

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 15, 2002

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

Serial No. 02-238
NAPS/MPW
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
REVISION TO EMERGENCY PLAN IMPLEMENTING PROCEDURE

Pursuant to 10 CFR 50.54(q), enclosed are recent revisions to a North Anna 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 Attachment 1, Tabulation of Changes.

Very truly yours,



D. A. Heacock
Site Vice President

Commitments Stated or Implied: None.

Enclosures

cc: U.S. Nuclear Regulatory Commission (2 copies)
Region II
Atlanta Federal Center
61 Forsyth St., SW, Suite 23T85
Atlanta, GA 30303

Mr. M. J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

A045

**ATTACHMENT 1
TABULATION OF CHANGES**

**VIRGINIA ELECTRIC AND POWER COMPANY
REVISION TO NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURES**

Enclosed is a recent revision to a North Anna Power Station Emergency Plan Implementing Procedure (EPIP). Please take the following actions in order to keep your manual updated.

REMOVE AND DESTROY	DATED	INSERT	EFFECTIVE DATE
EPIP-3.02, Rev. 18	12/17/97	EPIP-3.02, Rev. 19	04/09/02
EPIP-4.01, Rev. 17	10/17/01	EPIP-4.01, Rev. 18	04/09/02
EPIP-4.22, Rev. 13	04/02/93	EPIP-4.22, Rev. 14	04/09/02
EPIP-4.23, Rev. 13	03/13/96	EPIP-4.23, Rev. 14	04/09/02
EPIP-4.30, Rev. 4	01/04/99	EPIP-4.30, Rev. 5	04/09/02
EPIP-2.04, Rev. 3	08/07/92	Note	

Note: The requirements in EPIP 2.04, Transmittal of Plant, Radiological, and Emergency Status have been incorporated in to revision 19 of EPIP-3.02.

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

NORTH ANNA POWER STATION
 LIST OF NAPS EMERGENCY PLAN IMPLEMENTATION PROCEDURES
 CHECK DMIS FOR LATEST DOCUMENT INFORMATION

DOCUMENT NUMBER	REV	APPROVAL **DATE**	EFFECT** **DATE**	DOCUMENT TITLE
EPIP-1.01	035	02/11/02	03/14/02	EMERGENCY MANAGER CONTROLLING PROCEDURE
EPIP-1.02	011	09/07/99	10/01/99	RESPONSE TO NOTIFICATION OF UNUSUAL EVENT
EPIP-1.03	014	09/07/99	10/01/99	RESPONSE TO ALERT
EPIP-1.04	014	09/07/99	10/01/99	RESPONSE TO SITE AREA EMERGENCY
EPIP-1.05	016	09/07/99	10/01/99	RESPONSE TO GENERAL EMERGENCY
EPIP-1.06	004	09/05/01	09/05/01	PROTECTIVE ACTION RECOMMENDATIONS
EPIP-2.01	024	09/24/01	09/26/01	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS
EPIP-2.02	014	01/04/99	01/29/99	NOTIFICATION OF NRC
EPIP-3.02	019	04/05/02	04/09/02	ACTIVATION OF TECHNICAL SUPPORT CENTER
EPIP-3.03	012	12/20/93	01/01/94	ACTIVATION OF OPERATIONAL SUPPORT CENTER
EPIP-3.04	015	07/14/98	07/20/98	ACTIVATION OF LOCAL EMERGENCY OPERATIONS FACILITY
EPIP-3.05	001	09/07/99	10/01/99	AUGMENTATION OF EMERGENCY RESPONSE ORGANIZATION
EPIP-4.01	018	04/05/02	04/09/02	RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE
EPIP-4.02	012	07/25/00	08/02/00	RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE
EPIP-4.03	011	12/20/93	01/01/94	DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE
EPIP-4.04	009	11/21/94	11/28/94	EMERGENCY PERSONNEL RADIATION EXPOSURE
EPIP-4.05	009	01/28/00	02/04/00	RESPIRATORY PROTECTION AND KI ASSESSMENT
EPIP-4.06	009	12/21/95	12/28/95	PERSONNEL MONITORING AND DECONTAMINATION
EPIP-4.07	014	09/29/00	10/06/00	PROTECTIVE MEASURES
EPIP-4.08	013	07/26/01	09/13/01	INITIAL OFFSITE RELEASE ASSESSMENT
EPIP-4.09	012	07/26/01	09/13/01	SOURCE TERM ASSESSMENT
EPIP-4.10	010	04/23/98	04/28/98	DETERMINATION OF X/Q
EPIP-4.13	009	09/29/00	10/06/00	OFFSITE RELEASE ASSESSMENT WITH ENVIRONMENTAL DATA

NORTH ANNA POWER STATION
 LIST OF NAPS EMERGENCY PLAN IMPLEMENTATION PROCEDURES
 CHECK DMIS FOR LATEST DOCUMENT INFORMATION

DOCUMENT NUMBER	REV	APPROVAL **DATE**	EFFECT** **DATE**	DOCUMENT TITLE
EPIP-4.14	007	12/20/93	01/01/94	INPLANT MONITORING
EPIP-4.15	011	02/18/00	02/28/00	ONSITE MONITORING
EPIP-4.16	014	02/18/00	02/28/00	OFFSITE MONITORING
EPIP-4.17	014	08/12/98	08/14/98	MONITORING OF EMERGENCY RESPONSE FACILITIES
EPIP-4.18	011	08/12/98	08/14/98	MONITORING OF LEOF
EPIP-4.21	008	12/20/93	01/01/94	EVACUATION AND REMOTE ASSEMBLY AREA MONITORING
EPIP-4.22	014	04/05/02	04/09/02	POST ACCIDENT SAMPLING OF CONTAINMENT AIR
EPIP-4.23	014	04/05/02	04/09/02	POST ACCIDENT SAMPLING OF REACTOR COOLANT
EPIP-4.24	011	01/25/02	01/28/02	GASEOUS EFFLUENT SAMPLING DURING AN EMERGENCY
EPIP-4.25	008	07/23/93	07/23/93	LIQUID EFFLUENT SAMPLING DURING AN EMERGENCY
EPIP-4.26	011	07/26/01	09/13/01	HIGH LEVEL ACTIVITY SAMPLE ANALYSIS
EPIP-4.28	007	01/09/97	01/14/97	TSC/LEOF RADIATION MONITORING SYSTEM
EPIP-4.30	005	04/05/02	04/09/02	USE OF MIDAS CLASS A MODEL
EPIP-4.31	003	06/20/94	06/20/94	USE OF MIDAS CLASS B MODEL
EPIP-4.33	003	11/28/00	11/30/00	HEALTH PHYSICS NETWORK COMMUNICATIONS
EPIP-4.34	002	02/18/00	02/28/00	FIELD TEAM RADIO OPERATOR INSTRUCTIONS
EPIP-5.01	011	12/11/96	12/17/96	TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL
EPIP-5.03	016	02/18/00	02/28/00	PERSONNEL ACCOUNTABILITY
EPIP-5.04	008	07/20/99	07/22/99	ACCESS CONTROL
EPIP-5.05	013	06/25/96	07/02/96	SITE EVACUATION
EPIP-5.07	011	07/25/00	08/02/00	ADMINISTRATION OF RADIOPROTECTIVE DRUGS
EPIP-5.08	007	11/28/00	11/30/00	DAMAGE CONTROL GUIDELINE
EPIP-5.09	003	03/26/99	03/31/99	SECURITY TEAM LEADER CONTROLLING PROCEDURE

NORTH ANNA POWER STATION
LIST OF NAPS EMERGENCY PLAN IMPLEMENTATION PROCEDURES
CHECK DMIS FOR LATEST DOCUMENT INFORMATION

DOCUMENT NUMBER	REV	APPROVAL **DATE**	EFFECT** **DATE**	DOCUMENT TITLE
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EPIP-6.01	007	05/12/99	05/17/99	RE-ENTRY/RECOVERY GUIDELINE

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER EPIP-3.02	PROCEDURE TITLE ACTIVATION OF TECHNICAL SUPPORT CENTER (With 14 Attachments)	REVISION 19
		PAGE 1 of 4

PURPOSE

1. To provide guidance to personnel responsible for TSC Activation.
2. To provide guidance to TSC members.

**LEVEL 2 DISTRIBUTION
This Document Should Be Verified
And Annotated To A Controlled Source
As Required to Perform Work**

ENTRY CONDITIONS

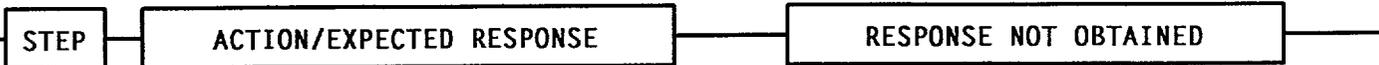
Any one of the following:

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

Approvals on File

Effective Date 4/9/2002

NUMBER EPIP-3.02	PROCEDURE TITLE ACTIVATION OF TECHNICAL SUPPORT CENTER	REVISION 19
		PAGE 2 of 4



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 CHECK ACCOUNTABILITY CARD READER - IN SERVICE

IF accountability card reader NOT in-service, THEN do the following:

- a) Initiate Attachment 1, Entry/Exit Log.
- b) WHEN Emergency Assembly Area Leaders are directed to report results of accountability, THEN use Attachment 1 to provide badge numbers of personnel in TSC.

____ 3 HAVE PERSONNEL MEETING EITHER OF THE FOLLOWING CRITERIA RECORD INFORMATION ON ATTACHMENT 1, ENTRY/EXIT LOG

- Exiting the TSC
- OR
- Entering TSC after accountability completed

____ 4 SET UP TSC USING ATTACHMENT 2

NUMBER EPIP-3.02	PROCEDURE TITLE ACTIVATION OF TECHNICAL SUPPORT CENTER	REVISION 19
		PAGE 3 of 4

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- 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

IF any positions vacant, THEN do the following:

- Get EPNL to identify designees for vacant position(s).
- Compare list of persons notified by automated notification (if available) to determine if any designees for vacant positions are enroute.
- Attempt to contact personnel using contact numbers in EPNL.

_____ 6 NOTIFY STATION EMERGENCY MANAGER OF TSC MINIMUM STAFFING AND EQUIPMENT STATUS SO THAT TSC MAY BE DECLARED ACTIVATED

_____ 7 DETERMINE STATUS OF TSC FULL STAFF POSITIONS

IF any positions vacant, THEN do the following:

- Get EPNL to identify designees for vacant position(s).
- Compare list of persons notified by automated notification (if available) to determine if any designees for vacant positions are enroute.
- Attempt to contact personnel using contact numbers in EPNL.

NUMBER EPIP-3.02	PROCEDURE TITLE ACTIVATION OF TECHNICAL SUPPORT CENTER	REVISION 19 <hr/> PAGE 4 of 4
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 8	<p> <u>WHEN</u> STATION EMERGENCY MANAGER DIRECTS TSC DEACTIVATION, <u>THEN</u> SECURE TSC: </p> <p>a) Restore TSC to original status using Attachment 2, TSC Set-Up and Take-Down</p> <p>b) Affix completed Attachments to this EPIP:</p> <ul style="list-style-type: none"> • Attachment 1, Entry/Exit Log • Attachment 3, page 3, Resource Request Log • Attachment 12, Shift Rotation Schedule • Attachment 13, Data Sheet for Injured Person • Attachment 14, Plant Status 	Retain this procedure until TSC deactivated.
_____ 9	<p> TERMINATE EPIP-3.02: </p> <ul style="list-style-type: none"> • Give completed EPIP-3.02, forms and other applicable records to the Emergency Procedures Coordinator • Completed by: _____ Date: _____ Time: _____ 	

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	TSC SET-UP AND TAKE-DOWN	19
ATTACHMENT 2		PAGE 1 of 1

1. SET-UP TSC:

- a) Distribute supplies:
 - Position binders from Emergency Admin. Closet
 - EPIP-3.02 Director Guidelines (Attachments 3 - 10 of this EPIP)
- b) Activate the following equipment:
 - Alarm and Utility Printers using Attachment 11
 - CRTs and Terminals
 - PA System
 - Verify Gai-Tronics audible (adjust volume as necessary)

NOTE: The following items are to be completed as you are able. The EAD is to be informed of those items which have not been accomplished.

- c) Do the following checks and tests:
 - Verify back entrance sealed (blast door CLOSED)
 - Verify photo copier working
 - Check paper level in printer(s), copier(s) and facsimile machine(s)
 - Synchronize the clocks to SPDS time
 - Test telecopier
 - Test Aperture Card Reader/Printer
 - Verify telephones operable
- d) Report any discrepancies to the EAD

2. TAKE-DOWN (RESTORE) TSC:

- a) Restock procedures
- b) Turn all CRTs screen brightness down
- c) Turn off Alarm and Utility Printers
- d) Verify Operations has realigned ventilation system to normal mode
- e) Direct HP to perform PT on emergency kits
- f) Check emergency supplies and restock as required
- g) Arrange for laborers to clean TSC
- h) Clean all Status Boards
- i) Replace break-away lock(s)
- j) Submit work orders on any equipment malfunctions

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY ADMINISTRATIVE DIRECTOR GUIDELINE	19
ATTACHMENT		PAGE
3		1 of 3

- __1. Verify Organization:
 - a) Emergency Communicators
 - b) Administrative Support Team:
 - Administrative Support Team Leader
 - Safety/Loss Prevention Support (OSC)
 - Clerks
 - c) TSC Logkeeper
 - d) Security Team:
 - Security Shift Supv. (Team Leader)
 - Security Officers
- __2. Assist in logistics of TSC activation and operation.
- __3. Provide clerical and records support.
- __4. Ensure TSC Logkeeper maintains chronology of key events, including status changes, management decisions in response to event assessment and response, etc.
- __5. Ensure TSC accountability is maintained.
- __6. Direct Security Team activities:
 - Personnel Accountability
 - Access control
 - LEOF activation
 - Liaison with local law enforcement agencies
 - Notification of offsite assistance (police, fire and rescue units)
- __7. Get information regarding any injury and assure it is forwarded to LEOF and CERC. Use EPIP-3.02, Attachment 13, DATA SHEET FOR INJURED PERSONS.
- __8. Coordinate acquisition of equipment, supplies and personnel. Offsite support should be coordinated through the LEOF. Use Resource Request Log (page 3 of this attachment) to track status.
- __9. Coordinate waiver or provision for Nuclear Power Station Plant Access Training for offsite agencies called in to assist in emergency response.
- __10. IF ERFCs is NOT operable, THEN make sure EPIP-3.02 Attachment 14, Plant Status, reports are sent to both the LEOF and CERC (e.g., via facsimile). (Get status report form from TSC-LEOF Phonetalker.)
- __11. Ensure Safety/Loss Prevention Support advises the Station Emergency Manager on fire protection and first aid matters.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY ADMINISTRATIVE DIRECTOR GUIDELINE	19
ATTACHMENT 3		PAGE 2 of 3

__12. Ensure the Security Team Leader advises the SEM on Security matters.

__13. Ensure arrangements are made for relief of the following personnel:

- Administrative Support Team
- Security Team
- Fire Team
- First Aid Team
- Emergency Communicators

__14. Coordinate station shift relief:

a) Determine relief requirements for the following:

- 1) Refer to EPIP-3.02, Attachment 12, SHIFT ROTATION SCHEDULE
- 2) Additional support 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 12 correspond with position numbers appearing on EPNL.
- Ask Emergency Directors to help select personnel for assignment
- Verify personnel are available and capable of responding
- Consider alternative personnel resources (Surry 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 12

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 making notifications
- 2) Notify relief personnel of the following:
 - Reporting time
 - Ingress route to the station
 - Reporting location

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY TECHNICAL DIRECTOR GUIDELINE	19
ATTACHMENT 4		PAGE 1 of 1

- __1. Verify Technical Support Team Organization:
 - Team Leader
 - Operational Advisor
 - Reactor Engineer
 - Mechanical Engineer
 - Electrical Engineer
- __2. Notify Westinghouse (NSSS Vendor).
- __3. Use ERFCS to assess emergency conditions.
- __4. Periodically assess need for ERFCS Historical File download to magnetic tape. The ERFCS archive memory limit is 2½ hours.
- __5. Analyze and develop solutions to problems in the following areas:
 - Engineering
 - Reactor Physics
 - Instrumentation and Control
- __6. Periodically assess need for Chemistry sampling.
- __7. Assist in development of procedures as required.
- __8. Interface with NRC and aid in resolution of questions concerning licensing requirements.
- __9. 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 475 and 476 on the Emergency Personnel Notification List which is available from the EAD.)
- __10. 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 assure results are made available to the SEM and EOD. Consider designating one Evaluator to track DFC and SCST status.
 - Assure the SEM and EOD are advised of SAMG-suggested methods of implementation.
 - Direct the SAMG Evaluators to use the SAMG indicated by the DFC and SCST, as appropriate.
- __11. 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	19
ATTACHMENT		PAGE
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- __1. Establish communications with Control Room to obtain operational status and to direct response as required.
- __2. Ensure TSC on emergency ventilation in accordance with 1-OP-21.10, TSC Emergency Ventilation upon a Safety Injection and/or as required by radiological conditions.
- __3. Verify availability of Operations personnel in OSC and request additional personnel as required.
- __4. Use ERFCS to assess emergency conditions.
- __5. Ensure TSC-Control Room phonetalker in position to maintain communication with the Control Room and update Plant Status boards (as required).
- __6. Evaluate status of unaffected unit.
- __7. Assess events for reportability to outside agencies.
- __8. Provide status change data and recommendations to SEM as required.
- __9. Assist in procedure development as necessary.
- __10. 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.
- __11. Ensure arrangements are made for relief of:
 - a) Control Room personnel (including on-shift STA)
 - b) Standby Operations personnel in OSC

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	STATION EMERGENCY MANAGER GUIDELINE	19
ATTACHMENT 6		PAGE 1 of 2

__1. Verify emergency response organization (ERO):

- Emergency Operations Director (EOD)
- Emergency Maintenance Director (EMD)
- Emergency Technical Director (ETD)
- Emergency Administrative Director (EAD)
- Radiological Assessment Director (RAD)
- Emergency Procedures Coordinator (EPC)
- Emergency Communicators (3)
- OSC Director (at OSC)

__2. WHEN ready to activate TSC, THEN do the following:

- a) Announce facility activation to staff
- b) Identify yourself as SEM
- c) Provide initial status briefing

NOTE: The following responsibilities may not be delegated:

- Classifying the emergency
- Notifying NRC, State and local governments of emergency status
- Recommending protective measures
- Authorizing emergency exposure

__3. WHEN LEOF is activated, THEN do the following:

- 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.

__4. Ensure timely notifications are made to offsite authorities.

__5. Approve temporary procedures/changes as required. Procedures may be changed at the discretion of the SEM during emergency conditions.

__6. Use ERFCS to assess emergency conditions and response actions.

__7. Periodically reference EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE, to assess and manage the emergency.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	STATION EMERGENCY MANAGER GUIDELINE	19
ATTACHMENT 6		PAGE 2 of 2

- __8. Ensure suitable arrangements for relief of ERO through emergency directors.
- __9. Keep station personnel informed about event status and their expected actions using Gai-Tronics or by other available means of communication.
- __10. IF TSC must be evacuated, THEN designate TSC team members who will report to the alternate TSC in the Control Room, and those members who will report to the Alternate OSC.
- __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	19
ATTACHMENT		PAGE
7		1 of 1

- __1. Assist SEM in review and adherence to controlling procedures.
- __2. Monitor Emergency Action Level entry conditions.
- __3. Assure appropriate procedures are initiated as required.
- __4. Assure SEM periodically updates TSC staff and station personnel on the following:
 - Emergency status
 - Mitigation goals and techniques
 - Direction of overall response
- __5. Assure Emergency Communicators make periodic updates to offsite authorities as required.
- __6. Track and hold completed procedures and logs until TSC deactivation.
- __7. Assure procedures are properly completed and made available to Nuclear Emergency Preparedness for preparation of the Summary Report to the State, and ensure subsequent review by the SNSOC. The report for a Notification of Unusual Event is due to the State 72 hours after the event is declared. All higher classifications require a report within 8 hours after termination.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	RADIOLOGICAL ASSESSMENT DIRECTOR GUIDELINE	19
ATTACHMENT 8		PAGE 1 of 2

__1. Verify Organization:

- Dose Assessment Team
- Offsite Monitoring Team
- Evacuation Monitoring Team
- Inplant Monitoring Team
- Onsite Monitoring Team
- Sample Analysis Team
- Personnel Monitoring and Decontamination Team
- Chemistry Team

__2. Direct HP response using EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.

__3. Use ERFCS to assess emergency conditions.

__4. Direct activities of the following emergency response personnel:

- Radiation Protection Supervisor
- Dose Assessment Team
- Offsite and Evacuation Monitoring Teams
- Chemistry Team

__5. Assure communicator is assigned to Health Physics Network (HPN) phone in Dose Assessment Office. (The Health Physics Network (HPN) is established after the NRC announces it is warranted over the ENS.)

__6. Give results of Chemistry sampling to ETD for evaluation.

__7. WHEN LEOF activated, THEN do the following:

- Direct Dose Assessment Team Leader to transfer Offsite Dose Assessment to the LEOF Radiological Assessment Coordinator
- Transfer direction of Offsite and Evacuation Monitoring Teams to Radiological Assessment Coordinator
- Ensure LEOF assumes responsibility for HPN communications
- Confer with Radiological Assessment Coordinator for consensus on accident type (to yield consistency in dose assessments).

__8. Determine release status and evaluate offsite dose assessment data until assumed by LEOF.

__9. Give SEM periodic updates on the following:

- Radiological status
- Emergency exposure

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	RADIOLOGICAL ASSESSMENT DIRECTOR GUIDELINE	19
ATTACHMENT 8		PAGE 2 of 2

- __10. Make recommendation for onsite and offsite protective actions to SEM when appropriate.
- __11. Assure HP coverage or RWP available for Damage Control Activities.
- __12. Assist in development of procedures as necessary.
- __13. Assure relief available for HP and Chemistry emergency response personnel.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	EMERGENCY MAINTENANCE DIRECTOR GUIDELINE	19
ATTACHMENT 9		PAGE 1 of 1

__1. Verify organization:

a) Maintenance Support Team:

- Team Leader
- Mechanical Department Representative
- Electrical Department Representative
- Planning Representative
- I&C Representative

b) OSC personnel

__2. Direct activities of Maintenance Support Team and Damage Control Team:

- Monitor task status and location of teams
- Continually reassess priority assignments with SEM

__3. Direct damage control activities using EPIP-5.08, DAMAGE CONTROL GUIDELINE.

__4. Periodically update SEM on damage control activities.

__5. Assist in procedure development as necessary

__6. Ensure arrangements are made for relief of:

- Maintenance Support Team
- OSC personnel

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	GUIDELINE FOR EMERGENCY COMMUNICATORS	19
ATTACHMENT 10		PAGE 1 of 1

1. NRC Communicator

Assume NRC notification responsibility from onshift NRC Communicator. Continue notifications IAW EPIP-2.02, NOTIFICATION OF NRC. Use the ERFCs to obtain plant parameter data.

NOTE: Follow-up reports of emergency conditions should be provided to state and local governments approximately every 60 minutes or when there are changes in emergency conditions, unless otherwise agreed upon by the State.

A termination notification must always be transmitted following close-out of the event.

2. State and Local Communicator/LEOF Phonetalker

- Assume State and local notification responsibility from onshift State and Local Communicator. Continue notifications IAW EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS, until the LEOF/CEOF assumes this function.
- IF either of the following emergency messages transmitted from TSC:
EPIP-2.01 Attachment 2, Notification of State and Local Governments
EPIP-2.01 Attachment 3, Report of Radiological Conditions to the State
THEN ask Administrative Services support to telecopy message(s) to LEOF and CERC (or CERC/CEOF only if CEOF activated).
- Assure Plant Status forms (EPIP-3.02 Attachment 14, Plant Status) are telecopied to LEOF and CERC (or CERC/CEOF only if CEOF activated) if ERFCs is inoperable or if directed by SEM.

Attachment 14 may be filled-out in any of the following ways:

- Recorded in Control Room and sent to TSC (e.g., via facsimile).
- Recorded in TSC by the Plant Status Communicator/Control Room Phonetalker.
- Copied from the Plant Status Boards maintained by the Plant Status Communicator/Control Room Phonetalker.

3. Plant Status Communicator/Control Room Phonetalker

Assure Plant Status Boards are maintained, if required.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	ACTIVATION OF ALARM AND UTILITY PRINTERS	19
ATTACHMENT 11		PAGE 1 of 3

NOTE: Both the Alarm and Utility Printers are in the Technical Services Area of the Technical Support Center.

1. SET UP ALARM PRINTER:

- a) Verify alarm modem indicates as follows:
 - Ready LED - GREEN
 - Carrier LED - RED
- b) Select the affected unit (Unit 1 or Unit 2) on the Alarm printer switch box
- c) Verify Online/Offline button indicates OFFLINE
- c) Change button positions as required.
- d) Turn Alarm printer power switch ON
- e) Depress "ESC 99"
- f) Depress the following keys:
 - 1) "ESC"
 - 2) Simultaneously depress "BRK" and "1"
- g) Verify the Alarm printer prints "BPYAIF"
- g) GO TO the CAUTION prior to Step 3 and perform Step 3.
- h) Depress the Alarm printer Online/Offline button to indicate ONLINE

NUMBER	ATTACHMENT TITLE	REVISION
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2. SET UP UTILITY PRINTER:

- | | |
|---|--|
| <p>a) Verify utility modem indicates as follows:</p> <ul style="list-style-type: none"> • Power LED - ON • Carrier LED - ON | <p>a) Verify power switch at rear of modem is ON.</p> |
| <p>b) Verify all front panel buttons NOT depressed</p> | <p>b) Change button positions as required.</p> |
| <p>c) Select the affected unit (Unit 1 or Unit 2) on the Utility printer switch box</p> | |
| <p>d) Turn Utility printer power switch ON</p> | |
| <p>e) Depress "ESC 99"</p> | |
| <p>f) Depress the following keys:</p> <ol style="list-style-type: none"> 1) "ESC" 2) Simultaneously depress "BRK" and "1" | |
| <p>g) Verify the Utility printer prints BPYAIF</p> | <p>g) GO TO the CAUTION prior Step 3 and perform Step 3.</p> |
| <p>h) Depress the utility printer Online/Offline button to indicate ONLINE</p> | |

NOTE: The BAUD RATE switch is on the back of the printer.

- | | |
|---|---|
| <p>i) <u>IF</u> Unit 1 is selected on the switch box, <u>THEN</u> do the following:</p> <ol style="list-style-type: none"> 1) Set BAUD rate to 96 2) Depress front panel switches "ANL" and "ALF" | <p>i) <u>IF</u> Unit 2 is selected <u>THEN</u> do the following:</p> <ol style="list-style-type: none"> 1) Set BAUD rate to 96 2) Depress front panel switch to "ANL" |
| <p>j) GO TO <u>END</u></p> | |

NUMBER	ATTACHMENT TITLE	REVISION
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CAUTION: The following step reprograms the printer and should only be performed when directed by another step in the procedure.

3. REPROGRAM PRINTER:

a) Do the following on the side keyboard:

- 1) "ESC 82"
- 2) "ESC 87"
- 3) "ESC 91"
- 4) "ESC 81"
- 5) "ESC 93"

b) Depress the following keys:

- 1) "ESC"
- 2) Simultaneously depress "BRK" and "1"

c) IF the printer prints "BPYAIF", THEN return to Step 1.h or 2.h as required

c) Notify Emergency Administrative Director that printer is out of service

AND

Set up other printer.

NUMBER	ATTACHMENT TITLE SHIFT ROTATION SCHEDULE	REVISION
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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 (401)		
Emergency Procedures Coordinator (437)		
Emergency Operations Director (401)		
NRC ENS Emergency Communicator (405)		
TSC-to-LEOF Communicator (406)		
Plant Status Communicator (From Operations)		
Emergency Technical Director (402)		
Technical Support Team Leader (453)		
Electrical Engineer (409)		
Mechanical Engineer (408)		
Reactor Engineer (407)		
Operational Advisor (467)		
Emergency Maintenance Director (403)		
Maintenance Support Team Leader (454)		
Mechanical Department Representative (455)		
Electrical Department Representative (458)		
Planning Representative (456)		
I & C Representative (459)		
Radiological Assessment Director (404)		
Dose Assessment Team Leader (412)		
Dose Assessment Team Member (411 Or 438)		
Emergency Administrative Director (413)		
Administrative Support Team Leader (460)		
Administrative Support Team Clerk (463)		
Administrative Support Team Clerk (463)		
Administrative Support Team Clerk (463)		
Technical Support Center Logkeeper (461)		

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-3.02	DATA SHEET FOR INJURED PERSONS	19
ATTACHMENT		PAGE
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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 STATUS	19
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UNIT _____ MWE _____ REACTOR POWER _____%

TIME _____%

PRIMARY SYSTEM

REACTOR COOLANT SYSTEM (T=TEMPERATURE) - HOTTEST TH _____ °F; HOTTEST TC _____ °F

LOOP "A" DELTA T _____%; LOOP "B" DELTA T _____%; LOOP "C" DELTA T _____%

PRESSURE _____ PSIG; PRESSURIZER LEVEL _____%

REACTOR COOLANT PUMP

A: _____ A R OOC; B: _____ A R OOC; C: _____ A R OOC

CORE PARAMETERS

CORE EXIT THERMOCOUPLE _____ °F (Average of highest 5)

MARGIN TO SATURATION: Ch A - _____ °F; Ch B - _____ °F

SOURCE RANGE COUNTS: N 31 - _____; N 32 - _____

INTERMEDIATE RANGE AMPS: N 35 - _____; N 36 - _____

RVLIS: DYNAMIC - _____%; FULL - _____%

CONTAINMENT

TEMPERATURE _____ °F; PRESSURE _____ PSIA; SUMP LEVEL _____ FT

CONTAINMENT ISOLATION PHASE: A, B HYDROGEN _____%

SECONDARY SYSTEM

STEAM GENERATOR LEVEL

WIDE RANGE: A _____%; B _____%; C _____%

(0 - 100%) (0 - 100%) (0 - 100%)

NARROW RANGE: A _____%; B _____%; C _____%

(NR 0 = 75%) (0 - 100%) (0 - 100%) (0 - 100%)

AUXILIARY FEEDWATER: AUXILIARY FEEDWATER FLOW _____ GPM; CN-TK-1/2 LEVEL _____%

3A: _____ A R OOC; 3B: _____ A R OOC; FW-P-2: _____ A R OOC

ENGINEERED SAFEGUARDS: RWST _____%; SI FLOW _____ GPM

HHSI A: _____ A R OOC; B: _____ A R OOC; C: _____ A R OOC; OSRS A: _____ A R OOC; B: _____ A R OOC

LHSI A: _____ A R OOC; B: _____ A R OOC; ISRS A: _____ A R OOC; B: _____ A R OOC

QS A: _____ A R OOC; B: _____ A R OOC; RS-P-3A: _____ A R OOC; B: _____ A R OOC

RS-TK-1: _____%

ELECTRICAL DISTRIBUTION

EMERGENCY BUS (SUPPLY)

H: RSS, DIESEL, DEAD, BACKFEED J: RSS, DIESEL, DEAD, BACKFEED

EMERGENCY DIESEL GENERATOR (EDG)

H: OPERATING, AVAILABLE, OOC J: OPERATING, AVAILABLE, OOC

RESERVE STATION SERVICE

A: HOT/DEAD B: HOT/DEAD C: HOT/DEAD

RADIATION MONITORS

PROCESS VENT: _____; VENT A: _____; VENT B: _____

MAIN STEAM A: _____; B: _____; C: _____

OTHER (Specify): _____

OTHER (Specify): _____

REMARKS: _____

PREPARER: _____; TIME: _____ (24-hour); DATE: _____

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE (With 1 Attachment)	REVISION 18
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PURPOSE

To initially assess emergency conditions, provide recommendations for protective measures, establish an emergency organization and direct Health Physics response to an emergency.

**LEVEL 2 DISTRIBUTION
This Document Should Be Verified
And Annotated To A Controlled Source
As Required to Perform Work**

ENTRY CONDITIONS

Activation by EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

Approvals on File

Effective Date 4/9/2002

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

____ 1 INITIATE PROCEDURE:

a) By: _____

Date: _____

Time: _____

b) Assume position of Radiological Assessment Director (RAD)

c) Initiate a chronological log to record sequence of events, key decisions, action taken, and other applicable information related to the event

____ 2 GO TO THE CONTROL ROOM

IF conditions require your presence in another location, THEN inform SEM

AND

Report to the Control Room immediately upon completion of task.

NOTE: During the initial stages of the emergency the Operations Shift Supervisor may assume the position of Station Emergency Manager.

____ 3 ASK SEM FOR BRIEFING ON THE FOLLOWING PARAMETERS:

- Plant status
- Emergency Action Levels (EALs) exceeded
- Emergency Classification

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
		PAGE 3 of 27

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 4	CHECK IF EMERGENCY FACILITIES ARE BEING ACTIVATED	GO TO Step 6.
_____ 5	MOVE TO TSC	
	NOTE: A minimum of 2 (two) Offsite Monitoring Teams must be dispatched (i.e., sent into the field) upon a Site Area Emergency or higher emergency class.	
_____ 6	CHECK HP SUPPORT - REQUIRED	<p>IF HP support <u>NOT</u> immediately required, <u>THEN</u> do the following:</p> <ul style="list-style-type: none"> • <u>WHEN</u> HP support required, <u>THEN</u> GO TO Step 7. • <u>WHEN</u> emergency is terminated, <u>THEN</u> GO TO Step 38.
_____ 7	CHECK IF EVENT INVOLVES ACTUAL OR POTENTIAL OFFSITE RELEASE	GO TO Step 25.
_____ 8	INITIATE SAMPLING OF EFFLUENT PATHWAY	IF unable to get effluent sample, <u>THEN</u> initiate source term sampling.
_____ 9	DIRECT INITIATION OF EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE	

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

10 DIRECT INITIATION OF EPIP-4.30,
USE OF MIDAS CLASS A MODEL

IF MIDAS NOT operable, THEN
initiate back-up assessment using
desk-top calculations:

- EPIP-4.08, INITIAL OFFSITE
RELEASE ASSESSMENT.
- EPIP-4.09, SOURCE TERM
ASSESSMENT.
- EPIP-4.10, DETERMINATION OF X/Q.

11 DIRECT RPS TO INITIATE EPIP-4.02,
RADIATION PROTECTION SUPERVISOR
CONTROLLING PROCEDURE

12 DETERMINE EVENT CLASSIFICATION:

ASSESSMENT RESULTS	CLASSIFICATION
Normal range monitors ONSCALE and indicate < 100% TS	N/A: Below classification limits
Normal range monitors ONSCALE and indicate ≥ 100% TS (but < 1000%)	Notification of Unusual Event
% TS calculations indicate ≥ 1000%	Alert
Site Boundary dose ≥ 100 mrem TEDE 500 mrem Thyroid CDE	Site Area Emergency
Site Boundary dose ≥ 1 Rem TEDE or 5 Rem Thyroid CDE	General Emergency

13 GIVE ASSESSMENT BASED
CLASSIFICATION TO SEM

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
14	<p>CHECK NOTIFICATION OF UNUSUAL EVENT IN EFFECT OR EVENT IS BELOW CLASSIFICATION LIMITS:</p> <ul style="list-style-type: none"> a) Report percent Tech. Spec. and Site Boundary dose rate to Station Emergency Manager b) Get backup sample of the effluent release path c) Have sample analyzed using Health Physics Procedures d) GO TO Step 20 for follow up assessment 	<p>GO TO Step 15.</p> <p>b) <u>IF</u> unavailable, <u>THEN</u> GO TO Step 20.</p>
15	<p>INITIATE RESPONSE ACTIONS FOR CONDITION IV LIMITING FAULT ACCIDENT:</p> <ul style="list-style-type: none"> • Fuel Handling Accident - GO TO Step 16 • Steam Generator Tube Rupture - GO TO Step 17 • Main Steam Line Rupture - GO TO Step 18 • LOCA - GO TO Step 19 	<p><u>IF</u> event <u>NOT</u> Limiting Fault, <u>THEN</u> GO TO Step 20.</p>

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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.

16 INITIATE RESPONSE ACTIONS FOR FUEL HANDLING ACCIDENT:

- a) Recommend evacuation of the Fuel Building and affected containment
- b) Restrict access until radiological assessment can be made
- c) Have EPIP-4.06, PERSONNEL MONITORING AND DECONTAMINATION, initiated to monitor individuals evacuated from accident area
- d) Report dose assessment (MIDAS or desk-top) results to SEM
- e) GO TO Step 21

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
17	<p>INITIATE RESPONSE ACTIONS FOR STEAM GENERATOR TUBE RUPTURE:</p> <p>a) Get release parameters from SEM:</p> <ol style="list-style-type: none"> 1) Note length of time between initiation of release and when Air Ejector diverted to containment: _____(min.) (if Air Ejector diverted) 2) Number of Steam Generator Relief or Safety Valves which have lifted: _____ 3) Length of time Relief or Safety Valves remained open: _____(min.) 4) Number of relief or Safety Valves which may potentially lift: _____ 5) Status of main steam supply to the Steam Driven Auxiliary Feedwater Pump: Steam isolation from "A" S/G at _____(time) "B" S/G at _____ "C" S/G at _____ 6) Current Steam Generator Blowdown pathway: _____ 7) Length of time until blowdown isolated: _____(min.) <p>b) Check Air Ejector - DIVERTED TO CONTAINMENT</p> <p>c) Request immediate evacuation of containment building</p>	<p>b) <u>IF</u> Air Ejector <u>NOT</u> diverted, <u>THEN</u> GO TO Step 17.d.</p>
(STEP 17 CONTINUED ON NEXT PAGE)		

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
17	INITIATE RESPONSE ACTIONS FOR STEAM GENERATOR TUBE RUPTURE: (Continued)	
	d) Check Steam Driven Auxiliary Feedwater Pump (SDAFWP) Turbine - ISOLATED	d) <u>IF</u> SDAFWP Turbine <u>NOT</u> ISOLATED, <u>THEN</u> do the following: 1) Ask SEM to isolate main steam supply from affected generator to Steam Driven Auxiliary Feedwater Pump. 2) GO TO Step 17.f.
	e) Disregard SDAFWPT as a release pathway	
	f) Ask SEM for placement of individual to report the following data: 1) Initial monitor readings 2) Increase or decrease in Main Steam and SDAFWP exhaust radiation monitors 3) Meteorological panel indications	
	g) Report dose assessment (MIDAS or desk-top) results to SEM	
(STEP 17 CONTINUED ON NEXT PAGE)		

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
17	INITIATE RESPONSE ACTIONS FOR STEAM GENERATOR TUBE RUPTURE: (Continued)	
	h) Restrict access in the following areas until survey(s) confirm no radiological hazards: <ul style="list-style-type: none"> • Steam Generator Blowdown Cooler area • Steam Generator Blowdown Lines and Vent area • Steam Generator Relief Valve area • Steam Driven Auxiliary Feedwater Pump Turbine exhaust area • Powdex Area - Turbine Building, 303' level • Main Steam Valve House i) Consider sampling of Steam Generator Blowdown and Main Steam of affected unit j) Determine potential for liquid release pathway through the Main Steam Safety Valve k) GO TO Step 21	

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
18	<p>INITIATE RESPONSE ACTIONS FOR MAIN STEAM LINE RUPTURE:</p> <p>a) Ask SEM for release parameters:</p> <ol style="list-style-type: none"> 1) Location of steam break 2) Status of actual or potential Main Steam Safety Valve lift 3) Number of valves lifted: _____ 4) Length of time valves remained open: _____(min.) 5) Status of Steam Driven Auxiliary Feedwater Pump isolation 6) Monitor reading on Main Steam Monitors and Steam Driven Auxiliary Feedwater Pump exhaust radiation monitors <p>b) Check station ventilation vent radiation monitors for release indication</p> <p>c) Evaluate release consequences:</p> <ol style="list-style-type: none"> 1) Assess onsite dose rate in area of break (after break is isolated) 2) Assess offsite dose rate (STEP 18 CONTINUED ON NEXT PAGE) 	<p>b) <u>IF</u> NO release indicated, <u>THEN</u> do the following:</p> <ol style="list-style-type: none"> 1) Notify SEM that potential for source term development will be evaluated because monitors do not indicate release. 2) GO TO Step 18.e.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
18	<p>INITIATE RESPONSE ACTIONS FOR MAIN STEAM LINE RUPTURE: (Continued)</p> <p>d) Report dose assessment (MIDAS or desk-top) results to SEM</p> <p>e) Determine potential for source term to develop inside containment or from Main Steam Relief Valve lift</p> <p>f) Direct initiation of EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR</p> <p style="text-align: center;"><u>AND</u></p> <p>EPIP-4.23, POST ACCIDENT SAMPLING OF REACTOR COOLANT</p> <p>g) GO TO Step 21</p>	

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
19	INITIATE RESPONSE ACTIONS FOR LOCA:	
	<ul style="list-style-type: none"> a) Ask SEM for location of break b) Ask SEM for status of Containment Isolation - Phase "A" or "B", and any leak paths from the containment c) Recommend evacuation of Auxiliary Building and Safeguards Building to SEM 	
	<u>AND</u>	
	Restrict entry until survey(s) confirm no radiological hazard exist	
	d) Determine CHRRMS readings (RMS-165, 166 or RMS-265, 266)	
	e) Check release occurred through monitored pathway(s)	<ul style="list-style-type: none"> e) Do the following: <ul style="list-style-type: none"> 1) Direct initiation of EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE. 2) Assess actual (unmonitored) or potential release from containment.
	f) Report dose assessment (MIDAS or desk-top) results to SEM	
	g) Direct initiation of EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR	
	<u>AND</u>	
	EPIP-4.23, POST ACCIDENT SAMPLING OF REACTOR COOLANT	
	h) GO TO Step 21	

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
20	<p>INITIATE RESPONSE ACTIONS FOR RADIOLOGICAL RELEASE:</p> <p>a) Record release pathway(s):</p> <p>_____</p> <p>b) Report dose assessment (MIDAS or desk-top) results to SEM</p> <p>c) Ask SEM to place an individual at the monitor of interest to report increase or decrease in readings</p> <p>d) Get sample of effluent pathway</p> <p>e) Analyze samples using normal Health Physics procedures</p> <p>f) Consider initiation of EPIP-4.26, HIGH LEVEL ACTIVITY SAMPLE ANALYSIS</p> <p>g) Verify that an exposure control individual is available to supply dosimetry</p> <p>h) Have RPS coordinate HP coverage needed for any of the following activities:</p> <ul style="list-style-type: none"> • Damage Control Teams • Emergency Security activities • Access control • Personnel monitoring • Sample analysis <p>i) Consider having RPS prepare for dispatch of Offsite Monitoring Teams:</p> <ul style="list-style-type: none"> • Team assembly • Preparation of equipment and vehicles 	<p>GO TO Step 25.</p> <p>d) <u>IF</u> sample <u>NOT</u> available, <u>THEN</u> use monitor readings for follow-up assessment.</p>

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 21	ENSURE 40CFR302 EPA NOTIFICATION REQUIREMENTS AND REPORTABLE QUANTITY CALCULATIONS ARE EVALUATED IN ACCORDANCE WITH NORMAL HP PROCEDURES	
_____ 22	CHECK IF RESULTS OF OFFSITE RELEASE ASSESSMENT INDICATE SITE BOUNDARY DOSE RATE \geq 50 mrem/hr TEDE OR 250 mrem/hr THYROID CDE	GO TO Step 24.
_____ 23	DETERMINE OFFSITE PROTECTIVE MEASURES: a) Get an estimate of release duration (hours) from SEM b) Direct initiation of EPIP-4.07, PROTECTIVE MEASURES c) Give recommendation to SEM	a) Use 2 hour default.

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
24	CHECK LEAF (CEOF) HAS LEAD FOR OFFSITE DOSE ASSESSMENT	<p>Do the following:</p> <ol style="list-style-type: none"> a) Assure dose assessment result identification number recorded on all pages. b) Record initials on each page to document approval for issuance of results. c) Review offsite release assessment results with SEM. d) Give applicable dose assessment report to State/Local Emergency Communicator: <ul style="list-style-type: none"> • MIDAS Radiological Status Report (2 pages). • EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE, Attachment 1. e) Provide updated dose assessment results when any of the following occur: <ul style="list-style-type: none"> • Every 60 minutes during Alert or higher classification. • Within 15 minutes after a classification change. • Change in radiological conditions.

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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- 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.
 - A minimum of 2 (two) Offsite Monitoring Teams must be dispatched (i.e., sent into the field) upon a Site Area Emergency or higher emergency class.

25 REVIEW HP RESPONSE ACTIONS AND INITIATE RESPONSES ON A PRIORITY BASIS: WHEN all necessary response actions addressed, THEN GO TO Step 36.

<u>IF</u> HP response action(s) needed,	<u>THEN</u> do the following:
Limiting Fault event (LOCA, Main Steam Line Break, SGTR or Fuel Handling Accident) occurs	RETURN TO Step 15.
New radiological release occurs	RETURN TO Step 20.
New dose assessment results available	RETURN TO Step 12.
Emergency exposure authorization needed	Initiate EPIP-4.04, EMERGENCY PERSONNEL EXPOSURE AUTHORIZATION
Establishment of HP organization	GO TO Step 28.
Dispatch of Offsite Monitoring Team(s)	GO TO Step 29.
Dispatch of Inplant/Onsite Monitoring Team(s)	GO TO Step 31.
Dispatch of LEOF Monitoring Team	GO TO Step 30.
Establishment of Access Control Areas	GO TO Step 32.
Evaluation of need for respiratory protection	GO TO Step 33.
Issuance of radioprotective drugs	GO TO Step 34.
Response to injured contaminated individual(s)	GO TO Step 26.
Evacuation of non-essential personnel	GO TO Step 35.
Radiological/Meteorological parameters needed from Main Control Room (due to unavailability of data to HP staff from plant computers)	Have Attachment 1, Radiological Data Worksheet, completed.
Turnover duties to relief	GO TO Step 27.

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>NOTE: First Aid considerations must be given priority over decontamination of individual.</p>	
26	<p>INITIATE RESPONSE TO INJURED CONTAMINATED INDIVIDUAL:</p> <p>a) Check if individual requires offsite medical treatment</p> <p>b) Direct initiation normal HP procedure(s) for response to contaminated injured personnel</p> <p>c) Have RPS review personnel contamination surveys and confirm personnel contaminated</p> <p>d) Check if clothing removal and/or onsite decontamination eliminates contamination</p> <p style="text-align: center;"><u>AND</u></p> <p>Internal contamination is <u>NOT</u> suspected</p> <p>e) RETURN TO Step 25</p>	<p>a) RETURN TO Step 25.</p> <p>c) RETURN TO Step 25.</p> <p>d) <u>IF</u> individual remains contaminated, <u>THEN</u> do the following:</p> <p>1) Have HP Technician accompany the individual.</p> <p>2) Recommend transport to MCV.</p>

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
27	<p>GIVE TURNOVER TO RELIEF:</p> <p>a) <u>WHEN</u> a more Senior Health Physics individual arrives onsite</p> <p style="text-align: center;"><u>OR</u></p> <p>Relief - NEEDED, <u>THEN</u> brief successor on:</p> <ul style="list-style-type: none"> • Existing plant conditions • Offsite release assessment performed • Health Physics actions currently underway <p>b) Notify SEM of position change</p> <p>c) Have relief remain for about 30 minutes to ensure proper turnover</p> <p>d) RETURN TO Step 25</p>	

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

28 ESTABLISH HP EMERGENCY ORGANIZATION:

a) Establish Dose Assessment Team:

- 1) Assign 1 Team Leader and 2 Team Members
- 2) Assign EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE

b) Establish RPS position

AND

Assign EPIP-4.02, RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE

c) RETURN TO Step 25

- NOTE:**
- A minimum of 2 (two) Offsite Monitoring Teams must be dispatched (i.e., sent into the field) upon a Site Area Emergency or higher emergency class.
 - The function of plume tracking/offsite monitoring will be the responsibility of the Radiological Assessment Coordinator upon LEOF activation.

29 ASSESS NEED FOR OFFSITE MONITORING:

a) Evaluate need for offsite monitoring with Dose Assessment Team Leader

b) Check if command and control of Offsite Monitoring Teams has been transferred to the LEOF

b) GO TO Step 29.d.

c) RETURN TO Step 25

(STEP 29 CONTINUED ON NEXT PAGE)

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
29	ASSESS NEED FOR OFFSITE MONITORING: (Continued)	
	d) Have RPS initiate EPIP-4.16, OFFSITE MONITORING	
	e) Evaluate protective measures for offsite teams:	
	<ul style="list-style-type: none"> • TEDE exposure may exceed 10CFR20 annual limits: Initiate EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE 	
	<ul style="list-style-type: none"> • Thyroid CDE may exceed 25 Rem: Initiate EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS 	
	<ul style="list-style-type: none"> • Consider placing teams further downwind 	
	f) Discuss provisions with RPS:	
	1) Number of monitoring teams required	
	2) Protective clothing	
	3) Respiratory protection	
	4) Standby assembly of teams, vehicles and equipment	
	5) Notification of TSC prior to team dispatch	
	6) Initial team placement	
	7) Relay of samples/supplies between teams and station	
	8) Relief of teams	
	g) RETURN TO Step 25	

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
30	<p>ACTIVATE LEOF:</p> <p>a) Have RPS initiate EPIP-4.18, MONITORING OF LEOF</p> <p>b) Brief RAC on the following parameters:</p> <ul style="list-style-type: none"> • Existing plant conditions • Current offsite dose projections • HP actions underway <p>c) Have Dose Assessment Team Leader brief RAC on the following parameters:</p> <ul style="list-style-type: none"> • Offsite dose assessment • Status and location of offsite monitoring teams <p>d) Have Dose Assessment Team Member continue transmittal of status information to LEOF:</p> <ul style="list-style-type: none"> • Meteorological data • Monitor data • Sample analysis data <p>e) RETURN TO Step 25</p>	

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
31	<p>INITIATE IN-PLANT / ONSITE MONITORING:</p> <p>a) Review parameters with RPS:</p> <ul style="list-style-type: none"> • Plant conditions • Selection of monitoring and sample locations • Protective gear (clothing, respirators), dosimetry and special precautions for teams • Elevated radiation level readings • Access control points • Recent survey results <p>b) Have RPS assign EPIP-4.14, INPLANT MONITORING</p> <p style="text-align: center;"><u>AND</u></p> <p>EPIP-4.15, ONSITE MONITORING</p> <p style="text-align: center;"><u>AND</u></p> <p>EPIP-4.17, MONITORING OF EMERGENCY RESPONSE FACILITIES</p> <p style="text-align: center;"><u>AND</u></p> <p>EPIP-4.18, MONITORING OF LEOF</p>	
(STEP 31 CONTINUED ON NEXT PAGE)		

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
31	<p>INITIATE IN-PLANT / ONSITE MONITORING: (Continued)</p> <p>c) Notify RPS</p> <p style="text-align: center;"><u>AND</u></p> <p>Ask for repeat survey of emergency response facilities for any of the following conditions:</p> <ul style="list-style-type: none"> • Radiological release occurred • Release severity increases • Change in plume direction toward facility <p>d) Check if survey data dictates the placement of control points to limit exposure and the spread of contamination</p> <p>e) RETURN TO Step 25</p>	c) GO TO Step 31.d.
32	<p>ESTABLISH ACCESS CONTROL AREAS:</p> <p>a) Evaluate radiological hazards before permitting entrance into access controlled areas</p> <p>b) Arrange for HP coverage of emergency evolutions directed by SEM</p> <p>c) Consider having RPS generate an RWP for controlled area entrance requirements</p> <p>d) RETURN TO Step 25</p>	a) GO TO Step 33.

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
33	<p>EVALUATE RESPIRATORY PROTECTION REQUIREMENTS:</p> <ul style="list-style-type: none"> a) Assess results of air sample analyses b) Recommend relocation of non-essential personnel from areas where high airborne activity is expected or airborne activity > 0.30 DAC c) Initiate EPIP-4.05, RESPIRATORY PROTECTION AND KI ASSESSMENT d) RETURN TO Step 25 <p>NOTE: Administration of Potassium Iodine Tables is preferably done prior to exposure, although administration of the drug within 2 hours is considered acceptable.</p>	
34	<p>DETERMINE NEED FOR ISSUANCE OF RADIOPROTECTIVE DRUGS:</p> <ul style="list-style-type: none"> a) Direct initiation of EPIP-4.05, RESPIRATORY PROTECTION AND KI ASSESSMENT b) Determine if actual or projected exposure \geq 25 Rem Thyroid CDE c) Ask SEM for approval to administer radioprotective drugs d) Initiate EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS e) Get supply of tablets from Health Physics Office f) RETURN TO Step 25 	<ul style="list-style-type: none"> b) RETURN TO Step 25. c) <u>IF</u> approval <u>NOT</u> granted, <u>THEN</u> RETURN TO Step 25. e) Get alternate supply from Surry Power Station.

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
35	<p>EVALUATE NEED TO EVACUATE/SHELTER NON-ESSENTIAL PERSONNEL:</p> <p>a) Ask SEM for duration of release</p> <p>b) Determine onsite exposure of non-essential personnel:</p> <ol style="list-style-type: none"> 1) Ask RPS for results of plant surveys and samples 2) Check TEDE dose in occupied areas of station 3) Determine radioiodine dose commitment from concentration ($\mu\text{Ci}/\text{cc}$) based on air sample data and exposure duration: <p style="margin-left: 40px;">_____ $\mu\text{Ci}/\text{cc}$ x $1.57\text{E}+6$ x _____ hrs = _____ Rem</p> <p>c) Check results indicate onsite exposure greater than or equal to the following:</p> <ul style="list-style-type: none"> • 1 Rem TEDE <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none"> • 5 Rem Thyroid CDE <p>d) Recommend that the SEM evacuate non-essential personnel</p>	<p>c) Do one of the following:</p> <ul style="list-style-type: none"> • <u>IF</u> exposure greater than 0.5 Rem TEDE or 1 Rem Thyroid CDE, <u>THEN</u> recommend sheltering <p style="text-align: center;"><u>AND</u></p> <p>RETURN TO Step 25</p> <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none"> • <u>IF</u> exposure less than 0.5 Rem TEDE and 1 Rem Thyroid CDE, <u>THEN</u> RETURN TO Step 25
(STEP 35 CONTINUED ON NEXT PAGE)		

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
35	EVALUATE NEED TO EVACUATE/SHELTER NON-ESSENTIAL PERSONNEL: (Continued)	
	e) Assist in evacuation planning:	
	1) Review offsite release assessments	
	2) Check plume direction	
	3) Determine appropriate evacuation route and remote assembly area	
	f) Have RPS assign EPIP-4.21, EVACUATION AND REMOTE ASSEMBLY AREA MONITORING	
	g) Keep SEM informed about Emergency Assembly Area monitoring status	
	h) RETURN TO Step 25	
_____ 36	BRIEF SEM AND RPS ON EMERGENCY STATUS AND RADIOLOGICAL TRENDS	
_____ 37	CHECK IF EMERGENCY HAS BEEN TERMINATED	RETURN TO Step 11.
_____ 38	NOTIFY RPS AND RAC OF EVENT TERMINATION	
_____ 39	CONSIDER EXTENDED USE OF MONITORING TEAMS FOR DATA COLLECTION	

NUMBER EPIP-4.01	PROCEDURE TITLE RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE	REVISION 18
		PAGE 27 of 27

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 40	REVIEW RECOVERY PHASE PARAMETERS WITH SEM: <ul style="list-style-type: none"> • Access control to outside contaminated areas • Return to normal access control throughout site • Additional HP support personnel • Radwaste packaging and disposal • Assistance with decontamination 	
_____ 41	TERMINATE EPIP-4.01: <ul style="list-style-type: none"> • Give completed EIPs, forms, and other applicable records to the Nuclear Emergency Preparedness (TSC Emergency Procedures Coordinator if TSC activated) • By: _____ Date: _____ Time: _____ 	

-END-

NUMBER	ATTACHMENT TITLE RADIOLOGICAL DATA WORKSHEET	REVISION
EPIP-4.01		18
ATTACHMENT		PAGE
1		1 of 1

DATE: _____ TIME: _____ UNIT: _____

Meteorological Data:

WIND DIRECTION (from): _____

SECTORS AFFECTED: _____

WIND SPEED (mph): _____

PRECIPITATION: _____

STABILITY CLASS: _____

RADIATION SYSTEM MONITORING DATA

VENT VENT A (VG-104) _____ cpm (VG-179) _____ μ Ci/sec

VENT VENT B (VG-113) _____ cpm (VG-180) _____ μ Ci/sec

PROCESS VENT (GW-102) _____ cpm (GW-178) _____ μ Ci/sec

AIR EJECTOR (SV-121) _____ cpm (SV-221) _____ cpm

VENT VENT A (VG-174) _____ mR/hr

VENT VENT B (VG-175) _____ mR/hr

PROCESS VENT (GW-173) _____ mR/hr

mR/hr

MAIN STEAM: (MS-170) _____ (MS-171) _____ (MS-172) _____

(MS-270) _____ (MS-271) _____ (MS-272) _____

AFPT: (MS-176) _____ (MS-276) _____

CONTAINMENT MONITORS: R/hr

(RMS-161) _____ (RMS-164) _____ (RMS-261) _____ (RMS-264) _____

(RMS-162) _____ (RMS-165) _____ (RMS-262) _____ (RMS-265) _____

(RMS-163) _____ (RMS-166) _____ (RMS-263) _____ (RMS-266) _____

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR (With No Attachments)	REVISION 14
		PAGE 1 of 7

PURPOSE

To provide for monitoring during the collection of a post accident sample of containment air.

**LEVEL 2 DISTRIBUTION
This Document Should Be Verified
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As Required to Perform Work**

ENTRY CONDITIONS

Any one of the following:

1. Entry directed by the Station Emergency Manager.
2. Entry directed by the Radiation Protection Supervisor.
3. Entry directed by the Radiological Assessment Director.

Approvals on File

Effective Date 4/9/2002

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR	REVISION 14 <hr/> PAGE 2 of 7
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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_____ 1 INITIATE EPIP-4.22:

- By: _____
- Date: _____
- Time: _____

NOTE: The minimum sampling team complement should consist of one Chemistry Team member and one Monitoring Team member at the Containment Air Sampling Panel (CASP, Auxiliary Building 274' level); and, one Chemistry Team member at the Process Control Panel (PCP)/Chemistry Containment Air Sampling Panel (CCP) in Unit 1 Cable Spreading Room.

_____ 2 REVIEW SYSTEM DESIGN BASIS:

- CASP design basis dose rates equal 30 mR/hr at three feet
- Containment Air Sample design basis dose rates equal 8,000 mR/hr surface and 100 mR/hr at one foot
- CASP is maintained at a negative pressure
- Dose rates and airborne contamination levels at the PCP/CCP are not normally affected by the sampling process

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR	REVISION 14
		PAGE 3 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p>_____ 3</p> <p>_____ 4</p>	<p>CONSIDER PROTECTIVE MEASURES FOR RWP:</p> <p>a) Dosimetry:</p> <ul style="list-style-type: none"> • Head • Trunk • Gonad • Leg • Arm • Wrist <p>b) Protective Clothing:</p> <ul style="list-style-type: none"> • Full protective clothing • Single gloves • Tape all seams <p>c) Respiratory Protection IAW general area conditions in the Auxiliary Building</p> <p>d) Consider temporary shielding</p> <p>e) Check emergency exposure authorization required</p> <p>f) Initiate EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE</p> <p>DESIGNATE SAMPLE TEAM MEMBERS</p>	<p>e) <u>IF</u> emergency exposure authorization <u>NOT</u> required, <u>THEN GO TO</u> Step 4.</p>

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR	REVISION 14 <hr/> PAGE 4 of 7
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>NOTE: Sampling Team members use Chemistry procedures to sample for containment air.</p>	
<p>_____ 5</p>	<p>GIVE COPY OF AFFECTED UNIT HIGH RADIATION SAMPLING SYSTEM CONTAINMENT AIR SAMPLING PROCEDURE TO SAMPLE TEAM UNIT 1 - CH-41.310 UNIT 2 - CH-42.310</p>	
	<p>NOTE: One team is needed for the "Local" and one for the "Remote" sampling location.</p>	
<p>_____ 6</p>	<p>BRIEF SAMPLE TEAM:</p> <ul style="list-style-type: none"> a) Review sampling procedure b) Review entry and exit routes c) Review RWP requirements for PCP/CCP and the CASP: <ul style="list-style-type: none"> • Stay times • Protective clothing • Dosimetry • Respiratory equipment • Monitoring d) Review cautions: <ul style="list-style-type: none"> • High radiation levels • High activity samples: Estimate the correct volume of sample to be collected using the gas sampler (RCT) • Buddy system • Open valves slowly e) Give team a copy of this procedure 	

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR	REVISION 14
		PAGE 5 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 7	NOTIFY RPS THAT SAMPLE TEAM IS READY FOR DISPATCH	
_____ 8	ASK RPS FOR CURRENT PLANT STATUS	
_____ 9	GIVE UPDATE TO TEAM MEMBERS	
_____ 10	DISPATCH SAMPLE TEAM	
_____ 11	NOTIFY THE FOLLOWING INDIVIDUALS ONCE SAMPLE TEAM HAS BEEN DISPATCHED:	
	<ul style="list-style-type: none"> • Station Emergency Manager • Radiological Assessment Director • Shift Supervisor 	
_____ 12	DO MONITORING CONCURRENT WITH IMPLEMENTATION OF SAMPLING PROCEDURE:	
	<ul style="list-style-type: none"> • Monitor area dose rates while in transit and at panel • Monitor dose rates on front of panel and on sample container 	

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR	REVISION 14
		PAGE 6 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13	<p>VERIFY SAMPLE PREPARED FOR TRANSPORT:</p> <p>a) Sample container labelled with the following information:</p> <ul style="list-style-type: none"> • Sample ID and Unit # • Sample volume • Date and time • Dose rate <p>b) Glass bottle and syringe assembly put in separate bags/containers</p>	
14	<p>CHECK SAMPLE CONTACT READING - LESS THAN 10 MR/HR</p>	<p>IF sample contact reading GREATER THAN 10 mR/hr, THEN have HP initiate EPIP-4.26, HIGH LEVEL ACTIVITY SAMPLE ANALYSIS.</p>
15	<p>TAKE SAMPLE TO COUNT ROOM:</p> <p>a) Use pre-planned route</p> <p>b) Monitor radiological conditions during transit</p> <p>c) Check dose rates along route within expected levels</p> <p>d) Maintain ALARA</p>	<p>c) Do the following:</p> <ol style="list-style-type: none"> 1) Notify RPS. 2) Identify route of lowest dose.

NUMBER EPIP-4.22	PROCEDURE TITLE POST ACCIDENT SAMPLING OF CONTAINMENT AIR	REVISION 14
		PAGE 7 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 16	NOTIFY THE FOLLOWING INDIVIDUALS ONCE SAMPLING HAS BEEN COMPLETED: <ul style="list-style-type: none"> • Radiation Protection Supervisor • Shift Supervisor • Station Emergency Manager 	
_____ 17	TERMINATE EPIP-4.22: <ul style="list-style-type: none"> • Give completed EPIP-4.22, forms and other applicable records to the Radiation Protection Supervisor • Completed by: _____ <li style="padding-left: 40px;">Time: _____ <li style="padding-left: 40px;">Date: _____ 	
-END-		

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT (With No Attachments)	REVISION 14
		PAGE 1 of 7

PURPOSE

To collect a post accident sample of reactor coolant from Unit 1 or Unit 2 Reactor Coolant System (RCS).

**LEVEL 2 DISTRIBUTION
This Document Should Be Verified
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As Required to Perform Work**

ENTRY CONDITIONS

Any one of the following:

1. Entry directed by Station Emergency Manager.
2. Entry directed by Radiation Protection Supervisor.
3. Entry directed by Radiological Assessment Director.

Approvals on File

Effective Date 4/9/2002

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT	REVISION 14
		PAGE 2 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 1	INITIATE EPIP-4.23: <ul style="list-style-type: none"> • By: _____ Date: _____ Time: _____ 	
_____ 2	REVIEW HRSS DESIGN BASES: <ul style="list-style-type: none"> • Design basis RCS estimated sample dose rates: <ul style="list-style-type: none"> • 1000 Rem/hr surface, undiluted • 1 Rem/hr surface, diluted • 650 mRem/hr at surface of cask when cover is <u>NOT</u> in place, undiluted • Design basis Liquid Sample Panel (LSP) dose rate is 365 mRem/hr at 1 meter • LSP is maintained at negative pressure 	

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT	REVISION 14
		PAGE 3 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 3	<p>DETERMINE PROTECTIVE MEASURES:</p> <p>a) Dosimetry:</p> <ul style="list-style-type: none"> • Head • Trunk • Gonad • Leg • Arm • Wrist <p>b) Protective clothing:</p> <ul style="list-style-type: none"> • Full protective clothing • Plastic suit • Single gloves • Tape all seams <p>c) Respiratory protection IAW general area conditions in the Auxiliary Building</p> <p>d) Consider temporary shielding</p> <p>e) Check emergency exposure authorization required</p> <p>f) Initiate EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE</p>	<p>e) <u>IF</u> emergency exposure authorization <u>NOT</u> required, <u>THEN GO TO</u> Step 4.</p>
_____ 4	<p>ACTIVATE EMERGENCY RWP (Prepare new RWP if needed)</p>	

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT	REVISION 14
		PAGE 4 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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NOTE: One Chemistry Team Member is needed for the "Local" and one for the "Remote" sampling location.

- _____ 5 DESIGNATE SAMPLE TEAM MEMBERS:
- a) Assign one Chemistry Team member per sample team
 - b) Assign one Monitoring Team member per sample team (Designate an In-Plant Monitoring Team member to periodically check on the Chemistry Team members if unable to assign a Monitoring Team member for each sample team.)
- _____ 6 GIVE SAMPLE TEAM COPY OF DILUTED OR UNDILUTED SAMPLING PROCEDURE FOR AFFECTED UNIT:
- HIGH RADIATION SAMPLING SYSTEM
RCS DILUTED LIQUID SAMPLING POST ACCIDENT CONDITIONS
Unit 1 - CH-41.120
Unit 2 - CH-42-120
 - HIGH RADIATION SAMPLING SYSTEM
RCS UNDILUTED LIQUID SAMPLING POST ACCIDENT CONDITIONS
Unit 1 - CH-41.121
Unit 2 - CH-42.121
- _____ 7 GIVE SAMPLE TEAM A COPY OF EPIP-4.26, HIGH LEVEL ACTIVITY SAMPLE ANALYSIS

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT	REVISION 14
		PAGE 5 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 8	<p>BRIEF SAMPLE TEAM:</p> <ul style="list-style-type: none"> a) Review sampling and analysis procedures b) Establish and review entry/exit routes (use ALARA) c) Review requirements for the PCP and the LSP: <ul style="list-style-type: none"> • Stay times • Protective clothing • Dosimetry • Respiratory equipment • HP Monitoring d) Review cautions: <ul style="list-style-type: none"> • High radiation levels • High sample activity level • High sample pressure • Buddy system • Open valves slowly e) Direct Chemistry Team Member to notify Monitoring Team Member before introducing primary coolant into the HRSS 	
_____ 9	HAVE SAMPLE TEAM DRESS OUT IAW RWP	
_____ 10	DISPATCH SAMPLE TEAM	

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT	REVISION 14
		PAGE 6 of 7

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	NOTIFY THE FOLLOWING ONCE SAMPLE TEAM HAS BEEN DISPATCHED: a) Station Emergency Manager b) Radiological Assessment Director c) Shift Supervisor	
12	HAVE SAMPLE ANALYZED: a) Refer to EPIP-4.26, HIGH LEVEL ACTIVITY SAMPLE ANALYSIS, for sample dilution b) Transport sample to Hot Lab or HRSS hood for dilutions c) Implement appropriate Chemistry procedure for analysis d) Check if diluted HRSS sample is to be flushed back through system for disposal e) Implement affected unit HIGH RADIATION SAMPLING SYSTEM SAMPLE DISPOSAL OR STORAGE procedure Unit 1 - CH-41.820 Unit 2 - CH-42.820	d) GO TO Step 13.
13	NOTIFY THE FOLLOWING THAT SAMPLING HAS BEEN COMPLETED: a) Chemistry Team Leader b) Radiation Protection Supervisor c) Station Emergency Manager	

NUMBER EPIP-4.23	PROCEDURE TITLE POST ACCIDENT SAMPLING OF REACTOR COOLANT	REVISION 14 <hr/> PAGE 7 of 7
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

____ 14 TERMINATE EPIP-4.23:

- Give completed EPIP-4.23, forms and other applicable records to the Radiation Protection Supervisor

• Completed by: _____

Date: _____

Time: _____

-END-

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL (With 2 Attachments)	REVISION 5
		PAGE 1 of 23

PURPOSE

To provide instructions for execution of the MIDAS Class A Model.

LEVEL 2 DISTRIBUTION
This Document Should Be Verified
And Annotated To A Controlled Source
As Required to Perform Work

ENTRY CONDITIONS

Any one of the following:

1. Entry from EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE.
2. Entry from EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE.
3. Direction by the Radiological Assessment Director or Radiological Assessment Coordinator.

Approvals on File

Effective Date 4/9/2002

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
 - Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
 - Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

- a. Do not touch the screen when prompted to do so by the procedure.
- b. Use the "mouse" to position cross-hairs at desired location on screen.
- c. Click the "mouse" after cross-hairs are properly positioned.

NOTE: Copying may take over two minutes. Using the CONTROL key with the D COPY/S COPY key will produce light text on a black background (reverse image), which may improve the resolution of maps/isopleths.

2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 2 of 23

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- NOTE:**
- Dose assessments are required within 15 minutes after a radiological release. MIDAS may underestimate the effects of a release which begins during the current 15-minute period.
 - An abnormal run is one in which a red bar containing messages that meteorological or radiation monitor data is missing appears on the screen.
 - Pressing the DIALOG key causes the terminal to display three lines of text and allows the operator to read system messages during a run.
 - Attachment 2, Design Basis Accident Technical Overview, provides assumptions and default values used in the MIDAS code and EPIPs.

____ 1 INITIATE PROCEDURE:

- a) By: _____
Date: _____
Time: _____
 - b) Press START/STOP button (the top button near the lower right front of terminal)
 - c) Ensure STOP/START button stays in the engaged position
 - d) Press LOCK key on the keyboard
 - e) Verify LOCK and TEK indicating lights - ON
 - f) Verify MIDAS in one of the following locations being used:
 - North Anna HP Office
 - North Anna TSC
 - North Anna LEOF
 - g) Verify - INITIAL MIDAS RUN
- e) Do the following:
 - 1) Notify RAD/RAC MIDAS terminal malfunctioning.
 - 2) Initiate Attachment 1.
 - f) IF in CEOF, THEN ensure "Black Box" ABC switch positioned to "A" for North Anna.
 - g) GO TO Step 5.

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 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
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1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 3 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 2	DO INITIAL ASSESSMENT:	
	a) Press RETURN	
	b) Verify USERNAME displayed	b) <u>IF</u> "Local>" appears, <u>THEN</u> type C NMIDAS and RETURN TO Step 2.a.
		<u>IF</u> message "Local-715 or Local-013" appears, <u>THEN</u> do the following:
		1) Press CTRL K keys.
		2) <u>WHEN</u> "Local>" appears, <u>THEN</u> type C SMIDAS.
		3) Wait for USERNAME to appear.
		4) <u>IF</u> USERNAME appears, <u>THEN</u> do the following:
		a) GO TO Step 2.c.
		b) Continue using manually entered monitor and met data.
		<u>IF</u> USERNAME does <u>NOT</u> appear, <u>THEN</u> do dose assessment using manual EPIPs.
	c) Type MIDAS	
	d) Press RETURN	
	e) Verify MIDAS in one of the following locations being used:	e) <u>IF</u> in CEOF, <u>THEN</u> do the following:
	<ul style="list-style-type: none"> • North Anna HP Office • North Anna TSC • North Anna LEOF 	1) Type NA (North Anna Site ID).
		2) Press RETURN.
(STEP 2 CONTINUED ON NEXT PAGE)		

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 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 4 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
2	<p>DO INITIAL ASSESSMENT: (Continued)</p> <p>f) <u>WHEN</u> the following prompt appears</p> <p>ENTER: [N1] NORTH ANNA 1 [N2] NORTH ANNA 2 [T1] NA1 TREND [T2] NA2 TREND [EX] EXIT</p> <p><u>THEN</u> type appropriate unit (N1 or N2)</p> <p>g) Press RETURN</p> <p>h) <u>WHEN</u> the following prompt appears</p> <p>[XX] FUNCTION OR TASK CODE [XXXX] FUNCTION AND TASK CODE [FM] FUNCTION MENU [CTRL-Z] EXIT</p> <p><u>THEN</u> type TS (touch screen)</p> <p>i) Press RETURN</p> <p>j) Verify MIDAS connected to North Anna VAX</p> <p>k) Check if quick assessment desired</p> <p>l) Touch REAL TIME QUICK DOSE PROJECTIONS on the ACCIDENT RUN MENU SELECTION screen</p> <p>m) Touch CONFIRM</p>	<p>j) <u>IF</u> MIDAS is connected to Surry VAX (i.e., connection made using C SMIDAS), <u>THEN</u> GO TO Step 7.</p> <p>k) GO TO Step 5.</p>

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 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
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2. SCREEN PRINT CRITERIA

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3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 5 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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- NOTE:**
- Meteorological (MET) parameters with good values are backlit in gray with their value under the parameter name.
 - Stability Class is determined using delta temperature (°F).
 - Rate of rainfall (inches per 15 minutes) may be obtained from the Weather Center (Innsbrook, 8-730-3025). Zero (0) may be entered if data is not available. However, using zero during periods of rainfall may yield unrepresentative results.
 - EPIP-4.10, DETERMINATION OF X/Q, contains instructions for getting meteorological information, e.g., inches rainfall, when on-site measurements unavailable.

_____ 3 ENTER METEOROLOGICAL DATA:

- | | |
|--|---------------------------------|
| a) Check gray boxes - APPEAR | a) GO TO Step 3.f. |
| b) Touch RAIN box | |
| c) Put in rate of rainfall (inches per 15 minutes) using the NUM pad | |
| d) Touch CONFIRM | |
| e) GO TO Step 3.j | |
| f) Do one of the following: | |
| • Use LAST MET and touch each box to activate parameter | |
| <u>OR</u> | |
| • Touch box for each MET parameter to be edited and put in value using the NUM pad | |
| g) Verify the entered value appears under the parameter name | g) Enter parameter value again. |

(STEP 3 CONTINUED ON NEXT PAGE)

CONTINUOUS ACTION PAGE FOR EPIP-4.30

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 6 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
3	ENTER METEOROLOGICAL DATA: (Continued)	
	h) Ensure values for each of the following parameters are entered (touch the appropriate box and enter the value using the NUM pad as needed):	
	<ul style="list-style-type: none"> • Upper and lower wind speed (mph) • Lower wind direction (degrees) • Delta temperature (°F) • Ambient temperature (°F) • Rain (inches per 15 minutes) 	
	i) Touch CONFIRM after all MET parameters are correctly entered	
	j) Verify run proceeds into calculation mode	j) <u>IF</u> Red Warning message appears (i.e., rad monitor data invalid), <u>THEN</u> do the following: <ol style="list-style-type: none"> 1) Touch EXIT. 2) RETURN TO Step 2.j.

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 7 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4	<p>GET REPORTS:</p> <ul style="list-style-type: none"> a) Check if SPECIAL REPORT appears following calculation routine b) Make a print of SPECIAL REPORT (touch "D COPY/S COPY") c) Touch CONTINUE d) <u>WHEN</u> page 1 of the RADIOLOGICAL STATUS REPORT appears, <u>THEN</u> press "D COPY/S COPY" e) Touch CONTINUE f) <u>WHEN</u> page 2 of the RADIOLOGICAL STATUS REPORT appears, <u>THEN</u> press "D COPY/S COPY" g) Touch MORE REPORTS h) Wait for MORE REPORTS SELECTION screen to appear i) Touch box for MET, RAD, X/Q, DOSE SUMMARY report 	<ul style="list-style-type: none"> a) <u>IF</u> DATA RESULT screens appear, <u>THEN</u> touch CONTINUE multiple times to step through data results and calculation routine until the SPECIAL REPORT appears.
(STEP 4 CONTINUED ON NEXT PAGE)		

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 8 of 23

STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

4 GET REPORTS: (Continued)

j) Touch CONFIRM

CAUTION: The Quick Dose option uses available valid automatic inputs to calculate a dose projection without identifying invalid inputs to the user. Therefore, if current radiation monitor or flow readings for the release pathway are recognized as invalid, the Quick Dose result will exclude these parameters and may yield an invalid (nonconservative) estimate.

k) Check current radiation monitor and flow readings appear for expected release paths

k) IF MET, RAD, X/Q, DOSE SUMMARY report indicates Quick Dose results are suspect, e.g., release path excluded from dose calculation, THEN do the following:

1) Record note on RADIOLOGICAL STATUS REPORT indicating it appears to be based on incomplete inputs and is not to be used.

2) Do one of the following:

- IF MIDAS dose projections to be continued using operator input, THEN GO TO Step 6.

OR

- IF hand-calculations to be used for evaluation of release consequences, THEN initiate EPIP-4.08, INITIAL OFFSITE RELEASE ASSESSMENT.

1) Touch CONTINUE
(STEP 4 CONTINUED ON NEXT PAGE)

CONTINUOUS ACTION PAGE FOR EPIP-4.30

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 9 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4	<p>GET REPORTS: (Continued)</p> <p>m) Touch EXIT TO MORE REPORTS</p> <p>n) Touch MORE REPORTS</p> <p>o) Check with RAD/RAC about need for the following specific reports (to support State assessments):</p> <ul style="list-style-type: none"> • DOSE/DOSE RATE PLOTS • Additional SPECIAL REPORT • Additional RADIOLOGICAL STATUS REPORT <p>p) Touch box for desired report</p> <p>q) Touch CONFIRM</p> <p>r) Check if REPORT PARAMETER SELECTION screen appears</p> <p>s) Set projection time on REPORT PARAMETER SELECTION Screen:</p> <ol style="list-style-type: none"> 1) Touch PROJ. TIME box to scroll to duration specified by RAD or RAC (Use 2-hour default duration if no duration specified) 2) Touch CONFIRM <p>t) GO TO Step 15</p>	<p>o) <u>WHEN</u> NO additional reports are needed, <u>THEN</u> do the following:</p> <ol style="list-style-type: none"> 1) Touch EXIT twice to return to the ACCIDENT RUN MENU SELECTION SCREEN. 2) GO TO Step 16. <p>r) GO TO Step 15.</p>

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 10 of 23



NOTE: CHRRMS (Unit 1: RMS-165/166, Unit 2: RMS-265/266) readings may be used to select MIDAS LOCA accident type.

HOURS AFTER LOCA	CONTAINMENT HIGH RANGE RADIATION MONITOR READING (R/hr)		
0	≥1.5E+4	≥1.9E+1	≥9.0
1	≥5.5E+3	≥1.75E+1	≥8.0
2	≥4.0E+3	≥1.5E+1	≥7.5
4	≥2.75E+3	≥1.2E+1	≥7.0
MIDAS ACCIDENT TYPE SELECTION	LOCA MELT	LOCA GAP	LOCA PC

5 DO ENHANCED DOSE ASSESSMENT WITH DEFAULT DATA:

- | | |
|--|-------------------------|
| <p>a) Verify MIDAS system default data to be used (i.e., real time meteorological and radiation monitor data, and default accident isotope mix)</p> <p>b) Touch REAL TIME ENHANCED DOSE PROJECTIONS</p> <p>c) Touch CONFIRM</p> <p>d) <u>WHEN</u> the DBA ACCIDENT TYPE SELECTION screen appears, <u>THEN</u> select accident type specified by RAD/RAC:</p> <ul style="list-style-type: none"> • MSLB (Main Steam Line Break) • SGTR (Steam Generator Tube Rupture) • FUEL HANDLING (in Fuel Building only) • WGTR (Waste Gas Decay Tank Rupture) • LOCA - PC (PRI COOL) • LOCA - GAP • LOCA - MELT • LOCKED ROTOR <p>e) Touch CONFIRM</p> <p>f) RETURN TO Step 3</p> | <p>a) GO TO Step 7.</p> |
|--|-------------------------|

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
- Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
 - Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

- a. Do not touch the screen when prompted to do so by the procedure.
- b. Use the "mouse" to position cross-hairs at desired location on screen.
- c. Click the "mouse" after cross-hairs are properly positioned.

NOTE: Copying may take over two minutes. Using the CONTROL key with the D COPY/S COPY key will produce light text on a black background (reverse image), which may improve the resolution of maps/isopleths.

2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5 PAGE 11 of 23
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 6	RETURN TO ACCIDENT RUN MENU SELECTION SCREEN: a) Touch CONTINUE b) Touch EXIT TO MORE REPORTS c) Touch MORE REPORTS d) Touch EXIT twice to return to the ACCIDENT RUN MENU SELECTION screen	

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
 - Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
 - Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

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- b. Use the "mouse" to position cross-hairs at desired location on screen.
- c. Click the "mouse" after cross-hairs are properly positioned.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

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4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- NOTE:**
- Each input screen will appear with preselected values backlit in white. Changes are made by pressing the appropriate box and using the touch screen keypad in the upper right quadrant on the screen. Keypad entries are entered by touching EN on the keypad. Times between midnight and 0100 must be entered as 2400 through 2459 using the previous date.
 - If radiation monitor data was bad or the source term data was equal to zero during a previous run, a new release option must be selected different from the one previously selected.

7 USE REAL TIME ALL SCREEN DOSE PROJECTIONS TO DO ENHANCED DOSE ASSESSMENT WITH OPTIONAL OPERATOR INPUT DATA:

- a) Verify user input is desired for Release Date/Time, Release Option, Monitor Data or Sample Data
- b) Touch REAL TIME ALL SCREEN DOSE PROJECTIONS
- c) Touch CONFIRM
- d) WHEN MISCELLANEOUS PARAMETERS screen appears, THEN verify default choices are to be used

a) RETURN TO Step 5.

- d) Adjust choices on the MISCELLANEOUS PARAMETERS screen per RAD/RAC instructions

OR

Touch MANUAL if manual input of weather data is desired.

- e) Touch CONFIRM

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

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 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
- Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
 - Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

- a. Do not touch the screen when prompted to do so by the procedure.
- b. Use the "mouse" to position cross-hairs at desired location on screen.
- c. Click the "mouse" after cross-hairs are properly positioned.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

- NOTE:**
- Run type is preset to PROJECTED (FORECAST) DOSE.
 - PROJECTION TIME (HOURS) is preset to 1, 2, 4 and 8.

_____ 8 INPUT DATE AND TIME INFORMATION:

a) WHEN RUN MODE AND INTEGRATION TIME SELECTION screen appears, THEN verify current date/time to be used

a) IF current date/time NOT to be used, THEN do the following:

- 1) Touch START DATE OF INTEGRATION and then use the touch screen NUM pad to enter date in the format: MO/DY/YR HR:MN. (MIDAS will provide "/" marks between the pairs of digits for month, day and year, and a colon between the pairs of digits for hours and minutes.)
- 2) Touch EN when entry is complete.

b) Touch CONFIRM

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- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
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1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

- a. Do not touch the screen when prompted to do so by the procedure.
- b. Use the "mouse" to position cross-hairs at desired location on screen.
- c. Click the "mouse" after cross-hairs are properly positioned.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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NOTE: If rad data was bad or the source term data was equal to zero in a previous run, a new release option must be selected different from the one previously selected.

- 9 SELECT RELEASE (SOURCE TERM) OPTION:
- a) Use RELEASE OPTION SELECTION screen
 - b) Choose one of the following release options:

RELEASE OPTIONS	SELECTION AND TRANSITION STEPS
Radiation monitor data is available for manual entry and/or predictive dose assessment is desired based on a potential release	1) Touch MANUAL ENTRY OF EACH MONITOR READING 2) Touch CONFIRM 3) GO TO Step 10
Radiation monitor data is available from file	1) Touch MONITOR DATA FROM V & F FILE 2) Touch CONFIRM 3) GO TO Step 12
Isotopic release rates are available for manual entry and/or predictive dose assessment is desired based on a potential release	1) Touch MANUAL ENTRY OF ISOTOPE RELEASE RATE 2) Touch CONFIRM 3) GO TO Step 11
Isotopic concentrations and flow rates of each release path are known, and/or predictive dose assessment is desired based on a potential release	1) Touch MANUAL ENTRY OF ISOTOPE CONCENTRATION 2) Touch CONFIRM 3) GO TO Step 11
Design Basis Assident Default (DBA)	1) Touch DEFAULT DBA ACCIDENT 2) Touch CONFIRM 3) GO TO Step 12

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- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
 - Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
 - Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

- a. Do not touch the screen when prompted to do so by the procedure.
- b. Use the "mouse" to position cross-hairs at desired location on screen.
- c. Click the "mouse" after cross-hairs are properly positioned.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

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- CAUTION:**
- Double counting will occur if more than one monitor in each release pathway is entered.
 - Default flow rates will automatically be used if flow rates are not entered and may result in overconservative dose projections.

- NOTE:**
- Monitor readings may be obtained from ERFCS Group Review screens if RMS data is not available to MIDAS.
 - CHRRMS (Unit 1: RMS-165/166, Unit 2: RMS-256/266) readings may be used to select MIDAS LOCA accident type.

HOURS AFTER LOCA	CONTAINMENT HIGH RANGE RADIATION MONITOR READING (R/hr)		
0	≥1.5E+4	≥1.9E+1	≥9.0
1	≥5.5E+3	≥1.75E+1	≥8.0
2	≥4.0E+3	≥1.5E+1	≥7.5
4	≥2.75E+3	≥1.2E+1	≥7.0
MIDAS ACCIDENT TYPE SELECTION	LOCA MELT	LOCA GAP	LOCA PC

____ 10 ENTER MONITOR DATA MANUALLY:

(STEP 10 CONTINUED ON NEXT PAGE)

CONTINUOUS ACTION PAGE FOR EPIP-4.30

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
- MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
- RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
- RELEASE OPTION SELECTION (CONFIRM, RESET)
- DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
- RELEASE TIMING SELECTION (CONFIRM, RESET)
- WEATHER SELECTION (CONFIRM, RESET)
- MORE REPORTS SELECTION (CONFIRM, EXIT)

• North Anna release points are assigned as follows:

- Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
- Release Point 2: Process Vent
- Release Point 3: Main Steam Safety Valves, AFWPT
- Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

10 ENTER MONITOR DATA MANUALLY: (Continued)

a) WHEN the DBA ACCIDENT TYPE SELECTION screen appears, THEN select accident type specified by RAD/RAC:

- MSLB (Main Steam Line Break)
- SGTR (Steam Generator Tube Rupture)
- FUEL HANDLING (in Fuel Building only)
- WGTR (Waste Gas Decay Tank Rupture)

- LOCA - PC (PRI COOL)
- LOCA - GAP
- LOCA - MELT
- LOCKED ROTOR

b) Touch CONFIRM

c) WHEN RADIATION MONITOR READINGS screen appears, THEN do the following:

- 1) Touch the box for each monitor to be entered (one at a time)

- 2) Enter radiation and flow values for each monitor using EN on the NUM pad (Enter monitor and flow rate values by making two entries on the NUM pad separated by a comma; e.g., 1E6,25000 for cpm,flow rate)

- 3) WHEN entry for one monitor is complete, THEN repeat Steps 10.c.1 through 10.c.2 until all data is entered

d) WHEN all entries have been made, THEN touch CONFIRM (STEP 10 CONTINUED ON NEXT PAGE)

CONTINUOUS ACTION PAGE FOR EPIP-4.30

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

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 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
 - Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
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1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
10	ENTER MONITOR DATA MANUALLY: (Continued) e) GO TO Step 13	
<p>NOTE:</p> <ul style="list-style-type: none"> • All four release points require input when using ADVANCED program. • Zero is an acceptable input for radiation level or flow. 		
11	ENTER STATION INVENTORY OR SAMPLE DATA: a) Check if isotopic release RATE is to be used b) Select each isotope <u>AND</u> Enter release rate (for each selection) using the NUM pad c) Touch CONFIRM after all data has been correctly entered d) GO TO Step 13	a) <u>IF</u> isotopic CONCENTRATION is to be entered, <u>THEN</u> do the following: 1) Select each isotope. 2) Enter concentration using the NUM pad. 3) Enter flow rate in bottom box of center column. 4) GO TO Step 11.c. c) <u>IF</u> a data entry error was made, <u>THEN</u> re-enter the correct data using the NUM pad and touch CONFIRM when complete.

CONTINUOUS ACTION PAGE FOR EPIP-4.30

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

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 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

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4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
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- NOTE:**
- The UNKNOWN MIX option may not appear on all DBA ACCIDENT TYPE SELECTION screens.
 - CHRMS (Unit 1: RMS-165/166, Unit 2: RMS-265/266) readings may be used to select MIDAS LOCA accident type.

HOURS AFTER LOCA	CONTAINMENT HIGH RANGE RADIATION MONITOR READING (R/hr)		
0	≥1.5E+4	≥1.9E+1	≥9.0
1	≥5.5E+3	≥1.75E+1	≥8.0
2	≥4.0E+3	≥1.5E+1	≥7.5
4	≥2.75E+3	≥1.2E+1	≥7.0
MIDAS ACCIDENT TYPE SELECTION	LOCA MELT	LOCA GAP	LOCA PC

12 ENTER ACCIDENT TYPE:

- a) Verify DBA ACCIDENT TYPE SELECTION screen appears
- a) IF accident type screen does NOT appear, THEN GO TO Step 13.
- b) Touch box with appropriate accident type:
- MSLB (Main Steam Line Break)
 - SGTR (Steam Generator Tube Rupture)
 - FUEL HANDLING (in Fuel Building only)
 - WGTR (Waste Gas Decay Tank Rupture)
 - LOCA - PC (PRI COOL)
 - LOCA - GAP
 - LOCA - MELT
 - LOCKED ROTOR
- c) Touch CONFIRM

CONTINUOUS ACTION PAGE FOR EPIP-4.30

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

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 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
 - Release Point 4: Vent Vent A, Vent Vent B, Air Ejector

1. TERMINAL INTERFACE CRITERIA

IF touch screen feature activated, THEN use touch screen to make entries.

IF a "mouse" is connected to the terminal, THEN do the following when instructed to touch the screen during performance of this procedure:

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- c. Click the "mouse" after cross-hairs are properly positioned.

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 19 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
13	ENTER RELEASE TIMING SELECTION:	
	a) Verify NO "abnormal run" occurred	a) <u>IF</u> recovering from an "abnormal run", <u>THEN</u> GO TO Step 14.e.
	b) Check if trip occurred GREATER THAN 15 minutes ago	b) <u>IF</u> time of trip is unknown or within the past 15 minutes, <u>THEN</u> GO TO Step 13.d.
	c) Touch TRIP DATE box on the RELEASE TIMING SELECTION screen and enter date and time of trip using the NUM pad	
	d) Check if time of start of release since trip is known	d) GO TO Step 13.g.
	e) Touch RELEASE START MINS SINCE TRIP box	
	f) Enter number of minutes using the NUM pad	
	g) Check if default to 120-minute release duration is desired	g) <u>IF</u> release duration known, <u>THEN</u> do the following: 1) Touch DURATION box. 2) Enter number of minutes using the NUM pad. 3) GO TO Step 13.i.
	h) Touch DURATION box and enter 120 minutes using the NUM pad	
	i) Touch CONFIRM	
	j) Verify run is proceeding into calculation mode and data result screen appears	j) <u>IF</u> meteorological data is not available and the manual entry screen appears, <u>THEN</u> RETURN TO Step 3. <u>IF</u> error warning messages appear, <u>THEN</u> touch EXIT and RETURN TO Step 2.j.
	k) RETURN TO Step 4	

NOTE: • MIDAS screens have selection boxes that may include RESET, CONFIRM and EXIT. The RESET box is used to clear any data that was entered before initiating a run, or to return to a previous screen. When all information on the screen is correct, the CONFIRM box is selected to continue model processing. The EXIT box exits the modeling process. Selection screens include:

- ACCIDENT RUN MENU SELECTION (CONFIRM, EXIT, RESET)
 - MISCELLANEOUS PARAMETERS (CONFIRM, RESET)
 - RUN MODE AND INTEGRATION TIME SELECTION (CONFIRM, RESET)
 - RELEASE OPTION SELECTION (CONFIRM, RESET)
 - DBA ACCIDENT TYPE SELECTION (CONFIRM, RESET)
 - RELEASE TIMING SELECTION (CONFIRM, RESET)
 - WEATHER SELECTION (CONFIRM, RESET)
 - MORE REPORTS SELECTION (CONFIRM, EXIT)
- North Anna release points are assigned as follows:
- Release Point 1: Containment; ground level (The expressed flow (EX VEL) for Release Point 1 is "0.00E+00" based on no containment release.)
 - Release Point 2: Process Vent
 - Release Point 3: Main Steam Safety Valves, AFWPT
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1. TERMINAL INTERFACE CRITERIA

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2. SCREEN PRINT CRITERIA

WHEN individual screen print desired, THEN press "D COPY/S COPY" key while screen is displayed.

3. TERMINAL MALFUNCTION RESPONSE CRITERIA

IF terminal malfunctions, THEN have dose projections made from another terminal.

4. TERMINAL LOCK-UP RESPONSE CRITERIA

IF a terminal lock-up occurs, THEN refer to Attachment 1 for response actions.

NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 20 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 14	RESTART PROCEDURE FOR ABNORMAL RUN:	
	a) Touch REAL TIME ALL SCREENS DOSE PROJECTIONS box on ACCIDENT RUN MENU SELECTION screen	
	b) Touch CONFIRM	
	c) <u>WHEN</u> the next screen requesting run type and time selection information appears, <u>THEN</u> touch CONFIRM without making any changes	
	d) Refer to Step 9 to select a new release option	
	e) Wait for RELEASE TIMING SELECTION screen to appear	
	f) Touch CONFIRM without making any changes	
	g) Verify that the run proceeds into the calculation mode	g) <u>IF</u> meteorological data <u>NOT</u> available and the manual entry WEATHER SELECTION screen appears, <u>THEN</u> RETURN TO Step 3.
	h) RETURN TO Step 4	

CONTINUOUS ACTION PAGE FOR EPIP-4.30

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 21 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED										
	<p>NOTE:</p> <ul style="list-style-type: none"> • Displays may be graphic or tabular, depending on what was selected in the MORE REPORTS menu. Map features allow the user to put on or take off map overlays using function keys. • Instructions at the bottom of all graphic and tabular plume menus provide directions on how to move within them. • Graphic displays of plumes should not be used to determine emergency classifications. Instead, use the printed Special Report information. • Point of Interest allows the user to select specific points to determine X/Q, dose or dose rate values through the location of the terminal cursor. The cursor is moved using the "joy disk" to any location and then the space bar is toggled to display values. 											
15	<p>EVALUATE DISPLAYS:</p> <p>a) Set map scale:</p> <table border="0"> <tr> <td>1) Check if default distance (miles) to be used</td> <td>1) Touch MAP SCALE box and enter miles of interest using NUM pad</td> </tr> <tr> <td>2) Touch CONFIRM</td> <td></td> </tr> </table> <p>b) Check use of MAP FEATURES - DESIRED</p> <table border="0"> <tr> <td>1) Touch MAP FEATURES</td> <td>b) <u>IF</u> use of MAP FEATURES is <u>NOT</u> desired, <u>THEN</u> GO TO Step 15.c.</td> </tr> <tr> <td>2) Select (highlight) desired options on screen menu</td> <td></td> </tr> <tr> <td>3) Touch CONFIRM</td> <td></td> </tr> </table>		1) Check if default distance (miles) to be used	1) Touch MAP SCALE box and enter miles of interest using NUM pad	2) Touch CONFIRM		1) Touch MAP FEATURES	b) <u>IF</u> use of MAP FEATURES is <u>NOT</u> desired, <u>THEN</u> GO TO Step 15.c.	2) Select (highlight) desired options on screen menu		3) Touch CONFIRM	
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2) Select (highlight) desired options on screen menu												
3) Touch CONFIRM												
(STEP 15 CONTINUED ON NEXT PAGE)												

CONTINUOUS ACTION PAGE FOR EPIP-4.30

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 22 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
15	EVALUATE DISPLAYS: (Continued) c) Check enlargement of selected area of display - DESIRED: 1) Touch SELECT AREA 2) Touch screen at two points bounding the desired area 3) Touch RESTORE when use of this function is complete d) Check use of POINT OF INTEREST feature - DESIRED: 1) Touch POINT OF INTEREST, move cursor to desired location using "joy disk", and toggle the space bar (Place mouse cross-hairs to desired point and click) 2) <u>WHEN</u> POINT OF INTEREST function complete, <u>THEN</u> move cursor to the bottom right corner of the plot and press the space bar (Place mouse cross-hairs at bottom right corner of plot and click) e) Touch CONTINUE f) Touch MORE REPORTS g) RETURN TO Step 4.h	c) <u>IF</u> use of SELECT AREA is <u>NOT</u> desired, <u>THEN</u> GO TO Step 15.d. d) <u>IF</u> POINT OF INTEREST is <u>NOT</u> desired, <u>THEN</u> GO TO Step 15.e.
16	CHECK IF MIDAS OPERATIONS CAN BE TERMINATED: • Event - TERMINATED • RAD/RAC directs termination of MIDAS operation	RETURN TO Step 5.

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NUMBER EPIP-4.30	PROCEDURE TITLE USE OF MIDAS CLASS A MODEL	REVISION 5
		PAGE 23 of 23

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 17	DISENGAGE SYSTEM: <ol style="list-style-type: none"> a) Touch EXIT twice on the ACCIDENT RUN MENU SELECTION screen b) Press "CNTL" and "Z" keys simultaneously c) <u>WHEN</u> "Local>" appears, <u>THEN</u> type L0 d) Press RETURN e) Press START/STOP button (the top button near the lower right front of terminal) f) Ensure STOP/START button - DISENGAGED 	
_____ 18	TERMINATE EPIP-4.30: <ul style="list-style-type: none"> • Give completed EPIP-4.30, forms and other applicable records to the Radiological Assessment Director/Coordinator • By: _____ Date: _____ Time: _____ 	
-END-		

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.30	RESPONSE TO TERMINAL LOCK-UP	5
ATTACHMENT 1		PAGE 1 of 1

Perform the following actions, in sequence, to recover from terminal or system lock-up. The user may return to the procedure upon recovery (i.e. it is not necessary to complete the entire sequence if operation is restored).

- ___ 1. Enter the letter "E" AND press RETURN.
 IF system accepts commands, THEN RETURN TO procedure.
- ___ 2. Press "RESET" on terminal.
 IF system accepts commands, THEN RETURN TO procedure.
- ___ 3. Enter "CNTL Y".
 IF system accepts commands, THEN RETURN TO procedure.
- ___ 4. Turn terminal power OFF and back ON again.
 IF system accepts commands, THEN RETURN TO procedure.
- ___ 5. Enter "CNTL Y".
 IF system accepts commands, THEN RETURN TO procedure.

NOTE: The HP and CEOF terminals are normally connected to Server "A".
TSC and LEOF terminals are normally connected to Server "B".

- ___ 6. Reset the MIDAS terminal servers as follows:
 - a) Have all users attached to the server of interest exit MIDAS.
 - b) Unplug the power cord for the MIDAS server applicable to the terminal of interest (located in TSC Computer Room MIDAS Cabinet).
 - c) Plug the power cord back in to the MIDAS terminal server.
 - d) Wait for approximately 2 minutes while the server loads files from MIDAS and restarts operation. MIDAS will be out of service on at least two terminals during this time.
 - e) IF system accepts commands, THEN RETURN TO procedure.
- ___ 7. Connect to backup (alternate) MIDAS system:
 - a) Reset terminal by turning terminal power OFF and then back ON again.
 - b) Press CTRL K keys.
 - c) WHEN the "Local>" prompt appears, THEN type "C SMIDAS". Make sure to put a space between "C" and "SMIDAS".
 - d) RETURN TO procedure Step 2 and continue using manually entered monitor and meteorological data.
- ___ 8. Notify MIDAS System Manager or Code Administrator and the RAD or RAC.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.30	DESIGN BASIS ACCIDENT TECHNICAL OVERVIEW	5
ATTACHMENT 2		PAGE 1 of 3

1. MAIN STEAM LINE BREAK:

- Release duration: 1 hour, with all activity released in first 1/2 hour.
- Release from faulted line: $3.58E+5$ lb-mass (0 to 1/2 hr).
- Release from unaffected steam lines: 0-8 hours = $1.55E+5$ lb-mass/hr per generator.
- Primary and secondary side activity: Technical Specification limits at onset of event.
- Primary to secondary leak rate: Technical Specification limit, 500 gpd in affected generator, and 1440 gpd (1 gpm) total for all 3 steam generators.
- Iodine partition factors: Faulted S/G = 1; Intact S/Gs = 0.01.
- Condenser is assumed unavailable and the following release points apply: Broken steam line, intact steam line relief valves, and AFWPT.
- Activity released from broken steam line is distributed among the other 3 remaining release paths: 2 intact reliefs and AFWPT.
- Concurrent Iodine spike is 4 hours in duration.
- 9.25% of total activity is released via AFWPT. Steam flow to AFWPT: 40.5 lbs/hr per horsepower. Rated power = 710 horsepower. AFWPT total steam flow = 28,755 lbs/hr.
- No fuel failure is assumed as a result of the MSLB event.

2. STEAM GENERATOR TUBE RUPTURE:

- Release duration: 1 hour, with all activity released in the first 1/2 hour.
- Tubes in the affected steam generator are uncovered at 5 minutes from event initiation, and remain uncovered for 10 minutes.
- Iodine Partition Factor: 1.0 in affected steam generator; 0.01 in unaffected generators.
- The affected steam generator is assumed isolated within 30 minutes.
- Primary and secondary side activity: Technical Specification limits at onset of event.
- Primary to secondary leak rate: Technical Specification limit, 500 gpd in affected generator, and 1440 gpd (1 gpm) total for all 3 steam generators.
- Primary coolant release to affected steam generator: 132,000 lbs (0-30 minutes).
- Steam release from affected steam generator: 81,640 lbs from 0-30 minutes.
- Steam release from intact steam generators: 0-2 hours = 85,250 lb-mass/hr per generator; 2-8 hours = 50,417 lb-mass/hr per generator.
- Condenser is assumed unavailable and the following release points apply: faulted generator relief valves, intact steam line relief valves, AFWPT. If the condenser is available, release points include: Steam line relief valves (3), AFWPT, Vent Vent A (and air ejector).
- All activity released is distributed among the 3 main steam reliefs and AFWPT.
- Concurrent Iodine spike is 4 hours in duration.
- 2% of total activity is released via AFWPT. Steam flow to AFWPT: 40.5 lbs/hr per horsepower. Rated power = 710 horsepower. AFWPT total steam flow = 28,755 lbs/hr.
- No fuel failure is assumed as a result of the SGTR event.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.30	DESIGN BASIS ACCIDENT TECHNICAL OVERVIEW	5
ATTACHMENT 2		PAGE 2 of 3

3. FUEL HANDLING ACCIDENT (in Fuel Building):

- Release duration assumed for 1/2 hour.
- Fuel Pool effective Iodine partition factor of 0.01 (Decontamination Factor, DF, = 100).
- Release is through the charcoal filtration system. The filters through which the fuel building is exhausted are assumed to be 95% efficient for all species of Iodine.
- Fuel is not moved until 150 hours post shutdown (= decay time).

4. WASTE GAS DECAY TANK RUPTURE:

- Release duration assumed for 15 minutes.
- Entire contents of tank released (25,000 Ci D.E. Xe-133).
- 1/2 of release occurs via Process Vent.
- 1/2 of release occurs via Vent Vent B.

5. LOSS OF COOLANT ACCIDENT - MELT:

- Release duration: 2 hours.
- Release paths: Containment (Containment leakage) and Vent Vent B (ECCS leakage).
- Containment airborne source term: 100% core Noble Gases, 25% core Iodines.
- Spray removal: 10 hr⁻¹ for elemental Iodine.
- Containment leak rate: 0.1% per day, 0 to 1 hour (1.3 cfm).
- ECCS leakage: 0 to 10 min. = 50 gpm; 10 min. to 30 days = 900 cc/hour.
- Iodine released in building atmosphere from ECCS leakage: 10%.
- Filter efficiency for safeguards exhaust: 90% elemental Iodine.

6. LOSS OF COOLANT ACCIDENT - PC:

- RCS concentration assumed at Technical Specification limits.
- Safeguards filter efficiency: 90% elemental Iodine.
- Release duration: 2 hours.

7. LOSS OF COOLANT ACCIDENT - GAP:

- 3% core Noble Gases and 2% core Iodines assumed in gap.
- Safeguards filter efficiency: 90% elemental Iodine.
- Release duration: 2 hours.

8. LOCKED ROTOR:

- Fuel cladding failure is assumed at 5%.
- Total release duration: 8 hours.
- Condenser is assumed available. An Iodine Partition Factor of 0.01 is assumed for the condenser.
- Steam flow to AFWPT = 40.5 lbs/hr per horsepower. Rated power = 710 horsepower. AFWPT steam flow = 28,755 lbs/hr.
- No iodine spike is assumed.
- Normal feedwater is not available.
- No steam generator tube uncover is assumed.

NUMBER	ATTACHMENT TITLE	REVISION
EP-4.30	DESIGN BASIS ACCIDENT TECHNICAL OVERVIEW	5
ATTACHMENT		PAGE
2		3 of 3

9. MISCELLANEOUS GENERAL ASSUMPTIONS:

- Vent Vent A: Auxiliary Building, Air Ejector(s).
- Vent Vent B: Safeguards (filtered), Fuel Building (filtered), Containment Purge (filtered), Waste Gas Decay Tank area.
- Process Vent: Waste Gas Decay Tanks, Containment Vacuum.
- Containment leakage: MIDAS uses the higher of the two CHRRMS monitors to calculate the release.
- Air Ejector Monitors: MIDAS adds the Air Ejector release to the associated vent vent release.
- Main Steam and AFWPT: MIDAS adds the flows from each "open" and "status unknown" valve to calculate the total flow for a particular steam line. MIDAS sums the releases from all three steam lines and AFWPT to calculate the total release.
- For Vent Vents and Process Vents, MIDAS uses the highest radiation monitor indication on the affected pathway to calculate dose projections.
- For "Quick Dose" defaults: Unidentified mix, ground level, all release points active, and noble gas and iodine.
- NAPS DEFAULT FLOW RATES:

PATHWAY	FLOW RATE
VENT VENT A:	Flow as indicated by FR-HV-1212A (for VG-104, VG-174, VG-179) ERFCS unknown/bad data: 0 scfm MIDAS default: 1.42 E+5 scfm
VENT VENT B:	Flow as indicated by FR-HV-1212B (for VG-113, VG-175, VG-180) ERFCS unknown/bad data: 0 scfm MIDAS default: 1.0 E+5 scfm
PROCESS VENT:	Flow indicated by FT-GW-10B (for GW-17B, GW-102) ERFCS unknown/bad data: 0 scfm MIDAS default flow: 310 scfm
AIR EJECTOR:	TV-SV-102-2 (-202-2) open: 25 scfm TV-SV-102-2 (-202-2) closed: 0 scfm TV-SV-102-2 (-202-2) ERFCS unknown/bad data: 25 scfm MIDAS default: 25 scfm
CONTAINMENT:	Containment pressure < 14.7 psia: 0 scfm Containment pressure > 14.7 psia: 1.33 scfm ERFCS unknown/bad data: 0 scfm MIDAS default: 1.30 scfm
MAIN STEAM:	The flow for all valves associated with a specific line are summed to determine the release rate associated with the radiation monitor for that pathway.
SAFETY VALVES:	Valve open or ERFCS unknown/bad data: 855,084 lb-mass/hr Valve closed: 0
ATMOSPHERIC RELIEFS:	Valve open or ERFCS unknown/bad data: 425,244 lb-mass/hr Valve closed: 0
DECAY HEAT RELEASE:	Valve open or ERFCS unknown/bad data: 60,333 lb-mass/hr/generator
MIDAS DEFAULT TOTAL:	4.27 E+6 lbs-mass/hr per steam line
AFWPT:	Flow indicated by FT-MS-107 (-207) ERFCS unknown/bad data: 0 MIDAS default: 3.7 E+5 lb-mass/hr