date and time period of the drill

d) Participating personnel or organizations

e) A narrative summary describing the overall integration of scenario events (e.g., simulated casualties, offsite assistance, rescue of personnel, simulated activity levels, and deployment of monitoring teams)

f) A time schedule of the real and simulated events

It is not required that all emergency response personnel assigned a particular emergency function participate in a drill covering that function. Participation by offsite organizations may be simulated.

Drills shall be controlled and observed by individuals qualified to conduct and evaluate the drill. Critiques will be used to document the evaluation of the drill. Deficiencies identified as a result of the drill evaluation will be presented to Station Management for corrective action.

Records of each drill will be maintained in Station Records and include the drill scenario package and the post-drill critique. Records of specific drills held in conjunction with an exercise may be integrated into the emergency exercise package (i.e., scope, objectives, critique, etc.).

The types and frequencies of drills conducted at the station are designated below.

8.5.1 Communications Drills

Communications drills shall be conducted at least once per calendar year and shall include:

a) Use of emergency communications systems between the Control Room, the TSC, the LEOF, the OSC, the NRC Operations Center, the State EOC, the county EOCs, and the Onsite and Offsite Monitoring Teams

b) Sending, receiving, and verification of message content

8.5.2 Fire Drills

Fire drills shall be conducted in accordance with the requirements of the Surry Fire Protection Program which meets the requirements of 10 CFR 50, Appendix R, Sec. III.I, Fire Brigade Training.

8.5.3 Medical Emergency Drills

Medical Emergency drills shall be conducted at least once per calendar year and shall include:

a) A simulated contaminated injured individual

b) Participation by a local rescue squad

c) Transport to an offsite medical facility

d) Participation by the offsite medical facility

8.5.4 Environmental Monitoring Drills

Environmental Monitoring drills shall be conducted at least once per calendar year and shall include:

a) Collection of water, vegetation, soil, and air samples both onsite and offsite, as appropriate

b) Analysis of the above samples

c) Use of communications with the monitoring teams

d) Use of the appropriate procedures for collecting and analyzing samples and recording results

8.5.5 Post Accident Sampling Drills

Post Accident Sampling drills shall be conducted at least once per calendar year and shall include:

a) Obtaining actual liquid and/or atmospheric samples using the High Radiation Sampling System

b) Analysis of the collected samples

c) Use of the appropriate procedures for collecting and analyzing samples and recording results

8.5.6 Radiological Monitoring Drills

Radiological Monitoring drills shall be conducted semi-annually with a maximum allowable grace period not to exceed 25%, and shall include:

a) Response to simulated elevated airborne and/or liquid activity levels, as appropriate

b) Response to simulated elevated area radiation levels

c) Analysis of the simulated radiological situation using the appropriate procedures

8.6 Emergency Exercises

An emergency exercise shall be conducted with a stated scope and objectives. The primary objectives of an emergency exercise are to:

a) Verify the integrated capability of the various emergency response organizations to respond to an emergency

b) Test a major portion of the basic elements existing within the emergency response plans and organizations

c) Demonstrate the adequacy of procedures used during an emergency

d) Provide an opportunity for emergency response personnel to demonstrate their ability to perform planned emergency response actions

e) Disclose deficiencies which may require corrective action

8.6.1 Scheduling of Emergency Exercises

An emergency exercise shall be conducted at Surry Power Station at least once per calendar year. On odd numbered years, the Surry exercise shall be a full participation exercise with a small scale exercise being held on even numbered years. (Full participation exercises are held at North Anna Power Station on even numbered years). Emergency exercises will be scheduled to start at different times of the day with advance knowledge of the time to be held confidentially. At least once every 6 years, the specific exercise date should be unannounced. Additionally and at least once every 6 years, an exercise should be initiated during off-hours (between 6pm and 4am on a weekday, or during a weekend).

8.6.2 Emergency Exercise Content

The content of exercises shall be varied from year to year, so that all major elements of the State, local, and station plans are tested within a 5 year period.

Full participation exercises shall include:

a) an emergency classification of at least Site Area Emergency
b) a mobilization of as many elements of the State, local, and station plans as is reasonably achievable without mandatory public participation; and
c) invitation for involvement of federal emergency response agencies at least once every 5 years.

Small scale exercises shall include:

a) an emergency classification of at least Alert;
b) use of the communications systems; and
c) activation of at least one offsite emergency response plan action.

8.6.3 Emergency Exercise Scenarios

Each emergency exercise shall be based on a preplanned written scenario. The overall exercise package shall include:

a) Basic performance objectives of the exercise
b) Evaluation criteria used to verify demonstration of performance objectives
c) Date, initiation time, and exercise duration
d) Participating organizations
e) Simulated events
f) Time schedule of the real and simulated events

g) A narrative summary describing the overall integration of scenario events such as simulated casualties, offsite assistance, rescue of personnel, use of protective equipment, simulated activity and radiation levels, and deployment of monitoring teams

h) a description of the number, locations, and duties of the exercise controllers and observers; and

i) a description of the arrangements made for and advance materials to be provided to the observers.

Advance knowledge of the scenario shall be minimized to ensure realistic participation by those involved.

8.6.4 Conduct of Emergency Exercises

The emergency exercise will be initiated and supervised by controllers. These controllers shall ensure that:

a) the information supplied to the participants is of sufficient detail to allow realistic analysis of the simulated events and to provide a basis for rational decision making;

b) the information is supplied on a real time basis; and

c) the exercise is not so structured as to prevent free play and independent decision making on the part of the participants.

8.6.5 Emergency Exercise Evaluation and Corrective Action

Emergency exercises shall be evaluated by qualified observers. Observers shall be selected based on expertise, knowledge of the areas to be evaluated, and familiarity with emergency response requirements. Observers may include personnel from federal, state, or local governments. The specific areas to be evaluated by the observers will be defined in the form of pre-printed critique sheets.

Critiques will be held as soon as practicable after the exercise. Critiques should be attended by exercise controllers, observers, and key participants. Notes of critique comments shall be recorded.

Observers shall complete critique sheets documenting their observations. Critique sheets shall be submitted in accordance with the schedule established for the exercise.

Within 60 days of the exercise, a Post-Exercise Critique Report shall be issued. Identified corrective actions will then be assigned for implementation.

8.6.6 Records of Emergency Exercises

The Station Coordinator Emergency Planning shall ensure that the exercise scenario package and Post-Exercise Critique are filed in Station Records.

8.7 Testing and Maintenance of Emergency Equipment

Emergency equipment shall be periodically tested to identify and correct deficiencies in accordance with administrative procedures. Inventories and tests shall be documented and forwarded to Station Records.

The testing shall include:

a) The contents of the emergency kits dedicated for emergency use shall be inventoried quarterly and following each use. The Superintendent Radiological Protection shall ensure these test are conducted and documented.

b) Dedicated emergency survey instrumentation shall be inventoried and operationally checked quarterly and following each use. They shall be calibrated in accordance with manufacturer's recommendations. The Superintendent Radiological Protection shall ensure these tests are conducted and documented.

c) Self-contained breathing apparatus shall be inspected and operationally checked monthly and following use during an emergency. The Superintendent Radiological Protection shall ensure these tests are conducted and documented.

d) State and local ring down loop (Insta-phone) extensions and the ringdown phone to the State EOC located at the station and LEOF shall be operationally checked on a monthly basis. In addition, NRC Emergency Notification System extensions and NRC Health Physics Network extensions located at the station and LEOF shall be operationally checked monthly. The Station Coordinator Emergency Planning shall ensure these tests are conducted and documented.

8.8 Informing The Public

Information describing the emergency notification process as well as actions that should be taken in the event of an emergency shall be provided to the public on an annual basis. Information provided to the public shall include:

a) Educational information on radiation
b) Contact points for additional information
c) Special needs of the handicapped
d) Initial actions following Early Warning System activation
e) Protective actions, such as sheltering or evacuation
f) Evacuation routes

The company will coordinate its efforts with State and local authorities to ensure the public is informed by using the best means available. These means may include:

a) Information in telephone books
b) Utility bill inserts

c) Newspaper ads

d) Postings in public areas

e) Information in calendars distributed to residents

The information will be distributed to ensure coverage within the 10 mile emergency planning zone.

The company shall also establish a telephone system for dealing with rumors. The telephone numbers will be announced over the Emergency Broadcast System and individuals within the 10 mile emergency planning zone will be invited to call collect.

The Director Nuclear Emergency Preparedness shall ensure that a program to acquaint the news media with the following information is offered on an annual basis:

a) Emergency plans

b) Information concerning radiation

c) Points of contact for release of public information in an emergency.

8.9 Independent Review Of The Emergency Preparedness Program

An independent review of the emergency preparedness program shall be conducted at least once every 12 months in accordance with 10 CFR 50.54 (t). This review shall include:

a) The Surry Emergency Plan and Implementing Procedures

b) Emergency Plan training

c) Emergency drills

d) Emergency exercises

e) Emergency equipment

f) Interfaces with State and local governments

g) Required records and documentation

This review shall be conducted by a Virginia Power organization or outside consultant which has no direct responsibility for emergency preparedness.

The results of the review and recommendations for improvements shall be documented and reported to company management. The results regarding adequacy of interface between Virginia Power and State and local governments shall be made available to the cognizant offsite authority. Recommendations for improvement shall be evaluated and, when appropriate, assigned for corrective action.

The following records shall be filed in Station Records and maintained for 5 years:

a) The review results and recommended improvements

b) The answers to the recommended improvements

c) A description of the corrective actions taken

TABLE 8.1

EMERGENCY PREPAREDNESS TRAINING

EMERGENCY RESPONSE POSITION	SCOPE OF TRAINING (See Footnotes)
Station Emergency Manager	1,2,7,13,15
Shift Technical Advisor	1,2,13,15
Emergency Communicator	1,3,13
Emergency Procedures Coordinator	1,2,13
Emergency Operations Director	1,2,13,15
Emergency Maintenance Director	1,4,6,13
Emergency Technical Director	1,6,13,15
Emergency Administrative Director	1,6,7,13
Radiological Assessment Director	1,9,10,11,13,15
Radiation Protection Supervisor	1,10,11,13
Operational Support Center Director	1,4,5,13
OSC Support Team	1,4,5,13
Technical Support Team	1,6,13,15
Chemistry Team	1,12,13
Administrative Support Team	
- Team Leader	1,6,8,13
- Clerical Personnel	1,6,13
- Loss Prevention/Safety Personnel	1,13,14
Security Team	1,8,13
Dose Assessment Team	1,9,13
Sample Analysis and Monitoring Teams	1,11,13
Fire Team	1,13,14
First Aid Team	1,13,14
Damage Control Team	1,4,13
Search and Rescue Team	1,13,14

SCOPE OF TRAINING FOOTNOTES:

1. Training provided to all emergency response personnel emphasizes: Emergency organization, emergency classification system, personnel accountability, emergency exposure limits, emergency response facilities, security access control and site evacuation process, and exposure control techniques.

2. Training provided emphasizes: Assessing emergencies, classifying emergencies, notification systems, contaminated injured personnel actions, site evacuation, emergency radiation exposure authorization, offsite support group capabilities, and recovery.

3. Training provided emphasizes: Notifications and reports to offsite authorities and communication systems as appropriate for individual position assignments.

4. Training provided emphasizes: Emergency Plan and Damage Control Team organization, communication systems, and planning and coordination of damage control tasks.

5. Training provided emphasizes: Activation and administration of the Operational Support Center.

6. Training provided emphasizes: The activation and administration of the Technical Support Center.

7. Training provided emphasizes: Site evacuation procedures.

8. Training provided emphasizes: Notification of station personnel, LEOF activation, personnel accountability/evacuation, and station access control during an emergency. The Security Department is responsible for the conduct of this training and ensuring that documentation is properly maintained for Security Department Personal.

9. Training provided emphasizes: Dose assessment.

10. Training provided emphasizes: Control of emergency Health Physics organization, emergency exposure evaluation and protective measures.

11. Training provided emphasizes: Respiratory protection, personnel decontamination, inplant monitoring, offsite monitoring, monitoring of emergency centers and remote assembly areas, contaminated injuries, and radio communications as appropriate for individual position assignments.

12. Training provided emphasizes: Post accident sampling and high level activity sample analysis.

13. Training provided emphasizes: Organizational interfaces and responsibilities appropriate for individual position assignments.

14. Training provided emphasizes: Emergency organizational interfaces, search and rescue procedures, and communications systems. Fire Team members shall also receive Fire Brigade training as required by the Surry Power Station Fire Protection Program, which meets the requirements of 10CFR50, Appendix R and is equivalent to the State's certification program. First Aid Team members shall also receive training as required by station administrative procedures which meet the requirements of the company Accident Prevention Manual.

15. Training provided emphasizes: Use of the Emergency Response Facility Computer System appropriate for individual position assignments.

SURRY POWER STATION EMERGENCY PLAN

SECTION 9

RECOVERY

Part	Subject	Page No.
9.0	Recovery	9.2
9.1	Recovery Methodology	9.2
9.2	Population Exposure	9.3

9.0 Recovery

The recovery process will be managed by a special, designated organization composed of Virginia Power personnel. The recovery organization is described in the Corporate Emergency Response Plan and further outlined in an EPIP specifically designed for administration of the recovery process. The basic organization may be modified as required to address the needs of the given situation. The Recovery Manager assumes control and direction of the recovery operation with the authority and responsibilities set forth in the Corporate Emergency Response Plan and EPIPs.

The recovery process is implemented when the Recovery Manager and the Station Emergency Manager, with concurrence of State and Federal agencies, have determined the station to be in a stable and controlled condition. Upon the determination, the Recovery Manager shall notify the NRC Operations Center, the State Emergency Operations Center, and the Local County Emergency Operations Centers that the emergency has been terminated and any required recovery has commenced.

9.1 Recovery Methodology

The recovery organization will develop plans and procedures designed to address both immediate and long-term actions. The necessity to maintain protective measures implemented during the emergency will be evaluated and, if deemed appropriate, the recovery organization will recommend relaxation of the protective measures.

The following conditions shall be considered appropriate for the recommendation to relax protection measures:

a. Station parameters of operation no longer indicate a potential or actual emergency exists.

b. The release of radioactivity from the Station is controllable, no longer exceeds permissible levels and does not present a credible danger to the public.

c. The Station is capable of sustaining itself in a long term shutdown condition.

Because it is not possible to foresee all of the consequences of an event, specific recovery procedures may need to be written to address specialized requirements. Where possible, existing station procedures will be utilized in the areas of operations, maintenance and radiological controls. Any special recovery procedures will require the same review and approval process accorded other station procedures and, as such, will require the approval of the Station Nuclear Safety and Operating Committee (SNSOC).

9.2 Population Exposure

Total population doses shall be periodically estimated in the affected sectors and zones utilizing population distribution data from within the emergency planning zones.

Station personnel initially determine Total Effective Dose Equivalent (TEDE) due to external exposure from airborne material, external exposure from ground deposition, and internal exposure due to inhalation. Initial calculations are also performed for determination of Thyroid Committed Dose Equivalent (CDE) resulting from inhalation of radioiodines. The methodology used is consistent with that presented in EPA-400-R-92-001, MANUAL OF PROTECTIVE ACTION GUIDES AND PROTECTIVE ACTIONS FOR NUCLEAR INCIDENTS.

Determination of total population doses will be performed utilizing the Meteorological Information and Dose Assessment (MIDAS) computer code or equivalent, and will include assessments of exposure received from (but not necessarily limited to) immersion, inhalation, ground shine, and ingestion of radioactive materials.

APPENDIX 10.1

AGREEMENT LETTERS

AGREEMENT LETTERS

Federal Agencies:

U.S. Department of Energy - Oak Ridge Operations

U.S. Coast Guard, Fifth District

State Agencies:

State Department of Emergency Services

State Department of Health

State Police - Fifth Division Chesapeake

State Department of Game and Inland Fisheries

Medical College of Virginia/Virginia Commonwealth University

Local Agencies:

Surry - Chairman, Board of Supervisors

Surry - Sheriff

Surry - Volunteer Rescue Squad

Surry - Volunteer Fire Department

Isle of Wight - Emergency Services Coordinator

Isle of Wight - Sheriff

Isle of Wight - Volunteer Rescue Squad

Smithfield - Volunteer Fire Department

Rushmere Volunteer Fire Department

Newport News - City Manager

York - County Administrator

York - Sheriff

Williamsburg - City Manager

James City - County Administrator

Department of Energy
Field Office, Oak Ridge
P.O. Box 2001
Oak Ridge, Tennessee 37831—

March 29, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

U. S. DEPARTMENT OF ENERGY (DOE) RADIOLOGICAL ASSISTANCE AVAILABILITY FOR NORTH ANNA AND SURRY POWER STATIONS

This letter is in response to your March 11, 1994, letter requesting an updated Letter of Agreement regarding the availability of DOE Radiological Assistance. This letter will serve to update any existing letters between your organization and the DOE Oak Ridge Operations Office (ORO), and to confirm that the procedures outlined in the document entitled *Guide for Requesting Radiological Assistance* that was issued in 1986 are still valid.

Based on requirements set forth in the *Federal Radiological Emergency Response Plan,* issued in November 1985, DOE ORO will provide radiological assistance for incidents that occur at your facility. Prior to dispatch of radiological assistance, we will consult with the Nuclear Regulatory Commission and appropriate state authorities to ensure that there will not be a duplication of efforts. The type and duration of radiological assistance provided will depend on the severity of the incident and will be limited to advice and emergency actions essential for the control of immediate hazards to health and safety.

If you have any questions or require additional information, please contact me at (615) 576-9725.

Sincerely,

Steven M. Johnson
(for) Bobby Davis, Program Manager
Emergency Management

cc:
U.S. Nuclear Regulatory Commission,
Region II, Regional Administrator
C. S. Przybylek, CC-10
J. E. Rudolph, DP-23

U.S. Department
of Transportation

**United States
Coast Guard**

Commander
Fifth Coast Guard District

431 Crawford Street
Portsmouth, VA 23705
Staff Symbol: (mpv)
Phone: 804-398-6304

5050

5 MAY 1994

Mr. Larry M. Girvin
Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

Dear Mr. Girvin:

The Fifth Coast Guard District will continue its agreement to respond to an emergency at the Surry Power Station. Coast Guard assistance during an emergency will primarily consist of controlling vessel traffic on the James River in the vicinity of the power station, broadcasting notice to mariners regarding the emergency, and rendering other traditional humanitarian aid.

The initial emergency report and request for Coast Guard assistance should be directed to the Marine Safety Office, Hampton Roads, Virginia, 24-hour telephone number (804) 441-3314. The alternate unit to whom the report can be made is the Fifth Coast Guard District Operations Center, 24-hour telephone number (804) 398-6231.

The commitment of Coast Guard resources in any particular instance is always conditional upon the availability and limitations of such resources, including consideration of other competing demands. Of paramount concern to me is the safety of Coast Guard personnel while assisting in these instances. Coast Guard response personnel do not have radiological monitoring capabilities.

Each of our organizational elements involved has a copy of your emergency plan. To remain current and effective, it is important that four copies of all subsequent revisions be forwarded to the above address for distribution within our organization.

Sincerely,

W. T. LELAND
Rear Admiral, U.S. Coast Guard
Commander, Fifth Coast Guard District

COMMONWEALTH of VIRGINIA

Department of Emergency Services

A. E. SLAYTON, JR.
State Coordinator

Keith R. Keister
Deputy Coordinator

310 Turner Road
Richmond, Virginia 23225-6491
(804) 674-2499
(TDD) 674-2417

March 17, 1994

Mr. Larry M. Girvin
Vice President, Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

Reference is made to your letter of March 11, 1994, regarding the need to update our Letter of Agreement in compliance with the federal criteria prescribed by NUREG 0654/FEMA-REP-1.

We have reviewed the North Anna and Surry Power Stations' emergency plans and are assured that they properly interface with the state Radiological Emergency Response Plan (RERP) as well as with the local RERPs, site-specific to either power station. Upon receiving notification of a radiological accident at a Virginia Power nuclear power station, state agencies and local governments will implement their Radiological Emergency Response Plans in accordance with state and local government procedures. Specifically, the Department of Emergency Services (DES) agrees to implement all or parts of the following actions in the event of a radiological emergency at either plant site:

1. Operate the state Emergency Operations Center (EOC).

2. Provide DES on-scene coordinator(s) to the EOF.

3. Provide warning in coordination with other state and local government agencies and the nuclear facility operator.

4. Provide emergency communications.

5. Coordinate emergency response actions of federal and state agencies.

6. Notify the following federal agencies of a radiological emergency:

   a. Federal Emergency Management Agency (FEMA) when the emergency action level at a nuclear power facility is classed as an Alert and provide updated information and request assistance, if required, when the emergency action level is classed as a Site Area Emergency or General Emergency.

   b. Federal Aviation Administration air controllers at Richmond International Airport of a radiological emergency and request that aircraft be instructed to avoid affected airspace until notified otherwise.

   c. Commander, Fifth U.S. Coast Guard District of a radiological emergency at the Surry Power Station and request establishment of traffic control of boats and ships on the James River in the vicinity of the power station.

   d. Fort Eustis in the event of an incident at the Surry Power Station that could effect the health and safety of personnel stationed at this military installation.

7. Notify CSX Transportation of a radiological emergency at the North Anna or Surry Power Station and request that rail service in the affected area be discontinued temporarily.

8. Notify the state Bureau of Radiological Health, Department of Health immediately of all classes of accidents and incidents reported by operators of nuclear facilities.

9. Notify the Virginia Department of Transportation to establish roadblocks and to temporarily terminate ferry service between James City County and Surry County, when appropriate.

10. Notify other state agencies that have emergency task assignments identified in the state RERP.

11. Notify the state of Maryland EOC of radiological accidents at the North Anna Power Station resulting in either a Site Area Emergency or General Emergency. Notify the State of North Carolina EOC of radiological accidents at the Surry Power Station resulting in either a Site Area Emergency or General Emergency.

12. Provide public information, based on information furnished by the Department of Health and the nuclear facility operator.

13. Request assistance from the federal government in accordance with the Federal Radiological Emergency Response Plan (FRERP) and the Federal Response Plan (FRP).

In support of the emergency response actions stated above, we will, on an annual basis, perform the following missions:

1. Assist state agencies and political subdivisions in the development, promotion, and maintenance of plans, procedures, and preparedness programs.

2. Coordinate radiological emergency response training and conduct annual training exercises.

3. Maintain a list of media representatives, including names and telephone numbers, and as necessary, issue news releases respective to emergency operations involving the North Anna and Surry Power Stations.

These actions are authorized by the Governor of Virginia (Executive Order Number Nineteen (90) and are consonant with the Commonwealth of Virginia Emergency Services and Disaster Law of 1973 (Code of Virginia, Chapter 3.2, Title 44) as amended.

Sincerely,

A. E. Slayton, Jr.

AESjr/GOU/sdg

COMMONWEALTH of VIRGINIA

ROBERT B. STROUBE, M.D., M.P.H.
STATE HEALTH COMMISSIONER

Department of Health
P. O. BOX 2448
RICHMOND, VA 23218

April 18, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

We are renewing our commitment to respond to any radiological emergency at either the Surry or North Anna power stations in accordance with the provisions of the Commonwealth of Virginia Radiological Emergency Response Plan (COVRERP). The response of all State agencies is coordinated by the Department of Emergency Services.

If you have any questions or comments regarding these commitments, please contact the Bureau of Radiological Health at (804) 786-5932.

Sincerely,

Suzanne Dandoy MD

for Robert B. Stroube, M.D., M.P.H.
State Health Commissioner

COMMONWEALTH OF VIRGINIA

DEPARTMENT OF STATE POLICE

Lt. Colonel James L. Lettner
Director
Administrative & Support Services

Lt. Colonel Charles M. [illegible]
Director
Field Operations

Post Office Box 1067, Chesapeake, VA 23327-1067

March 21, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

Dear Mr. Girvin:

We have reviewed the Surry Emergency Plans and we will provide all possible assistance in the event of an emergency.

We agree to provide the following support to any emergency that may occur at the Surry Power Station upon the direction of the Department of Emergency Services.

1. Assist local officials in disseminating warning.

2. Assist in evacuation in coordination with local officials.

3. Enforce access/egress provision in controlled areas, when established, in coordination with local officials.

4. Provide traffic control.

5. Assist to the extent possible in radiological monitoring of vehicles and personnel at traffic control points.

Sincerely,

William H. Johnson

Captain William H. Johnson, Jr.
Fifth Division Commander
(AC 804-424-6820)

WHJ:Jr/fs

COMMONWEALTH of VIRGINIA

Department of Game and Inland Fisheries

March 16, 1994

Mr.Larry M. Girvin
Vice President- Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

The Department of Game and Inland Fisheries remains in agreement with emergency response plans for the Surry and North Anna Power Stations. This agency will continue to assist you in any future emergency situations as outlined in your plan to the greatest extent possible at the time any emergency might evolve, just as we have previously agreed.

We agree to provide the support listed in Appendix 1, Task Assignments, Virginia Radiological Emergency Response Plan. These services, of course, will be furnished at the Surry or North Anna Power Station as directed by Emergency Services.

Sincerely,

Larry Hart

Larry G. Hart
Deputy Director,Administration

LGH/JKC/lh

4010 WEST BROAD STREET. P O BOX 11104 RICHMOND. VA 23230-1104
(804) 367-1000 (V TDD) *Equal Opportunity Employment Programs and Facilities* FAX (804) 367-9147

Medical College of Virginia
Virginia Commonwealth University

March 31, 1994

Mr. Larry M. Girvin,
Vice President - Nuclear Services
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

LETTER OF AGREEMENT
NORTH ANNA AND SURRY POWER STATIONS

The Medical College of Virginia Hospitals/Virginia Commonwealth University agrees to participate in the implementation of the Virginia Power Radiation Emergency Plans for the North Anna and Surry Power Stations and to support the plans within the limits of our organizational capabilities.

The Medical College of Virginia/Virginia Commonwealth University agrees to participate in any planning, training and drilling necessary to insure preparedness. We agree that upon verification of an emergency at either station the following services will be provided:

1. Facilities to treat up to four seriously injured and radioactively contaminated patients in the emergency department.
2. Facilities to treat up to ten non-seriously radioactively contaminated patients in the Sanger Hall morgue area.
3. Hospital transportation (stretchers) to move patients from the morgue area to the emergency department.
4. Campus Police to support traffic control and maintain security around the treatment areas.
5. Central services supplies (oxygen, defibrillators, etc.) to support treatment in the morgue area.
6. Monitoring and counting equipment for the detection and analysis of radioactivity or radiation.
7. Decontamination and other supplies necessary for the isolation and treatment of radioactively contaminated patients.

These services will be available 24 hours a day and are outlined in greater detail in the Radiation Emergency Plan. The Radiation Safety Section of the Office of Environmental Health and Safety is responsible for supplying the radiological support services necessary for the implementation of this plan.

Sincerely,

Dr. John E. Jones, Ph.D.
Vice President for Health Sciences

Surry County

P.O. Box 65

Surry, Virginia 23883

March 14, 1994

RAY D. PEACE
Chairman, Board of Supervisors

JOHN CHARLES SAVEDGE
Vice-Chairman

WALTER N. HARDY

REGINALD O. HARRISON

JOSHUA B. SHEARS

TERRY D. LEWIS
County Administrator

Telephone: (804) 294-5271
Fax: (804) 294-5204

"The Countrie it selfe, I must confesse is a very pleasant land, rich in commodities; and fertile in soyle . . ."
-Samuel Argall, ca. 1609

Mr. E. W. Harrell
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Harrell:

We have received your letter of March 11, 1994 indicating a need to revise our agreement with you for your new Surry Emergency Plan.

This letter is to inform you that we are willing to participate in the Emergency Plan by providing the following:

1. Operate the County Emergency Operations Center

2. Coordinate the overall emergency response of all county departments and organizations.

3. Serve as the County point-of-contact with State/Federal agencies.

4. With mechanical equipment provided by Virginia Power, give early warning to the public.

5. Coordinate radiological emergency response training

6. Initiate the key county official alert system and notify assisting agencies and departments to evacuate the public from affected areas.

Sincerely,

Ray D. Peace

Ray D. Peace
Chairman, Surry County Board
of Supervisors

RDP/sb

Copy: The Honorable John Charles Savedge
Mr. Terry D. Lewis

Commonwealth of Virginia

COUNTY OF SURRY

SHERIFF'S OFFICE

H.D. BROWN

SHERIFF

SURRY, VIRGINIA 23883

MEMBER

(804) 294-5264

March 14, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin,

In reference to your letter of March 11, 1994, the Surry County Sheriff's Office agrees to respond to any emergency at the Surry Power Station in accordance with the Surry Emergency Plan.

The Sheriff's Office is capable of providing the following services:

1. Receive the notification of the radiological emergency and notify the County Coordinator or his designated representatives.

2. Warn key County officials and agencies assigned a radiological emergency responsibility.

3. Warn the public.

4. Evacuate the public from the area affected upon notification from the County Coordinator of Emergency Services.

5. Establish traffic control.

6. Conduct initial radiological monitoring in accordance to Appendix 6 of the Surry County RERP.

7. Enforce access/egress control provisions, when established, in coordination with the State Police.

8. Operate the Emergency Communications Center.

Respectfully,

H. D. Brown
Sheriff

SURRY VOLUNTEER RESCUE SQUAD INC.

April 5, 1994

Mr. Larry M. Girvin
Vice President-Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin,

I have received your letter dated March 11, 1994, regarding "Letters of Agreement" supporting the Surry Power Station Emergency Plan.

This letter is to inform you that we are in agreement with the Surry Emergency Plan and are willing to support it should the occasion arise.

Accordingly, I here by submit the following agreement:

> We are in agreement with the Virginia Power Surry Power Station Emergency Plan and will respond to it within the capabilities of our organization, should our services be requested.

Respectfully,

Debbie P. Livesay

Debbie P. Livesay
Surry Volunteer Rescue Squad, Inc.

DPL/mhj

SERVICES:	Emergency Medical Care and Transportation
EQUIPMENT:	Three(3) Ambulances-Capacity 6 persons One (1) Light Duty Rescue Truck Twenty - five members
RESPONSE TIME:	15 Minutes

P.O. Box 188, Surry, Virginia 23883

Surry Volunteer Fire Department, Inc.
25 Bank Street • P. O. Box 260
Surry, Virginia 23883

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

May 4, 1994

Dear Mr. Girvin:

This letter is in response to your letter of March 11, 1994 indicating that it is necessary to revise our agreement with your emergency plan and if we will support the Surry Power Station Emergency Plan if requested.

This letter is to inform you that we are in agreement with the Surry Emergency Plan and are willing to support it should the occasion arise.

Accordingly, I hereby submit the following **AGREEMENT**:

We are in agreement with Virginia Power Company's Surry Power Station Emergency Plan and will respond to it within the capabilities of our organization should our services be requested.

Services: Fire Protection and Emergency Assistance

Equipment:
(1) 1,000 GPM Pumper, 1,000 gallons water
(1) 750 GPM Pumper, 750 gallons water
(1) 500 GPM Pumper, 500 gallons water
(1) Brush truck, 250 GPM with 250 gallons water (4WD)
(1) 1,300 gallon tanker
(1) Equipment supply van

Personnel: 36 members

Response Time: 15 minutes

Sincerely,

William M. Rollings, Jr.
Fire Chief

COUNTY of ISLE OF WIGHT

THE COURTHOUSE

May 20, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

A request has been made by your company to update the existing letter of agreement which specifies the arrangement for the exchange of information by agencies agreeing to respond to any emergencies at the Surry Power Station. This letter serves to update our previous letter of agreement that Isle of Wight County is willing to participate in the emergency plan if required and we are capable of providing the following services:

- Operate the County Emergency Operations Center
- Coordinate the overall emergency responses of the County
- Serve as the County point of contact with State and Federal agencies
- Provide public information
- Coordinate radiological emergency response training
- Provide secondary fire response
- Provide staging for radiological monitoring within the 10 mile radius.

Yours very truly,

Myles E. Standish
County Administrator

cc: Lt. Riddle Hines, Isle of Wight County Sheriff's Department, Emergency Services Coordinator
Don Robertson, Assistant to the County Administrator

P.O. BOX 80 • ISLE OF WIGHT • VIRGINIA 23397 • (804) 357-3191

SHERIFF'S DEPARTMENT

COUNTY OF ISLE OF WIGHT
COMMONWEALTH OF VIRGINIA

C. W. PHELPS
SHERIFF

March 14, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
VIRGINIA POWER
5000 Dominion Boulevard
Glen Allen, VA 23060

Dear Mr. Girvin:

I am happy to comply with your request to update our LETTER OF AGREEMENT with your emergency plan. We are in agreement with said plan and willing to participate in this, if required, and are capable of providing the following services:

1) Receive and verify the notification of the radiological emergency.
2) Warn key county officials and other agencies assigned to radiological emergency responsibility.
3) Warn the public.
4) Evacuate the public from the area(s) affected.
5) Traffic control
6) Conduct initial radiological monitoring.
7) Access/egress control in coordination with the State Police.
8) Operate the Emergency Communications Center.

Sincerely,

C. W. Phelps
Sheriff

CWP:ebs

cc: Lt. Riddle Hines
Emergency Services Coordinator

P.O. BOX 75 • ISLE OF WIGHT, VIRGINIA 23397
OFFICE: SMITHFIELD 357-2151 • WINDSOR 242-6114 • FRANKLIN 562-3275 • RESIDENCE: 357-7319

Isle of Wight
Volunteer Rescue Squad

POST OFFICE BOX 97
SMITHFIELD, VIRGINIA 23431

March 23, 1994

Mr. Larry M. Girvin
Vice President-Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

Pursuant to your letter dated March 11, 1994, regarding a need to update our agreement with your emergency plan.

This letter is to inform Virginia Power that our organization is in agreement with the Surry Emergency Plan and are willing to support it, should the need arise.

Accordingly, I hereby submit the following AGREEMENT:

We are in agreement with the Virginia Power's Surry Power Station's Emergency Plan and will respond to it within the capabilities of our organization, should our services be requested.

Signature: John J. Treier
John J. Treier, Captain
Isle of Wight Volunteer
Rescue Squad
P.O. Box 97
Smithfield, Virginia 23430
Date: 3-23-94

SERVICES: Emergency Medical Care and Transportation with Advance Life Support, 24 hours per day.

EQUIPMENT: 4 Ambulances, Class B, 1 Rescue Vehicle, 2 Jaws of Life, 2 MSA Air Packs, 1 Portable Generator, lighting system.

PERSONNEL: 75 Members

RESPONSE TIME: Immediate (20 minutes)

Smithfield
Volunteer Fire Department, Inc.

P.O. Box 117 Smithfield, Va. 23430 Phone 357-3231

March 15, 1994

MR. LARRY M. GIRVIN
VICE PRESIDENT - NUCLEAR SERVICES
VIRGINIA POWER
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

LETTER OF AGREEMENT
SURRY POWER STATION

Per Federal Regulations prescribed in NUREG-0654, Rev 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", please let this letter serve as our agreement to send one engine carrying 1,000 gallons of water, with a 1,000 g.p.m. pump, one Officer, and three Firefighters in the event of an emergency at Surry Power Station. If requested this will be followed by a second engine and additional Firefighters.

These responses all depend on daytime availability of Firemen, as this is a Volunteer Fire Department.

Sincerely,

Isaac N. Jones III

Isaac N. Jones, III
Chief

INJIII/smw

Rushmere Volunteer Fire Department

P.O. Box 361
Smithfield, Virginia 23430

March 14, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

This letter is to inform you that we are in agreement with Virginia Power Station Emergency Plan and will respond to it within the capabilities of our organization should our services be requested.

Services:	Fire Protection and Emergency Assistance
Equipment:	One 1250 GPM Pumper, 1000 gallon water One 750 GPM Pumper, 500 gallon water One 750 GPM Pumper, 300 gallon water One Equipment Vehicle
Personnel:	17 Firefighters

Sincerely,

Keith L. Jones

Keith L. Jones
Fire Chief

City Of Newport News

Virginia 23607

Office Of The City Manager

2400 Washington Avenue
(804) 247-8411

March 21, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

Dear Mr. Girvin:

This is in reply to your letter of March 11, 1994, regarding updating the existing "Letter of Agreement" between Virginia Power Company and the City of Newport News pertaining to emergencies at the Surry Nuclear Power Station.

In accordance with Nuclear Regulatory Directive 0654, Rev. 1, and the Commonwealth of Virginia, Radiological Emergency Response Plan (Annex I-V, Vol. II, Commonwealth of Virginia, Emergency Operations Plan), the City of Newport News agrees to the following covenants relative to emergency assistance to the Surry Nuclear Power Station:

STATEMENT OF AGREEMENT

Premise: The mission of the City of Newport News local government is to plan and prepare for response to radiological emergencies to ensure maximum protection of the public with the least possible cost and disruption.

Covenant: The City of Newport News will provide the following services as delineated in the City of Newport News, Radiological Emergency Response Plan. These are, but not limited to:

1. Operate the Emergency Operations Center at 2400 Washington Avenue.

2. Establish and operate an alternate Emergency Operations Center, if required.

3. Serve as the City's point of contact with state and federal agencies.

4. Coordinate the dissemination of information.

5. Coordinate the overall emergency response of the City.

6. If required, locate the Mobile Communications Command Post vehicle with communications equipment at a selected site.

7. Receive and verify the notification of the radiological emergency responsibility.

8. Warn key officials assigned to radiological emergency responsibility.

9. Warn the public.

10. Evacuate the public from affected area.

11. Provide traffic control.

12. Notify City Fire Department of radiological monitoring needs.

13. Provide access/egress control in coordination with State Police and other law enforcement agencies.

14. Provide personnel to staff radiological teams.

Proviso: Protective action within the Surry Nuclear Power Station will be the responsibility of the facility operator. If requested by the facility operator, the City of Newport News will provide on-site assistance such as ambulance, medical, fire, and police services, as practicable within the capabilities of the City's emergency services, without undue risk to the citizens of Newport News. Further, these services will be provided on the basis that the facility operator shall defend, indemnify, and save harmless the City of Newport News from all claims by third parties for property damage, personnel injury or death which may arise out of the activities of City emergency units while responding to on-site assistance within the boundaries of the Surry Nuclear Power Station.

I trust the above listed information will suffice for the updating of the "Letter of Agreement" relative to the radiological emergencies at the Surry Nuclear Power Station.

If I can be of further assistance, please feel free to contact me or Mr. Jack Williamson, Emergency Services Coordinator, at (804) 247-8606.

Sincerely,

Ed Maroney
City Manager

EEM:lmm

cc: Chief, Fire Department
Chief, Police Department
Coordinator, Emergency Services

COUNTY OF YORK

Department of
Public Safety

Wallace J. Robertson
Director

VIRGINIA

Fire and Rescue Service
911 Communications
Animal Control
Emergency Services

March 15, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

Dear Mr. Girvin:

In response to your letter of March 11, 1994, we have an established Emergency Operation Center (EOC) in the basement of our Courthouse. We continue to update our Radiological Emergency Response Plan Standard Operating Procedures and can:

- operate the County EOC;
- serve as County point-of-contact with state and federal agencies as required;
- coordinate the overall emergency response plan of the County;
- disseminate public information as outlined by the State Department of Emergency Services in our updated Radiological Emergency Response Plan; and
- have available well-trained radiological response personnel and continually add to this group through general refresher courses.

If you have any questions, please contact Wallace J. Robertson, Director of Public Safety, at (804) 890-3600.

Sincerely,

James O. McReynolds

For Daniel M. Stuck
County Administrator

DMS/WJR/ese

126 Ballard Street • P.O. Box 532 • Yorktown, Virginia 23690 • (804) 890-3600 • FAX (804) 890-3609
TDD (804) 890-3300

YORK COUNTY SHERIFF'S OFFICE

P. S. WILLIAMS
SHERIFF, COUNTY OF YORK
(804) 890-3630
FAX 890-3649

"Where independence was won"

DRAWER F
115 BALLARD STREET
YORKTOWN, VIRGINIA
ZIP 23690-0458

March 15, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

Dear Mr. Girvin:

As you have requested in your letter dated March 11, 1994, this letter is to update our agreement with your emergency plan and our participation in the Surry Emergency plan if requested.

We will be capable of providing the following services if requested:

1. Receive and verify the notification of the radiological emergency.
2. Warn key County officials and other agencies assigned a radiological emergency responsibility.
3. Warn the public.
4. Evacuate the public from the area affected.
5. Traffic control.
6. Access/egress control, in coordination with the State Police.
7. Operate the Emergency Communication center.

Sincerely yours,

P. S. Williams

P. S. Williams, Sheriff
County of York

PSW:cj

CITY OF WILLIAMSBURG
Office of the City Manager
401 Lafayette Street, Williamsburg, Virginia 23185
(804) 220-6100 / Fax (804) 220-6109

March 15, 1994

Mr. Larry M. Girvin
Vice-President-Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, Virginia 23060

RE: Letter of Agreement
Surry Power Station

Dear Mr. Girvin:

This is in reply to your letter dated March 11, 1994, requesting an update of our Letter of Agreement concerning the Surry Plan.

This is to inform you that we agree to participate in the Surry Emergency Plan by exchange of information with all agencies responding to an emergency at the Surry Power Station. The city will perform the following functions, as necessary:

1. Operate the City Emergency Operating Center.
2. Coordinate the overall emergency response of the city.
3. Designate a city point of contact when interfacing with other jurisdictions.
4. Issue Public Information releases.
5. Coordinate radiological emergency response training.
6. Receive and verify notification of the radiological emergency.
7. Initiate the key city official alert system.
8. Warn the public.
9. Evacuate the public from the areas affected.

10. Control traffic.
11. Coordinate with the County Office of Emergency Services.

Very truly yours,

Jackson C. Tuttle
City Manager

JCT/syc

cc: T. K. Weiler, Fire Chief

Jamestown·1607
JAMES CITY COUNTY

OFFICE OF COUNTY ADMINISTRATOR
P. O. Box 8784
Williamsburg, Virginia 23187-8784

County Government Center, 101-C Mounts Bay Road
(804)253-6605

April 11, 1994

Mr. Larry M. Girvin
Vice President - Nuclear Services
Virginia Power
5000 Dominion Boulevard
Glen Allen, VA 23060

Dear Mr. Girvin:

Please accept this letter as James City County's intent to comply with NUREG-0654, Rev. 1. James City has developed a response plan to encompass any emergency which should arise at the Surry Nuclear Plant and will cooperate with the plant and the State of Virginia and surrounding jurisdictions should an incident occur.

James City is prepared to carry out the following activities:

1. Operate the County Emergency Operations Center.

2. Coordinate the overall emergency response of the County.

3. Serve as the County point-of-contact with the State and Federal agencies.

4. Disseminate public information.

5. Coordinate radiological emergency response training.

6. Receive and verify notification of the radiological emergency.

7. Alert key County officials and other agencies assigned a radiological emergency response responsibility.

Fax: (804) 253-6833

8. Alert the public "activate sirens".

9. Evacuate the public from the area affected.

10. Traffic control.

11. Conduct initial radiological monitoring.

12. Access/egress control, in coordination with the Police Department.

13. Increase staff in Central Dispatch while incident is in progress.

Sincerely,

David B. Norman
County Administrator

DBN/jcl

APPENDIX 10.2

MCV - VIRGINIA POWER

RADIATION EMERGENCY PLAN

(Maintained under separate cover by Corporate Nuclear

Emergency Preparedness. Available upon request)

APPENDIX 10.3

DEPARTMENT OF ENERGY

FEDERAL RADIOLOGICAL MONITORING AND ASSESSMENT PLAN (FRMAP)

(Maintained under separate cover by Corporate Nuclear

Emergency Preparedness. Available upon request.)

APPENDIX 10.4

EVACUATION TIME STUDY

(Maintained under separate cover by Corporate Nuclear Emergency Preparedness. Available upon request.)

APPENDIX 10.5

EPIP EMERGENCY PLAN

CROSS REFERENCE

EMERGENCY PLAN IMPLEMENTING PROCEDURES		EMERGENCY PLAN SECTION IMPLEMENTED
1.	Emergency Control Procedures	
1.01	Emergency Manager Controlling Procedure	4.2, 5.0, 6.1
1.02	Response to Notification of Unusual Event	4.2, 6.1
1.03	Response to Alert	4.2, 6.1
1.04	Response to Site Area Emergency	4.2, 6.1, 6.3
1.05	Response to General Emergency	4.2, 6.1, 6.3
1.06	Protective Action Recommendations	6.3
2.	Notification Procedures	
2.01	Notification of State and Local Governments	5.4, 6.1
2.02	Notification of NRC	6.1
3.	Augmentation Procedures	
3.02	Activation of Technical Support Center	5.0, 5.2.1
3.03	Activation of Operational Support Center	5.0, 5.2.1
3.04	Activation of Local Emergency Operations Facility	5.0, 5.2.2
4.	Radiological Monitoring and Dose Assessment Procedures	
4.01	Radiological Assessment Director Controlling Procedure	5.2.1.9
4.02	Radiation Protection Supervisor Controlling Procedure	5.2.1.10
4.03	Dose Assessment Team Controlling Procedure	6.2
4.04	Emergency Personnel Radiation Exposure	6.4.1
4.05	Respiratory Protection	6.3.3.1
4.07	Protective Measures	6.3
4.08	Initial Offsite Release Assessment	6.2
4.09	Source Term Assessment	6.2
4.10	Determination of X/Q	6.2
4.13	Offsite Release Assessment with Environmental Data	6.2
4.14	In-Plant Monitoring	5.2.1.20, 6.4.2
4.15	Onsite Monitoring	5.2.1.23, 6.4.2
4.16	Offsite Monitoring	5.2.1.18

EMERGENCY PLAN IMPLEMENTING PROCEDURES		EMERGENCY PLAN SECTION IMPLEMENTED
4.17	Monitoring of Emergency Response Facilities	5.2.1.20
4.18	Monitoring of LEOF	5.2.1.20
4.20	Health Physics Actions for Transport of Contaminated Injured Personnel	6.4.3, 6.4.4
4.21	Evacuation and Remote Assembly Area Monitoring	5.2.1.19, 6.4.2
4.22	Post Accident Sampling of Containment Air	7.3.6
4.23	Post Accident Sampling of Reactor Coolant	7.3.6
4.24	Gaseous Effluent Sampling During an Emergency	6.2
4.25	Liquid Effluent Sampling During an Emergency	6.2
4.26	High Activity Sample Analysis	6.2
4.27	Exposure Control Emergency Response	6.4
4.29	TSC/LEOF Radiation Monitoring System	5.2.1.20
4.30	Use of MIDAS Class A Model	6.2
4.31	Use of MIDAS Class B Model	6.2
4.33	Health Physics Network Communications	5.2.1.17
4.34	Field Team Radio Operator Instructions	6.2
5.	Protective Action Procedures	
5.01	Transportation of Contaminated Injured Personnel	6.4.3
5.03	Personnel Accountability	5.2.1.27, 6.3.2
5.04	Access Control	6.3.2
5.05	Site Evacuation	6.3.2
5.07	Administration of Radioprotective Drugs	6.3.3.3
5.08	Damage Control Guideline	5.2.1.5, 5.2.1.26
5.09	Security Team Leader Controlling Procedure	5.0, 5.2.1.16, 6.2
6.	Recovery and Restoration Procedures	
6.01	Re-entry/Recovery Guideline	9.1

APPENDIX 10.6

NUREG-0654/EMERGENCY PLAN

CROSS REFERENCE

NUREG-0654 CROSS REFERENCE INDEX

SURRY EMERGENCY PLAN

NUREG-0654 REF. SECTION	SEP SECTION NO.
A.1.a	5.3
A.1.b	5.4
A.1.c	Fig.5.4
A.1.d	5.0
A.1.e	5.2,5.4
A.2.a	N/A
A.2.b	N/A
A.3	5.3
A.4	5.2,5.3
B.1	5.1
B.2	5.0,5.2
B.3	5.0
B.4	5.2
B.5	5.2.1, Table 5.1
B.6	Fig. 5.4,
B.7.a thru d	5.3.1, Table 5.2
B.8	5.3.2
B.9	5.3.3,5.4
C.1.a	5.3,5.4
C.1.b	5.4.7
C.1.c	5.4.7
C.2.a	N/A
C.2.b	CERP,5.3
C.3	5.3
C.4	5.3
D.1	4.2
D.2	4.2
D.3	N/A
D.4	N/A
E.1	5.4,6.1
E.2	6.1
E.3	6.1
E.4.a thru n	6.1
E.5	N/A
E.6	6.3.1,7.6
E.7	6.3.1

NUREG-0654 REF. SECTION	SEP SECTION NO.
F.1.a	5.2,5.4,7.2
F.1.b	7.2
F.1.c	7.2
F.1.d	7.2
F.1.e	5.2
F.1.f	7.2
F.2	6.4.3
F.3	8.7
G.1	8.8
G.2	8.8
G.3.a	8.8,7.1.5,CERP
G.3.b	7.1
G.4.a	5.3.1, Table 5.2
G.4.b	5.3.1
G.4.c	8.8
G.5	8.8
H.1	7.1
H.2	7.1
H.3	N/A
H.4	5.2
H.5.a	7.3.1,7.3.3
H.5.b	7.3.2
H.5.c	7.3.4
H.5.d	7.3.5
H.6.a thru c	7.3,7.4
H.7	7.3.2
H.8	7.3.3
H.9	7.1,7.5
H.10	7.5,8.7
H.11	APP. 10.7
H.12	7.1
I.1	4.2
I.2	7.3
I.3.a thru b	6.2
I.4	6.2
I.5	7.3.3,7.3.4
I.6	7.3.2
I.7	7.3.2

NUREG-0654 REF. SECTION	SEP SECTION NO.
I. 8	5.2,7.3.2
I. 9	7.3.2
I. 10	6.3.1
I. 11	N/A
J. 1.a thru d	6.3.2
J. 2	6.3.2
J. 3	6.3.2
J. 4	6.3.2
J. 5	6.3.2
J. 6.a thru c	6.3.3
J. 7	6.1,6.3
J. 8	6.3,APP.10.4
J. 9	N/A
J. 10.a	Fig 7.1,7.2,7.3, APP.10.4
J. 10.b	APP.10.4
J. 10.c	6.3.1
J. 10.d thru l	N/A
J. 10.m	6.3.1
J. 11	N/A
J. 12	N/A
K.1.a thru g	6.4
K.2	6.4
K.3.a-b	5.2,6.4
K.4	N/A
K.5.a thru b	6.4.2
K.6.a thru c	6.4.2
K.7	6.4.2
L.1	6.4
L.2	6.4
L.3	N/A
L.4	6.4
M.1	9.1
M.2	9.0
M.3	9.0
M.4	9.2

NUREG-0654 REF. SECTION	SEP SECTION NO.
N.1.a	8.6
N.1.b	8.6
N.2.a	8.5.1
N.2.b	8.5.2
N.2.c	8.5.3
N.2.d	8.5.4
N.2.e.1	8.5.6
N.2.e.2	8.5.5
N.3.a thru f	8.5, 8.6
N.4	8.6.5
N.5	8.6.5
O.1	8.3
O.1.a	8.4
O.1.b	N/A
O.2	8.3
O.3	6.4
O.4.a thru f	8.3
O.4g	8.4
O.4h	8.4,APP.10.2
O.4i	8.3
O.4j	8.3
O.5	8.3
P.1	8.3
P.2	8.1
P.3	8.1
P.4	8.2
P.5	8.2.3
P.6	APP. 10.1-10.3
P.7	APP. 10.5
P.8	APP. 10.6
P.9	8.9
P.10	8.2.2

APPENDIX 10.7

EMERGENCY KIT CONTENTS

The contents of the nine (9) emergency kits established for use by emergency response personnel at Surry Power Station are specified in this appendix.

COMMUNICATIONS

No specific communications equipment is contained in any kit, but the following radios are available for emergency communication:

Portable - Health Physics Office

Mobile - Selected management and station vehicles

PROCEDURES

Selected EPIPs are positioned in various emergency response locations.

Distribution is specified by Records Management.

EMERGENCY KITS

Contents are specified on the following pages.

EMERGENCY KITS

HP AREA, LEOF, CONTROL ROOM, OSC, TSC

QUANTITY				DESCRIPTION
HP AREA	LEOF	CR/OSC (1 ea.)	TSC	
1	1	1	--	First Aid Kit
2	2	2	--	Flashlight
10	10	10	--	D cell Batteries
24	--	--	--	C cell Batteries
1	1	1	--	Adjustable Wrench
1	1	1	--	Flat Head Screwdriver
1	1	1	--	Phillips Head Screwdriver
1	1	1	--	Channel locks
1	1	1	--	Pliers
1	1	1	--	Pocket knife
2	2	2	--	Mechanical pencils
2	2	2	--	China markers
1	1	1	--	Notebook
10	10	10	--	12"x20" Bag
--	10	10	--	36"x48" Bag
20	20	20	--	Ziplock bag (small)
1	1	1	--	Hemostats
1	1	1	--	10 Mile EPZ/Site Boundary Map
1	--	--	--	Safeguards roof ladder key
--	--	--	2pr	Coveralls
--	--	--	6pr	Rubber gloves
--	--	--	6pr	Cotton Inserts
--	--	--	2pr	Rubber Boots
--	--	--	2	Hoods
--	--	--	4pr	Booties
6	--	--	2	Full-face respirators
6	--	--	2	Iodine canister
1btl	--	--	1btl	Anti-fog
50ft	50ft	50ft	50ft	Barricade rope

EMERGENCY KITS

HP AREA, LEOF, CONTROL ROOM, OSC, TSC

QUANTITY				DESCRIPTION
HP AREA *	LEOF	CR/OSC (1 ea.)	TSC	
4	4	4	4	Radiation signs
4	4	4	4	Contamination signs
1	--	--	--	High Range Ion Chamber Survey Meter
3	--	--	--	Medium Range Ion Chamber Survey Meter
8	--	--	--	Low Range GM Survey Meter
8	--	--	--	Frisker with probe
7	--	--	--	Air sampler (with battery cables, if appropriate)
1	--	--	--	Battery powered air sampler
3	1	1	--	Air sampler head
--	50	--	--	TLD
--	50	--	--	SRD 0 - 1.5R or DAD
--	1	--	--	SRD charger (N/A if DADs used)
100	100	100	--	Smears
10	10	10	--	100 ml Bottle
1 bx	1 bx	1 bx	--	Gelman filters
10	10	10	--	Silver Zeolites
1	1	--	--	Gas chamber

* NOTE: The HP Area Emergency Kit includes supplies (e.g., respirators, iodine canisters, monitoring instrumentation) dedicated for use in other areas.

EMERGENCY KITS FOR OFFSITE AND REMOTE ASSEMBLY AREA (RAA) MONITORING TEAMS

QUANTITY		DESCRIPTION
OFFSITE (3)	RAA	
1	1	First Aid Kit
2	2	Flashlight
10	10	D cell batteries
1	--	Adjustable wrench
1	--	Flat head screwdriver
1	--	Phillips head screwdriver
1	--	Channel locks
1	--	Pliers
1	--	Pocket knife
2	2	Mechanical pencil
2	2	China markers
1	1	Notebook
1	--	Hand shovel
20	--	Ziplock bag (large)
10	10	12"x20" bag
--	10	36"x48" bag
20	--	Ziplock bag (small)
1	1	Hemostats
1	--	10-Mile EPZ/Site Boundary Map
1	--	Switchyard gate keys
--	1	RAA phone cabinet key
2pr	2pr	Coveralls
6pr	6pr	Rubber gloves
6pr	6pr	Cotton inserts
2pr	2pr	Rubber boots
2	2	Hoods
4pr	30pr	Booties
1 btl	--	Anti-fog
--	25	Paper suit

EMERGENCY KITS FOR OFFSITE AND REMOTE ASSEMBLY AREA (RAA) MONITORING TEAMS

QUANTITY		DESCRIPTION
OFFSITE (3)	RAA	
--	50ft	Barricade rope
--	4	Radiation signs
--	4	Contamination signs
1	--	Air sampler head
100	100	Smears
10	--	100 ml bottles
1 bx	--	Gelman filters
10	--	Silver zeolite cartridges
1	--	Gas chambers
2 btls	--	KI tablets

APPENDIX 10.8

EMERGENCY CLASSIFICATION/INITIATING CONDITIONS

MATRIX

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
1. Non-spurious ECCS initiation ABOVE CSD CONDITION	Non-spurious ECCS initiation as validated by Emergency Procedures
2. Mode reduction required by Tech. Spec. Limiting Condition of Operation POWER & HSB	Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO
3. Failure of a safety or relief valve to close after pressure reduction ALL CONDITIONS	• Pressurizer safety or PORV flow as indicated by acoustical or temperature monitoring equipment with RCS subcooling - LESS THAN 30°F OR Excessive flow through Steam Generator Safety, PORV or Decay Heat Release valve indicated by RCS cooldown rate > 50°F per hour
4. Indications or alarms on process or effluent parameters required for incident assessment NOT available ABOVE CSD CONDITION	• Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Containment Gaseous or Particulate Radiation Monitors - NOT OPERABLE with backup grab sample capability - NOT AVAILABLE OR Post Accident instrumentation LESS THAN minimum channels allowable per TS Table 3.7-6

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
5. Failure of meteorological instrumentation required to perform offsite dose calculations ALL CONDITIONS	Loss of meteorological indications from onsite primary AND backup towers for any of the following: • Wind Direction OR Wind Speed OR Stability Class (Sigma Theta and Delta T)
6. Loss of plant communications capability ALL CONDITIONS	Complete failure of: • Station PBX Phone System AND • Station Gai-Tronics System AND • Station UHF Radio System
7. Tech. Spec. Safety Limits for RCS exceeded POWER & HSB	Verification of any Tech. Spec. Safety limit for RCS - EXCEEDED

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
8. RCS leak rate requiring plant shutdown IAW T.S. 3.1.C POWER & HSB	• Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Unidentified RCS leakage Greater Than 1 GPM OR Identified leakage GREATER THAN 10 GPM OR Non-isolable fault of RCS pressure boundary
9. Primary to Secondary leakage- GREATER THAN 1 gpm ABOVE CSD CONDITION	• Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Primary to Secondary leakage - GREATER THAN 1 gpm OR GREATER THAN 500 gal. per day per generator

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
10. Fuel clad damage indication ABOVE CSD CONDITION	• Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO OR High Range Letdown Radiation Monitor RM-CH-118 or -218 indication increases GREATER THAN 1×10^5 cpm within 30 minutes AND remains for at least 15 minutes
11. Spent Fuel Storage Facility accident ALL CONDITIONS	• Verified Spent Fuel Storage Cask seal leakage OR Spent Fuel Storage Cask dropped or mishandled
12. Loss of Containment integrity ABOVE CSD CONDITION	• Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO OR Loss of Containment integrity as indicated OPT-CT-306, CONTAINMENT INTEGRITY VERIFICATIONS FOR: OUTSIDE CTMT MANUAL OR DEACTIVATED VALVES, LMC VALVES, AND THE EQUIPMENT AND PERSONNEL HATCHES

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
13. Effluent release greater than T.S. allowable limit ALL CONDITIONS	a) Any of the following monitors indicate valid readings above the specified value for greater than one hour: • Vent Vent Kaman, RM-VG-131, greater than 2.84×10^4 μCi/sec • Process Vent Kaman, RM-GW-130, greater than 1.70×10^6 μCi/sec • Discharge Tunnel Monitor, RM-SW-120 or RM-SW-220, greater than 1.35×10^4 cpm OR b) HP assessment (sample results or dose projections) indicates greater than T.S. allowable limit OR c) Surry Radwaste Facility Monitor GREATER THAN 100% TS as determined by HP: • Ventilation Stack Noble Gas Monitor (RRM-101) OR • Liquid Effluent Monitor (RRM-131)
14. Transportation of contaminated injured individual to off-site facility ALL CONDITIONS	Contaminated injured individual enroute to off-site facility for treatment
15. Major Secondary line break ABOVE CSD CONDITION	Faulted steam generator as indicated by E-1, Loss of Reactor or Secondary Coolant

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
16. Loss of off-site power or on-site AC power capability ALL CONDITIONS	• Unit Main Generator AND both Emergency Diesel Generators out of service OR Loss of all 34.5KV Reserve Station Service Buses
17. Fire lasting - GREATER THAN 10 minutes ALL CONDITIONS	Fire in the Protected Area or Switchyard which is not under control within 10 minutes after fire fighting efforts begin
18. Security threat, unauthorized attempted entry, or attempted sabotage ALL CONDITIONS	Supervisor Security Shift has initiated applicable Security Contingency Plan Implementing Procedure
19. Bomb threat or discovery ALL CONDITIONS	• Shift Supervisor notified of a bonafide bomb threat OR Shift Supervisor notified of bomb discovery within the Protected Area
20. Aircraft crash or unusual aircraft activity ALL CONDITIONS	• Confirmed notification of aircraft crash within the site boundary OR Unusual aircraft activity in the vicinity of the site as determined by the Shift Supervisor or Supervisor Security Shift
21. Onsite explosion ALL CONDITIONS	Confirmed report of unplanned explosion onsite

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
22. On or nearsite release of toxic or flammable liquids or gases ALL CONDITIONS	Unplanned release of toxic OR flammable agents which may affect safety of station personnel OR equipment
23. Turbine rotating component failure with no casing penetration POWER AND STARTUP	Failure of Turbine/Generator rotating component resulting in unit trip
24. Earthquake detected ALL CONDITIONS	Confirmed earthquake which activates the Event Alarm on the Strong Motion Accelerograph
25. Tornado onsite ALL CONDITIONS	Tornado visually detected onsite
26. Hurricane "Warning" OR hurricane force winds projected onsite within 12 hours ALL CONDITIONS	Confirmation by Air Quality/Meteorological Dept. that Hurricane "Warning" in effect for Surry County OR hurricane force winds (greater than 73 mph) projected onsite within 12 hours.
27. Flood or low water level ALL CONDITIONS	• Flood in the James River GREATER THAN +12 FEET MSL but LESS THAN +21 feet MSL OR Water level in the Surry Power Station Intake Canal LESS THAN 23-1/2 feet AND NOT INCREASING

INITIATING CONDITIONS: NOTIFICATION OF UNUSUAL EVENT

CONDITION/ APPLICABILITY	INDICATION
28. Station conditions which warrant increased awareness of state and/or local authorities ALL CONDITIONS	Shift Supervisor judgement that any of the following exist: • Intentional reduction in Power, Load or Temperature because the unit has entered an Action Statement or will exceed a Limiting Condition for Operation OR Unit shutdown is other than a controlled shutdown OR Unit is in an uncontrolled condition during operation OR A condition exists that has the potential for escalation and, therefore, warrants notification

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
1. Loss of cooling function needed for Cold Shutdown and Refueling Condition CSD & RSD	• Secondary System Cooling Capability UNAVAILABLE AND • Loss of any of the following systems: • Service Water • Component Cooling • Residual Heat Removal AND • RCS temperature greater than 140°F
2. Trip following ATWT that takes the reactor subcritical POWER & HSB	• Reactor trip setpoint and coincidences - EXCEEDED AND • Failure of RPS to initiate an automatic reactor trip AND • Manual reactor trip from Control Room - SUCCESSFUL
3. All main board annunciator alarms and unit computer lost POWER & HSB	• Simultaneous loss of all annunciator alarms on panels "A" to "K" AND • Loss of unit computer
4. Evacuation of Main Control Room required ALL CONDITIONS	Evacuation of the Control Room with stable shutdown control established within 15 minutes

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
5. RCS leak rate exceeds 50 gpm ABOVE CSD CONDITION	• Primary system leak determined to be - GREATER THAN 50 gpm AND • Pressurizer level can be - RESTORED AND MAINTAINED
6. RCP locked rotor leading to fuel damage POWER	• Flow in one or more RC loops LESS THAN 90% AND • RCP trip caused by Phase Overcurrent Relay - ACTUATION AND • High Range Letdown Radiation Monitor (RM-CH-118, -218) indication increases to GREATER THAN $5x10^5$ cpm
7. Excessive Primary to Secondary leakage with loss of offsite power ABOVE CSD CONDITION	• Intentional reduction in Power, Load or Temperature because the unit has entered an Action Statement or will exceed a Limiting Condition for Operation AND • Primary to Secondary leakage GREATER THAN 1 gpm OR GREATER THAN 500 gal. per day per generator AND • Zero volts for 4160V busses D, E & F

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
8. Gross Primary to Secondary leakage ABOVE CSD CONDITION	E-3, Steam Generator Tube Rupture-IMPLEMENTED
9. Severe Fuel Clad Damage ABOVE CSD CONDITION	• RCS specific activity GREATER THAN 300 μCi/gram dose equivalent I-131 OR High Range Letdown Radiation Monitor (RM-CH-118, -218) indication increases GREATER THAN $5x10^5$ cpm within 30 minutes AND remains for at least 15 minutes
10. Fuel damage accident with release of radioactivity to containment or fuel buildings ALL CONDITIONS	• Verified accident involving damage to irradiated fuel AND • Health Physics confirms fission product release from fuel OR Readings on the Ventilation Vent Kaman Monitor (RM-VG-131) - GREATER THAN $2.8x10^5$ μCi/sec
11. Loss of cask/fuel containment barriers or accidental criticality ALL CONDITIONS	• Verified loss of all cask/fuel containment barriers AND • Health Physics confirms fission product release

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
12. High Containment radiation, pressure and temperature ABOVE CSD CONDITION	• Outside Containment High Range Radiation Monitor (RM-RMS-161, -261) GREATER THAN 24 mR/hr OR Inside Containment High Range Radiation Monitor (RM-RMS-127, -128, -227, -228) GREATER THAN 1.54 R/hr AND • Containment pressure GREATER THAN 17.7 psia OR Containment temperature GREATER THAN 150°F

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
13. High radiation or airborne contamination levels indicate a severe degradation in control of radioactive material ALL CONDITIONS	a) Valid unexpected readings on any of the following monitors have increased by a factor of 1000: • Control Room Area Monitor (RM-RMS-157) • Auxiliary Building Control Area Monitor (RM-RMS-154) • Auxiliary Building Drumming Area Monitor (RM-RMS-155) • Decontamination Building Area Monitor (RM-RMS-151) • Fuel Pit Bridge Area Monitor (RM-RMS-153) • New Fuel Storage Area Monitor (RM-RMS-152) • Laboratory Area Monitor (RM-RMS-158) • Sample Room Area Monitor (RM-RMS-156) OR b) Surry Radwaste Facility reports valid unexpected readings on any of the following monitors have increased by a factor of 1000: • Control Room (RRM-121) • Chemistry Laboratory (RRM-122) • Local Control Panel (RRM-129) • Bitumen Control Room (RRM-130)

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
14. Effluent release greater than 10 times T.S. allowable limit ALL CONDITIONS	a) Any of the following monitors indicate valid readings above the specified value for greater than 15 minutes: • Vent Vent Kaman, RM-VG-131, greater than 2.84×10^5 μCi/sec • Process Vent Kaman, RM-GW-130, greater than 1.70×10^7 μCi/sec • Discharge Tunnel Monitor, RM-SW-120 or RM-SW-220, greater than 1.35×10^5 cpm OR b) HP assessment (sample results or dose projections) indicates greater than 10 times T.S. allowable limit OR c) Surry Radwaste Facility Monitor GREATER THAN 1000% TS as determined by HP: • Ventilation Stack Noble Gas Monitor (RRM-101) OR • Liquid Effluent Monitor (RRM-131)

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
15. Major Secondary line break with Primary to Secondary leakage GREATER THAN 10 gpm ABOVE CSD CONDITION	• Faulted steam generator as indicated by E-1, Loss of Reactor or Secondary Coolant AND • Condenser Air Ejector Radiation Monitor (RM-SV-111, -211) GREATER THAN $1x10^6$ cpm OR Vent Vent Kaman Monitor (RM-VG-131) GREATER THAN $2.84x10^5$ μCi/sec OR Steam Generator Blowdown Radiation Monitor (RM-SS-112, -113 -212, 213) - GREATER THAN 10^5 cpm
16. Loss of all off-site and on-site AC power ALL CONDITIONS	• Ammeters for 4160V Reserve Station Service Buses D, E, & F all - ZERO AMPS AND • Ammeters for 4160V Station Service Buses A, B, & C all - ZERO AMPS AND • Ammeters for 4160V Emergency Buses H and J both - ZERO AMPS
17. Loss of all on-site DC power ALL CONDITIONS	• All Station Battery voltmeters - ZERO VOLTS AND • No light indication available to Reserve Station Service Breakers 15D1, 15E1 and 15F1

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
18. Fire potentially affecting station safety systems ABOVE CSD CONDITION	Fire which has potential for causing a safety system NOT to be operable as defined by T.S.1.0.D and 3.0.2
19. Ongoing Security compromise ALL CONDITIONS	Supervisor Security Shift has notified the Shift Supervisor of a confirmed unneutralized intrusion into the Protected Area
20. Bomb potentially affecting station safety systems ALL CONDITIONS	Shift Supervisor notification of a verified bomb discovered on OR near a safety related system
21. Aircraft crash on the facility ALL CONDITIONS	• Aircraft crash within the Protected Area OR Aircraft crash in Station Switchyard
22. Explosion damage to facility ALL CONDITIONS	Unplanned explosion resulting in damage to plant structure or equipment
23. Entry of toxic or flammable gases or liquids into plant facility ALL CONDITIONS	Uncontrolled release of toxic OR flammable agent which cause: • Evacuation of personnel from plant areas AND • Safety related equipment to be rendered inoperable
24. Missile damage to safety related equipment or structures ABOVE CSD CONDITION	Notification of missile impact causing damage to safety related equipment or structures

INITIATING CONDITIONS: ALERT

CONDITION/ APPLICABILITY	INDICATION
25. Turbine failure with penetration POWER	Failure of Turbine/Generator rotating equipment resulting in casing penetration
26. Earthquake greater than OBE levels ALL CONDITIONS	• Confirmed earthquake which activates Event Alarm on the Strong Motion Accelerograph AND • Safety related equipment is rendered inoperable by earthquake OR AP-37.00, Seismic Event, calculations indicate horizontal motion of 0.07g OR GREATER
27. Tornado striking facility ALL CONDITIONS	Tornado visually detected striking within the Protected Area or Switchyard
28. Hurricane "Warning" AND hurricane force winds projected onsite within 6 hours. ALL CONDITIONS	Confirmation by Air Quality/Meteorological Dept. that Hurricane "Warning" in effect for Surry County AND hurricane force winds (greater than 73 mph) projected onsite within 6 hours.
29. Flood or low water level near design levels ALL CONDITIONS	• Flood in the James River - GREATER THAN +21 feet MSL but LESS THAN +27 feet MSL OR Water level in the Surry Power Station Intake Canal - LESS THAN 23-1/2 feet AND DECREASING
30. Station conditions which warrant precautionary Protective Action Recommendations ALL CONDITIONS	Shift Supervisor/Station Emergency Manager judgement

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
1. Loss of Function needed for unit HSD condition ABOVE CSD CONDITION	a) Inability to attain the minimum required heat sink as indicated by loss of the following: • Main Feedwater System AND • Auxiliary Feedwater AND • Auxiliary Feedwater Crosstie OR b) Loss of High Head flowpath as indicated by loss of the following: • Normal Charging System AND • High Head SI System
2. Failure of the Reactor to trip (ATWT) POWER & HSB	• Reactor trip setpoint and coincidences - EXCEEDED AND • Failure of RPS to initiate an automatic reactor trip AND • Manual reactor trip from Control Room - NOT SUCCESSFUL

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
3. All main board annunciator alarms and unit computer lost for more than 15 minutes during a unit transient POWER & HSB	• Complete loss of all annunciator alarms on panels "A" to "K" AND • Loss of unit computer for GREATER THAN 15 minutes AND • Unit operational transient - IN PROGRESS
4. Evacuation of Main Control Room with control NOT established within 15 minutes ALL CONDITIONS	Evacuation of the Control Room with stable shutdown control NOT established within 15 minutes
5. RCS leak rate exceeds makeup capacity ABOVE CSD CONDITION	• Primary system leak (LOCA) - IN Progress AND • Safety Injection - REQUIRED AND • RCS subcooling based on Core Exit Thermocouples - LESS THAN 30° F OR RCS inventory cannot be maintained based on pressurizer level or RVLIS indication

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
6. Gross Primary to Secondary leakage with loss of offsite power ABOVE CSD CONDITION	• E-3, Steam Generator Tube Rupture, - IMPLEMENTED AND • Loss of offsite power indicated by zero volts for 4160V Buses D, E & F
7. Core damage with possible loss of coolable geometry ABOVE CSD CONDITION	a) Fuel clad failure as indicated by any of the following: • RCS Specific activity - GREATER THAN 60 μCi/gram dose equivalent I-131 OR High Range Letdown Radiation Monitor (RM-CH-118, -218) indication - GREATER THAN $1x10^6$ cpm AND b) Loss of cooling as indicated by any of the following: • 5 confirmed core exit thermocouples - GREATER THAN 1200°F OR Core delta T - ZERO OR Core delta T - RAPIDLY DIVERGING

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
8. Major fuel damage accident with radioactive release to containment or fuel buildings ALL CONDITIONS	• Water level in Rx vessel during refueling - BELOW TOP OF CORE OR Water level in Spent Fuel Pit verified - BELOW TOP OF SPENT FUEL AND • Verified damage to irradiated fuel resulting in readings on Ventilation Vent Kaman Monitor (RM-VG-131) - GREATER THAN 4.2×10^7 μCi/sec
9. High Containment radiation, pressure, and temperature ABOVE CSD CONDITION	• Outside Containment High Range Radiation Monitor (RM-RMS-161, 261) - GREATER THAN 6.3×10^2 mR/hr OR Inside Containment High Range Radiation Monitor (RM-RMS-127, -128, -227, -228) -GREATER THAN 2×10^3 R/hr AND • Containment pressure - GREATER THAN 23 psia and is NOT decreasing OR Containment temperature GREATER THAN 200°F
10. Release imminent or in progress and site boundary doses projected to exceed 0.1 Rem TEDE or 0.5 Rem Thyroid CDE ALL CONDITIONS	HP assessment indicates actual or projected doses at Site Boundary - GREATER THAN 0.1 Rem TEDE or 0.5 Rem Thyroid CDE

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
11. Major Secondary line break with Primary to Secondary leakage GREATER THAN 50 gpm and fuel damage indicated ABOVE CSD CONDITION	• Faulted steam generator as indicated by E-1, Loss of Reactor or Secondary Coolant AND • RCS specific activity GREATER THAN 300 μCi/gram D.E. I-131 OR Letdown High Range Radiation Monitor (RM-CH-118, -218) GREATER THAN $1x10^5$ cpm AND • Condenser Air Ejector Radiation Monitor (RM-SV-111, -211) GREATER THAN $1x10^6$ cpm OR Vent Vent Kaman Monitor (RM-VG-131) GREATER THAN $1.1x10^7$ μCi/sec OR Steam Generator Blowdown Radiation Monitor (RM-SS-112, -113 -212, -213) GREATER THAN $1x10^6$ cpm OR MS Line High Range Radiation Monitor (RM-RI-MS-124, -125, -126, -224, -225, -226) GREATER THAN 1.94 mR/hr

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
12. Loss of off-site and on-site AC power for more than 15 minutes ALL CONDITIONS	The following conditions exist for a period - GREATER THAN 15 minutes • Ammeters for 4160V Reserve Station Service Buses D, E, & F all - ZERO AMPS AND • Ammeters for 4160V Station Service Buses A, B, & C all ZERO AMPS AND • Ammeters for 4160V Emergency Buses H & J both ZERO AMPS
13. Loss of all on-site DC power for - GREATER THAN 15 minutes ALL CONDITIONS	The following conditions exist for a period GREATER THAN 15 minutes: • All station Battery voltmeters - ZERO VOLTS AND • No light indication available to Reserve Station Service Breakers 15D1, 15E1 and 15F1
14. Fire resulting in degradation of safety systems ABOVE CSD CONDITION	• Fire which causes major degradation of a safety system function required for protection of the public AND • Affected systems are caused NOT to be operable as defined by T.S.1.0.D and 3.0.2
15. Imminent loss of physical Station control ALL CONDITIONS	Supervisor Security Shift has notified the Shift Supervisor of imminent intrusion into a Vital Area

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
16. Aircraft damage to vital plant systems ABOVE CSD CONDITION	Aircraft crash adversely affects vital structures by impact or fire
17. Severe explosive damage ABOVE CSD CONDITION	Explosion which results in severe degradation of any systems required for safe shutdown
18. Entry of toxic or flammable gases into plant vital areas ABOVE CSD CONDITION	• Uncontrolled release of toxic OR flammable agents into Vital Areas AND • Evacuation of Vital Area required OR Loss of a safety system function required for protection of the public
19. Severe missile damage to safety systems ABOVE CSD CONDITION	Missile impact causing severe degradation of safety systems required for unit shutdown
20. Earthquake greater than DBE levels ABOVE CSD CONDITION	• Earthquake which activates the Event Alarm on the Strong Motion Accelerograph AND • Safety related systems are significantly degraded by earthquake OR AP-37.00 Seismic Event, calculations indicate horizontal motion of 0.15g OR GREATER

INITIATING CONDITIONS: SITE AREA EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
21. Extreme winds above Design Basis Conditions of 105 mph. ALL CONDITIONS	Extreme winds confirmed onsite which which exceed UFSAR Section 15.2.2 conditions (105 mph.)
22. Flood or low water level above design levels ALL CONDITIONS	• Flood in the James River - GREATER THAN +27 feet MSL OR Water level in the James River LESS THAN -9 feet MSL as indicated by loss of Emergency SW Pump suction
23. Station conditions which warrant activation of emergency facilities, monitoring teams and precautionary Protective Action Recommendations ALL CONDITIONS	Shift Supervisor/Station Emergency Manager judgement

INITIATING CONDITION: GENERAL EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
1. Loss of 2 of 3 fission product barriers with potential loss of 3rd barrier ALL CONDITIONS	Any two of a), b) or c) exist and the third is imminent: a) Fuel clad integrity failure as indicated by any of the following: • RCS specific activity - GREATER THAN OR EQUAL TO 300 μCi/gram OR 5 or more core exit thermocouples reading - GREATER THAN 1200°F OR Inside Containment High Range Radiation Monitor (RM-RMS-127, -128, -227, -228): GREATER THAN $2x10^3$ R/hr OR Outside Containment High Range Gamma Radiation Monitor (RM-RMS-161, -261) reading - GREATER THAN $6.3x10^2$ mR/hr b) Loss of RCS integrity as indicated by any of the following: • PORV failed open OR Loss of Reactor Coolant c) Loss of containment integrity as indicated by any of the following: • Containment pressure GREATER THAN 60 psia AND NOT DECREASING OR T.S. 1.0.G definition of containment integrity

INITIATING CONDITION: GENERAL EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
2. Fuel failure with steam generator tube rupture ALL CONDITIONS	Any two of a), b) or c) exists and the third is imminent: a) Fuel clad integrity failure as indicated by any of the following: • RCS specific activity GREATER THAN 300 μCi/gram dose equivalent I-131 OR 5 or more core exit thermocouples reading - GREATER THAN 1200°F OR Inside Containment High Range Radiation Monitor (RM-RMS-127, -128, -227, -228): GREATER THAN $2x10^3$ R/hr OR Outside Containment High Range Radiation Monitor (RM-RMS-161, -261) reading - GREATER THAN $6.3x10^2$ mR/hr b) S/G tube rupture as indicated by both of the following: • RCS Low Pressure SI - INITIATED AND • E-3, Steam Generator Tube Rupture - IMPLEMENTED c) Loss of Secondary integrity as indicated by: • Steam discharge to atmosphere OR Faulted steam generator as indicated by E-1, Loss of Reactor or Secondary Coolant

INITIATING CONDITION: GENERAL EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
3. Probable large radioactivity release initiated by LOCA with ECCS failure leading to core degradation ABOVE CSD CONDITION	• E-1, Loss of Reactor or Secondary Coolant - IMPLEMENTED AND • RCS specific activity - GREATER THAN 300 μCi/gram dose equivalent I-131 OR Inside Containment High Range Radiation Monitor (RM-RMS-127, -128, -227, -228): GREATER THAN $2x10^3$ R/hr AND • High or Low Head ECCS flow - NOT being delivered to the core
4. Probable large radioactivity release initiated by loss of heat sink leading to core degradation ABOVE CSD CONDITION	• Loss of Main FW system and Condensate System AND • Loss of Auxiliary FW System AND • RHR System - NOT OPERABLE
5. Probable large radioactivity release initiated by failure of protection system to bring reactor subcritical and causing core degradation ABOVE CSD CONDITION	• Reactor nuclear power after a trip remains - GREATER THAN 5% AND • RCS pressure GREATER THAN 2485 psig AND NOT decreasing OR Containment pressure and temperature are RAPIDLY INCREASING

INITIATING CONDITION: GENERAL EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
6. Probable large radioactivity release initiated by loss of AC and all feedwater ABOVE CSD CONDITION	• ECA-0.0, Loss of All AC Power - IMPLEMENTED AND • Turbine Driven Auxiliary Feedwater Pump - NOT OPERABLE AND • Restoration of either the above not likely within 2 hours
7. Probable large radioactivity release initiated by LOCA with loss of ECCS and containment cooling ABOVE CSD CONDITION	• E-1, Loss of Reactor or Secondary Coolant - IMPLEMENTED AND • High OR Low Head ECCS flow NOT being delivered to the core AND • Containment RS sump temperature GREATER THAN 190°F AND NOT DECREASING OR Containment Spray and Recirculation Spray Systems - NOT OPERABLE

INITIATING CONDITION: GENERAL EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
8. Extremely high Containment radiation, pressure and temperature ABOVE CSD CONDITION	• Outside Containment High Range Radiation Monitor (RM-RMS-161, -261) - GREATER THAN $3x10^3$ mR/hr OR Inside Containment High Range Radiation Monitor (RM-RMS-127, -128, -227, -228): GREATER THAN $9x10^3$ R/hr AND • Containment pressure - GREATER THAN 45 psia AND is NOT decreasing OR Containment temperature GREATER THAN 280°F

INITIATING CONDITION: GENERAL EMERGENCY

CONDITION/ APPLICABILITY	INDICATION
9. Release imminent or in progress and site boundary doses projected to exceed 1.0 Rem TEDE or 5.0 Rem Thyroid CDE ALL CONDITIONS	HP assessment indicates actual or projected doses at Site Boundary - GREATER THAN 1.0 Rem TEDE or 5.0 Rem Thyroid CDE
10. Loss of Station physical control ALL CONDITIONS	• Shift Supervisor has been informed that the security force has been neutralized by attack, resulting in loss of physical control of station OR Shift Supervisor has been informed of intrusion into one or more Vital Areas which are occupied or controlled by an aggressor
11. Any major internal or external events which singulary or in combination cause massive damage to station facilities ALL CONDITIONS	Shift Supervisor/Station Emergency Manager judgement

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.01	EMERGENCY MANAGER CONTROLLING PROCEDURE (With 1 Attachment)	33 PAGE 1 of 7

PURPOSE

To initially assess a potential emergency condition and initiate corrective actions.

ENTRY CONDITIONS

Any one of the following:

1. Another station procedure directs initiation of this procedure.
2. A potential emergency condition is reported to the Shift Supervisor.

ENTERED BY
DEC 28 1993
TRC

EFFECTIVE DATE: JANUARY 1, 1994

APPROVAL RECOMMENDED	DATE	APPROVAL	DATE
CHAIRMAN SNSOC	12-23-93	STATION MANAGER	12/23/93

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

* *

CAUTION: Declaration of the highest emergency class for which an Emergency Action Level is exceeded shall be made.

* *

NOTE: The ERFCS is potentially unreliable in the event of an earthquake. Therefore, ERFCS parameters should be evaluated for accuracy should an earthquake occur.

_____ 1 MAKE INITIAL ASSESSMENT:

a) Determine event category using Attachment 1, Emergency Action Level Table Index

b) Review EAL Tab associated with event category

c) Use Control Room monitors, ERFCS, and outside reports to get indications of emergency conditions listed in the EAL Table

d) Verify EAL - EXCEEDED

d) IF EAL NOT exceeded, THEN RETURN TO procedure in effect.

e) Record procedure initiation:

- By: _____

  Date: _____

  Time: _____

f) Initiate a chronological log of events

g) Declare position of Station Emergency Manager

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: Assembly and accountability of personnel may not be desired during certain situations, e.g., security event, adverse weather, etc.	
_____ 2	CHECK CLASSIFICATION - ALERT OR HIGHER:	GO TO Step 3.
	a) Sound emergency alarm and make announcement on station Gai-Tronics system as follows: "(Emergency classification) has been declared due to _____"	
	b) Check if emergency assembly and accountability - PREVIOUSLY CONDUCTED	b) Continue announcement as follows (when appropriate): "All emergency response personnel report to your assigned stations. All other personnel report to your Emergency Assembly Area".
	c) Repeat Steps 2.a and 2.b	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

* *

CAUTION: All further instructions should be continued through unless otherwise directed to hold.

* *

_____ 3 INITIATE SUPPORTING PROCEDURES:

a) Direct Emergency Communicators to initiate the following:

1) EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS

2) EPIP-2.02, NOTIFICATION OF NRC

b) Check if classification announcement made using Gai-Tronics system

b) Notify the following to initiate controlling procedures:

- HP Shift Supervisor: EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE
- Security Shift Supervisor: EPIP-5.09, SECURITY TEAM LEADER CONTROLLING PROCEDURE

c) Check event - TRANSPORT OF CONTAMINATED INJURED PERSONNEL

c) IF event does NOT involve transport of contaminated injured personnel, THEN GO TO Step 4.

d) Implement EPIP-5.01, TRANSPORT OF CONTAMINATED INJURED PERSONNEL (Normally implemented by EAD in TSC)

e) Have HP initiate EPIP-4.20, HEALTH PHYSICS ACTIONS FOR TRANSPORT OF CONTAMINATED INJURED PERSONNEL

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 4	CHECK TSC - ACTIVATED	IF TSC NOT activated, THEN do the following: a) Have STA report to the Control Room. b) Notify Operations Manager-On-Call (OMOC) or Superintendent Operations. c) Evaluate initiation of Operations Department directive for augmenting staff resources during Emergency Plan activation. d) Evaluate having Radiological Assessment Director report to the Control Room.
_____ 5	INITIATE EPIP FOR EMERGENCY CLASSIFICATION IN EFFECT: • **Notification of Unusual Event** - EPIP-1.02, RESPONSE TO NOTIFICATION OF UNUSUAL EVENT • **Alert** - EPIP-1.03, RESPONSE TO ALERT • **Site Area Emergency** - EPIP-1.04, RESPONSE TO SITE AREA EMERGENCY • **General Emergency** - EPIP-1.05, RESPONSE TO GENERAL EMERGENCY	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 6	NOTIFY OFFSITE AUTHORITIES OF EMERGENCY TERMINATION:	
	a) State and local governments (made by LEOF or CEOF when activated)	
	b) NRC	
_____ 7	TERMINATE EMERGENCY:	
	a) Make termination announcement to station personnel that addresses the following: • Emergency termination • Deactivation of facilities • Selective release of personnel • Completion and collection of procedures • Recovery	
	b) Check if initiation of re-entry/recovery procedure - REQUIRED	b) GO TO Step 8.
	c) GO TO EPIP-6.01, RE-ENTRY/RECOVERY GUIDELINES	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 8	TERMINATE EPIP-1.01:	
	• Give completed EPIPs, forms and other applicable records to the Emergency Procedures Coordinator in the TSC	• Give to STA AND Notify Records Management that used EPIPs require replacement.
	• Completed By: _____ Date: _____ Time: _____	

-END-

****

CAUTION: • Declaration of the highest emergency class for which an EAL is exceeded shall be made.

• Emergency Action Levels shall be conservatively classified based on actual or anticipated plant conditions.

****

IF EVENT CATEGORY IS:	GO TO TAB
1. Safety, Shutdown, or Assessment System Event	A
2. Reactor Coolant System Event	B
3. Fuel Failure or Fuel Handling Accident	C
4. Containment Event	D
5. Radioactivity Event	E
6. Contaminated Personnel	F
7. Loss of Secondary Coolant	G
8. Electrical Failure	H
9. Fire	I
10. Security Event	J
11. Hazard to Station Operation	K
12. Natural Events	L
13. Miscellaneous Abnormal Events	M

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Non-spurious ECCS initiation ABOVE CSD CONDITION	Non-spurious ECCS initiation as validated by Emergency Procedures	NOTIFICATION OF UNUSUAL EVENT

NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.

2. Mode reduction required by Tech. Spec. - Limiting Condition for Operation (LCO) POWER & HSB	Intentional reduction in in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO	NOTIFICATION OF UNUSUAL EVENT
3. Loss of Function needed for unit HSD condition ABOVE CSD CONDITION	a) Inability to attain the minimum required heat sink as indicated by loss of the following: • Main Feedwater System AND • Auxiliary Feedwater AND • Auxiliary Feedwater Crosstie OR b) Loss of High Head flowpath as indicated by loss of the following: • Normal Charging System AND • High Head SI System	SITE AREA EMERGENCY

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4.	Loss of cooling function needed for Cold Shutdown and Refueling condition CSD & RSD	• Secondary System cooling capability - UNAVAILABLE AND • Loss of any of the following systems: • Service Water • Component Cooling • RHR AND • RCS temperature GREATER THAN 140° F	ALERT
5.	Failure of a safety or relief valve to close after pressure reduction ALL CONDITIONS	• Pressurizer safety or PORV flow as indicated by acoustical or temperature monitoring equipment with RCS subcooling - LESS THAN 30° F OR Excessive flow through Steam Generator Safety, PORV, or Decay Heat Release valve indicated by RCS cooldown rate - GREATER THAN 50° F per hour	NOTIFICATION OF UNUSUAL EVENT
6.	Failure of the Reactor to trip (ATWT) POWER & HSB	• Reactor trip setpoint and coincidences - EXCEEDED AND • Failure of RPS to initiate an automatic reactor trip AND • Manual reactor trip from Control Room - NOT SUCCESSFUL	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
7. Trip following ATWT that takes the reactor subcritical POWER & HSB	• Reactor trip setpoint and coincidences - EXCEEDED AND • Failure of RPS to initiate an automatic reactor trip AND • Manual reactor trip from Control Room - SUCCESSFUL	ALERT

NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.

8. Indications or alarms on process or effluent parameters required for incident assessment NOT available ABOVE CSD CONDITION	• Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Containment Gaseous or Particulate Radiation Monitors - NOT OPERABLE with backup grab sample capability - NOT AVAILABLE OR • Post-accident instrumentation - LESS THAN minimum channels allowable per T.S. Table 3.7-6	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
9. Failure of meteorological instrumentation required to perform offsite dose calculations ALL CONDITIONS	Loss of meteorological indications from onsite primary AND backup towers for any of the following: • Wind Direction OR • Wind Speed OR • Stability Class (Sigma Theta and Delta T)	NOTIFICATION OF UNUSUAL EVENT
10. Loss of plant communications capability ALL CONDITIONS	Complete failure of the the following: • Station PBX phone system AND • Station Gai-Tronics system AND • Station UHF radio system	NOTIFICATION OF UNUSUAL EVENT
11. All main board annunciator alarms and unit computer lost for more than 15 minutes during a unit transient POWER & HSB	• Complete loss of all annunciator alarms on panels "A" to "K" AND • Loss of unit computer for GREATER THAN 15 minutes AND • Unit operational transient-IN PROGRESS	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
12. All main board annunciator alarms and unit computer lost POWER & HSB	• Simultaneous loss of all annunciator alarms on panels "A" to "K" AND • Loss of unit computer	ALERT
13. Evacuation of Main Control Room with control NOT established within 15 minutes ALL CONDITIONS	Evacuation of the Control Room with stable shutdown control NOT established within 15 minutes	SITE AREA EMERGENCY
14. Evacuation of Main Control Room required ALL CONDITIONS	Evacuation of the Control Room with stable shutdown control established within 15 minutes	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Tech. Spec. Safety Limits for RCS exceeded POWER & HSB	Verification of any Tech. Spec. safety limit for RCS - EXCEEDED	NOTIFICATION OF UNUSUAL EVENT
2. RCS leak rate exceeds makeup capacity ABOVE CSD CONDITION	• Primary system leak (LOCA) - IN PROGRESS AND • Safety Injection - REQUIRED AND • RCS subcooling based on Core Exit Thermocouples - LESS THAN 30° F OR RCS inventory cannot be maintained based on pressurizer level or RVLIS indication	SITE AREA EMERGENCY
3. RCS leak rate exceeds 50 gpm ABOVE CSD CONDITION	• Primary system leak determined to be - GREATER THAN 50 gpm AND • Pressurizer level can be - RESTORED AND MAINTAINED	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.		
4. RCS leak rate requiring plant shutdown IAW T.S. 3.1.C POWER & HSB	• Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Unidentified RCS leakage - GREATER THAN 1 gpm OR Identified leakage - GREATER THAN 10 gpm OR Non-isolable fault of RCS pressure boundary	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. RCP locked rotor leading to fuel damage POWER	• Flow in one or more RCS loops - LESS THAN 90% AND • RCP trip caused by Phase Overcurrent Relay actuation AND • High Range Letdown Radiation Monitor: RM-CH-118 or -218 GREATER THAN 5×10^5 cpm	ALERT
6. Gross Primary to Secondary leakage with loss of offsite power ABOVE CSD CONDITION	• E-3, STEAM GENERATOR TUBE RUPTURE - IMPLEMENTED AND • Loss of offsite power indicated by zero volts for 4160V Buses D, E & F	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
7. Excessive Primary to Secondary leakage with loss of offsite power ABOVE CSD CONDITION	• Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Primary to secondary leakage GREATER THAN 1 gpm OR GREATER THAN 500 gal. per day per generator AND • Zero volts for 4160V buses D, E & F	ALERT
8. Gross Primary to Secondary leakage ABOVE CSD CONDITION	E-3, STEAM GENERATOR TUBE RUPTURE - IMPLEMENTED	ALERT

NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.

9. Primary to Secondary leakage - GREATER THAN 1 gpm ABOVE CSD CONDITION	• Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Primary to Secondary leakage Greater than 1 gpm OR GREATER THAN 500 gal. per day per generator	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
10. Loss of 2 of 3 fission product barriers with potential loss of 3rd barrier ALL CONDITIONS	Any two of a), b) or c) exist and the third is imminent: a) Fuel clad integrity failure as indicated by any of the following: • RCS specific activity - GREATER THAN OR EQUAL TO 300 μCi/gm dose equivalent I-131 OR 5 or more core exit thermocouples - GREATER THAN 1200° F OR CHRRMS (Inside) Containment High Range Radiation Monitor: RM-RMS-127 or -227, RM-RMS-128 or -228: GREATER THAN 2×10^3 R/hr OR Outside Containment High Range Radiation Monitor: RM-RMS-161 or -261: GREATER THAN 6.3×10^2 mR/hr b) Loss of RCS integrity as indicated by any of the following: • PORV failed open OR Loss of reactor coolant c) Loss of containment integrity as indicated by any of the following: • Containment pressure GREATER THAN 60 psia and NOT decreasing OR T.S. 1.0.G definition of containment integrity	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
11. Fuel failure with steam generator tube rupture ALL CONDITIONS	Any two of a), b) or c) exists and the third is imminent: a) Fuel clad integrity failure as indicated by any of the following: • RCS specific activity GREATER THAN OR EQUAL TO 300 μCi/gm dose equivalent I-131 OR 5 or more core exit thermocouples - GREATER THAN 1200° F OR CHRRMS (Inside) Containment High Range Radiation Monitor: RM-RMS-127 or -227, RM-RMS-128 or -228: GREATER THAN 2 x 10^3 R/hr OR Outside Containment High Range Radiation Monitor: RM-RMS-161 or -261: GREATER THAN 6.3 x 10^2 mR/hr b) S/G tube rupture as indicated by both of the following: • RCS low pressure SI - INITIATED AND • E-3, STEAM GENERATOR TUBE RUPTURE - IMPLEMENTED c) Loss of Secondary integrity as indicated by: • Steam discharge to atmosphere OR Faulted steam generator as indicated by E-1, LOSS OF REACTOR OR SECONDARY COOLANT	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Core damage with possible loss of coolable geometry ABOVE CSD CONDITION	a) Fuel clad failure as indicated by any of the following: • RCS Specific activity GREATER THAN 60 μCi/gm dose equivalent I-131 OR High Range Letdown Radiation Monitor: RM-CH-118 or -218 GREATER THAN $1x10^6$ cpm AND b) Loss of cooling as indicated by any of the following: • 5 confirmed core exit thermocouples - GREATER THAN 1200° F OR Core delta T - ZERO OR Core delta T - RAPIDLY DIVERGING	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
2. Severe Fuel Clad Damage ABOVE CSD CONDITION	• RCS specific activity GREATER THAN 300 μCi/gm dose equivalent I-131 OR High Range Letdown Radiation Monitor: RM-CH-118 or -218 Increases GREATER THAN 5×10^5 cpm within 30 minutes AND remains for at least 15 minutes	ALERT

NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.

3. Fuel clad damage indication ABOVE CSD CONDITION	• Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO OR High Range Letdown Radiation Monitor: RM-CH-118 or -218 indication increases GREATER THAN 1×10^5 cpm within 30 minutes AND remains for at least 15 minutes	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Probable large radioactivity release initiated by LOCA with ECCS failure leading to core degradation ABOVE CSD CONDITION	• E-1, LOSS OF REACTOR OR SECONDARY COOLANT - IMPLEMENTED AND • RCS specific activity - GREATER THAN 300 μCI/gm dose equivalent I-131 OR CHRRMS (Inside) Containment High Range Radiation Monitor: RM-RMS-127 or -227, RM-RMS-128 or -228: GREATER THAN 2 x 10^3 R/hr AND • High or Low Head ECCS flow - NOT being delivered to the core	GENERAL EMERGENCY
5. Probable large radioactivity release initiated by loss of heat sink leading to core degradation ABOVE CSD CONDITION	• Loss of Main Feedwater System and Condensate System AND • Loss of Auxiliary Feedwater System AND • RHR System - NOT OPERABLE	GENERAL EMERGENCY

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
6.	Probable large radioactivity release initiated by failure of protection system to bring Rx subcritical and causing core degradation ABOVE CSD CONDITION	• Rx nuclear power after trip remains - GREATER THAN 5% AND • RCS pressure GREATER THAN 2485 psig and NOT decreasing OR Containment pressure and temperature - RAPIDLY INCREASING	GENERAL EMERGENCY
7.	Probable large radioactivity release initiated by loss of AC and all feedwater ABOVE CSD CONDITION	• ECA-0.0, LOSS OF ALL AC POWER - IMPLEMENTED AND • Turbine Driven Auxiliary Feedwater Pump NOT OPERABLE AND • Restoration of either of the above NOT LIKELY within 2 hours	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
8. Probable large radioactivity release initiated by LOCA with loss of ECCS and containment cooling ABOVE CSD CONDITION	• E-1, LOSS OF REACTOR OR SECONDARY COOLANT - IMPLEMENTED AND • High or Low Head ECCS flow NOT being delivered to the core AND • Containment RS sump temperature - GREATER THAN 190°F AND NOT DECREASING OR Containment Spray and Recirculation Spray Systems - NOT OPERABLE	GENERAL EMERGENCY
9. Major fuel damage accident with radioactivity release to containment or fuel buildings ALL CONDITIONS	• Water level in Rx vessel during refueling - BELOW TOP OF CORE OR Water level in Spent Fuel Pit verified - BELOW TOP OF SPENT FUEL AND • Verified damage to irradiated fuel resulting in readings on Ventilation Vent Kaman Monitor: RM-VG-131 GREATER THAN 4.2×10^7 μCi/sec	SITE AREA EMERGENCY

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
10.	Fuel damage accident with release of radioactivity to containment or fuel buildings ALL CONDITIONS	• Verified accident involving damage to irradiated fuel AND • HP confirms fission product release from fuel OR Readings on Ventilation Vent Kaman Monitor: RM-VG-131 GREATER THAN 2.8 x 10^5 μCi/sec	ALERT
11.	Loss of cask/fuel containment barriers or accidental criticality ALL CONDITIONS	• Verified loss of all cask/ fuel containment barriers AND • HP confirms fission product release	ALERT
12.	Spent Fuel Storage Facility accident ALL CONDITIONS	• Verified Spent Fuel Storage Cask seal leakage OR • Spent Fuel Storage Cask dropped or mishandled	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Extremely high Containment radiation, pressure and temperature ABOVE CSD CONDITION	• Outside Containment High Range Radiation Monitor: RM-RMS-161 or -261 GREATER THAN 3.0×10^3 mR/Hr OR CHRRMS (Inside) Containment High Range Radiation Monitor: RM-RMS-127 or -227, RM-RMS-128 or -228: GREATER THAN 9×10^3 R/hr AND • Containment pressure - GREATER THAN 45 psia and is NOT DECREASING OR Containment temperature - GREATER THAN 280° F	GENERAL EMERGENCY
2. High Containment radiation, pressure and temperature ABOVE CSD CONDITION	• Outside Containment High Range Radiation Monitor: RM-RMS-161 or -261 GREATER THAN 6.3×10^2 mR/Hr OR CHRRMS (Inside) Containment High Range Radiation Monitor: RM-RMS-127 or -227, RM-RMS-128 or -228: GREATER THAN 2×10^3 R/hr AND • Containment pressure - GREATER THAN 23 psia and is NOT DECREASING OR Containment temperature - GREATER THAN 200° F	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. High Containment radiation, pressure and temperature ABOVE CSD CONDITION	• Outside Containment High Range Radiation Monitor: RM-RMS-161 or -261 GREATER THAN 24 mR/Hr OR CHRRMS (Inside) Containment High Range Radiation Monitor: RM-RMS-127 or -227, RM-RMS-128 or -228: GREATER THAN 1.54 R/hr AND • Containment pressure - GREATER THAN 17.7 psia OR Containment temperature - GREATER THAN 150° F	ALERT

NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.

4. Loss of Containment integrity ABOVE CSD CONDITION	• Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO OR Loss of containment integrity as indicated by SPT-CT-[illegible] CONTAINMENT INTEGRITY VERIFICATIONS FOR: OUTSIDE CTMT MANUAL OR DEACTIVATED VALVES, LMC VALVES, AND THE EQUIPMENT AND PERSONNEL HATCHES	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Release imminent or in progress and site boundary doses projected to exceed 1.0 Rem TEDE or 5.0 Rem THYROID CDE ALL CONDITIONS	• HP assessment indicates actual or projected doses at or beyond site boundary - GREATER THAN 1.0 Rem TEDE or 5.0 Rem Thyroid CDE	GENERAL EMERGENCY
2. Release imminent or in progress and site boundary doses projected to exceed 100 mrem TEDE or 500 mrem THYROID CDE ALL CONDITIONS	• HP assessment indicates actual or projected doses at or beyond site boundary - GREATER THAN 100 mrem TEDE or 500 mrem Thyroid CDE	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. High radiation or airborne contamination levels indicate a severe degradation in control of radioacative material ALL CONDITIONS	a) Valid unexpected readings on any of the following monitors have increased by a factor of 1000: • Control Room Area — RM-RMS-157 • Auxiliary Building Control Area — RM-RMS-154 • Auxiliary Building Drumming Area — RM-RMS-155 • Decontamination Building Area — RM-RMS-151 • Fuel Pit Bridge Area — RM-RMS-153 • New Fuel Storage Area — RM-RMS-152 • Laboratory Area — RM-RMS-158 • Sample Room Area — RM-RMS-156 OR b) Surry Radwaste Facility reports valid unexpected readings on any of the following monitors have increased by a factor of 1000: • Control Room — RRM-121 • Chemistry Laboratory — RRM-122 • Local Control Panel — RRM-129 • Bitumen Control Room — RRM-130	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Effluent Release GREATER THAN 10 TIMES T.S. allowable limits ALL CONDITIONS	a) Any of the following monitors indicate valid readings above specified value for GREATER THAN 15 minutes: • Vent Vent Kaman Monitor RM-VG-131 GREATER THAN 2.84×10^5 μCi/sec • Process Vent Kaman Monitor RM-GW-130 GREATER THAN 1.7×10^7 μCi/sec • Discharge Tunnel Monitor RM-SW-120 or -220 GREATER THAN 1.35×10^5 cpm OR b) HP assessments (sample results or dose projections) indicate GREATER THAN 1000% T. S. allowable limit OR c) Surry Radwaste Facility Monitor GREATER THAN 1000 % T.S. as determined by HP: • RRM-101, Ventilation Stack Noble GAS monitor OR • RRM-131, Surry Radwaste Facility Liquid Effluent Monitor	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. Effluent Release GREATER THAN T.S. allowable limit ALL CONDITIONS	a) Any of the following monitors indicate valid readings above specified value for GREATER THAN 1 hour: • Vent Vent Kaman Monitor RM-VG-131 GREATER THAN 2.84×10^4 μCi/sec • Process Vent Kaman Monitor RM-GW-130 GREATER THAN 1.7×10^6 μCi/sec • Discharge Tunnel Monitor RM-SW-120 or -220 GREATER THAN 1.35×10^4 cpm OR b) HP assessments (sample results or dose projections) indicate GREATER THAN 100% T. S. allowable limit OR c) Surry Radwaste Facility Monitor GREATER THAN 100 % T.S. as determined by HP: • RRM-101, Ventilation Stack Noble GAS monitor OR • RRM-101, Surry Radwaste Facility Liquid Effluent Monitor	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Transportation of contaminated injured individual to an offsite facility	Contaminated injured individual enroute to offsite facility for treatment	NOTIFICATION OF UNUSUAL EVENT
ALL CONDITIONS		

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Major Secondary line break with Primary to Secondary leakage GREATER THAN 50 gpm and fuel damage indicated ABOVE CSD CONDITION	a) Faulted Steam Generator as indicated by E-1, LOSS OF REACTOR OR SECONDARY COOLANT AND b) RCS specific activity GREATER THAN 300 μCi/gm OR Letdown High Range Monitor RM-CH-118 or -218 GREATER THAN 1 x 10^5 cpm AND c) Condenser Air Ejector Monitor RM-SV-111 or -211 GREATER THAN 1 x 10^6 cpm OR Vent Vent Kaman Monitor RM-VG-131 GREATER THAN 1.1 x 10^7 μCi/sec OR Steam Generator Blowdown Monitor RM-SS-112 or -212 RM-SS-113 or -213 GREATER THAN 1 x 10^6 cpm OR Main Steam Line High Range Monitor RM-RI-MS-124 or -224 RM-RI-MS-125 or -225 RM-RI-MS-126 or -226 GREATER THAN 1.94 mR/hr	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
2. Major Secondary line break with Primary to Secondary leakage GREATER THAN 10 gpm ABOVE CSD CONDITION	a) Faulted Steam Generator as indicated by E-1, LOSS OF REACTOR OR SECONDARY COOLANT AND b) Condenser Air Ejector Monitor RM-SV-111 or -211 GREATER THAN 1×10^6 cpm OR Vent Vent Kaman Monitor RM-VG-131 GREATER THAN 2.84×10^5 μCi/sec OR Steam Generator Blowdown Monitor RM-SS-112 or -212 RM-SS-113 or -213 GREATER THAN 1×10^5 cpm	ALERT
3. Major Secondary line break ABOVE CSD CONDITION	• Faulted Steam Generator as indicated by E-1, LOSS OF REACTOR OR SECONDARY COOLANT	NOTIFICATION OF UNUSUAL EVENT

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1.	Loss of offsite power or onsite AC power capability ALL CONDITIONS	• Unit Main Generator and both Emergency Diesel Generators out of service OR Loss of all 34.5 KV Reserve Station Service Buses	NOTIFICATION OF UNUSUAL EVENT
2.	Loss of off-site and on-site AC power for more than 15 minutes ALL CONDITIONS	The following conditions exist for GREATER THAN 15 minutes: • Ammeters for 4160V Reserve Station Service Buses D, E & F all - ZERO (0) AMPS AND • Ammeters for 4160V Station Service Buses A, B, & C all - ZERO (0) AMPS AND • Ammeters for 4160V Emergency Buses H & J both - ZERO (0) AMPS	SITE AREA EMERGENCY
3.	Loss of all offsite and onsite AC power ALL CONDITIONS	• Ammeters for 4160V Reserve Station Service Buses D, E, & F all - ZERO (0) AMPS AND • Ammeters for 4160V Station Service Buses A, B, & C all - ZERO (0) AMPS AND • Ammeters for 4160V Emergency Buses H & J both - ZERO (0) AMPS	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Loss of all on-site DC power for GREATER THAN 15 minutes ALL CONDITIONS	The following conditions exist for - GREATER THAN 15 minutes: • All Station Battery voltmeters - ZERO (0) VOLTS AND • No light indication available to Reserve Station Service Breakers 15D1, 15E1 and 15F1	SITE AREA EMERGENCY
5. Loss of all onsite DC power ALL CONDITIONS	• All Station Battery voltmeters -ZERO (0) VOLTS AND • No light indication available to Reserve Station Service Breakers 15D1, 15E1, and 15F1	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Fire resulting in degradation of safety systems ABOVE CSD CONDITION	• Fire which causes major degradation of a safety system function required for protection of the public AND • Affected systems are caused NOT to be operable as defined by T.S. 1.0.D and T.S. 3.0.2	SITE AREA EMERGENCY
2. Fire potentially affecting station safety systems ABOVE CSD CONDITION	Fire which has potential for causing a safety system NOT to be operable as defined by T.S. 1.0.D and and T. S. 3.0.2	ALERT
3. Fire lasting GREATER THAN 10 minutes ALL CONDITIONS	Fire in the Protected Area or Switchyard which is not under control within 10 minutes after fire fighting efforts begin	NOTIFICATION OF UNUSUAL EVENT

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1.	Loss of Station physical control ALL CONDITIONS	• Shift Supervisor has been informed that the Security force has been neutralized by attack, resulting in loss of physical control of station OR Shift Supervisor has been informed of intrusion into one or more Vital Areas which are occupied or controlled by an aggressor	GENERAL EMERGENCY
2.	Imminent loss of physical Station control ALL CONDITIONS	Supervisor Security Shift has notified the Shift Supervisor of imminent intrusion into a Vital Area	SITE AREA EMERGENCY
3.	Ongoing Security compromise ALL CONDITIONS	Supervisor Security Shift has notified the Shift Supervisor of a confirmed un-neutralized intrusion into the Protected Area	ALERT
4.	Bomb potentially affecting station safety systems ALL CONDITIONS	Shift Supervisor notified of a verified bomb discovered on or near a safety related system	ALERT
5.	Security threat, unauthorized attempted entry, or attempted sabotage ALL CONDITIONS	Supervisor Security Shift has initiated applicable Security Contingency Plan Implementing Procedures	NOTIFICATION OF UNUSUAL EVENT
6.	Bomb threat or discovery ALL CONDITIONS	• Shift Supervisor notified of a bonafide bomb threat OR Shift Supervisor notified of bomb discovery within the Protected Area	NOTIFICATION OF UNUSUAL EVENT

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1.	Aircraft damage to vital plant systems ABOVE CSD CONDITION	Aircraft crash adversely affects vital structures by impact or fire	SITE AREA EMERGENCY
2.	Aircraft crash on the facility ALL CONDITIONS	• Aircraft crash within the Protected Area OR Aircraft crash in Station Switchyard	ALERT
3.	Aircraft crash or unusual aircraft activity ALL CONDITIONS	• Confirmed notification of aircraft crash within the site boundary OR Unusual aircraft activity in the vicinity of the site as determined by the Shift Supervisor or Supervisor Security Shift	NOTIFICATION OF UNUSUAL EVENT
4.	Severe explosive damage ABOVE CSD CONDITION	Explosion which results in severe degradation of any systems required for safe shutdown	SITE AREA EMERGENCY
5.	Explosion damage to facility ALL CONDITIONS	Unplanned explosion resulting in damage to plant structure or equipment	ALERT
6.	Onsite explosion ALL CONDITIONS	Confirmed report of unplanned explosion onsite	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
7. Entry of toxic or flammable gases or liquids into plant Vital Areas ABOVE CSD CONDITION	• Uncontrolled release of toxic or flammable agents into Vital Areas AND • Evacuation of Vital Area - REQUIRED OR Loss of a safety system function required for protection of the public	SITE AREA EMERGENCY
8. Entry of toxic or flammable gases or liquids into plant facility ALL CONDITIONS	Uncontrolled release of toxic or flammable agent which causes: • Evacuation of personnel from plant areas AND • Safety related equipment to be rendered inoperable	ALERT
9. Onsite or nearsite release of toxic or flammable liquids or gases ALL CONDITIONS	Unplanned release of toxic or flammable agents which may affect safety of Station personnel or equipment	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
10. Severe missile damage to safety systems ABOVE CSD CONDITION	Missile impact causing severe degradation of safety systems required for unit shutdown	SITE AREA EMERGENCY
11. Missile damage to safety related equipment or structures ABOVE CSD CONDITION	Notification of missile impact causing damage to safety related equipment or structures	ALERT
12. Turbine failure with penetration POWER	Failure of turbine/ generator rotating equipment resulting in casing penetration	ALERT
13. Turbine rotating component failure with no casing penetration POWER & STARTUP	Failure of turbine/ generator rotating component resulting in unit trip	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Earthquake GREATER THAN DBE levels ABOVE CSD CONDITION	• Earthquake which activates the Event Alarm on the Strong Motion Accelerograph AND • Safety related systems are significantly degraded by earthquake OR AP-37.00, SEISMIC EVENT, calculations indicate horizontal motion of 0.15g or GREATER	SITE AREA EMERGENCY
2. Earthquake GREATER THAN OBE levels ALL CONDITIONS	• Confirmed earthquake which activates the Event Alarm on the Strong Motion Accelerograph AND • Safety related equipment is rendered inoperable by earthquake OR AP-37.00, SEISMIC EVENT, calculations indicate horizontal motion of 0.07g or GREATER	ALERT
3. Earthquake detected ALL CONDITIONS	Confirmed earthquake which activates the Event Alarm on the Strong Motion Accelerograph	NOTIFICATION OF UNUSUAL EVENT

CONDITIONS/APPLICABILITY	INDICATION	CLASSIFICATION
4. Tornado striking facility ALL CONDITIONS	Tornado visually detected striking within the Protected Area or Switchyard	ALERT
5. Tornado onsite ALL CONDITIONS	Tornado visually detected onsite	NOTIFICATION OF UNUSUAL EVENT
6. Extreme winds above Design Basis Conditions of 105 MPH ALL CONDITIONS	Extreme winds confirmed onsite which exceed UFSAR Section 15.2.2 conditions (105 mph)	SITE AREA EMERGENCY
7. Hurricane "WARNING" AND hurricane force winds projected onsite within 6 hours ALL CONDITIONS	• Confirmation by Air Quality/Meteorological Dept. that Hurricane "WARNING" in effect for Surry County AND Hurricane force winds (GREATER THAN 73 mph) projected onsite within 6 hours	ALERT
8. Hurricane "WARNING" OR hurricane force winds projected onsite within 12 hours ALL CONDITIONS	• Confirmation by Air Quality/Meteorological Dept. that Hurricane "WARNING" in effect for Surry County OR Hurricane force winds (GREATER THAN 73 mph) projected onsite within 12 hours	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
9. Flood or low water level above design levels ALL CONDITIONS	• Flood in the James River - GREATER THAN +27 feet MSL OR Water level in the James River - LESS THAN -9 feet MSL as indicated by loss of Emergency SW Pump suction	SITE AREA EMERGENCY
10. Flood or low water level near design levels ALL CONDITIONS	• Flood in the James River - GREATER THAN +21 feet MSL but LESS THAN +27 feet MSL OR Water level in Surry Power Station Intake Canal - LESS THAN 23 1/2 feet MSL AND DECREASING	ALERT
11. Flood or low water level ALL CONDITIONS	• Flood in the James River - GREATER THAN +12 feet MSL but LESS THAN +21 feet MSL OR • Water level in Surry Power Station Intake Canal - LESS THAN +23 1/2 feet MSL AND NOT INCREASING	NOTIFICATION OF UNUSUAL EVENT

	CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1.	Any major internal or external event which singly or in combination cause massive damage to station facilities ALL CONDITIONS	Shift Supervisor/ Station Emergency Manager judgement	GENERAL EMERGENCY
2.	Station conditions which warrant activation of emergency facilities, monitoring teams and precautionary Protective Action Recommendations ALL CONDITIONS	Shift Supervisor/ Station Emergency Manager judgement	SITE AREA EMERGENCY
3.	Station conditions which warrant precautionary Protective Action Recommendations ALL CONDITIONS	Shift Supervisor/ Station Emergency Manager judgement	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
NOTE: In the event other plant conditions require a shutdown, a NOUE must still be declared on the basis that a shutdown would have been required by the Tech. Spec.		
4. Station conditions which warrant increased awareness of state and/ or local authorities ALL CONDITIONS	Shift supervisor judgment that any of the following exist: • Intentional reduction in power, load, or temperature because the unit has entered an Action Statement or will exceed an LCO OR Unit shutdown is other than a controlled shutdown OR Unit is in an uncontrolled condition during operation OR A condition exists which has the potential for escalation and, therefore, warrants notification	NOTIFICATION OF UNUSUAL EVENT

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.02	RESPONSE TO NOTIFICATION OF UNUSUAL EVENT (With No Attachments)	9
		PAGE 1 of 6

PURPOSE

To provide guidance to the Station Emergency Manager during a Notification of Unusual Event emergency.

ENTRY CONDITIONS

Entry from EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

APPROVAL RECOMMENDED	SNSOC DATE	APPROVAL	APPROVAL DATE	EFFECTIVE DATE
CHAIRMAN SNSOC	10-17-94	STATION MANAGER	10-25-94	11-1-94

CONTINUOUS ACTION PAGE FOR EPIP-1.02

1. IF emergency classification escalates, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to the NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

   NOTE: A written summary is due to the State within 72 hours of the declaration of a Notification of Unusual Event.

3. WHEN 24 hours have passed since the Notification of Unusual Event was declared, THEN have STA initiate written summary report.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: The Shift Supervisor may be relieved as Station Emergency Manager IAW the SPS Emergency Plan.

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- The initial notification of an emergency must be made to State and local governments within 15 minutes following the declaration of the emergency.
- Follow-up reports of emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State.
- A termination notification must always be transmitted following close-out of the event.

_____ 2 MAKE INITIAL OFFSITE NOTIFICATIONS:

- State and local governments
- NRC

_____ 3 CHECK EVENT - CONTAMINATED INJURY REQUIRING OFFSITE TRANSPORT — GO TO Step 5.

_____ 4 INITIATE EPIP-5.01, TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL

1. IF emergency classification escalates, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to the NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

   NOTE: A written summary is due to the State within 72 hours of the declaration of a Notification of Unusual Event.

3. WHEN 24 hours have passed since the Notification of Unusual Event was declared, THEN have STA initiate written summary report.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	EVALUATE STATION OPERATING CONDITIONS: • Evaluate safety of any operating unit(s) • Evaluate need for unit(s) shutdown if emergency conditions so indicate	
_____ 6	CHECK STATUS OF EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	GO TO Step 7.
_____ 7	CHECK RADIOLOGICAL CONDITIONS - STABLE OR IMPROVING	Consult with Supt. Operations and Radiological Assessment Director AND Initiate mitigating actions.
_____ 8	CHECK NEED TO RESTRICT PERSONNEL FROM HAZARDOUS AREAS: a) Sound Emergency Alarm AND Make appropriate announcement using station Gai-Tronics system b) Evaluate posting restricted areas and establishing access control	GO TO Step 9.

CONTINUOUS ACTION PAGE FOR EPIP-1.02

1. IF emergency classification escalates, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to the NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

   NOTE: A written summary is due to the State within 72 hours of the declaration of a Notification of Unusual Event.

3. WHEN 24 hours have passed since the Notification of Unusual Event was declared, THEN have STA initiate written summary report.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 9	CHECK IF ACCOUNTABILITY NEEDED: a) Sound Emergency Alarm AND Make announcement on station Gai-Tronics system as follows: "All personnel report to your Emergency Assembly Areas for accountability" b) Repeat Step 9.a c) Have Security initiate EPIP-5.03, PERSONNEL ACCOUNTABILITY	GO TO Step 10.
_____ 10	CHECK REACTOR(s) - STABLE	Consult with Supt. Operations or OMOC AND Initiate mitigating actions.

CONTINUOUS ACTION PAGE FOR EPIP-1.02

1. IF emergency classification escalates, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to the NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

   NOTE: A written summary is due to the State within 72 hours of the declaration of a Notification of Unusual Event.

3. WHEN 24 hours have passed since the Notification of Unusual Event was declared, THEN have STA initiate written summary report.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 11	CHECK IF STATION EQUIPMENT - DAMAGED:	GO TO NOTE prior to Step 12.
	a) Consult with Supt. Operations and Supt. Maintenance AND Evaluate extent of damage	a) Evaluate with senior maintenance personnel onsite.
	b) Evaluate assistance requirements: • Offsite technical assistance • Additional personnel • Material and equipment	
	c) Initiate emergency repairs as required IAW approved station procedures	

NOTE:
- Follow-up reports of emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State.
- A termination notification must always be transmitted following close-out of the event.

_____ 12	DETERMINE STATUS OF FOLLOW-UP NOTIFICATIONS TO OFFSITE AUTHORITIES: • State and local governments • NRC	
_____ 13	CHECK EMERGENCY ACTION LEVEL TABLE TO VERIFY NOTIFICATION OF UNUSUAL EVENT CLASSIFICATION CORRECT	IF current classification NOT correct, THEN GO TO Step 15.

CONTINUOUS ACTION PAGE FOR EPIP-1.02

1. IF emergency classification escalates, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to the NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

   NOTE: A written summary is due to the State within 72 hours of the declaration of a Notification of Unusual Event.

3. WHEN 24 hours have passed since the Notification of Unusual Event was declared, THEN have STA initiate written summary report.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 14	RETURN TO STEP 3	
_____ 15	CHECK EMERGENCY - TERMINATED: a) Check EALs - WITHIN LIMITS b) Check plant conditions - SAFE AND STABLE c) Check onsite and offsite emergency response personnel - CAN BE RELEASED OR ASSIGNED TO RECOVERY DUTIES	IF emergency NOT terminated, THEN RETURN TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

NOTE: A written summary of the event is due to the State within 72 hours of the declaration of a Notification of Unusual Event.

_____ 16 HAVE STA INITIATE WRITTEN SUMMARY

_____ 17 TERMINATE EPIP-1.02:

a) GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 6

b) Give completed EPIP-1.02, forms and other applicable records to the STA

c) Completed by: _____

Date: _____

Time: _____

-END-

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.03	RESPONSE TO ALERT (With No Attachments)	13
		PAGE 1 of 8

PURPOSE

To provide guidance to the Station Emergency Manager during an Alert.

ENTRY CONDITIONS

Entry from EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

APPROVAL RECOMMENDED	SNSOC DATE	APPROVAL	APPROVAL DATE	EFFECTIVE DATE
CHAIRMAN SNSOC	10-17-94	STATION MANAGER	10-25-94	11-1-94

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: The Shift Supervisor may be relieved as Station Emergency Manager IAW the SPS Emergency Plan.

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- The initial notification of an emergency must be made to State and local governments within 15 minutes following the declaration of the emergency.
- Follow-up reports of emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State.
- A termination notification must always be transmitted following close-out of the event.

_____ 2 MAKE INITIAL OFFSITE NOTIFICATIONS:

- State and local governments
- NRC

_____ 3 CHECK EVENT - CONTAMINATED INJURY REQUIRING OFFSITE TRANSPORT — GO TO Step 5.

_____ 4 INITIATE EPIP-5.01, TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL (normally implemented by EAD in TSC)

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	EVALUATE STATION OPERATING CONDITIONS: • Evaluate safety of any operating unit(s) • Evaluate need for unit(s) shutdown if emergency conditions so indicate	
_____ 6	CHECK EPIP-4.01 - INITIATED: a) Ask RAD about status of EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE b) Verify Onsite Monitoring Team - ACTIVATED	Direct implementation of EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
_____ 7	CHECK RADIOLOGICAL CONDITIONS - STABLE OR IMPROVING	Consult with Radiological Assessment Director and Emergency Operations Director AND Initiate mitigating actions.
_____ 8	CHECK REACTOR(s) - STABLE	Consult with Emergency Operations Director or OMOC AND Initiate mitigating actions.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 9	CHECK IF STATION EQUIPMENT - DAMAGED:	GO TO Step 10.
	a) Consult with Emergency Operations and Maintenance Directors AND Evaluate extent of damage	a) Consult with senior operations and maintenance personnel.
	b) Evaluate assistance requirements: • Offsite technical assistance • Additional personnel • Material and equipment	
	c) Have Emergency Maintenance Director initiate EPIP-5.08, DAMAGE CONTROL GUIDELINE	c) Initiate interim damage control activities.
_____ 10	CHECK NEED TO RESTRICT PERSONNEL FROM HAZARDOUS AREAS:	GO TO Step 11.
	a) Sound Emergency Alarm AND Make appropriate announcement using station Gai-Tronics system	
	b) Evaluate posting restricted areas and establishing access control	

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: • Follow-up reports of emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State. • A termination notification must always be transmitted following close-out of the event.	
_____ 11	DETERMINE STATUS OF FOLLOW-UP NOTIFICATIONS TO OFFSITE AUTHORITIES: • State and local governments (made by LEOF or CEOF when activated) • NRC	
_____ 12	VERIFY ALL PERSONNEL ACCOUNTED FOR IAW EPIP-5.03, PERSONNEL ACCOUNTABILITY	Monitor efforts to find missing personnel.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 13	CHECK SITE EVACUATION - REQUIRED: a) Radiological Assessment Director recommends site evacuation OR Degrading plant conditions such as large fire or toxic release warrant site evacuation b) Evaluate the following: • Onsite dose GREATER THAN 1.0 Rem TEDE or 5.0 Rem Thyroid CDE • Characteristics and direction of the plume • Contamination vs. personnel safety and exposure	GO TO Step 16.
_____ 14	IMPLEMENT EPIP-5.05, SITE EVACUATION (normally implemented by EAD in TSC)	
_____ 15	MAKE EVACUATION NOTIFICATIONS: • Notify State and local governments (notified by LEOF or CEOF when activated) • Notify NRC	
_____ 16	CHECK EMERGENCY EXPOSURE AUTHORIZATION - REQUIRED	GO TO Step 18.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 17	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR INITIATE EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE	
_____ 18	CHECK USE OF BLOCKING AGENT - REQUIRED: • Radiological Assessment Director recommends issuance of radioiodine blocking agent OR • Actual or projected onsite Thyroid CDE - GREATER THAN 25 Rem	GO TO Step 20.
_____ 19	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR INITIATE EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS	
_____ 20	CHECK EMERGENCY ACTION LEVEL TABLE TO VERIFY ALERT CLASSIFICATION CORRECT	IF current classification NOT correct, THEN GO TO Step 22.
_____ 21	RETURN TO STEP 3	
_____ 22	CHECK EMERGENCY - TERMINATED: a) Check EALs - WITHIN LIMITS b) Check plant conditions - SAFE AND STABLE c) Check onsite and offsite emergency response personnel - CAN BE RELEASED OR ASSIGNED TO RECOVERY DUTIES	IF emergency NOT terminated, THEN RETURN TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: A written summary of the event is due to the State within 8 hours of the termination of an Alert.

_____ 23 HAVE STA INITIATE WRITTEN SUMMARY

_____ 24 TERMINATE EPIP-1.03:

a) GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 7

b) Give completed EPIP-1.03, forms and other applicable records to the Emergency Procedures Coordinator in the TSC — b) Give to STA.

c) Completed by: _____

Date: _____

Time: _____

-END-

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.04	RESPONSE TO SITE AREA EMERGENCY (With No Attachments)	13
		PAGE 1 of 8

PURPOSE

To provide guidance to the Station Emergency Manager during a Site Area Emergency.

ENTRY CONDITIONS

Entry from EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

APPROVAL RECOMMENDED	SNSOC DATE	APPROVAL	APPROVAL DATE	EFFECTIVE DATE
CHAIRMAN SNSOC	10-17-94	STATION MANAGER	10-25-94	11-1-94

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: The Shift Supervisor may be relieved as Station Emergency Manager IAW the SPS Emergency Plan.

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- The initial notification of an emergency must be made to State and local governments within 15 minutes following the declaration of the emergency.
- Follow-up reports of emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State.
- A termination notification must always be transmitted following close-out of the event.

_____ 2 MAKE INITIAL OFFSITE NOTIFICATIONS:

- State and local governments (made by LEOF or CEOF when activated)
- NRC

_____ 3 CHECK EVENT - CONTAMINATED INJURY REQUIRING OFFSITE TRANSPORT — GO TO Step 5.

_____ 4 INITIATE EPIP-5.01, TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL (normally implemented by EAD in TSC)

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	EVALUATE STATION OPERATING CONDITIONS: • Evaluate safety of any operating unit(s) • Evaluate need for unit(s) shutdown if emergency conditions so indicate	
_____ 6	CHECK EPIP-4.01 - INITIATED: a) Determine status of EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE b) Determine status of Onsite Monitoring Team(s)	Direct implementation of EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
_____ 7	CHECK RADIOLOGICAL CONDITIONS - STABLE OR IMPROVING	Consult with Radiological Assessment Director and Emergency Operations Director AND Initiate mitigating actions.
_____ 8	CHECK REACTOR(s) - STABLE	Consult with Emergency Operations Director or OMOC AND Initiate mitigating actions.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 9	CHECK IF STATION EQUIPMENT - DAMAGED:	GO TO Step 10.
	a) Consult with Emergency Operations and Maintenance Directors AND Evaluate extent of damage	a) Consult with senior operations and maintenance personnel.
	b) Evaluate assistance requirements: • Offsite technical assistance • Additional personnel • Material and equipment	
	c) Have Emergency Maintenance Director initiate EPIP-5.08, DAMAGE CONTROL GUIDELINE	c) Initiate interim damage control activities.
_____ 10	CHECK NEED TO RESTRICT PERSONNEL FROM HAZARDOUS AREAS:	GO TO Step 11.
	a) Sound Emergency Alarm AND Make appropriate announcement using station Gai-Tronics system	
	b) Evaluate posting restricted areas and establishing access control	

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: • Follow-up reports of emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State. • A termination notification must always be transmitted following close-out of the event.	
_____ 11	DETERMINE STATUS OF FOLLOW-UP NOTIFICATIONS TO OFFSITE AUTHORITIES: • State and local governments (made by LEOF or CEOF when activated) • NRC	
_____ 12	VERIFY ALL PERSONNEL ACCOUNTED FOR IAW EPIP-5.03, PERSONNEL ACCOUNTABILITY	Monitor efforts to find missing personnel.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 13	CHECK SITE EVACUATION - REQUIRED: a) Radiological Assessment Director recommends site evacuation OR Degrading plant conditions such as large fire or toxic release warrant site evacuation b) Evaluate the following: • Onsite dose GREATER THAN 1.0 Rem TEDE or 5.0 Rem Thyroid CDE • Characteristics and direction of the plume • Contamination vs. personnel safety and exposure	GO TO Step 16.
_____ 14	IMPLEMENT SITE EVACUATION IAW EPIP-5.05, SITE EVACUATION (normally implemented by EAD in TSC)	
_____ 15	NOTIFY OFFSITE AUTHORITIES OF EVACUATION: • State and local governments (notified by LEOF or CEOF when activated) • NRC	
_____ 16	CHECK EMERGENCY EXPOSURE AUTHORIZATION - REQUIRED	GO TO Step 18.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 17	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR INITIATE EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE	
_____ 18	CHECK USE OF BLOCKING AGENT - REQUIRED: • Radiological Assessment Director recommends issuance of radioiodine blocking agent OR • Actual or projected onsite Thyroid CDE - GREATER THAN 25 Rem	GO TO Step 20.
_____ 19	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR INITIATE EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS	
_____ 20	CHECK EMERGENCY ACTION LEVEL TABLE AND VERIFY SITE AREA EMERGENCY CLASSIFICATION CORRECT	IF current classification NOT correct, THEN GO TO Step 22.
_____ 21	RETURN TO STEP 3	

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

3. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 22	CHECK EMERGENCY - TERMINATED: a) Check EALs - WITHIN LIMITS b) Check plant conditions - SAFE AND STABLE c) Check onsite and offsite emergency response personnel - CAN BE RELEASED OR ASSIGNED TO RECOVERY DUTIES	IF emergency NOT terminated, THEN RETURN TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.
_____ 23	UPDATE OFFSITE AUTHORITIES AT LEOF OR BY PHONE	

NOTE: A written summary of the event is due to the State within 8 hours of the termination of a Site Area Emergency.

_____ 24	HAVE STA INITIATE WRITTEN SUMMARY	
_____ 25	TERMINATE EPIP-1.04: a) GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 6 b) Give completed EPIP-1.04, forms and other applicable records to the Emergency Procedures Coordinator in the TSC c) Completed by: _____ Date: _____ Time: _____	b) Give to STA.

-END-

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.05	RESPONSE TO GENERAL EMERGENCY (With No Attachments)	15
		PAGE 1 of 8

PURPOSE

To provide guidance to the Station Emergency Manager during a General Emergency.

ENTRY CONDITIONS

Entry from EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

APPROVAL RECOMMENDED	SNSOC DATE	APPROVAL	APPROVAL DATE	EFFECTIVE DATE
CHAIRMAN SNSOC	10-17-94	STATION MANAGER	10-25-94	11-1-94

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: The Shift Supervisor may be relieved as Station Emergency Manager IAW the SPS Emergency Plan.

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- The initial notification of General Emergency and an applicable Protective Action Recommendation (PAR) must be made to the State within 15 minutes following the declaration of the emergency.
- Follow-up reports of the emergency conditions should be provided to the State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State.
- A termination notification must always be transmitted following the close-out of the event.

_____ 2 INITIATE EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS

_____ 3 CHECK EVENT - CONTAMINATED INJURY REQUIRING OFFSITE TRANSPORT — GO TO Step 5.

_____ 4 INITIATE EPIP-5.01, TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL (normally implemented by EAD in TSC)

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	EVALUATE STATION OPERATING CONDITIONS: • Consider safety of any operating unit(s) • Consider need for unit(s) shutdown if emergency conditions so indicate	
_____ 6	CHECK EPIP-4.01 - INITIATED: a) Determine status of EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE b) Verify Onsite Monitoring Team - ACTIVATED c) Verify Offsite Monitoring Team(s) - ACTIVATED	Direct implementation of EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
_____ 7	CHECK RADIOLOGICAL CONDITIONS - STABLE OR IMPROVING	Consult with Radiological Assessment Director and Emergency Operations Director AND Initiate mitigating actions.
_____ 8	CHECK REACTOR(s) - STABLE	Consult with Emergency Operations Director or OMOC AND Initiate mitigating actions.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 9	CHECK IF STATION EQUIPMENT - DAMAGED:	GO TO Step 10.
	a) Consult with Emergency Operations and Maintenance Directors AND Evaluate extent of damage	a) Consult with senior operations and maintenance personnel onsite.
	b) Consider assistance requirements: • Offsite technical assistance • Additional personnel • Material and equipment	
	c) Have Emergency Maintenance Director initiate EPIP-5.08, DAMAGE CONTROL GUIDELINE	c) Initiate interim damage control activities.
_____ 10	CHECK NEED TO RESTRICT PERSONNEL FROM HAZARDOUS AREAS:	GO TO NOTE prior to Step 11.
	a) Sound Emergency Alarm AND Make appropriate announcement using station Gai-Tronics system	
	b) Consider posting restricted areas and establishing access control	

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: • Follow-up reports of the emergency conditions should be provided to State and local governments every 30 minutes or when there are changes in emergency conditions, unless otherwise agreed upon with the State. • A termination notification must always be transmitted following the close-out of the event.	
_____ 11	DETERMINE STATUS OF FOLLOW-UP OFFSITE NOTIFICATIONS: • State and local governments (made by LEOF or CEOF when activated) • NRC	
_____ 12	VERIFY ALL PERSONNEL ACCOUNTED FOR IAW EPIP-5.03, PERSONNEL ACCOUNTABILITY	Monitor efforts to find missing personnel.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 13	CHECK SITE EVACUATION - REQUIRED: a) Radiological Assessment Director recommends site evacuation OR Degrading plant conditions such as a large fire or toxic release warrant a site evacuation b) Evaluate the following: • Onsite dose GREATER THAN 1.0 Rem TEDE or 5.0 Rem Thyroid CDE • Characteristics and direction of the plume • Contamination vs. personnel safety and exposure	GO TO Step 16.
_____ 14	IMPLEMENT SITE EVACUATION IAW EPIP-5.05, SITE EVACUATION (Normally implemented by EAD in TSC)	
_____ 15	MAKE EVACUATION NOTIFICATIONS: • State and local governments (made by LEOF or CEOF when activated) • NRC	
_____ 16	CHECK EMERGENCY EXPOSURE AUTHORIZATION - REQUIRED	GO TO Step 18.

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 17	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR INITIATE EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE	
_____ 18	CHECK USE OF BLOCKING AGENT - REQUIRED: • Radiological Assessment Director recommends issuance of radioiodine blocking agent OR • Actual or projected onsite Thyroid CDE - GREATER THAN 25 Rem	GO TO Step 20.
_____ 19	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR INITIATE EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS	
_____ 20	CHECK PAR - CORRECT: • Refer to EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS AND • Ask RAD for results of EPIP-4.07, PROTECTIVE MEASURES	IF PAR NOT correct, THEN determine correct PAR AND Notify the following agencies: • State EOC (notification made by LEOF or CEOF when activated) • NRC
_____ 21	CHECK EMERGENCY ACTION LEVEL TABLE TO VERIFY GENERAL EMERGENCY CLASSIFICATION CORRECT	IF current classification NOT correct, THEN GO TO Step 23.
_____ 22	RETURN TO STEP 3	

1. IF emergency classification changes, THEN GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.

2. IF plant or radiological conditions change, THEN GO TO EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS, AND re-evaluate Protective Action Recommendation (PAR) for applicability to the changed condition.

3. WHEN SEM relief occurs, THEN do the following:

   a. Review plant conditions, classification basis, and any onsite or offsite protective measures recommended and/or implemented.

   b. Review status and content of notifications made to NRC, State and local governments, and any other government agencies.

   c. Record turnover on Event Log.

   d. Announce turnover.

NOTE:
- The TSC should be activated within about one hour of declaration of an Alert or higher emergency classification.
- The NRC should be notified if an alternate TSC is designated.

4. WHEN SEM relief ready to transfer emergency control function from the Control Room, THEN do the following:

   a. Determine operational readiness of TSC staffing and equipment.

   b. IF SEM relocates from Control Room to TSC, THEN determine if any changes have occurred during transit from Control Room.

   c. Announce turnover of SEM responsibilities and declare TSC activated.

   d. Direct Emergency Communicators to notify offsite authorities of SEM name and location.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 23	CHECK EMERGENCY - TERMINATED: a) Check EALs - WITHIN LIMITS b) Check plant conditions - SAFE AND STABLE c) Check onsite and offsite emergency response personnel - CAN BE RELEASED OR ASSIGNED TO RECOVERY DUTIES	IF emergency NOT terminated, THEN RETURN TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 2.
_____ 24	UPDATE OFFSITE AUTHORITIES AT LEOF OR BY PHONE	

NOTE: A written summary of the event is due to the State within 8 hours of the termination of a General Emergency.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 25	HAVE STA INITIATE WRITTEN SUMMARY	
_____ 26	TERMINATE EPIP-1.05: a) GO TO EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, Step 6 b) Give completed EPIP-1.05, forms and other applicable records to Emergency Procedures Coordinator in the TSC c) Completed by: _____ Date: _____ Time: _____	b) Give to STA.

-END-

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.06	PROTECTIVE ACTION RECOMMENDATIONS (With 3 Attachments)	1
		PAGE 1 of 4

PURPOSE

Give guidance to the Station Emergency Manager or Recovery Manager regarding determination of Protective Action Recommendations.

ENTRY CONDITIONS

Any one of the following:

1. Activation by EPIP-1.05, RESPONSE TO GENERAL EMERGENCY.
2. As directed by the Station Emergency Manager or Recovery Manager.

ENTERED BY
DEC 28 1993
TRC

EFFECTIVE DATE: JANUARY 1, 1994

APPROVAL RECOMMENDED	DATE	APPROVAL	DATE
CHAIRMAN SNSOC	12-23-93	STATION MANAGER	12/23/93

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- The initial notification of General Emergency and an applicable PAR must be made to the State within 15 minutes following declaration of the General Emergency.
- Downwind sectors (primary plus 2 buffer sectors) may be determined from the State/Local Emergency Communicator, facility maps, or Attachment 1, Sector Map.

_____ 2 DETERMINE PROTECTIVE ACTION RECOMMENDATION (PAR):

a) Determine EAL used to classify the General Emergency

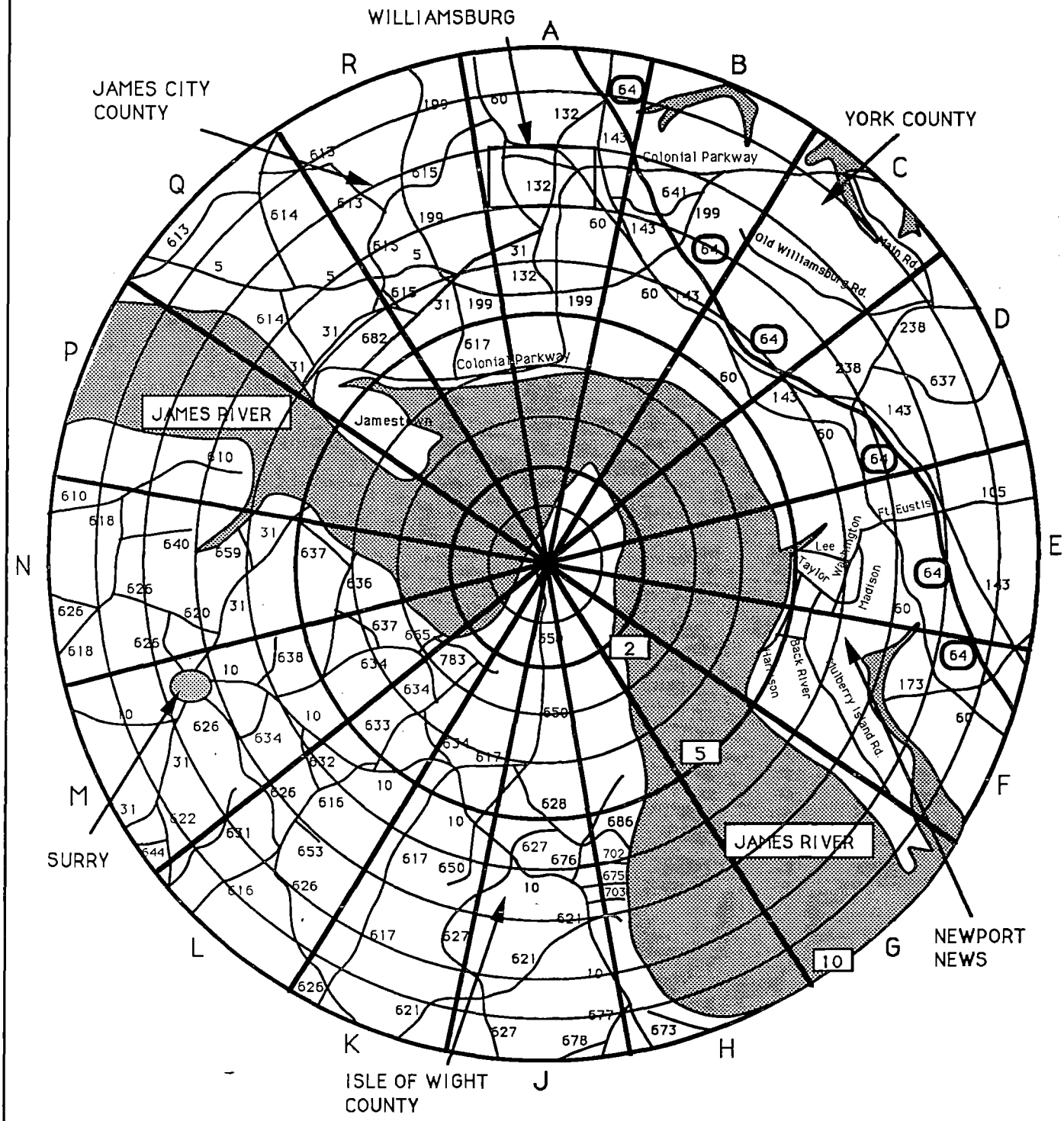
b) Determine downwind sectors

c) Use Attachment 2, Protective Action Recommendation Matrix, to determine Protective Action Recommendation

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 3	COMPLETE ATTACHMENT 3, PROTECTIVE ACTION RECOMMENDATION FORM: a) Fill in Item 1 b) Mark appropriate PAR box in Item 2 AND Fill in spaces for sectors and miles c) Sign and date form	
_____ 4	DIRECT EMERGENCY COMMUNICATORS TO NOTIFY OFFSITE AUTHORITIES OF PAR: • State Emergency Operations Center notified IAW EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS • NRC notified IAW EPIP-2.02, NOTIFICATION OF NRC (notification made from Control Room or TSC, when activated)	
_____ 5	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR/COORDINATOR IMPLEMENT EPIP-4.07, PROTECTIVE MEASURES	
_____ 6	CHECK EMERGENCY - TERMINATED	WHEN any of the following occurs, THEN RETURN TO Step 2: • Conditions on Attachment 2 change OR • Primary sector changes

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 7	TERMINATE EPIP-1.06: • Give completed EPIP-1.06, forms, and other applicable records to TSC Emergency Procedures Coordinator or LEOF Services Coordinator • Completed by:_____ Date:_____ Time:_____ -END-	

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.06	SECTOR MAP	1
ATTACHMENT		PAGE
1		1 of 1



NOTE:
- For situations involving multiple Emergency Action Levels (EALs), the most conservative PAR (the PAR closest to 1) should be used.
- Downwind sectors are defined as primary plus two (2) buffer sectors.

EAL	PROTECTIVE ACTION RECOMMENDATION
B - 10 B - 11 C - 4 C - 5 C - 6 C - 7 C - 8 D - 1 J - 1	Any of the following exist: • Personnel Hatch Monitor: RM-RMS-161 or 261 > 1.5 E+4 mR/hr • Any Cont. Hi Range Monitor: RM-RMS-127 or -227 RM-RMS-128 or -228 > 4.5 E+4 R/hr • Containment pressure: > 60 psia and NOT decreasing • Shift Supv. or SEM judgement that a release path from containment to the environment is likely or has occurred NO → PAR 3: • Evacuate 360° from 0 to 2 miles. • Evacuate downwind sectors from 2 to 5 miles. • Shelter downwind sectors from 5 to 10 miles. • Shelter unaffected sectors from 2 to 10 miles. YES → Is Primary sector R, A, B, E or F NO → PAR 2: • Evacuate 360° from 0 to 5 miles. • Evacuate downwind sectors from 5 to 10 miles. • Shelter unaffected sectors from 5 to 10 miles. YES → PAR 1: • Evacuate 360° from 0 to 5 miles. • Shelter 360° from 5 to 10 miles.
E - 1	PAR 4: • Evacuate 360° from 0 to 2 miles. • Shelter downwind sectors from 2 to 5 miles.
M - 1	PAR 5: • Shelter 360° from 0 to 2 miles. • Shelter downwind sectors from 2 to 5 miles.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.06	PROTECTIVE ACTION RECOMMENDATION FORM	1
ATTACHMENT 3		PAGE 1 of 1

1. DOWNWIND SECTORS: _____, _____, _____

2. PROTECTIVE ACTION RECOMMENDATION:

[ ] No PAR necessary.

[ ] PAR 1:

Evacuate 360° from 0 to 5 miles.
Shelter 360° from 5 to 10 miles.

[ ] PAR 2:

Evacuate 360° from 0 to 5 miles.
Evacuate downwind sectors ____, ____, ____ from 5 to 10 miles.
Shelter unaffected sectors from 5 to 10 miles.

[ ] PAR 3:

Evacuate 360° from 0 to 2 miles.
Evacuate downwind sectors ____, ____, ____ from 2 to 5 miles.
Shelter downwind sectors ____, ____, ____ from 5 to 10 miles.
Shelter unaffected sectors from 2 to 10 miles.

[ ] PAR 4:

Evacuate 360° from 0 to 2 miles.
Shelter downwind sectors ____, ____, ____ from 2 to 5 miles.

[ ] PAR 5:

Shelter 360° from 0 to 2 miles.
Shelter downwind sectors ____, ____, ____ from 2 to 5 miles.

APPROVED BY: _____ _____/_____
SEM or RM Date / Time

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-5.01	TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL (With No Attachments)	12
		PAGE 1 of 4

PURPOSE

To provide instructions to the Station Emergency Manager or Emergency Administrative Director when contaminated injured personnel require transport to an offsite medical facility.

ENTRY CONDITIONS

Any one of the following:

1. Activation by another EPIP.
2. Contaminated injured person(s) require offsite medical treatment.
3. When deemed necessary by the Shift Supervisor or Station Emergency Manager.

ENTERED BY
JUN 15 1994
RSP

APPROVAL RECOMMENDED	DATE	APPROVAL	DATE
CHAIRMAN SNSOC	6-9-94	STATION MANAGER	6/15/94

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____
  Date: _____
  Time: _____

NOTE: It may be desirable to have HP and First Aid Team personnel convey radiological and medical information to hospital personnel.

_____ 2 COLLECT EVENT INFORMATION:

- Time of injury
- Number of injured personnel
- Name(s) of injured personnel
- Employer and department
- Description of event and severity of injuries
- Number of neutron irradiated personnel
- Estimate of dose received/contamination level
- Mode of transportation
- Time of departure from site
- Estimated time of arrival

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: The Medical College of Virginia (MCV) may divert contaminated injured personnel to another hospital.	
_____ 3	NOTIFY MCV WHEN AMBULANCE LEAVES SITE:	
	a) Check if number of injured personnel - LESS THAN 10	a) IF number of injured personnel 10 or more, THEN do the following: 1) Notify MCV Patient Representative ( ) 2) IF an answering service takes the call (after hours), THEN ask that Patient Representative be paged 3) GO TO Step 3.c.
	b) Notify MCV Radiation Safety Officer :	
	• Verify a Radiation Safety Office representative available to take call	• IF an answering service takes the call (after hours), THEN ask that a Radiation Safety Office representative be paged.
	c) Provide hospital personnel with radiological and medical information	
_____ 4	MAKE SURE OFFSITE AUTHORITIES ARE NOTIFIED:	
	• State and local governments (made by LEOF or CEOF when activated)	
	• NRC	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	PROVIDE EVENT INFORMATION TO OMOC (LEOF if emergency response facilities activated)	
	NOTE: EPIP-4.20, HEALTH PHYSICS ACTIONS FOR TRANSPORT OF CONTAMINATED INJURED PERSONNEL, directs the user to notify the Main Control Room of arrival time at the receiving hospital.	
_____ 6	CHECK CONTAMINATED INJURED PERSONNEL ARRIVED AT HOSPITAL	WHEN contaminated injured personnel arrive at hospital, THEN GO TO Step 7.
_____ 7	TERMINATE EPIP-5.01:	
	• Give completed EPIP-5.01, forms and other applicable records to the Emergency Procedures Coordinator in the TSC	• Give to STA.
	• Completed by: _____ Date: _____ Time: _____	

-END-

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.01	RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE (With 1 Attachment)	11
		PAGE 1 of 26

PURPOSE

To initially assess emergency conditions, provide protective measures recommendations, establish an emergency organization and direct Health Physics response to an emergency.

ENTRY CONDITIONS

Activation by EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

APPROVAL RECOMMENDED	SNSOC DATE	APPROVAL	APPROVAL DATE	EFFECTIVE DATE
CHAIRMAN SNSOC	10-17-94	STATION MANAGER	10-18-94	10/20/94

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 1	INITIATE PROCEDURE: • By: _____ Date: _____ Time: _____	
	NOTE: • During the initial stages of an emergency, the Operations Shift Supervisor may assume the Station Emergency Manager (SEM) position and the HP Shift Supervisor may assume the Radiological Assessment Director (RAD) position. The RAD may report to the Control Room if the TSC is not activated. • Notification of an Alert or higher emergency classification is normally made via Gai-Tronics. The SEM normally informs the RAD of a Notification of Unusual Event declaration via telephone.	
_____ 2	ASK SEM FOR BRIEFING: • Existing plant conditions • Emergency Action Levels (EALs) exceeded • Emergency Classification	
_____ 3	CHECK IF OFFSITE RELEASE - IS OCCURRING OR HAS OCCURRED	GO TO Step 5.
_____ 4	DIRECT INITIATION OF EPIP-4.30, USE OF MIDAS CLASS A MODEL	IF MIDAS NOT available, THEN evaluate release using desk-top calculations: • EPIP-4.08, INITIAL OFFSITE RELEASE ASSESSMENT • EPIP-4.09, SOURCE TERM ASSESSMENT • EPIP-4.10, DETERMINATION OF X/Q

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	CHECK EMERGENCY CLASSIFICATION - NOTIFICATION OF UNUSUAL EVENT	GO TO Step 7.
_____ 6	CHECK HP SUPPORT - REQUIRED	IF HP support NOT immediately required, THEN standby to provide support AND GO TO Step 7 when support is required OR WHEN emergency is terminated, THEN GO TO Step 29.
_____ 7	EVALUATE ASSIGNING EPIP-4.02, RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE	

NOTE: A Site Area Emergency or General Emergency requires a minimum of 2 Offsite Monitoring Teams in the field. Consideration should be given to having teams prepare vehicles and equipment.

_____ 8	CHECK EVENT - LIMITING FAULT: • LOCA - GO TO NOTE prior to Step 9 • Main Steam Line Rupture - GO TO NOTE prior to Step 10 • Steam Generator Tube Rupture - GO TO Step 11 • Fuel Handling Accident - GO TO NOTE prior to Step 12	GO TO Step 13.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: A LOCA may not initially result in a large release, but may produce a large potential for release from containment.

_____ 9 INITIATE RESPONSE TO LOCA:

a) Ask SEM to evacuate Auxiliary Building and Safeguards

b) Block entry until surveys confirm radiological hazards

c) Evaluate manpower support for Post Accident Containment Air or Reactor Coolant sampling

d) Determine crane wall radiation monitor reading

e) GO TO Step 13

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Potential releases from a Main Steam Line Rupture may develop from Containment, Main Steam Safety or AFWPT exhaust.

_____ 10 INITIATE RESPONSE TO MAIN STEAM LINE RUPTURE:

a) Check station ventilation effluent monitors

b) Ask SEM for the following data:

- Location of steam break
- Status of actual or potential Main Steam Safety Valve lift
- Number valves lifted: _____
- Length of time valves remained open (if lifted):_____(min.)
- AFWPT status
- Main Steam and AFWPT exhaust monitor readings
- Assistance in flow rate (lbs/hr) determination

c) GO TO Step 13

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 11	INITIATE RESPONSE TO STEAM GENERATOR TUBE RUPTURE:	
	a) Ask SEM for the following data: • Status of Air Ejector divert • Number of Main Steam Relief Valves lifted or that may potentially lift:_____ • Length of time valves remained open (if lifted):_____ min. • Assistance in flow rate (lbs/hr) determination • Status of Main Steam supply to AFWPT • Steam Generator Blowdown status	
	b) Check steam supply to AFWPT - ISOLATED	b) <u>IF</u> steam supply to AFWPT <u>NOT</u> isolated, <u>THEN</u> ask SEM to initiate isolation.
	c) Ask SEM to place personnel in Emergency Switchgear Room to report Main Steam and AFWPT exhaust monitor readings	

(STEP 11 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	INITIATE RESPONSE TO STEAM GENERATOR TUBE RUPTURE: (Continued) d) Consider blocking access to the following areas until surveyed: • Service Building Hallway • Turbine Deck • Steam Generator Blowdown Cooler, Turbine Building Basement • Steam Generator Blowdown lines, Auxiliary Building Basement • Relief Valves, Safeguards Roof • AFWPT exhaust, Unit #1 or #2 alleyway • Condensate Polishing Building e) Evaluate sampling: • Steam Generator Blowdowns • Air Ejectors • Main Steams f) GO TO Step 13	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: Analysis of accidents involving decayed spent fuel should include consideration of onsite skin dose due to Kr-85.	
_____ 12	INITIATE RESPONSE TO FUEL HANDLING ACCIDENT:	
	a) Check event - Fuel cask drop or suspected seal leak	a) GO TO Step 12.d.
	b) Evaluate the following: • Access control in affected area • Neutron monitoring • Air sampling to confirm fission product release	
	c) GO TO Step 13	
	d) Do the following for Fuel Handling Accident in Spent Fuel Pool or Containment: 1) Ask SEM to evacuate all non-essential personnel from Fuel Building and affected Containment 2) Isolate purge of affected Containment 3) Consider potential radiological problems with Reactor Cavity or Spent Fuel Clean-up System	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: • Additional manpower may be needed to assist in offsite dose calculations. • Initial offsite release assessments should be made using EPIP-4.30, USE OF MIDAS CLASS A MODEL, to quickly assess the release and to recommend protective measures.	
_____ 13	CHECK EVENT - RADIOLOGICAL RELEASE:	GO TO Step 16.
	a) Initiate effluent sampling if manpower permits	a) Use monitor readings for follow-up assessment.
	b) Give consideration to initiating EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE	
	c) Initiate EPIP-4.30, USE OF MIDAS CLASS A MODEL	c) IF MIDAS NOT available, THEN evaluate release using desk-top calculations: • EPIP-4.08, INITIAL OFFSITE RELEASE ASSESSMENT • EPIP-4.09, SOURCE TERM ASSESSMENT • EPIP-4.10, DETERMINATION OF X/Q
	d) Direct initiation of 40CFR302 EPA Notification Requirements and Reportable Quantity calculations in accordance with normal HP procedures	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 14 VERIFY EMERGENCY CLASSIFICATION:

a) Check results of offsite release assessment at Site Boundary greater than or equal to the following:

- 50 mR/hr TEDE

OR

- 250 mR/hr Thyroid CDE

a) GO TO Step 15.

b) Get estimate of current or potential release duration (hours) from SEM

b) IF estimate NOT available, THEN assume 2 hours.

c) Calculate projected dose:

Duration (hours) x Dose Rate = Projected Dose

d) Confirm emergency classification:

RESULTS OF CALCULATION	EMERGENCY CLASSIFICATION
Projected dose greater than or equal to 1 Rem TEDE or 5 Rem Thyroid CDE	General Emergency
Projected dose greater than or equal to 0.1 Rem TEDE or 0.5 Rem Thyroid CDE	Site Area Emergency
% Technical Specifications greater than or equal to 1000%	Alert
% Technical Specifications greater than 100%	Notification of Unusual Event
Below 100% Technical Specifications	N/A

e) Notify SEM of emergency classification

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 15	DETERMINE OFFSITE PROTECTIVE MEASURES FOR GENERAL OR SITE AREA EMERGENCY CLASSIFICATION: a) Use Site Boundary 2, 5 and 10 mile TEDE and Thyroid CDE doses from EPIP-4.30, USE OF MIDAS CLASS A MODEL b) Initiate EPIP-4.07, PROTECTIVE MEASURES c) Make recommendations to SEM that address the following: • Protective measures offsite • Distance protective measures are required	IF classification - Alert or Notification of Unusual Event, THEN GO TO Step 16. a) IF MIDAS NOT available, THEN use dose rates from desk-top calculations: • EPIP-4.08, INITIAL OFFSITE RELEASE ASSESSMENT • EPIP-4.09, SOURCE TERM ASSESSMENT • EPIP-4.10, DETERMINATION OF X/Q

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: The following step lists response actions that may have to be coordinated by the RAD. These actions are not listed in order of priority.	
_____ 16	EVALUATE HP RESPONSE ACTIONS AND DETERMINE RESPONSES ON A PRIORITY BASIS: • Offsite monitoring: GO TO NOTE prior to Step 17 • Injured contaminated personnel: GO TO NOTE prior to Step 18 • Inplant / Onsite radiological assessment: GO TO NOTE prior to Step 19 • TSC activated, establish organization: GO TO Step 20 • Offsite release assessment: GO TO Step 21 • Evacuate non-essential personnel: GO TO Step 22 • Activate LEOF: GO TO Step 23 • Dosimetry for offsite assistance (Fire, rescue squads): GO TO Step 24 • Relief: GO TO Step 25	WHEN all necessary response actions addressed, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: Plume tracking/offsite monitoring will be the responsibility of the Radiological Assessment Coordinator (RAC) upon LEOF activation.	
_____ 17	EVALUATE NEED FOR OFFSITE MONITORING:	
	a) Consult with Dose Assessment Team Leader: • Meteorological conditions • Number of teams needed • Need for protective clothing • Projected Whole Body and Thyroid dose rates • Respiratory protection • Team location and placement	
	b) Check if TEDE exposure is expected to exceed 10CFR20 annual limits: • Consider placing team further downwind • Consider initiation of EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE	b) GO TO Step 17.c.

(STEP 17 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
17	EVALUATE NEED FOR OFFSITE MONITORING: (Continued)	
	c) Check if Thyroid CDE expected to exceed 25 Rem:	c) GO TO Step 17.d.
	1) Do calculation using concentration (µCi/cc) based on survey results and actual or projected exposure duration (hours): _____µCi/cc x 1.57E+6 x _____hours = _____Rem THY CDE	
	2) Ask SEM for approval to administer radioprotective drugs	
	3) Consider initiation of EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS	
	d) Notify RPS of resource and equipment requirements: • Number teams required • Protective clothing required • Respiratory protection required • Have teams assemble equipment and vehicles AND Have teams notify TSC via radio prior to dispatch	
	e) RETURN TO Step 16	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: First aid considerations must be given priority over decontamination efforts.	
_____ 18	INITIATE RESPONSE TO CONTAMINATED INJURED INDIVIDUAL:	
	a) Determine the following information: • Offsite medical treatment - REQUIRED • Contamination survey confirms personnel contamination • Clothing removal cannot be used to clear individual	
	b) Check data indicates need to transport contaminated personnel to hospital	b) RETURN TO Step 16.
	c) Have RPS initiate EPIP-4.20, HEALTH PHYSICS ACTIONS FOR TRANSPORT OF CONTAMINATED INJURED PERSONNEL	
	d) Have HP representative accompany victim	
	e) RETURN TO Step 16	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Inplant/Onsite monitoring teams shall be used to assess radiological conditions within the site boundary and to accompany Damage Control, Sample Analysis and Post Accident Sample Teams.

_____ 19 INITIATE INPLANT/ONSITE RADIOLOGICAL ASSESSMENT:

a) Consult with RPS:

- Plant conditions
- Equipment failure
- Elevated radiation monitor readings
- Radiological release points, plume direction and affected areas
- Access control points established
- Recent survey results

b) Help RPS select the following:

- Monitoring and sample locations
- Protective clothing and respiratory protection
- Dosimetry and monitoring devices

(STEP 19 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
19	INITIATE INPLANT/ONSITE RADIOLOGICAL ASSESSMENT: (Continued)	
	c) Check if survey results (μCi/cc) and exposure time indicate exposure greater than 25 Rem Thyroid CDE: 1) Do calculation: _____μCi/cc x 1.57E+6 x _____hours = _____Rem THY CDE 2) Consider use of SCBA 3) Ask SEM for approval to administer radioprotective drugs 4) Initiate EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS 5) Get supply of drugs from TSC closet	c) GO TO Step 19.d.
	d) Check if projected TEDE exposure exceeds 10CFR20 Annual Limits: • Initiate EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE	d) GO TO Step 19.e.
	e) Check if entry required to monitor Damage Control Teams: • Brief RPS on planned activity • Verify team briefing prior to dispatch	e) GO TO Step 19.f.

(STEP 19 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
19	INITIATE INPLANT/ONSITE RADIOLOGICAL ASSESSMENT: (Continued)	
	f) Determine if radiological conditions require monitoring of emergency response facilities: • Have RPS initiate EPIP-4.17, MONITORING OF EMERGENCY RESPONSE FACILITIES • Have RPS initiate EPIP-4.18, MONITORING OF LEOF	f) GO TO Step 19.g.
	g) <u>WHEN</u> Post Accident Primary Coolant or Containment Air sample requested, <u>THEN</u> do the following: 1) Determine system to be used: • Normal sampling systems <u>OR</u> • Post Accident Sampling System (results may take up to 3 hours) 2) Notify RPS of preferred sampling system 3) Ask RPS to support Post Accident sampling	g) GO TO Step 19.h.

(STEP 19 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
19	INITIATE INPLANT/ONSITE RADIOLOGICAL ASSESSMENT: (Continued)	
	h) <u>WHEN</u> radiological release and plume direction changes or release increases, <u>THEN</u> do the following: • Notify RPS • Consider need for re-surveys • Direst establishment of new access control points based on revised survey data i) RETURN TO Step 16	h) RETURN TO Step 16.
_____ 20	ESTABLISH EMERGENCY ORGANIZATION:	
	a) Establish Dose Assessment Team: • Assign one team leader and two team members • Assign EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE b) Establish Radiation Protection Supervisor position <u>AND</u> Assign EPIP-4.02, RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE c) RETURN TO Step 16	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 21	REVIEW OFFSITE RELEASE ASSESSMENTS:	
	a) Check radiological monitoring and meteorological parameters available to Dose Assessment Team from ERFCS (MIDAS imports ERFCS automatically)	a) IF parameters NOT available from ERFCS, THEN give completed copy of Attachment 1 to Dose Assessment Team.
	b) Review offsite release assessments	b) RETURN TO Step 16.
	c) RETURN TO Step 14	
_____ 22	EVALUATE NEED TO EVACUATE/SHELTER NON-ESSENTIAL PERSONNEL:	
	a) Determine onsite exposure of non-essential personnel:	
	1) Review plant surveys and samples	
	2) Calculate iodine dose commitment using radioiodine concentration (μCi/cc) based on air sample data and actual or projected exposure duration (hours):	
	_____μCi/cc x 1.57E+6 x _____hours = _____Rem THY CDE	

(STEP 22 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
22	EVALUATE NEED TO EVACUATE/SHELTER NON-ESSENTIAL PERSONNEL: (Continued)	
	b) Check if results indicate onsite exposure of non-essential personnel greater than 1 Rem TEDE or 5 Rem Thyroid CDE	b) Do one of the following: • IF onsite exposure for non-essential personnel greater than or equal to 0.5 Rem TEDE or 1 Rem Thyroid CDE, THEN recommend sheltering AND GO TO Step 22.d OR • IF onsite exposure for non-essential personnel less than 0.5 Rem TEDE or 1 Rem Thyroid CDE, THEN GO TO Step 22.d
	c) Make recommendation to SEM for evacuation of non-essential personnel	
	d) Consider early release of personnel upon Alert if plant conditions appear to degrade	
	e) Do the following if non-essential personnel are to be evacuated: • Review offsite release assessments • Check direction of plume • Determine appropriate evacuation route and remote assembly area	e) RETURN TO Step 16.

(STEP 22 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
22	EVALUATE NEED TO EVACUATE/SHELTER NON-ESSENTIAL PERSONNEL: (Continued) f) Have RPS assign EPIP-4.21, EVACUATION AND REMOTE ASSEMBLY AREA MONITORING g) Have RPS do the following: 1) Tell survey team to notify TSC when departing from station and arriving at Remote Assembly Area 2) Dispatch Remote Assembly Area monitoring team h) Notify SEM of Emergency Assembly Area monitoring status i) RETURN TO Step 16	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 23	INITIATE LEOF ACTIVATION: a) Give information to Radiological Assessment Coordinator: • Existing plant conditions • Current offsite dose projections • HP actions underway b) Have Dose Assessment Team Leader brief Radiological Assessment Coordinator: • Status and location of Offsite Monitoring Teams • Meteorological data • Radiation Monitoring System data • Sample analysis data c) Have RPS assign EPIP-4.18, MONITORING OF LEOF d) RETURN TO Step 16	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 24	HAVE DOSIMETRY ISSUED TO OFFSITE RESPONDERS: a) Consult with RPS: • Arrival time of offsite support (fire, rescue squads) • Dosimetry requirements b) Ask RPS to consider having individual meet fire or rescue squad prior to entry onsite in order to supply dosimetry c) RETURN TO Step 16	
_____ 25	GIVE TURNOVER TO RELIEF: a) <u>WHEN</u> a more senior HP individual arrives onsite <u>OR</u> <u>WHEN</u> relief is needed, <u>THEN</u> brief successor: • Existing plant conditions • Emergency Classification • Offsite release assessments • HP actions underway b) Notify SEM of change in position c) Stay with relief for about 30 minutes to ensure proper turnover d) RETURN TO Step 16	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 26	CHECK EMERGENCY - CONTINUES	GO TO Step 29.
_____ 27	CONSULT WITH SEM AND RPS AS TO INCREASING OR DECREASING TRENDS	
_____ 28	RETURN TO NOTE PRIOR TO STEP 2	
_____ 29	INITIATE EVENT TERMINATION AND RECOVERY ACTIONS: a) Verify SEM declared event - TERMINATED b) Notify RPS and RAC of event termination c) Evaluate continued use of monitoring teams for data collection d) Consult with SEM about recovery phase: • Access control to outside contaminated areas • Return to normal access control areas throughout site • Assistance requirements: • Decontamination efforts • HP support personnel • Radwaste packaging and disposal	
_____ 30	INITIATE REPLACEMENT OF PROCEDURES AND EMERGENCY EQUIPMENT	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 31	TERMINATE EPIP-4.01:	
	• Give completed EPIP-4.01, forms and other applicable records to the Emergency Procedures Coordinator in the TSC	• Give to STA.
	• Completed by: _____	
	Date: _____	
	Time: _____	

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.01	RADIOLOGICAL DATA WORKSHEET	11
ATTACHMENT 1		PAGE 1 of 1

Name:_____; Date:_____; Time:_____

METEOROLOGICAL DATA

Wind Direction (from): _____ Stability Class: _____

Affected Sectors: _____ Precipitation: _____

Wind Speed (mph): _____

RADIATION SYSTEM MONITORING DATA

Vent Vent: VG-110:_____cpm VG-131:_____µCi/sec
_____µCi/cc
VG-123:_____mR/hr

Process Vent: GW-102:_____cpm GW-130:_____µCi/sec
_____µCi/cc
GW-122:_____mR/hr

Containment, Inside:

High Range: RMS-127:_____mR/hr RMS-227:_____mR/hr

RMS-128:_____mR/hr RMS-228:_____mR/hr

Containment, Outside:

High Range: RMS-161:_____mR/hr RMS-261:_____mR/hr

Air Ejector: SV-111:_____cpm SV-211:_____cpm

Main Steam: MS-124:_____mR/hr MS-224:_____mR/hr

MS-125:_____mR/hr MS-225:_____mR/hr

MS-126:_____mR/hr MS-226:_____mR/hr

AFWPT: MS-129:_____mR/hr MS-229:_____mR/hr

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.02	RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE (With 2 Attachments)	14
		PAGE 1 of 18

PURPOSE

Establish a radiation protection program during an emergency (including the dispatch of monitoring teams).

ENTRY CONDITIONS

Any one of the following:

1. Emergency classification of an Alert, Site Area Emergency or General Emergency.
2. Activation by EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
3. Whenever deemed necessary by the Radiological Assessment Director.

APPROVAL RECOMMENDED	SNSOC DATE	APPROVAL	APPROVAL DATE	EFFECTIVE DATE
CHAIRMAN SNSOC	12-15-94	STATION MANAGER	12-20-94	12-21-94

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 1	INITIATE PROCEDURE: • By: _____ Date: _____ Time: _____	
_____ 2	ESTABLISH RADIATION PROTECTION SUPERVISOR (RPS) OFFICE: a) Determine HP area radiation levels: 1) Do surveys and sampling 2) Use friskers, personnel contamination monitors and count room analysis equipment for indications of abnormal readings b) Verify HP area habitable • Establish RPS Office in Supervisor HP (Operations) Office	b) Establish RPS Office in ALARA Office or Emergency Switchgear Room: • Notify Exposure Control personnel.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 3	ESTABLISH COMMUNICATIONS:	
	a) Check TSC - ACTIVATED	a) GO TO Step 3.d.
	b) Notify RAD that RPS Office has been established	
	c) Coordinate establishment of Radiological Protection Communications Network between the following locations (as permitted by personnel availability): • TSC • RPS Office • Chemistry • OSC	
	d) Do radio checks:	
	1) Get portable HP radios, chargers and batteries	
	2) Use appropriate Announce/Talk Group(s)	
	3) Verify radio operability	3) Notify RAD of radio inoperability.
_____ 4	ESTABLISH ACCESS CONTROL:	
	a) Assign individual to control RCA access or to rope off RCA entrance	
	b) Limit RCA access to approved individuals	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	ESTABLISH EXPOSURE CONTROL:	
	a) Have Exposure Control personnel initiate EPIP-4.27, EXPOSURE CONTROL EMERGENCY RESPONSE	
	b) Notify Exposure Control personnel of HP area habitability	
_____ 6	EVALUATE HP READINESS:	
	a) Determine available HP resources: • Have on-duty HP staff report to HP area • Have Exposure Control provide number and location of personnel on shift	
	b) Notify RAD of HP readiness	
_____ 7	ASSIGN INPLANT/ONSITE TEAMS:	
	a) Check personnel available for assignment as inplant and onsite team leaders	a) GO TO Step 8.
	b) Assign team leaders	
	c) Assign inplant and onsite monitoring EPIP packages to team leaders	
	d) Assign one team member for each inplant and onsite team	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 8	GET STATUS UPDATE FROM RAD: • Emergency classification • Plant status • Meteorological status • HP assistance required • Areas requiring monitoring (e.g., Chemistry Office, Security)	
_____ 9	ASSIGN INDIVIDUAL TO MONITOR TEAM DISPATCH USING ATTACHMENT 1, MONITORING TEAM LOCATIONS	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- Offsite monitoring teams should be dispatched upon classification of Site Area Emergency or General Emergency, as specified by the Radiological Assessment Director.
- HP personnel should begin monitoring the LEOF within 60 minutes following declaration of an Alert or higher classification.
- Emergency conditions may require immediate implementation of radiological protection response actions. Attachments to this procedure and associated documentation may be completed after the fact should these conditions exist.

_____ 10	CHECK ANY OF THE FOLLOWING ACTIONS REQUIRED (BASED ON CONSULTATION WITH RAD OR DEGRADING RADIOLOGICAL CONDITIONS): • Inplant monitoring - GO TO Step 11 • Onsite monitoring - GO TO Step 12 • Brief Inplant/Onsite Monitoring or Damage Control Teams - Initiate Attachment 2, TEAM BRIEFING • Offsite monitoring - GO TO NOTE prior to Step 13 • Control Room/TSC/OSC/LEOF monitoring - GO TO Step 14 • Contaminated personnel - GO TO Step 15 • Evacuation Monitoring - GO TO Step 17 • Request for Post Accident Sampling - GO TO Step 18 • Receipt of sample analysis data - GO TO Step 19	GO TO Step 20.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 11	INITIATE INPLANT MONITORING:	
	a) Consult with RAD to determine location and type of surveys required	
	b) Ask for assessment of radiological hazards in area of surveys	
	c) Verify Inplant Monitoring Team Leader assigned	c) Assign Inplant Monitoring Team Leader.
	d) Do briefing with Team Leader:	
	1) Have Team Leader initiate EPIP-4.14, INPLANT MONITORING	
	2) Give Team Leader location and type of surveys required	
	3) Determine route of entry that should minimize exposure	
	4) Assign team number	
	5) Assign radio talk group (if portable radio available for monitoring team)	5) Have team use Gai-Tronics system for communications.
	e) Complete Attachment 2, TEAM BRIEFING	
	f) Send out team(s)	
	g) Notify RAD when survey information is received and when team returns	
	h) RETURN TO Step 10	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 12	INITIATE ONSITE MONITORING:	
	a) Consult with RAD to determine location and type of surveys required	
	b) Ask for assessment of radiological hazards in area of surveys	
	c) Check if transportation required	c) GO TO Step 12.e.
	d) Assign vehicle (duplicate keys to vehicles are located in the Supv. HP Operations office key locker)	
	e) Verify Onsite Monitoring Team Leader assigned	e) Assign Onsite Monitoring Team Leader.
	f) Do briefing with Team Leader:	
	1) Have Team Leader initiate EPIP-4.15, ONSITE MONITORING	
	2) Give Team Leader location and type of surveys required	
	3) Assign team number	
	4) Assign radio talk group (if mobile or portable radio available for monitoring team)	4) Have team use Gai-Tronics to relay data.
	g) Complete Attachment 2, TEAM BRIEFING	
	h) Send out team(s)	
	i) Notify RAD when survey information is received and when team returns	
	j) RETURN TO Step 10	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: One Offsite Emergency Kit is located in the Environmental Monitoring vehicle. Two additional kits are located in the Maintenance Services Building.

_____ 13 INITIATE OFFSITE MONITORING:

a) Determine from RAD:

- Need for offsite monitoring teams
- Number of offsite teams required
- Initial location of each team

b) Ask for assessment of possible radiological hazards in area of surveys

c) Assign 2 individuals to each Offsite Monitoring Team (at least 1 an HP Tech)

d) Assign vehicle (duplicate keys to vehicles are located in the Supv. HP Operations office key locker)

e) Use EPIP-4.16, OFFSITE MONITORING to brief Team Leader

f) RETURN TO Step 10

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 14	INITIATE CONTROL ROOM/TSC/OSC/LEOF MONITORING: a) Establish monitoring of emergency response centers b) Determine frequency of monitoring based on: • Spread of contamination from service buildings • Increase or decrease of effluent release • Increase in emergency classification • Change in plume direction c) Assign EPIPs: • EPIP-4.17, MONITORING OF EMERGENCY RESPONSE FACILITIES • EPIP-4.18, MONITORING OF LEOF d) Notify RAD as to the habitability of emergency response centers e) RETURN TO Step 10	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 15	CHECK PERSONNEL - CONTAMINATED	RETURN TO Step 10.
	a) Check contaminated personnel - INJURED	a) GO TO Step 15.d.
	b) Check transport to offsite medical facility - REQUIRED	b) GO TO Step 15.d.
	c) GO TO Step 16	
	d) Use normal station procedures to decontaminate individual(s) and record results	
	e) Notify RAD of results	
	f) Determine location where individual(s) was contaminated	
	g) Evaluate set-up of access controls	
	h) RETURN TO Step 10	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 16	HELP TRANSPORT CONTAMINATED INJURED PERSONNEL:	
	a) Do personnel surveys	
	b) Check if decontamination prior to transport practical	b) GO TO Step 16.d.
	c) Use normal station decontamination procedures	
	d) Notify RAD of need to transport contaminated personnel	
	e) Assign HP Tech to accompany injured individual:	
	1) Give HP Tech EPIP-4.20, HEALTH PHYSICS ACTIONS FOR TRANSPORT OF CONTAMINATED INJURED PERSONNEL	
	2) Give HP Tech portable survey instrument	
	f) Check if dosimetry needed by ambulance personnel	f) GO TO Step 16.h.
	g) Have HP Tech issue dosimetry	
	h) Notify RAD when ambulance departs	
	i) RETURN TO Step 10	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 17	INITIATE EVACUATION MONITORING:	
	a) Check evacuation - ORDERED	a) IF evacuation planned but NOT ordered, THEN GO TO Step 17.c.
	b) GO TO Step 17.d	
	c) Do the following when notified of pending evacuation:	
	1) Consult with RAD regarding need of additional onsite surveys to support evacuation	
	2) Send out Monitoring Teams to determine radiation and contamination levels if surveys are required	2) IF surveys NOT required, THEN GO TO Step 17.d.
	3) Notify RAD of survey results	
	d) Assign EPIP-4.21, EVACUATION AND REMOTE ASSEMBLY AREA MONITORING	
	e) Assign Evacuation and Remote Assembly Area monitoring kit located in Maintenance Services Building (Kit #4)	
	f) Help team get transportation or make arrangements for transportation with Security	
	g) Notify RAD when team is dispatched and when survey results are available	
	h) RETURN TO Step 10	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 18	INITIATE POST ACCIDENT SAMPLING MONITORING: a) Take inplant survey to determine dose rate at sample station b) Notify RAD of survey results c) Assign EPIPs: • EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR • EPIP-4.23, POST ACCIDENT SAMPLING OF REACTOR COOLANT • EPIP-4.24, GASEOUS EFFLUENT SAMPLING DURING AN EMERGENCY • EPIP-4.25, LIQUID EFFLUENT SAMPLING DURING AN EMERGENCY d) Supply HP coverage during sampling and sample preparation e) RETURN TO Step 10	
_____ 19	NOTIFY RAD WHEN ANY OF THE FOLLOWING SAMPLE ANALYSIS RESULTS RECEIVED: • Sample analysis data requested by RAD • Abnormal or unexpected analysis data	GO TO Step 20.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 20	IDENTIFY ADDITIONAL ACCESS CONTROL REQUIREMENTS: a) Check if abnormal radiological conditions exist: • Airborne contamination greater than 0.30 DAC • Deposition greater than 1000 dpm per 100 cm^2 • Area dose rate greater than 1000 mR/hr b) Consult with RAD about areas for which access is to be controlled c) Establish access control by: • Requiring HP notification prior to entry • Roping and posting affected areas d) Assess HP area radiation levels: 1) Do surveys and sampling 2) Use friskers, personnel contamination monitors and count room analysis equipment for indications of abnormal readings	a) IF NO abnormal radiological conditions, THEN use normal station access control procedures AND GO TO Step 21.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 21	EVALUATE MANPOWER REQUIREMENTS:	
	a) Consult with RAD about projected duration of emergency	
	b) Check if relief schedule and/or increased staffing schedule required	b) GO TO Step 22.
	c) Make schedule	
	d) Give schedule to RAD for approval	
	e) Do callout of personnel after schedule approved	e) GO TO Step 22.
	f) Notify RAD when callout complete	
_____ 22	TRANSFER RESPONSIBILITIES TO RELIEF:	IF NO relief available, THEN GO TO Step 23.
	a) Tell successor about plant conditions and HP actions underway	
	b) Notify RAD of change of position	
	c) Stay with new RPS for approximately 30 minutes to facilitate turnover	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 23	CONTINUE ASSESSMENT:	
	a) Check if emergency condition still exists	a) GO TO Step 24.
	b) Verify initial TSC communications established	b) WHEN TSC activated, THEN establish communications with RAD.
	c) RETURN TO Step 8 AND Have survey(s) and sampling repeated as necessary to determine/monitor onsite radiological conditions	
_____ 24	SECURE FROM EMERGENCY:	
	a) Notify HP staff	
	b) Maintain access control	
	c) Consult with RAD about recovery actions	
	d) Restore procedures and equipment used during the emergency	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 25	TERMINATE EPIP-4.02: • Give completed EPIP-4.02, forms and other applicable records to the RAD • Completed by: _____ Date: _____ Time: _____ -END-	

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.02	MONITORING TEAM LOCATIONS	14
ATTACHMENT 1		PAGE 1 of 1

TEAM NUMBER	MEMBERS	RADIO TALK GROUP	LOCATION	TIME

SECTION 1: (TO BE COMPLETED BY TEAM LEADER)

DATE_____ TIME DISPATCHED_____ TEAM DESIGNATION_____

TASK_____

_____

LOCATION_____

EXPECTED CONDITIONS_____

_____

DOSE RATES_____

CONTAMINATION LEVELS_____

****

SECTION 2: (TO BE COMPLETED BY INDIVIDUAL GIVING BRIEFING)

RADIO TALK GROUP: _____

TEAM PERSONNEL DATA

NAME	TLD	REMAINING DOSE	RESP. QUAL. Y/N

DOSE & STAY TIME_____

PROTECTIVE CLOTHING/RESPIRATORY PROTECTION

FULL PCs w/PLASTICS_____ w/o PLASTICS_____ PAPER SUIT ONLY_____

STREET CLOTHES_____ SCBA_____ PAPR_____ FULL FACE_____

COMMUNICATIONS EQUIPMENT_____ (DO NOT USE RADIO IN ESGR)

SPECIAL INSTRUCTIONS_____

_____

_____

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.07	PROTECTIVE MEASURES (With 5 Attachments)	6 PAGE 1 of 6

PURPOSE

Give guidance to Radiological Assessment Director/Coordinator for assessing projected doses to population at risk and for determining protective action recommendations.

ENTRY CONDITIONS

Any of the following:

1. Activation by EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
2. Activation by CPIP-6.2, RADIOLOGICAL ASSESSMENT COORDINATOR.
3. Activation by EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS.
4. As directed by the Station Emergency Manager or Recovery Manager.

ENTERED BY
JUN 15 1994
RSP

APPROVAL RECOMMENDED	DATE	APPROVAL	DATE
CHAIRMAN SNSOC	6-9-94	STATION MANAGER	6/15/94

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 1	INITIATE PROCEDURE: • By: _____ Date: _____ Time: _____	
_____ 2	DETERMINE IF A PROTECTIVE ACTION RECOMMENDATION IS CURRENTLY IN EFFECT: a) Ask SEM (Recovery Manager if in LEOF/CEOF) b) Record PAR in effect (if any): _____ _____ _____	GO TO Step 3.
_____ 3	CHECK OFFSITE FIELD SURVEY DATA - AVAILABLE	IF offsite survey data NOT available, THEN GO TO Step 5.
_____ 4	CONSIDER SURVEY DATA IN CONJUNCTION WITH PROJECTED DOSES WHEN DETERMINING PROTECTIVE ACTION RECOMMENDATIONS: • Check field survey data results correlate with projected doses	• IF field survey data results differ from projected doses, THEN confer with SEM (or RM) AND Determine whether field survey data or projected doses are to be used for PAR determination.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	CHECK MIDAS RESULTS - AVAILABLE	Get data needed to determine PAR: a) Direction wind blowing from b) Average wind speed c) Time of meteorological conditions d) Use results of EPIP-4.08, INITIAL OFFSITE RELEASE ASSESSMENT <u>AND</u> Determine distance out to which the following are exceeded: • 1.0 Rem TEDE or 5.0 Rem Thyroid CDE • 5.0 Rem TEDE or 25.0 Rem Thyroid CDE

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- Downwind sectors are depicted on Attachment 1, Sector Map.
- Estimated evacuation times for the Surry EPZ are listed on Attachment 3.

_____ 6 DETERMINE PROTECTIVE ACTION RECOMMENDATION:

a) Check actual or projected offsite dose GREATER THAN the following:

- 1.0 Rem TEDE

OR

- 5.0 Rem Thyroid CDE

b) Determine 3 downwind sectors

c) Determine weather conditions:

- Normal
- Adverse (heavy rain, snow, ice or fog)

d) Use Attachment 2 to determine PAR

(STEP 6 CONTINUED ON NEXT PAGE)

a) IF dose LESS THAN 1.0 Rem TEDE and 5.0 Rem Thyroid CDE, THEN do the following:

1) Use "No PAR Necessary" as the PAR

2) Compare "No PAR Necessary" with PAR currently in effect (if any)

3) Complete Attachment 4, Protective Action Recommendation Form:

a) Assign an Evaluation Number at top of form

b) Fill in Items 1, 2 and 3

c) Sign and date form

4) GO TO Step 7.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	DETERMINE PROTECTIVE ACTION RECOMMENDATION: (Continued) e) Compare resulting PAR with PAR currently in effect (if any) f) Complete Attachment 4, Protective Action Recommendation Form: 1) Assign an Evaluation Number at top of form 2) Fill in Items 1, 2 and 3 3) Sign and date form	
_____ 7	HAVE SEM SIGN ATTACHMENT 4 (RECOVERY MANAGER IF IN LEOF/CEOF)	
_____ 8	CHECK IF PROJECTED DOSES EXCEED 1 REM TEDE OR 5 REM THYROID CDE AT OR BEYOND 10 MILES	GO TO Step 10.
_____ 9	DO ATTACHMENT 5, CONSIDERATION OF PROTECTIVE ACTION RECOMMENDATIONS BEYOND 10 MILES	
_____ 10	CHECK EMERGENCY - TERMINATED	Evaluate updating PAR when conditions change: • New dose assessment results available OR • New field data available OR • Primary sector changed.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 11 TERMINATE EPIP-4.07:

- Give completed EPIP-4.07, forms, and other applicable records to TSC Emergency Procedures Coordinator or LEOF Services Coordinator

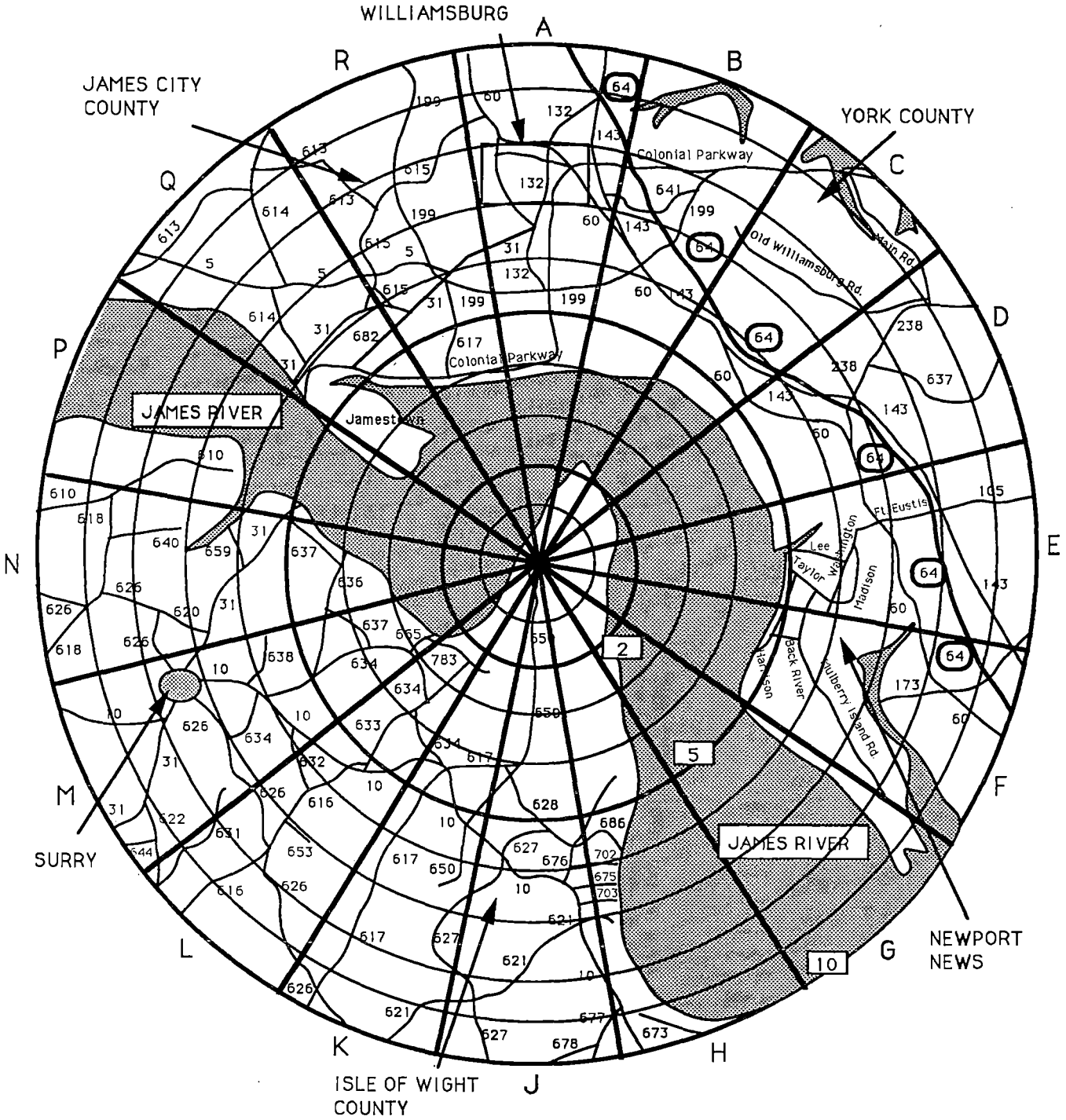
- Completed By: _____

  Date: _____

  Time: _____

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.07	SECTOR MAP	6
ATTACHMENT		PAGE
1		1 of 1



PROJECTED DOSE	DISTANCE OF INTEREST	PRIMARY SECTOR	PROTECTIVE ACTION RECOMMENDATION	
			NORMAL WEATHER	ADVERSE WEATHER
GREATER THAN: 1.0 Rem TEDE OR 5.0 Rem Thy. CDE BUT LESS THAN 5.0 Rem TEDE OR 25.0 Rem Thy. CDE	0 to 2 miles	ANY SECTOR	Evacuate 360° from 0 to 2 miles. Shelter downwind sectors from 2 to 5 miles.	Evacuate 360° from 0 to 2 miles. Shelter downwind sectors from 2 to 5 miles.
	2 to 5 miles	ANY SECTOR	Evacuate 360° from 0 to 5 miles. Shelter downwind sectors from 5 to 10 miles.	Evacuate 360° from 0 to 5 miles. Shelter downwind sectors from 5 to 10 miles.
	5 to 10 miles	A B R	Evacuate 360° from 0 to 5 miles. Evacuate downwind sectors from 5 to 10 miles. Shelter unaffected sectors from 5 to 10 miles.	Evacuate 360° from 0 to 5 miles. Shelter 360° from 5 to 10 miles.
		E F	Evacuate 360° from 0 to 5 miles. Shelter 360° from 5 to 10 miles.	Evacuate 360° from 0 to 5 miles. Shelter 360° from 5 to 10 miles.
		C D G H J K L M N P Q	Evacuate 360° from 0 to 5 miles. Evacuate downwind sectors from 5 to 10 miles. Shelter unaffected sectors from 5 to 10 miles.	Evacuate 360° from 0 to 5 miles. Evacuate downwind sectors from 5 to 10 miles. Shelter unaffected sectors from 5 to 10 miles.

IF GREATER THAN:

5.0 Rem TEDE or 25.0 Rem Thy. CDE,

THEN GO TO NEXT PAGE.

PROJECTED DOSE	DISTANCE OF INTEREST	PRIMARY SECTOR	PROTECTIVE ACTION RECOMMENDATION	
			NORMAL WEATHER	ADVERSE WEATHER
GREATER THAN: 5.0 Rem TEDE OR 25.0 Rem Thy. CDE	0 to 5 miles	ANY SECTOR	Evacuate 360° from 0 to 5 miles AND Use PAR from previous page where dose LESS THAN 5 Rem TEDE or 25 Rem Thyroid CDE.	Evacuate 360° from 0 to 5 miles AND Use PAR from previous page where dose LESS THAN 5 Rem TEDE or 25 Rem Thyroid CDE.
	5 to 10 miles	ANY SECTOR	Evacuate 360° from 0 to 5 miles. Evacuate downwind sectors from 5 to 10 miles. Shelter unaffected sectors from 5 to 10 miles.	Evacuate 360° from 0 to 5 miles. Evacuate downwind sectors from 5 to 10 miles. Shelter unaffected sectors from 5 to 10 miles.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.07	ESTIMATED EVACUATION TIMES FOR SURRY POWER STATION	6
ATTACHMENT 3	(In Minutes)	PAGE 1 of 1

AREA	NORMAL WEATHER	ADVERSE WEATHER
2 mile, 360°	121	121
5 mile, 360°	232	268
10 mile, 360°	503	585

SECTOR	2 mile, 360° + 5 mile downwind		2 mile, 360° + 10 mile downwind	
	NORMAL	ADVERSE	NORMAL	ADVERSE
RAB	232	268	317	589
ABC	232	268	324	430
BCD	215	235	220	233
CDE	223	237	230	249
DEF	223	237	488	587
EFG	223	237	492	620
FGH	193	207	199	220
GHJ	193	207	193	207
HJK	142	148	193	207
JKL	143	151	154	157
KLM	148	157	172	180
LMN	134	138	151	157
MNP	134	138	140	153
NPQ	134	138	158	159
PQR	134	138	220	279
QRA	232	268	392	541

EVALUATION #:_____ (Use this space to sequentially track PAR evaluations)

1. METEOROLOGICAL DATA:

   DIRECTION WIND FROM: _____

   AVERAGE WIND SPEED: _____ MPH

   TIME OF MET. CONDITIONS: _____ (24-HOUR TIME)

2. DOWNWIND SECTORS: _____, _____, _____

3. PROTECTIVE ACTION RECOMMENDATION:

   [ ] No PAR necessary.

   [ ] Maintain current PAR in effect.

   [ ] Recommend PAR change to the following:

   [ ] Shelter 360° from _____ to _____ miles.

   [ ] Shelter downwind sectors ____, ____, ____ from ___ to ___ miles.

   [ ] Shelter unaffected sectors from _____ to _____ miles.

   [ ] Evacuate 360° from _____ to _____ miles.

   [ ] Evacuate downwind sectors ____, ____, ____ from ___ to ___ miles.

   [ ] Evacuate unaffected sectors from _____ to _____ miles.

SUBMITTED BY: _____ _____/_____
RAD or RAC Date / Time

APPROVED BY: _____ _____/_____
SEM or RM Date / Time

__ 1. VERIFY PROJECTED DOSES EXCEED 1 REM TEDE OR 5 REM THYROID CDE AT OR BEYOND 10 MILES:

a. Review dose projection results

b. Evaluate assumptions incorporated into dose projections:

- Accident default values and technical basis for MIDAS and EPIP calculations (refer to EPIP-4.30, USE OF MIDAS CLASS A MODEL)
- Projections using actual sample results versus default isotopic inventory
- Event and release duration
- Plume arrival time at 10 mile distance

c. Evaluate field team measurements (if available)

NOTE:
- Protective actions for areas within the 10-mile EPZ should be implemented prior to recommending protective actions for areas beyond 10 miles.
- Field measurements and evacuation status for areas within the 10-mile EPZ should be considered before recommending protective actions beyond 10 miles.

__ 2. CONFER WITH SEM/RM:

a. Review dose projections, associated assumptions, and field measurement results (if available)

b. Evaluate options:

- Using field team real-time measurements to calculate dose
- Impact of extended PAR beyond 10 miles:
  - Affect on evacuees departing the 10-mile EPZ
  - Location of public Evacuation Assembly Centers
  - No designated evacuation routes beyond 10 miles
  - Some protective action zones extend beyond the 10 mile EPZ boundary due to geopolitical boundaries

__ 3. REVIEW DOSE PROJECTION RESULTS AND FIELD MEASUREMENTS WITH STATE REPRESENTATIVE (if in LEOF/CEOF):

- Consult with DES On-Scene Coordinator/designee
- Compare Virginia Power and State monitoring team results

__ 4. ASSIST SEM/RM IN DERIVATION OF EXTENDED PAR (IF DEEMED PRUDENT BASED ON THE ABOVE CONSIDERATIONS):

- Distance out to which evacuation dose is exceeded (e.g., 1 Rem TEDE or 5 Rem Thyroid CDE)
- Plume width as determined by field measurements or ingestion pathway dose projections (lateral distance from centerline should be used because Protective Action Zones are not defined beyond 10 miles)

__ 5. MAKE SURE PAR (IF ISSUED) IS OFFICIALLY TRANSMITTED TO OFFSITE AGENCIES:

a. State EOC (via State and Local Communicator using EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS)

b. State representative, e.g., State On-Scene Coordinator (if in LEOF/CEOF)

c. NRC (via HPN Communicator if HPN activated, or by ENS Communicator)

VIRGINIA POWER
SURRY POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.20	HEALTH PHYSICS ACTIONS FOR TRANSPORT OF CONTAMINATED INJURED PERSONNEL (With 3 Attachments)	7
		PAGE 1 of 7

PURPOSE

To provide guidance for health physics personnel when accompanying a contaminated injured individual to an offsite medical facility.

ENTRY CONDITIONS

Any one of the following:

1. Activation by Station Abnormal Procedure.
2. Activation by Station Health Physics Procedure.
3. Activation by another EPIP.

APPROVAL RECOMMENDED	DATE	APPROVAL	DATE
CHAIRMAN SNSOC	9-10-92	STATION MANAGER	9/11/92

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 1	INITIATE PROCEDURE: • By: _____ Date: _____ Time: _____	
	NOTE: Lifesaving medical attention takes priority over decontamination and completion of survey.	
_____ 2	CHECK IF MEDICAL STATUS PERMITS SURVEY AND DECONTAMINATION	IF medical status does NOT permit survey or decontamination, THEN do the following: a) Get previous survey results (if available). b) GO TO Step 4.
_____ 3	MONITOR AND DECONTAMINATE INJURED PERSON(s): a) Get previous survey results (if available) b) Complete survey: 1) Have First Aid Team take injured person(s) to uncontaminated, low background area 2) Take off PCs (if possible) 3) Complete survey using Attachments 1 and 2 c) Decontaminate injured person(s) using normal HP procedures	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 4	CHECK IF INDIVIDUAL IS GROSSLY CONTAMINATED	IF contamination is localized, THEN minimize spread by covering area with cloth or sheet AND GO TO Step 6.
_____ 5	ESTABLISH CONTAMINATION CONTROL:	
	a) Check if individual can be moved from stretcher	a) Wrap stretcher and individual loosely in blanket or sheet AND GO TO Step 6.
	b) Spread blanket or sheet over stretcher	
	c) Place individual on top of blanket or sheet	
	d) Wrap blanket or sheet loosely around individual	
_____ 6	REMOVE INJURED PERSON'S DOSIMETRY	
_____ 7	RECORD DOSIMETRY INFORMATION ON ATTACHMENT 1	
_____ 8	SEND DOSIMETRY (DAD/SRD AND TLD) TO EXPOSURE CONTROL	
_____ 9	SUPPLY NEW DAD/SRD AND TLD	
_____ 10	CHECK IF DOSIMETRY IS NEEDED FOR FIRST AID TEAM/RESCUE SQUAD MEMBERS	GO TO Step 12.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 11	GIVE DOSIMETRY TO FIRST AID TEAM/RESCUE SQUAD MEMBERS AND RECORD DOSIMETRY ISSUANCE IAW NORMAL HP PROCEDURES	
_____ 12	GET SUPPLIES PRIOR TO TRANSPORT: • Poly bags • Cleaning rags (diapers) • Gloves and booties • RM-14 with HP-210 probe or equivalent • Portable gamma survey instrument	
_____ 13	LIMIT SPREAD OF CONTAMINATION: a) Notify medical personnel of radiation and contamination data regarding the individual b) Have medical personnel use protective clothing (e.g., gloves) while performing first aid if necessary c) Monitor equipment and material used on the individual	
_____ 14	GIVE ATTACHMENT 3 TO AMBULANCE DRIVER (ROUTE TO MCV)	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 15 CONTINUE TO SURVEY AND DECONTAMINATE WHILE ENROUTE:

- Record data on Attachments 1 and 2
- Decontaminate the individual as much as medical status allows (e.g., remove contaminated clothing)

NOTE:
- Communications with MCV using the HEAR system may not be possible until reaching I-95.
- MCV may route patients through either the Emergency Room or Morgue depending on the number of contaminated injured persons, the degree of contamination, and the degree of injuries involved. Unless there are more than 4 patients or the injuries are minor with a high degree of contamination, the MCV Emergency Room will probably receive the patient(s).

_____ 16 NOTIFY MCV PRIOR TO ARRIVAL:

a) Have First Aid Team/Rescue Squad member establish communications with MCV using the HEAR system

b) Notify MCV of the following (coordinate with First Aid Team/Rescue Squad member):

- Medical information
- Radiological information
- Estimated time of arrival

c) Ask whether the patient is to be transported to Emergency Room or Morgue

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 17	CHECK IF RESCUE SQUAD PERSONNEL ARE CONTAMINATED PRIOR TO ARRIVAL AT MCV: a) Use protective clothing to minimize spread b) Ask for use of decontamination facilities at MCV upon arrival	GO TO Step 18.
_____ 18	GIVE RADIOLOGICAL INFORMATION TO MCV STAFF: a) Supply radiological information to the Incoming Monitoring Specialist or Radiation Safety Director b) Give assistance or information required by the Radiation Safety Director	
_____ 19	NOTIFY SURRY CONTROL ROOM (357-7035) OF ARRIVAL TIME	
_____ 20	CHECK AMBULANCE FOR CONTAMINATION: • Contamination found on outside of vehicle - Decontaminate before returning to station • Contamination found on inside of vehicle - Decontaminate after returning to station	GO TO Step 21.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 21	NOTIFY RPS ABOUT THE FOLLOWING: • Ambulance survey results • Patient status • Estimated time of return	
_____ 22	GET DOSIMETRY THAT WAS ISSUED TO FIRST AID TEAM/RESCUE SQUAD MEMBERS FOR PROCESSING IAW NORMAL HP PROCEDURES	
_____ 23	RETURN TO STATION	
_____ 24	TERMINATE EPIP-4.20: • Give completed EPIP-4.20, forms and other applicable records to the Radiation Protection Supervisor • Completed by: _____ Date: _____ Time: _____	

-END-

Initiated by: _____
Date: _____
Time: _____

Patient's Name: _____
TLD Number: _____

EXPOSURE

DAD/SRD Number: _____
Estimated Whole Body Exposure (from DAD/SRD): _____Rem

CONTAMINATION

Location	cpm or mR/hr

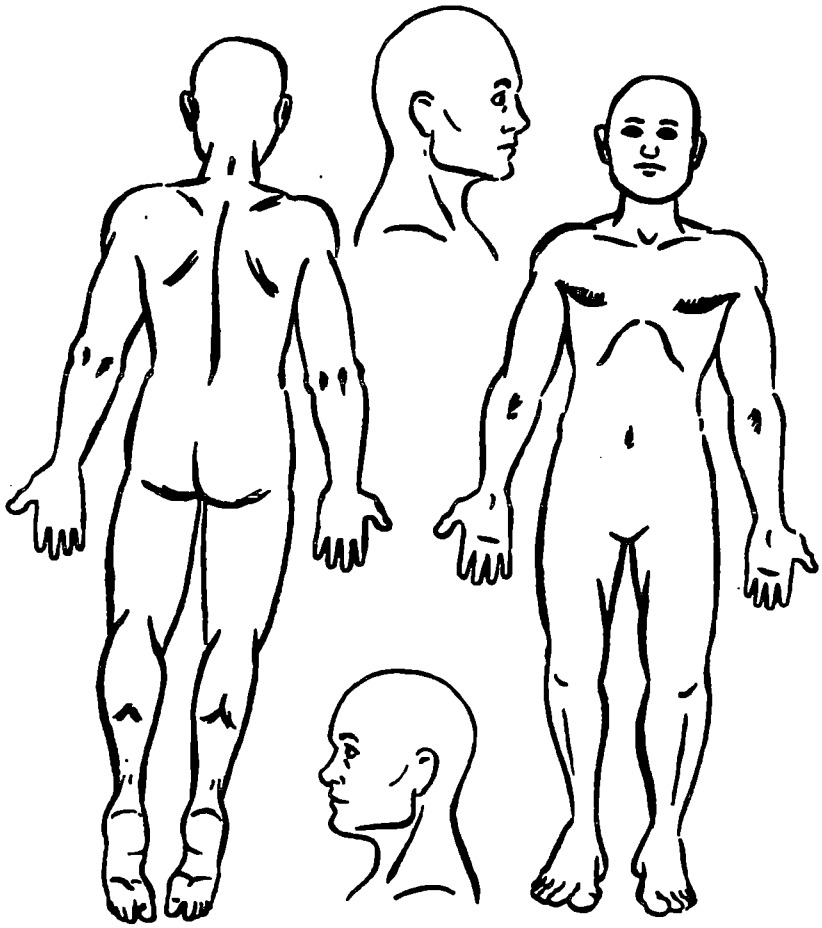
Instrument Used/Serial Number: _____ / SN: _____

INTERNAL CONTAMINATION

YES / NO: _____

Path of Contamination (Wound, Ingestion, Inhalation): _____

_____



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.20	MAP TO MCV FROM I-95	7
ATTACHMENT 3		PAGE 1 of 1