

**VIRGINIA ELECTRIC AND POWER COMPANY  
RICHMOND, VIRGINIA 23261**

September 24, 2003

United States Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D. C. 20555-0001

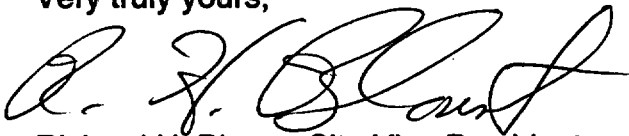
Serial No. 03-475  
SS&L/BAG R0  
Docket No. 50-280  
50-281  
License No. DPR-32  
DPR-37

Gentlemen:

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

Pursuant to 10 CFR 50.54(q), enclosed are revisions to two Surry Power Station Emergency Plan Implementing Procedures. The revisions do not implement actions that 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 the enclosed tabulation of changes.

Very truly yours,



Richard H. Blount, Site Vice President  
Surry Power Station

Enclosure

Commitments contained in this letter: None.

cc: U. S. Nuclear Regulatory Commission, Region II (2 copies)  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street S.W., Suite 23 T85  
Atlanta, Georgia 30303-8931

Mr. G. J. McCoy  
NRC Senior Resident Inspector  
Surry Power Station

A045

Serial No. 03-475  
Surry EPIP Revisions

**VIRGINIA ELECTRIC AND POWER COMPANY  
REVISION TO SURRY POWER STATION  
EMERGENCY PLAN IMPLEMENTING PROCEDURE**

Enclosed is a revision to a Surry Power Station Emergency Plan Implementing Procedure. Please take the following actions in order to keep your manual updated with the most recent revisions.

<b>REMOVE AND DESTROY:</b>	<b>EFFECTIVE DATE:</b>	<b>INSERT:</b>	<b>EFFECTIVE DATE:</b>
EPIP-3.02, Rev. 22	08/05/98	EPIP-3.02, Rev. 23	08/29/03
EPIP-4.08, Rev. 15	04/10/02	EPIP-4.08, Rev. 16	08/29/03

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

VIRGINIA POWER  
SURREY POWER STATION  
EMERGENCY PLAN IMPLEMENTING PROCEDURE  
LEVEL 2 DISTRIBUTION  
The Procedure Could Be Verified  
And Annotated to A Controlled Source  
As Required to Perform Work

NUMBER EPIP-3.02	PROCEDURE TITLE ACTIVATION OF TECHNICAL SUPPORT CENTER (With 15 Attachments)	REVISION 23
		PAGE 1 of 3

PURPOSE

Provide guidance to TSC personnel.

ENTRY CONDITIONS

Any one of the following:

1. Declaration of an Alert, Site Area Emergency or General Emergency.
2. Entry from another EPIP.
3. Direction by the Station Emergency Manager.

Approvals on File

Effective Date 08/29/03

<b>NUMBER</b> <b>EPIP-3.02</b>	<b>PROCEDURE TITLE</b> <b>ACTIVATION OF TECHNICAL SUPPORT CENTER</b>	<b>REVISION</b> <b>23</b> <b>PAGE</b> <b>2 of 3</b>
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<b>STEP</b>	<b>ACTION/EXPECTED RESPONSE</b>	<b>RESPONSE NOT OBTAINED</b>
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**NOTE:** The first person to report to the TSC should implement this procedure and then give it to the Emergency Administrative Director upon his/her arrival.

\_\_\_\_\_ 1 **INITIATE PROCEDURE:**

• By: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

\_\_\_\_\_ 2 **GIVE PERSONNEL BADGE NUMBERS TO SECURITY FOR ACCOUNTABILITY USING SEQUENTIAL BADGE LIST**

\_\_\_\_\_ 3 **SET UP TSC EQUIPMENT USING ATTACHMENT 2**

\_\_\_\_\_ 4 **INITIATE ENTRY/EXIT LOG USING ATTACHMENT 1**

**NOTE:** • Some of the directors may be in the Control Room with the SEM.

• Minimum staff positions shown on the facility staffing board must be filled prior to TSC activation.

\_\_\_\_\_ 5 **DETERMINE STATUS OF MINIMUM REQUIRED TSC STAFF POSITIONS**

\_\_\_\_\_ 6 **NOTIFY SEM OF TSC STAFFING AND EQUIPMENT STATUS**

<b>NUMBER</b> EPIP-3.02	<b>PROCEDURE TITLE</b> ACTIVATION OF TECHNICAL SUPPORT CENTER	<b>REVISION</b> 23 <b>PAGE</b> 3 of 3
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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7 WHEN SEM ANNOUNCES THAT THE TSC IS DEACTIVATED, THEN SECURE TSC:

a) Return TSC to original status using Attachment 3

b) Get completed Attachments:

- Attachment 2, Set-up TSC
- Attachment 3, Secure TSC
- Attachment 5, TSC Resource Request Log
- Attachment 13, Data Sheet for Injured Persons
- Attachment 14, Plant Announcements
- Attachment 15, Shift Rotation Schedule

8 TERMINATE EPIP-3.02:

- Give completed EPIP-3.02, forms and other applicable records to the Emergency Procedures Coordinator

• Completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

-END-

<b>NUMBER</b>	<b>ATTACHMENT TITLE</b>  TSC ENTRY AND EXIT LOG	<b>REVISION</b>
EPIP-3.02		23
<b>ATTACHMENT</b>		<b>PAGE</b>
1		1 of 1

Enter name, badge number and time of arrival of personnel in the appropriate columns below. As personnel exit the TSC, enter departure time and destination in the far right columns. New line entries should be made for returning personnel. Continue this log on additional pages as required.

NAME	BADGE #	TIME IN (use 24 hour time)	TIME OUT	DESTINATION

Logkeeper's Name: \_\_\_\_\_; Date: \_\_\_\_\_; Page \_\_\_\_ of \_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	SET-UP TSC	23
ATTACHMENT		PAGE
2		1 of 2

1. Secure blast door to Unit 1 alleyway.
2. Distribute supplies from TSC cabinet (refer to diagram on page 2):
  - Emergency procedure binders. (Binders are marked according to emergency positions/teams.)
  - Contents of emergency folders. (Folders are marked according to emergency positions/teams.)
3. Set-up equipment:
  - Turn public address system "on" using the power switch on the BOGEN amplifier in the Computer Room telephone cabinet (See diagram on page 2).
  - Adjust brightness on ERFCS terminal screens.
  - Adjust clock time to synchronize with ERFCS time display.
4. Check equipment:
  - Verify telecopier turned on and check paper level.
  - Verify photocopier turned on and check paper level.
  - Verify aperture card reader/printer on. (Warm up if necessary.)
  - Verify PBX system is in service by checking sample of telephones.
  - Verify "Normal" light on radiation monitors lit.
5. Record discrepancies and efforts taken to resolve them below:

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6. Close out Attachment 2:

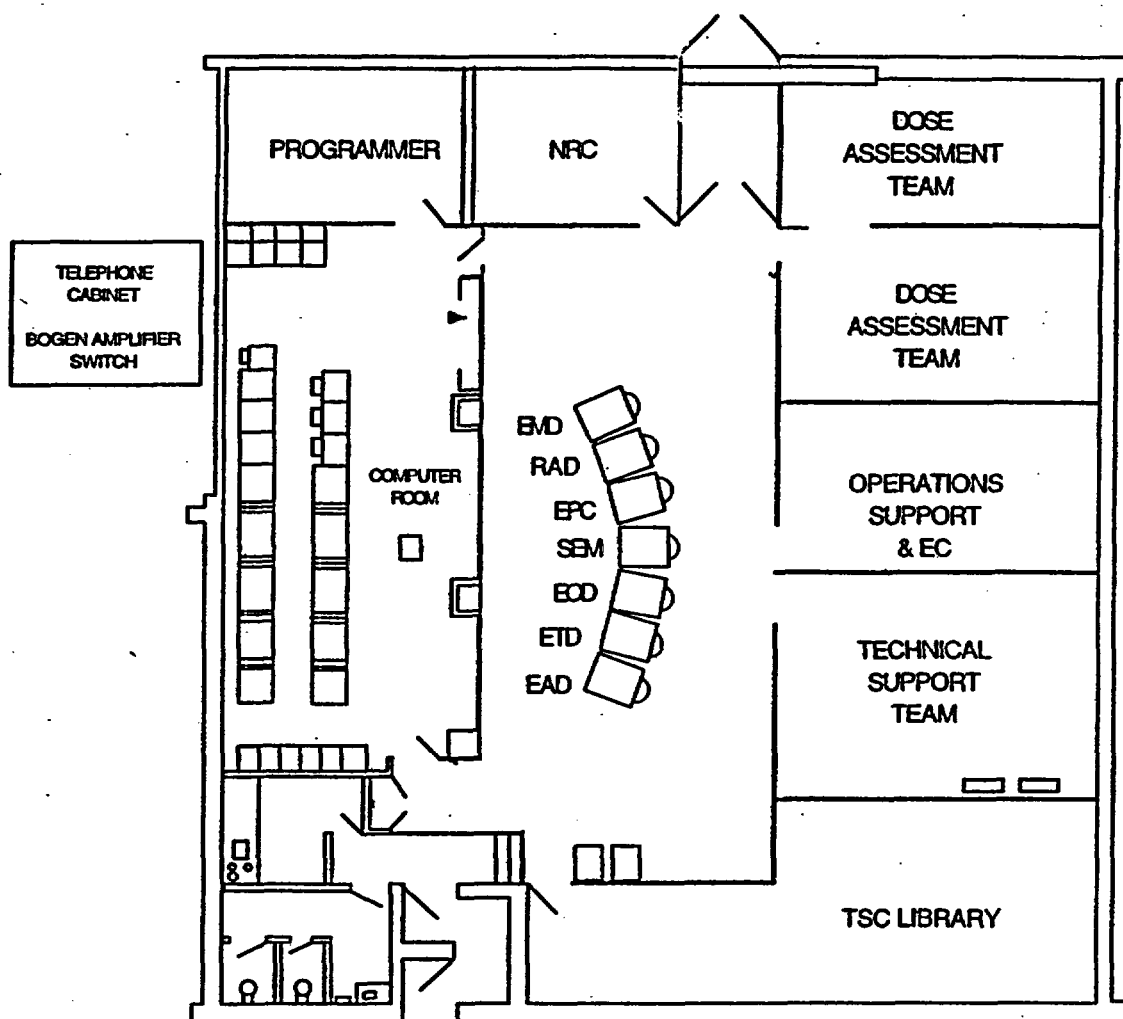
Completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	SET-UP TSC	23
ATTACHMENT		PAGE
2		2 of 2

# TECHNICAL SUPPORT CENTER



## LEGEND:

EMD: EMERGENCY MAINTENANCE DIRECTOR  
 RAD: RADIOLOGICAL ASSESSMENT DIRECTOR  
 EPC: EMERGENCY PROCEDURES COORDINATOR  
 EC: EMERGENCY COMMUNICATOR  
 SEM: STATION EMERGENCY MANAGER  
 EOD: EMERGENCY OPERATIONS DIRECTOR  
 ETD: EMERGENCY TECHNICAL DIRECTOR  
 EAD: EMERGENCY ADMINISTRATIVE DIRECTOR



NUMBER	ATTACHMENT TITLE  SECURE TSC	REVISION
EPIP-3.02		23
ATTACHMENT		PAGE
3		1 of 1

1. Restock procedure sets and emergency folders.
2. Verify Operations has realigned ventilation system to normal mode in accordance with O-OP-VS-007, TECHNICAL SUPPORT CENTER VENTILATION.
3. Open blast door to Unit 1 alleyway.
4. Reduce brightness on ERFCS terminal screens.
5. Turn public address system switch "off" using the power switch on the BOGEN amplifier in the Computer Room telephone cabinet (see diagram on Attachment 2, page 2).
6. IF seal on TSC Emergency Kit broken, THEN notify Radiological Protection Department that O-HSP-EP-001, EMERGENCY PLAN RADIATION INSTRUMENTS AND EMERGENCY KITS INSPECTION, must be performed.
7. Clean status boards and maps.
8. Initiate work requests on any equipment malfunctions.
9. Record any discrepancies and efforts taken to resolve them:

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10. Close out Attachment 3:

Completed by: \_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY ADMINISTRATIVE DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
4		1 of 3

1. Verify organization:

a. Administrative Support Team:

- Administrative Support Team Leader
- TSC Recorder
- Clerks
- Safety/Loss Prevention Representative (in OSC)

b. Security Team:

- Security Shift Supervisor (Team Leader)
- Security Officers

2. Assist in logistics of TSC activation and operation.

3. Advise SEM on fire protection, security, administrative, logistical support and medical response/first aid activities.

4. Provide clerical and records support, including operating telecopier for sending messages provided by Emergency Communicators.

5. Ensure TSC Logkeeper maintains chronology of key events, including status changes, management decisions in response to event assessment, etc.

6. Ensure TSC accountability is maintained.

7. Direct Security Team on:

- Personnel Accountability
- Access Control
- LEOF Activation
- Liaison with Local Law Enforcement Agencies (LLEAs)
- Notification of offsite assistance (police, fire and rescue)

8. Keep Security Team Leader informed about status of event, radiological conditions, potential for escalation, etc.

9. IF Security Officers at traffic control points are relocated due to radiological concerns, THEN ensure LLEAs and Department of Emergency Management (DEM) liaison at LEOF are advised.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY ADMINISTRATIVE DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
4		2 of 3

10. Periodically verify TSC at positive pressure as indicated on pressure gauge when ventilation system is operating in Emergency Mode.
11. Coordinate acquisition of equipment, supplies and personnel. Offsite support should be coordinated through the LEOF. Use EPIP-3.02, Attachment 5, TSC RESOURCE REQUEST LOG, to track status.
12. Coordinate waiver of Nuclear Power Station General Employee Training with LEOF Services Coordinator for offsite agencies called in to assist in emergency response.
13. Keep station personnel informed about the status of the event and their expected actions. Any or all of the following methods may be used:
  - Have Security make notifications using Emergency Plan Notifications General Order
  - Instant News
  - Plant announcements (EPIP-3.02, Attachment 14, PLANT ANNOUNCEMENTS, may be used)
  - Notify non-emergency response facility emergency assembly areas directly. Refer to Emergency Telephone Directory Section 2, Surry Station Emergency Assembly and Accountability Areas, for a list of areas and phone numbers. (Certain of these areas are listed in the Security Emergency Plan Notifications General Order.)
14. Get information regarding any injury and ensure it is forwarded to the LEOF and CERC. Use EPIP-3.02, Attachment 13, DATA SHEET FOR INJURED PERSONS.
15. Make event declaration announcements using the Gai-Tronics system (Channels 1, 2, 3 or 4) when directed by the Station Emergency Manager (SEM). Use EPIP-3.02, Attachment 14, PLANT ANNOUNCEMENTS.
16. Ensure arrangements are made for relief of personnel under your cognizance:
  - Administrative Support Team
  - Security Team
  - Fire Team
  - First Aid Team

<b>NUMBER</b>	<b>ATTACHMENT TITLE</b>	<b>REVISION</b>
<b>EPIP-3.02</b>	<b>EMERGENCY ADMINISTRATIVE DIRECTOR GUIDELINE</b>	<b>23</b>
<b>ATTACHMENT</b>		<b>PAGE</b>
<b>4</b>		<b>3 of 3</b>

**17. Coordinate TSC shift relief:**

**a. Determine relief requirements:**

- 1. Review EPIP-3.02, Attachment 15, SHIFT ROTATION SCHEDULE**
- 2. Identify additional staff requirements from emergency directors**

**b. Identify standby personnel (personnel who are available but not filling positions as primary responders)**

**c. Develop shift relief schedule:**

- Use Emergency Personnel Notification List (EPNL) to identify designated qualified personnel (Numbers following position titles on Attachment 15 correspond with position numbers appearing on the EPNL)
- Ask Emergency Directors to help select personnel for assignment
- Verify personnel are available and capable of responding
- Consider alternative personnel resources (North Anna personnel with similar assignments or persons who can be provided ad hoc training)
- Consider implementation of a split shift turnover (stagger turnover times by discipline)
- Record assignments on Attachment 15

**d. Ask SEM to approve schedule**

**e. Give instructions to standby personnel who are not presently needed (e.g., send home or remain on standby)**

**f. Notify relief shifts (Refer to EPNL for contact numbers):**

**1. Consider asking LEOF for assistance in notification**

**2. Notify relief personnel of the following:**

- Reporting time
- Ingress route to station
- Reporting location

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	TSC RESOURCE REQUEST LOG	23
ATTACHMENT		PAGE
5		1 of 1

ITEM #:	NAME OF ITEM/SERVICE:	
REQUESTED BY:		SOURCE/CONTACT:
STATUS ON ____ / ____ : (Date / Time)		
STATUS ON ____ / ____ : (Date / Time)		
STATUS ON ____ / ____ : (Date / Time)		

ITEM #:	NAME OF ITEM/SERVICE:	
REQUESTED BY:		SOURCE/CONTACT:
STATUS ON ____ / ____ : (Date / Time)		
STATUS ON ____ / ____ : (Date / Time)		
STATUS ON ____ / ____ : (Date / Time)		

ITEM #:	NAME OF ITEM/SERVICE:	
REQUESTED BY:		SOURCE/CONTACT:
STATUS ON ____ / ____ : (Date / Time)		
STATUS ON ____ / ____ : (Date / Time)		
STATUS ON ____ / ____ : (Date / Time)		

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY TECHNICAL DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
6		1 of 1

1. Verify organization (Technical Support Team):
  - a. Technical Support Team Leader
  - b. Operational Advisor
  - c. Reactor Engineer
  - d. Mechanical Engineer
  - e. Electrical Engineer
2. Notify Westinghouse (NSSS Vendor) point-of-contact. Refer to Emergency Telephone Directory.
3. Use ERFCS to assess emergency conditions. Refer to ERFCS User Reference Guide as necessary.
4. Determine whether any data collection needs exist beyond those normally satisfied by the 150-minute capacity ERFCS Historical File, which is normally activated when a trip signal is received.
5. Review Emergency Response Guideline Executive Volume Generic Issues section on Evaluations by Plant Engineering Staff for guidance on EOP-initiated requests for TSC consultation, guidance and/or decisions, as necessary.
6. Periodically assess need for sampling by Chemistry. At high activity levels, e.g., greater than 300  $\mu\text{Ci/cc}$ , the normal sampling system may be unavailable. Refer to CH-94-300, GUIDELINES FOR COLLECTING POST ACCIDENT SAMPLES, for Contingency Plan sampling considerations.
7. Analyze and develop solutions to engineering and reactor physics problems.
8. Assist in development of procedures.
9. Interface with NRC and aid in resolution of questions concerning licensing requirements.
10. IF LESS THAN one SAMG Decision Maker and three SAMG Evaluators available, THEN initiate actions to augment the TSC staff with qualified personnel. (Qualified personnel are listed at Positions 775 and 776 on the Emergency Personnel Notification List which is available from the EAD.)
11. IF event transitions into SAMG implementation, THEN do the following:
  - Have the SAMG Evaluators continually review the Diagnostic Flow Chart (DFC) and Severe Challenge Status Tree (SCST), and make sure results are made available to the SEM and EOD. Consider designating one Evaluator to track DFC and SCST status.
  - Assure SEM and EOD are advised of SAMG-suggested implementation methods.
  - Direct the SAMG Evaluators to use the SAMG indicated by the DFC and SCST, as appropriate.
12. Assure arrangements are made for relief of Technical Support Team and that the TSC relief shift includes at least one SAMG Decision Maker and three SAMG Evaluators.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY OPERATIONS DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
7		1 of 2

1. Establish communications with Control Room. Get operational status update. Provide oversight and direction on response activities.
2. Consider dispatching an individual to monitor Emergency Operations Communications Network in OSC and to interface with the OSC Director on operational matters.

**NOTE:**

- The TSC ventilation system is designed to automatically align for emergency operation when Safety Injection (SI) occurs.
- The Control Panel is located on the 27' level of the Service Building behind the Lunch Room. The top half (labeled MONITOR ROOM) is dedicated to the TSC Emergency Ventilation System.

3. Verify TSC on emergency ventilation (unless determined not necessary):

- a) IF SI occurred, THEN direct verification of ventilation system alignment using O-OP-VS-007, TECHNICAL SUPPORT CENTER VENTILATION (Section 5.2)

OR

Dispatch individual to verify indications on TSC Ventilation Control Panel:

- AOD-VS-VS-132A (Emergency Supply Fan Filter Inlet) - OPEN
  - AOD-VS-VS-132B (Emergency Supply Fan Outlet) - OPEN
  - 1-VS-F-150 (TSC Emergency Supply Fan) - ON
  - 1-VS-AC-150A (TSC Monitor Room Air Handling Unit) - ON
  - 1-VS-F-151 (Return Air Fan) - ON
- b) IF manual alignment of TSC ventilation for emergency operations is required, THEN direct performance of O-OP-VS-007, TECHNICAL SUPPORT CENTER VENTILATION (Section 5.2).
  - c) WHEN TSC ventilation can be returned to normal alignment, THEN direct performance of O-OP-VS-007, TECHNICAL SUPPORT CENTER VENTILATION (Section 5.3).

4. Verify availability of standby Operations personnel. Request additional personnel as required. Consider staging a share of Operations personnel in the OSC to support damage control response activities.
5. Use ERFCS to access emergency conditions. Refer to ERFCS User Reference Guide as necessary.
6. Evaluate status of unaffected unit.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY OPERATIONS DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
7		2 of 2

7. Assess events for reportability.
8. Provide status change data and recommendations to SEM.
9. Assist in procedure development.
10. Sound emergency alarms when necessary.
11. IF event transitions into SAMG implementation, THEN do the following:
  - Assure the SEM is kept informed of strategies being considered by the Control Room.
  - Maintain cognizance of the responsibility for directing Operations personnel in the development of possible methods to implement the SAMG recommended (or being considered) by the SAMG Evaluators.
  - Determine if equipment manipulations being requested by the Control Room should be evaluated by the SAMG Evaluators prior to the activity taking place.
12. Assure arrangements are made for relief of:
  - a. Control Room personnel (including on-shift STA)
  - b. Standby Operations personnel



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	STATION EMERGENCY MANAGER GUIDELINE	23
ATTACHMENT		PAGE
8		1 of 2

1. Verify emergency response organization (ERO):
  - a. TSC staff (Emergency Administrative Director (EAD))
  - b. Operations staff (Emergency Operations Director (EOD))
  - c. OSC staff (Emergency Maintenance Director (EMD))
  - d. HP and Chemistry (Radiological Assessment Director (RAD))
  - e. Security staff (Emergency Administrative Director (EAD))
2. Upon arrival at TSC:
  - a. Complete turnover with interim SEM.
  - b. Declare activation of facility to staff.
  - c. Identify yourself as SEM.
  - d. Provide initial status report/briefing.
3. The following responsibilities may NOT be delegated:
  - a. Classifying the emergency.
  - b. Notifying NRC, State and local governments of emergency status.
  - c. Recommending protective measures.
  - d. Authorizing emergency exposure.
4. When the LEOF is activated:
  - a. Transfer the following responsibilities to the Recovery Manager:
    - Notifying State and local governments of emergency status
    - Recommending offsite protective measures
    - Performing offsite dose projections
    - Providing radiological status to the NRC (after the NRC asks that the Health Physics Network (HPN) be established over ENS)
  - b. Notify TSC staff that above responsibilities transferred to LEOF.
5. Ensure timely notifications are made to offsite authorities.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	STATION EMERGENCY MANAGER GUIDELINE	23
ATTACHMENT		PAGE
8		2 of 2

6. Approve temporary procedures and changes as required. Procedures may be changed at the discretion of the SEM during emergency conditions.
7. Use ERFCS to assess emergency conditions and response actions. Refer to ERFCS User Reference Guide.
8. Periodically reference EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, to assess and manage the emergency.
9. Ensure arrangements for relief of the ERO through emergency directors.
10. If TSC is determined to be uninhabitable, consult with RAD about relocation to alternate facilities, e.g., Control Room, ESGR.
11. IF event transitions into SAMG implementation, THEN take responsibility for authorizing the SAMG strategy to be implemented based on recommendations from the EOD and/or ETD.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY PROCEDURES COORDINATOR GUIDELINE	23
ATTACHMENT		PAGE
9		1 of 1

1. Assist SEM in review and adherence to controlling procedures.
2. Monitor Emergency Action Level entry conditions.
3. Assure procedures are initiated as required.
4. Assure SEM periodically updates TSC staff on:
  - a. Emergency Status
  - b. Mitigation goals and techniques
  - c. Direction of overall response
5. Assure Emergency Communicators make periodic updates to offsite authorities.
6. Track and hold completed procedures and logs until TSC deactivation.
7. Collect procedures, ensure they are properly completed and made available for preparation of the Summary Report to the State, and ensure subsequent review by SNSOC. The Summary Report to the State is due within 72 hours of the declaration of a Notification of Unusual Event; or, 8 hours following termination of an Alert, Site Area Emergency or General Emergency.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	RADIOLOGICAL ASSESSMENT DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
10		1 of 2

1. Direct Radiological Protection response using EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
2. Use ERFCS to assess emergency conditions. Refer to ERFCS User Reference Guide.
3. Verify organization:
  - a. Dose Assessment Team
  - b. Offsite Monitoring Team
  - c. Evacuation Monitoring Team
  - d. Inplant Monitoring Team
  - e. Onsite Monitoring Team
  - f. Sample Analysis Team
  - g. Personnel Monitoring and Decontamination Team
  - h. Chemistry Team
4. Direct activities of:
  - a. Radiation Protection Supervisor
  - b. Dose Assessment Team
  - c. Offsite Monitoring Teams
  - d. Chemistry Team
5. Consider sending an individual to OSC to monitor Radiological Protection Communications Network, keep OSC Director informed about radiological conditions, and brief Damage Control Teams.
6. WHEN LEOF is activated, THEN do the following:
  - a. Direct Dose Assessment Team Leader to brief LEOF Radiological Assessment Coordinator (RAC).
  - b. Transfer direction of Offsite Monitoring Teams to RAC.
  - c. Assure LEOF assumes HPN communications.
  - d. Confer with RAC for consensus on accident type (to yield consistency in dose assessments).

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	RADIOLOGICAL ASSESSMENT DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
10		2 of 2

7. Determine release status and evaluate offsite dose assessment data.
8. Periodically update the SEM, TSC staff and Radiological Protection Communications Network:
  - Radiological status
  - Dosimetry requirements
  - Personal protective measures (i.e., restricted areas, areas requiring respiratory protection)
  - Emergency exposure
  - KI administration
9. Make recommendations for onsite and offsite protective measures to SEM.
10. Assure HP coverage or RWP available for damage control activities.
11. Assist in development of procedures.
12. Assure relief available for Radiological Protection personnel.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY MAINTENANCE DIRECTOR GUIDELINE	23
ATTACHMENT		PAGE
11		1 of 1

1. Verify organization:
  - Assistant Emergency Maintenance Director:
2. Control emergency maintenance activities using EPIP-5.08, DAMAGE CONTROL GUIDELINE.
3. Maintain communications with OSC.
4. Keep Damage Control Task Status Board up-to-date.
5. Periodically update SEM and TSC staff on emergency maintenance activities.
6. Assist in procedure development.
7. Ensure arrangements are made for relief of Assistant Emergency Maintenance Director.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	GUIDELINES FOR EMERGENCY COMMUNICATORS	23
ATTACHMENT		PAGE
12		1 of 1

**NOTE:** • The following ERFCs data groups list selected parameters for emergency situations. Refer to ERFCs User Reference Guide for additional instruction as necessary. Refer to the on-line Group Directory for a complete and current listing of ERFCs data groups.

<u>NUMBER</u>	<u>GROUP</u>	<u>DESCRIPTION</u>
35	ERDS1-1	UNIT 1 ERDS POINTS
36	ERDS1-2	UNIT 1 ERDS POINTS
37	ERDS2-1	UNIT 2 ERDS POINTS
38	ERDS2-2	UNIT 2 ERDS POINTS
39	COMERDS-1	COMMON ERDS POINTS

- The ERFCs Emergency Communicator screens can be accessed by typing EMCOMM and pressing the grey button labeled LAST.

1. NRC Communicator:

Continue notifications IAW EPIP-2.02, NOTIFICATION OF NRC.

Use ERFCs to get plant parameter data. IF the ERFCs fails, THEN get information from the Plant Status Communicator.

2. State and Local/LEOF Communicator:

Continue notifications IAW EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS, until LEOF assumes this responsibility.

IF ERFCs fails, THEN get information from Plant Status Communicator.

Radiological information should be obtained from the Radiological Assessment Director or Dose Assessment Team. Ensure completed message forms are transmitted to the LEOF and CERC (after activated) via telecopier. Ask for Administrative Support Team assistance if needed.

Maintain continuous communications with LEOF following transfer of responsibility for State and local notifications.

3. Plant Status Communicator:

Maintain TSC Parameter Status Board. Enter parameters of interest.

IF ERFCs fails in the TSC, THEN get information from Control Room.  
IF ERFCs is not available to the LEOF, THEN establish a conference network to share information.

<b>NUMBER</b>	<b>ATTACHMENT TITLE</b>	<b>REVISION</b>
EPIP-3.02	DATA SHEET FOR INJURED PERSONS	23
<b>ATTACHMENT</b>		<b>PAGE</b>
13		1 of 1

NAME OF INJURED PERSON: \_\_\_\_\_

EMPLOYER: \_\_\_\_\_

DATE/TIME OF INJURY: \_\_\_\_\_

DESCRIPTION OF EVENT: \_\_\_\_\_  
 \_\_\_\_\_

SUMMARY OF INJURIES: \_\_\_\_\_  
 \_\_\_\_\_

EXPOSURE/CONTAMINATION INFORMATION: \_\_\_\_\_  
 \_\_\_\_\_

TRANSPORT INFORMATION:

- a. Transported to: \_\_\_\_\_
- b. Mode of transport: \_\_\_\_\_
- c. Time departed station: \_\_\_\_\_
- d. Expected time of arrival at medical facility: \_\_\_\_\_

REMARKS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	PLANT ANNOUNCEMENTS	23
ATTACHMENT		PAGE
14		1 of 1

\*\*\*\*\*

**CAUTION:** Gai-tronics Channel 5 broadcasts in the Control Room only.

\*\*\*\*\*

**NOTE:**

- Sounding of the Emergency Alarm has to be coordinated with the EOD.
- Message content should be conveyed to the Control Room by the EOD because Channels 1, 2, 3 and 4 are not broadcast in the Control Room.
- Evacuation announcements are in EPIP-5.05, SITE EVACUATION.
- Announcements should address the emergency classification, reason for classification, status information and instructions for personnel.

1. Write out announcement below:

ATTENTION ALL PLANT PERSONNEL - ATTENTION ALL PLANT PERSONNEL...

\_\_\_\_\_ HAS BEEN DECLARED DUE TO \_\_\_\_\_  
(Emergency Classification)

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Get approval:

• Announcement approved by \_\_\_\_\_ on \_\_\_\_/\_\_\_\_/\_\_\_\_.  
(date / time)

3. Make announcement:

a. Read approved announcement using Gai-tronics.

b. Note date/time announcement made: \_\_\_\_/\_\_\_\_/\_\_\_\_.

c. Have announcement made in Administrative Building. (This attachment can be sent to Security via facsimile.)

<b>NUMBER</b>	<b>ATTACHMENT TITLE</b>  <b>SHIFT ROTATION SCHEDULE</b>	<b>REVISION</b>
<b>EPIP-3.02</b>		<b>23</b>
<b>ATTACHMENT</b>		<b>PAGE</b>
<b>15</b>		<b>1 of 1</b>

**NOTE:** The TSC shift relief complement is normally the full staff organization (positions listed below). The Station Emergency Manager has the authority to modify this organization.

EMERGENCY RESPONSE POSITION	FIRST SHIFT	SECOND SHIFT
	NAME	NAME
Station Emergency Manager (700)		
Emergency Procedures Coordinator (737)		
Emergency Operations Director (701)		
NRC ENS Emergency Communicator (705)		
TSC-to-LEOF Communicator (706)		
Plant Status Communicator (752)		
Emergency Technical Director (702)		
Technical Support Team Leader (753)		
Electrical Engineer (709)		
Mechanical Engineer (708)		
Reactor Engineer (707)		
Operational Advisor (767)		
Emergency Maintenance Director (703)		
Asst. Emergency Maintenance Director (703)		
Radiological Assessment Director (704)		
Dose Assessment Team Leader (711 or 712)		
Dose Assessment Team Member (711 or 712)		
Emergency Administrative Director (713)		
Administrative Support Team Leader (760)		
Administrative Support Team Clerk (762)		
Administrative Support Team Clerk (762)		
Administrative Support Team Clerk (762)		
Technical Support Center Recorder (761)		

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT (With 6 Attachments)	REVISION 16
		PAGE 1 of 12

#### PURPOSE

Use of backup (manual) dose assessment calculations to assess consequences of actual or potential offsite releases.

#### ENTRY CONDITIONS

Any of the following:

1. EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
2. EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE.
3. CPIP-6.2, RADIOLOGICAL ASSESSMENT COORDINATOR.
4. Direction by the Station Emergency Manager.

Approvals on File

Effective Date 08/29/03

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 2 of 12
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<b>STEP</b>	<b>ACTION/EXPECTED RESPONSE</b>	<b>RESPONSE NOT OBTAINED</b>
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\_\_\_\_ 1 INITIATE PROCEDURE:

- By: \_\_\_\_\_
- Date: \_\_\_\_\_
- Time: \_\_\_\_\_

**NOTE:** An initial offsite release assessment should be performed within 15 minutes of declaration of a General Emergency.

\_\_\_\_ 2 CHECK IF CURRENT EVENT  
CLASSIFICATION - NOTIFICATION OF  
UNUSUAL EVENT OR ALERT

IF unknown, THEN GO TO Step 3

OR

IF Site Area or General Emergency,  
THEN GO TO NOTE prior to Step 6.

**NOTE:** Evaluation of percent release limits in this procedure makes assumptions about flow rate, isotopic mixture and detector response. Further analysis upon completion of this procedure will be necessary to quantify releases.

\_\_\_\_ 3 CHECK IF EMERGENCY INVOLVES LIQUID  
RELEASE

GO TO NOTE prior to Step 5.

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <hr/> <b>PAGE</b> 3 of 12
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<b>STEP</b>	<b>ACTION/EXPECTED RESPONSE</b>	<b>RESPONSE NOT OBTAINED</b>
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**NOTE:** Results of Discharge Tunnel and SRF Liquid Monitor are not additive. The Discharge Tunnel is considered the final liquid effluent release point.

\_\_\_\_\_ 4 DETERMINE PERCENT RELEASE LIMIT FOR LIQUID RELEASE:

a) Get monitor indications:

- Discharge Tunnel: \_\_\_\_\_ cpm
- SRF RRM-131: \_\_\_\_\_ cpm

b) Use the following equations:

Discharge Tunnel:  
 \_\_\_\_\_ cpm  $\times 3.0E-3 = \% \text{ Release Limit}$

\_\_\_\_\_  $\times 3.0E-3 = \text{_____}\%$

RRM-131:  
 \_\_\_\_\_ cpm  $\times 3.37E-4 = \% \text{ Release Limit}$

\_\_\_\_\_  $\times 3.37E-4 = \text{_____}\%$

c) Compare percent release limit with emergency classification criteria:

- Percent release limit GREATER THAN OR EQUAL TO 1000% - ALERT
- Percent release limit GREATER THAN OR EQUAL TO 100% - NOTIFICATION OF UNUSUAL EVENT
- Percent release limit LESS THAN 100% - RELEASE WITHIN LIMITS

d) Notify RAD or RAC of event classification based on percent release limit for liquid release

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 16 PAGE 4 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p><b>NOTE:</b> Surry Radwaste Facility (SRF) Vent Monitor RRM-101 information is available from the SRF Control Room.</p>		
<p>5</p>	<p><b>DETERMINE PERCENT RELEASE LIMIT FOR GASEOUS RELEASE:</b></p> <p>a) Get highest value of the following:</p> <ul style="list-style-type: none"> <li>• VG-110 (cpm)</li> <li>• VG-131 (μCi/sec and μCi/cc)</li> <li>• GW-102 (cpm)</li> <li>• GW-130 (μCi/sec and μCi/cc)</li> <li>• SV-111 (cpm)</li> <li>• SV-211 (cpm)</li> <li>• RRM-101 (cpm)</li> </ul> <p>b) Get vacuum (inches Hg) for the following:</p> <ul style="list-style-type: none"> <li>• VG-110</li> <li>• GW-102</li> </ul> <p>c) Check - INCHES Hg &gt; 3</p> <p>d) Correct monitor count rates for vacuum</p> $\frac{\text{Monitor cpm}}{(30 - \text{inches Hg})/30} = \text{Corrected cpm}$	<p><u>IF</u> NO gaseous release, <u>THEN</u> GO TO Step 10.</p> <p>a) <u>IF</u> all values are <u>NOT</u> available, <u>THEN</u> get value of monitor in alarm.</p> <p>b) <u>IF</u> all values or value for monitor in alarm <u>NOT</u> available, <u>THEN</u> ask RAD or RAC to determine (as applicable):</p> <ul style="list-style-type: none"> <li>• If monitor count rate correction needed.</li> <li>• Estimated vacuum values for monitor(s).</li> </ul> <p>c) GO TO Step 5.e.</p>
<p>(STEP 5 CONTINUED ON NEXT PAGE)</p>		

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 5 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>5 DETERMINE PERCENT RELEASE LIMIT FOR GASEOUS RELEASE: (Continued)</p> <p>e) Get effluent flow rate (cfm) of the following:</p> <ul style="list-style-type: none"> <li>• Vent Vent flow rate</li> <li>• Process Vent flow rate</li> <li>• Air ejector flow rate</li> <li>• SRF Vent flow rate</li> </ul> <p>f) Record on Attachment 1</p> <p style="text-align: center;"><u>AND</u></p> <p>Determine total percent release limit</p> <p>g) Compare percent release limit with emergency classification criteria:</p> <ul style="list-style-type: none"> <li>• Percent release limit GREATER THAN OR EQUAL TO 1000% - ALERT</li> <li>• Percent release limit GREATER THAN OR EQUAL TO 100% - NOTIFICATION OF UNUSUAL EVENT</li> <li>• Percent release limit LESS THAN 100% - RELEASE WITHIN LIMITS</li> </ul> <p>h) Notify RAD or RAC of event classification based on percent release limit for gaseous release</p>	<p>e) <u>IF</u> flow rate <u>NOT</u> available, <u>THEN</u> use design flow rate:</p> <ul style="list-style-type: none"> <li>• Vent Vent = 172,000 cfm</li> <li>• Process Vent = 310 cfm</li> <li>• Air Ejector = 25 cfm</li> <li>• SRF Vent = 51,340 cfm</li> </ul>

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 6 of 12
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**STEP**

**ACTION/EXPECTED RESPONSE**

**RESPONSE NOT OBTAINED**

- NOTE:**
- No release through Air Ejector(s) should be assumed if Air Ejector is diverted to containment.
  - The total dose rate from each pathway should be calculated using Attachment 2, 3 and/or 4 if the release is from more than one pathway.

**6 DETERMINE SITE BOUNDARY DOSE RATE (mrem/hr) FOR VENTILATION RELEASE:**

a) Ask SEM (via RAD or RAC) to have someone observe the increasing or decreasing trends of the monitor

b) Check if release pathway is through any of the following:

- Process Vent
- Vent Vent
- Air Ejector
- SRF Vent

b) IF release is through the Main Steam System, THEN GO TO Step 7

OR

IF release is from containment leakage, THEN GO TO Step 8.

(STEP 6 CONTINUED ON NEXT PAGE)



<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 7 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	DETERMINE SITE BOUNDARY DOSE RATE (mrem/hr) FOR VENTILATION RELEASE: (Continued)	
	c) Check if monitors for affected pathway - OPERABLE:	c) <u>IF</u> Kaman Science Monitor inoperable or offscale, <u>THEN</u> do the following:
	<ul style="list-style-type: none"> <li>• Kaman Science</li> <li>• Eberline (SRF)</li> <li>• Victoreen</li> </ul>	1) Get parameters: <ul style="list-style-type: none"> <li>• Stability Class</li> <li>• Wind Speed (mph)</li> <li>• mR/hr from VG-123 or GW-122</li> <li>• Flow rate (cfm)</li> </ul>
		2) GO TO Step 6.e.
		<u>OR</u>
		<u>IF</u> SRF Eberline Monitor inoperable, <u>THEN</u> ask RAD or RAC for guidance
		<u>OR</u>
		<u>IF</u> Victoreen Monitor offscale or inoperable, <u>THEN</u> do the following:
		1) Use Kaman Science Monitor
		2) GO TO Step 6.d.

(STEP 6 CONTINUED ON NEXT PAGE)

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 8 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	<p><b>DETERMINE SITE BOUNDARY DOSE RATE (mrem/hr) FOR VENTILATION RELEASE: (Continued)</b></p> <p>d) Get the following information from RAD or RAC:</p> <ol style="list-style-type: none"> <li>1) Monitor number of interest</li> <li>2) Highest cpm (corrected for vacuum if necessary), <math>\mu\text{Ci/sec}</math> and <math>\mu\text{Ci/cc}</math> from monitor of interest</li> <li>3) Flow rate (cfm) for release pathway</li> <li>4) Stability Class</li> <li>5) Wind Speed</li> </ol> <p>e) Record above data (less Stability Class) on Attachment 2</p> <p>f) Get X/Q and conversion factors from Attachment 5:</p> <ul style="list-style-type: none"> <li>• Site Boundary X/Q for Stability Class in effect</li> <li>• Monitor Conversion Factor (MCF) based on accident type</li> <li>• TEDE DCF</li> <li>• THY DCF</li> </ul> <p>g) Record X/Q and conversion factors on Attachment 2</p> <p>h) Determine Site Boundary TEDE and THY CDE, mrem/hr, using Attachment 2</p> <p>i) Record results of Attachment 2 on Attachment 6</p>	

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 9 of 12
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**STEP**
**ACTION/EXPECTED RESPONSE**
**RESPONSE NOT OBTAINED**

- NOTE:**
- No release is assumed from the AFWPT pathway if the AFWPT is isolated.
  - Results of Attachments 2 and 3 are cumulative if the release is through both the Main Steam System and Ventilation System.

**7 DETERMINE SITE BOUNDARY DOSE RATE  
(mrem/hr) - MAIN STEAM SYSTEM:**

- |   |                         |
|---|-------------------------|
| <p>a) Check if actual or potential release pathway through Main Steam Safety Valves or Auxiliary Feedwater Pump Turbine Exhaust (AFWPT)</p> <p>b) Get number and mR/hr of the monitor(s) of interest from SEM (via RAD or RAC):</p> | <p>a) GO TO Step 8.</p> |
|---|-------------------------|

**Unit 1  
Main Steam**

MS-124 (A Safety Valves)  
MS-125 (B Safety Valves)  
MS-126 (C Safety Valves)

**Unit 2  
Main Steam**

MS-224 (A Safety Valves)  
MS-225 (B Safety Valves)  
MS-226 (C Safety Valves)

**Unit 1 AFWPT**  
MS-129

**Unit 2 AFWPT**  
MS-229

- c) Get the following information from RAD or RAC:
- Stability Class
  - Wind Speed
  - Number of Main Steam Safety Valves that have lifted or may potentially lift.
  - Status of AFWPT isolation

(STEP 7 CONTINUED ON NEXT PAGE)

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 10 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>7 DETERMINE SITE BOUNDARY DOSE RATE (mrem/hr) - MAIN STEAM SYSTEM: (Continued)</p> <p>d) Get X/Q and conversion factors from Attachment 5:</p> <ul style="list-style-type: none"> <li>• Site Boundary X/Q for Stability Class in effect</li> <li>• Monitor Conversion Factor (MCF) based on accident type</li> <li>• TEDE DCF</li> <li>• THY DCF</li> </ul> <p>e) Record monitor readings (mR/hr), X/Q, wind speed, # valves and conversion factors on Attachment 3</p> <p>f) Determine Site Boundary TEDE and THY CDE, mrem/hr, using Attachment 3</p> <p>g) Record results of Attachment 3 on Attachment 6</p>	

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 11 of 12
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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**NOTE:** Results of Attachments 2, 3 and 4 are cumulative if the release is through the Ventilation System, Main Steam System and Containment.

**8 DETERMINE SITE BOUNDARY DOSE RATE (mrem/hr) - CONTAINMENT LEAKAGE:**

a) Check if actual or potential release pathway from Containment Leakage

a) IF NO release pathway from containment, THEN GO TO Step 9.

b) Get CHRRMS reading, R/hr

Unit 1	Unit 2
RMS-127	RMS-227
RMS-128	RMS-228

c) Get the following information from RAD or RAC:

- Stability Class
- Wind Speed

d) Get X/Q and conversion factors from Attachment 5:

- Site Boundary X/Q for Stability Class in effect
- Monitor Conversion Factor (MCF) based on accident type
- TEDE DCF
- THY DCF

e) Record highest monitor reading for affected unit(s) (R/hr), X/Q, wind speed and conversion factors on Attachment 4

f) Determine Site Boundary TEDE and THY CDE, mrem/hr, using Attachment 4

g) Record results of Attachment 4 on Attachment 6

<b>NUMBER</b> EPIP-4.08	<b>PROCEDURE TITLE</b> INITIAL OFFSITE RELEASE ASSESSMENT	<b>REVISION</b> 16 <b>PAGE</b> 12 of 12
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<b>STEP</b>	<b>ACTION/EXPECTED RESPONSE</b>	<b>RESPONSE NOT OBTAINED</b>
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\_\_\_\_\_ 9 DETERMINE DOSE RATES (mrem/hr) AT  
2, 5 AND 10 MILES:

- a) Use Attachment 6
- b) Add results of appropriate release pathways:
  - Vent (Attachment 2)
  - Main Steam (Attachment 3)
  - Containment (Attachment 4)
- c) Determine Stability Class correction factor for distance of interest
- d) Do calculation

AND

Determine TEDE and THY CDE at  
2, 5 and 10 miles

- e) Report results to RAD or RAC

\_\_\_\_\_ 10 TERMINATE EPIP-4.08:

- Give completed EPIP-4.08, forms and other applicable records to the RAD or RAC
- Completed by: \_\_\_\_\_
- Date: \_\_\_\_\_
- Time: \_\_\_\_\_

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	% RELEASE LIMIT WORKSHEET	16
ATTACHMENT		PAGE
1		1 of 1

Date: \_\_\_\_\_; Time: \_\_\_\_\_

% RELEASE LIMIT

VENT VENT:

	CPM *	x	CFM	x	CF	=	%	
VG-110:		x		x	4.96 E-8	=		Highest %
	μCi/sec	x	CF			=	%	
VG-131:		x	3.52 E-3			=		
	μCi/cc	x	CFM		CF	=	%	
VG-131:		x		x	1.66	=		

\* Correction for vacuum may be necessary. Refer to Step 5.c.

PROCESS VENT:

	CPM *	x	CFM	x	CF	=	%	
GW-102:		x		x	3.07 E-9	=		Highest %
	μCi/sec	x	CF			=	%	
GW-130:		x	2.18 E-5			=		
	μCi/cc	x	CFM		CF	=	%	
GW-130:		x		x	1.03 E-2	=		

\* Correction for vacuum may be necessary. Refer to Step 5.c.

UNIT 1 AIR EJECTOR:

	CPM	x	CFM	x	CF	=	%	
SV-111:		x		x	7.16 E-8	=		

UNIT 2 AIR EJECTOR:

	CPM	x	CFM	x	CF	=	%	
SV-211:		x		x	7.16 E-8	=		

SURRY RADWASTE FACILITY:

	CPM	x	CFM	x	CF	=	%	
RRM-101:		x		x	1.74 E-6	=		

Completed by: \_\_\_\_\_ TOTAL % RELEASE LIMIT: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_ / \_\_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	VENT RELEASE SITE BOUNDARY DOSE RATE	16
ATTACHMENT		PAGE
2		1 of 3

- NOTE:**
- Site Boundary X/Q and Monitor Conversion Factors (MCF) are provided on Attachment 5.
  - VG-123 and GW-122 should only be used when KAMAN or Normal Range Monitors are offscale or inoperable.

Date: \_\_\_\_\_; Time: \_\_\_\_\_

**VENT VENT:**

VG-110: ( CPM \* x CFM x X/Q x MCF ) / WINDSPEED = Value  
 ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

VG-131: (  $\mu$ Ci/sec x 1.0E-3 x X/Q ) / WINDSPEED = Value  
 ( \_\_\_\_\_ x 1.0E-3 x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

VG-131: (  $\mu$ Ci/cc x CFM x 4.72E-1 x X/Q ) / WINDSPEED = Value  
 ( \_\_\_\_\_ x \_\_\_\_\_ x 4.72E-1 x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

VG-123: ( mr/hr x CFM x X/Q x MCF ) / WINDSPEED = Value  
 ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

\* Correction for vacuum may be necessary.  
 Refer to Steps 6.d.2 and 5.c.

Record highest Vent Vent value (mrem-Ci/Rem-m<sup>3</sup>) above on Page 3 of Attachment 2.

**AIR EJECTOR:**

SV-111: ( CPM x CFM x X/Q x MCF ) / WINDSPEED = Value  
 ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

SV-211: ( CPM x CFM x X/Q x MCF ) / WINDSPEED = Value  
 ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

TOTAL OF AIR EJECTORS = \_\_\_\_\_

Record sum of Air Ejector values on Page 3 of Attachment 2.



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	VENT RELEASE SITE BOUNDARY DOSE RATE	16
ATTACHMENT		PAGE
2		2 of 3

- NOTE:**
- Site Boundary X/Q and Monitor Conversion Factors (MCF) are provided on Attachment 5.
  - VG-123 and GW-122 should only be used when KAMAN or Normal Range Monitors are offscale or inoperable.

**PROCESS VENT:**

$$\begin{aligned} \text{GW-102: } & ( \text{CPM} \times \text{CFM} \times \text{X/Q} \times \text{MCF} ) / \text{WINDSPEED} & = \text{Value} \\ & ( \quad \times \quad \times \quad \times \quad ) / \quad & = \quad \\ \text{GW-130: } & ( \mu\text{Ci/sec} \times 1.0\text{E-3} \times \text{X/Q} ) / \text{WINDSPEED} & = \text{Value} \\ & ( \quad \times 1.0\text{E-3} \times \quad ) / \quad & = \quad \\ \text{GW-130: } & ( \mu\text{Ci/cc} \times \text{CFM} \times 4.72\text{E-1} \times \text{X/Q} ) / \text{WINDSPEED} & = \text{Value} \\ & ( \quad \times \quad \times 4.72\text{E-1} \times \quad ) / \quad & = \quad \\ \text{GW-122: } & ( \text{mr/hr} \times \text{CFM} \times \text{X/Q} \times \text{MCF} ) / \text{WINDSPEED} & = \text{Value} \\ & ( \quad \times \quad \times \quad \times \quad ) / \quad & = \quad \end{aligned}$$

\* Correction for vacuum may be necessary.  
Refer to Steps 6.d.2 and 5.c.

Record highest Process Vent value (mrem-Ci/Rem-m<sup>3</sup>) above on Page 3 of Attachment 2.

**SURRY RADWASTE FACILITY:**

$$\begin{aligned} \text{RRM-101: } & ( \text{CPM} \times \text{CFM} \times \text{X/Q} \times \text{MCF} ) / \text{WINDSPEED} & = \text{Value} \\ & ( \quad \times \quad \times \quad \times \quad ) / \quad & = \quad \end{aligned}$$

Record Surry Radwaste Facility value on Page 3 of Attachment 2.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	VENT RELEASE SITE BOUNDARY DOSE RATE	16
ATTACHMENT		PAGE
2		3 of 3

- 1. Record the following monitor values in left-hand column of table below:
- Highest Vent Vent value from Attachment 2 Page 1
  - Sum of Air Ejector values from Attachment 2 Page 1
  - Highest Process Vent value from Attachment 2 Page 2
  - Surry Radwaste Facility value from Attachment 2 Page 2
- 2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 5 in top box of middle and right-hand columns in table below.
- 3. Multiply monitor values in left-hand column by TEDE DCF and THY CDE DCF. Record result(s) in intersecting space.
- 4. Sum values in middle and right-hand columns to determine Site Boundary TEDE and THY CDE mrem/hr for vent release.

	TEDE DCF from Attachment 5:	THY CDE DCF from Attachment 5:
HIGHEST VENT VENT VALUE: _____		
SUM OF AIR EJECTOR VALUES: _____		
HIGHEST PROCESS VENT VALUE: _____		
SURRY RADWASTE FACILITY: _____		N/A
SUM OF VENT VENT, PROCESS VENT, AIR EJECTORS AND SURRY RADWASTE FACILITY	SUM TEDE mrem/hr: _____	SUM THY CDE mrem/hr: _____

Completed by: \_\_\_\_\_

Date/Time: \_\_\_\_\_ / \_\_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	MAIN STEAM RELEASE - SITE BOUNDARY DOSE RATE	16
ATTACHMENT		PAGE
3		1 of 2

**NOTE:** Monitor Conversion Factors (MCF) and Site Boundary X/Q are provided on Attachment 5.

Date: \_\_\_\_\_; Time: \_\_\_\_\_

**UNIT 1 MAIN STEAM:**

( mR/hr x # Valves x X/Q x MCF ) / WINDSPEED = Value

MS-124: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

MS-125: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

MS-126: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

TOTAL OF UNIT 1 MAIN STEAM = \_\_\_\_\_

**UNIT 1 AFWPT:**

( mR/hr x X/Q x MCF ) / WINDSPEED = Value

MS-129: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

**UNIT 2 MAIN STEAM:**

( mR/hr x # Valves x X/Q x MCF ) / WINDSPEED = Value

MS-224: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

MS-225: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

MS-226: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

TOTAL OF UNIT 2 MAIN STEAM = \_\_\_\_\_

**UNIT 2 AFWPT:**

( mR/hr x MCF x X/Q ) / WINDSPEED = Value

MS-229: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

<b>NUMBER</b>	<b>ATTACHMENT TITLE</b>	<b>REVISION</b>
EPIP-4.08	MAIN STEAM RELEASE - SITE BOUNDARY DOSE RATE	16
<b>ATTACHMENT</b>		<b>PAGE</b>
3		2 of 2

- 1. Record the following monitor values in left-hand column of table below (enter N/A if unit NOT affected):
- Total Main Steam value for affected unit(s)
  - AFWPT value for affected unit(s)
- 2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 5 in top box of middle and right-hand columns in table below.
- 3. Multiply monitor values in left-hand column by TEDE DCF and THY CDE DCF. Record result(s) in intersecting space.
- 4. Sum values in middle and right-hand columns to determine Site Boundary TEDE and THY CDE mR/hr for Main Steam release (sum of Main Steam and AFWPT).

	TEDE DCF from Attachment 5:	THY CDE DCF from Attachment 5:
TOTAL OF UNIT 1 MAIN STEAM VALUES: _____		
UNIT 1 AFWPT VALUE: _____		
TOTAL OF UNIT 2 MAIN STEAM VALUES: _____		
UNIT 2 AFWPT VALUE: _____		
SUM OF AFFECTED UNIT('s) MAIN STEAM AND AFWPT	TEDE mrem/hr: _____	THY CDE mrem/hr: _____

Completed by: \_\_\_\_\_

Date/Time: \_\_\_\_\_ / \_\_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	CONTAINMENT RELEASE - SITE BOUNDARY DOSE RATE	16
ATTACHMENT		PAGE
4		1 of 1

**NOTE:** • Monitor Conversion Factors (MCF), Site Boundary X/Q, TEDE Dose Conversion Factors (TEDE DCF) and Thyroid CDE Factors (THY DCF) are provided on Attachment 5.

- The CHRRMS Monitor Conversion Factor is calculated for design leak rate of 0.1% per day.

Date: \_\_\_\_\_; Time: \_\_\_\_\_

**CONTAINMENT:** ( R/hr x X/Q x MCF ) / WINDSPEED = Value  
 RMS-127 or  
 RMS-128 ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

RMS-227 or  
 RMS-228: ( \_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ ) / \_\_\_\_\_ = \_\_\_\_\_

1. Record result of calculation above in left-hand column of table below (enter N/A if unit NOT affected):
2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 5 in top box of middle and right-hand columns in table below.
3. Multiply monitor value in left-hand column by TEDE DCF and THY CDE DCF. Record result(s) in intersecting space.
4. Sum values in middle and right-hand columns to determine Site Boundary TEDE and THY CDE mrem/hr for Containment release.

	TEDE DCF from Attachment 5:	THY CDE DCF from Attachment 5:
UNIT 1 CONTAINMENT VALUE: _____		
UNIT 2 CONTAINMENT VALUE: _____		
SUM OF AFFECTED UNIT('s) CONTAINMENT(s)	TEDE mrem/hr: _____	THY CDE mrem/hr: _____

Completed by: \_\_\_\_\_  
 Date/Time: \_\_\_\_\_ / \_\_\_\_\_

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	SITE BOUNDARY X/Q VALUES, MONITOR CONVERSION FACTORS, TEDE FACTORS, AND THYROID CDE FACTORS	16
ATTACHMENT		PAGE
5		1 of 2

X/Q, SITE BOUNDARY:

STABILITY CLASS

A	B	C	D	E	F	G
4.82 E-5	1.61 E-4	3.28 E-4	7.54 E-4	1.2 E-3	1.87 E-3	2.44 E-3

MONITOR CONVERSION FACTORS (MCF) for Vent Release (Attachment 2):

MONITOR	MSLB	SGTR	FHA	WGDT	VCT
VG-110	1.3E-8	1.3E-8	1.4E-8	-----	-----
VG-123	22.8	15.3	56.6	-----	-----
GW-102	-----	-----	-----	1.07E-7	1.31E-7
GW-122	-----	-----	-----	58.1	17.4
SV-111 SV-211	2.3E-9	1.8E-9	-----	-----	-----
RRM-101	-----	-----	-----	-----	-----

MONITOR	LOCA MELT	LOCA GAP	LOCA PC	LKD. ROTOR	NORMAL	SRF,
VG-110	7.6E-9	7.0E-9	1.3E-8	-----	1.4E-8	-----
VG-123	1.47	1.40	16.2	-----	36.6	-----
GW-102	-----	-----	-----	-----	1.38E-7	-----
GW-122	-----	-----	-----	-----	37.5	-----
SV-111 SV-211	2.3E-10	2.3E-10	1.7E-9	2.4E-10	1.7E-9	-----
RRM-101	-----	-----	-----	-----	1.9E-8	2.6E-7

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	SITE BOUNDARY X/Q VALUES, MONITOR CONVERSION FACTORS, TEDE FACTORS, AND THYROID CDE FACTORS	16
ATTACHMENT		PAGE
5		2 of 2

MONITOR CONVERSION FACTORS (MCF) for Main Steam Release (Attachment 3):

MONITOR	MSLB	SGTR	LKD. ROTOR	NORMAL
MS-1(2)24 MS-1(2)25 MS-1(2)26	5.6E+3	4.5E+3	3.87E+2	3.1E+3
MS-1(2)29	1.2E+4	1.25E+4	1.9E+3	7.5E+3

MONITOR CONVERSION FACTORS (MCF) for Containment Release (Attachment 4):

MONITOR	LOCA MELT	LOCA GAP	LOCA PC
RMS-1(2)27 RMS-1(2)28	7.3E-2	6.9E-2	1.6E-1

TEDE DOSE CONVERSION FACTORS (TEDE DCF):

MSLB	SGTR	FHA *	WGDT	VCT
5.5E+3	2.8E+3	3.1E+1	1.78E+1	4.0E+1

\* IF unfiltered Fuel Handling Accident release, THEN use 1.2E+2 for TEDE DCF.

LOCA MELT	LOCA GAP	LOCA PC	LKD. ROTOR	SRF
1.4E+3	1.8E+3	1.4E+2	7.2E+3	2.1E+2

THYROID CDE DOSE CONVERSION FACTORS (THY DCF):

	MSLB	SGTR	FHA	WGDT	VCT
UNFILTERED	2.0E+4	5.7E+3	6.8E-1	0	0
FILTERED	2.5E+2	6.9E+1	6.8E-2	0	0

	LOCA MELT	LOCA GAP	LOCA PC	LKD. ROTOR	SRF
UNFILTERED	7.9E+3	1.6E+4	6.6E+1	3.7E+4	0
FILTERED	7.9E+2	1.6E+3	6.6E+0	-----	0

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	DETERMINATION OF 2, 5 AND 10 MILE DOSE RATES	16
ATTACHMENT		PAGE
6		1 of 1

STABILITY CLASS CORRECTION FACTOR

MILES	A	B	C	D	E	F	G
2	1.37E-2	1.12E-2	4.27E-2	6.37E-2	8.33E-2	1.28E-1	2.38E-1
5	6.02E-3	2.36E-3	8.84E-3	1.59E-2	2.42E-2	3.74E-2	7.79E-2
10	3.11E-3	1.24E-3	2.80E-3	5.84E-3	1.00E-2	1.55E-2	3.24E-2

CALCULATION:

SUM OF TEDE: ATT. 2: _____ ATT. 3: _____ ATT. 4: _____ SUM: _____	x	CORRECTION FACTOR 2 miles:	=	TEDE mrem/hr 2 miles:
		CORRECTION FACTOR 5 miles:	=	TEDE mrem/hr 5 miles:
		CORRECTION FACTOR 10 miles:	=	TEDE mrem/hr 10 miles:
TEDE DOSE RATE, SITE BOUNDARY mrem/hr				

SUM OF THY CDE: ATT. 2: _____ ATT. 3: _____ ATT. 4: _____ SUM: _____	x	CORRECTION FACTOR 2 miles:	=	THY CDE mrem/hr 2 miles:
		CORRECTION FACTOR 5 miles:	=	THY CDE mrem/hr 5 miles:
		CORRECTION FACTOR 10 miles:	=	THY CDE mrem/hr 10 miles:
THY. CDE DOSE RATE SITE BOUNDARY mrem/hr				