VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

May 15, 2002

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

Serial No. 02-314
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 is a recent change to a North Anna Power Station Emergency Plan Implementing Procedure. The change does 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,

DAH

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 PROCEDURE

Enclosed is a recent change 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-4.08, Rev. 13	09/13/01	EPIP-4.08, Rev. 13 P1	04/16/02

Note: The change affects Attachment 6.

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

Dominion

Procedure Action Request (PAR)

VPAP-0502 - Attachment 2 — Page 1 of 1

Instructions for completing this form are included in VPAP-0502.

1. Procedure Number	2. Revision	3. Change Number	4. Page	5. Effective Date (if not approval date)
'orth Anna) EPIP-4.08	12	NEP-N-2002-1	of 2	

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

6. Procedure Title	7. Expiration Date
Initial Offsite Release Assessment	

8. Type of Request
[ ] New Procedure [X] Procedure Change [ ] Procedure Revision [ ] Procedure Deletion [ ] Vendor Procedure

9. Reason and Description of Change (DCP 99-006, Ventilation Radiation Monitoring System Replacement.) Permanent Change (P 1). Replace Kaman monitor conversion factors with MGPI conversion factors in Attachment 6, % Technical Specification Worksheet. For Process Vent normal range GW-178-1, replace 5.06 E-5 with 6.57 E-5 for converting µCi/sec reading and replace 2.39 E-2 with 3.10 E-2 for converting µCi/cc reading) and for Vent Vent A normal range VG-179-1 (replace 5.46 E-4 with 4.41 E-4 for converting µCi/sec reading and replace 2.58 E-1 with 2.08 E-1 for converting µCi/cc reading).
Add MGPI conversion factors for Vent Vent B VG-180-1 in Attachment 6, % Technical Specification Worksheet: add 5.02 E-4 for converting µCi/sec reading and 2.37 E-1 for converting µCi/cc reading. (See Plant Issue N-2002-0816) Rev 4.10-2

SNSOC Approval Determination - if "Yes" to any of the following, SNSOC approval required. Check item 25 and skip items 14 through 20.

10. Is this request for a new procedure or does this change need an existing Regulatory Evaluation?	[ ] Yes [X] No
11. Does this change involve a Temporary Modification as defined in VPAP-1403?	[ ] Yes [X] No
12. Does this change result in a "Yes" answer to any questions on the Safety Review/Regulatory Screen (VPAP-3001, Form No. 730486) that requires a Regulatory Evaluation (VPAP-3001, Form No. 730916)?	[ ] Yes [X] No
13. Is this a "Special Test" procedure, an EPIP or Security procedure, an EOP, or CH-94.300, or is it an ICCE-designated procedure that requires a Safety Review/Regulatory Screen?	[X] Yes [ ] No

Change of Intent Checklist -If "Yes" to any of the following questions, Cognizant Management "B" approval required. Check item 26. If "No" to all of the following questions, Cognizant Management "A" approval required. Check item 27.

14. A procedure deletion.	[ ] Yes [ ] No
15. A change to any of the following: [ ] Purpose [ ] Acceptance Criteria or Tolerances [ ] Deletion of Step Verification (IV or SV) [ ] Initial Conditions [ ] Scaling or Setpoints [ ] System/Component As-Left Condition(s) [ ] The method for meeting a commitment identified in the procedure	[ ] Yes [ ] No
16. A change that adds or delete a subsection, adds an alternative method for performing a task, involves a less conservative method for performing a task, or affects equipment qualification.	[ ] Yes [ ] No
17. A change that decreases personnel safety or fire protection effectiveness.	[ ] Yes [ ] No
18. A change that relocates or deletes a hold point.	[ ] Yes [ ] No
19. A change to CAUTION or WARNING statements. This does not include adding CAUTION or WARNING statements.	[ ] Yes [ ] No
20. A change to a procedure that is marked "Infrequently Conducted or Complex Test or Evolution".	[ ] Yes [ ] No

21. Requestor/Writer (Printed Name)	22. Date	23. Reviewed By (Please Print)	24. Date
John B. Costello	4/9/2002	Steven A. Harrison	4/9/2002

If SNSOC approval is required for a Procedure Change, it is not necessary for the Shift Supervisor to approve the Procedure Change. Place N/A in blocks 30 and 36.

Required Approval Authority - Determination From Above

[X] 25. SNSOC [ ] 26. Cognizant Management B [ ] 27. Cognizant Management A

Surry Procedure Approvals	SPS Date	North Anna Procedure Approvals	NAPS Date
28. Required Approval Authority (Signature) N/A	29. Date N/A	34. Required Approval Authority (Signature)	35. Date 4/16/02
Shift Supervisor Approval For Changes (Signature)	31. Date N/A	36. Shift Supervisor Approval For Changes (Signature) N/A	37. Date N/A
32. Site Vice President Approval if Required (Signature) N/A	33. Date N/A	38. Site Vice President Approval If Required (Signature)	39. Date 4-16-02

Key: SNSOC - Station Nuclear Safety and Operating Committee; EPIP-Emergency Plan Implementing Procedures; EOP-Emergency Operating Procedure; PAR-Procedure Action Request; SPS-Surry Power Station; NAPS-North Anna Power Station

Form No.730682(Oct 2001)

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.08	INITIAL OFFSITE RELEASE ASSESSMENT (With 6 Attachments)	13
		PAGE 1 of 15

PURPOSE

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

ENTRY CONDITIONS

Any 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 Station Emergency Manager.
4. Direction by the Radiological Assessment Director or Radiological Assessment Coordinator.

Approvals on File

Effective Date 9/13/01

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- No release is assumed from the air ejector if it is diverted to containment.
- No release is assumed from the AFWPT pathway if the AFWPT is isolated.
- Results of dose rate calculations are additive if release is through independent pathways.
- Results of releases from the same pathway are not additive.

_____ 2 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR VENTILATION RELEASE:

a) Ask SEM to have an individual observe monitor in alarm and report increase or decrease in readings

IF release is through the Main Steam System, THEN GO TO Step 3.

OR

IF release is from containment leakage, THEN GO TO Step 4.

(STEP 2 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

2 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR VENTILATION RELEASE: (Continued)

* *

CAUTION: During implementation of Design Change 99-006, Ventilation Radiation Monitoring System Replacement, the user needs to identify whether Kaman or MGPI monitor is being used (for GW-178, VG-179 and VG-180).

* *

NOTE: MGPI Normal Range Noble Gas monitors: 178-1, 179-1 and 180-1.
MGPI High Range Noble Gas monitors: 178-2, 179-2 and 180-2.

b) Get number of monitor in alarm (or monitor of interest):

Release Path	Normal Range	Kaman (MGPI)	High Range (NRC)
Process Vent	GW-102	GW-178-1, -2	RM-GW-173
Vent Vent A	VG-104	VG-179-1, -2	RM-VG-174
Vent Vent B	VG-113	VG-180-1, -2	RM-VG-175
Air Ejector	SV-121, 221		

c) Circle appropriate monitor number on Attachment 1

(STEP 2 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

2 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR VENTILATION RELEASE: (Continued)

d) Get monitor readings, above background, and flow rates for pathway of interest

AND

Record data on Attachment 1

d) IF flow rates NOT available, THEN use default flow rates:

- VVA - 142,000 cfm
- VVB - 100,000 cfm
- PV - 310 cfm
- CAE - 25 cfm

NOTE:
- Main Tower Delta T is the preferred source of stability class. Sigma Theta (Backup Tower) is the secondary source.
- Primary source of wind speed is the Main Tower Lower Level indicator. Alternates sources are (1) Backup Tower, and (2) Main Tower Upper Level.

e) Get Stability Class and Wind Speed (from Emergency Communicator, ERFCS, RAD or RAC):

- Stability Class: _____
- Wind Speed: _____

f) Get X/Q and conversion factors from Attachment 4:

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

(STEP 2 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

2 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR VENTILATION RELEASE: (Continued)

g) Record X/Q, wind speed and conversion factors on Attachment 1

h) Determine Site Boundary TEDE and THY CDE, mrem/hr, using Attachment 1

i) Record results of Attachment 1 on to Attachment 5

_____ 3 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR MAIN STEAM RELEASE:

a) Check if actual or potential release pathway exists through Main Steam Safety Valves or Auxiliary Feedwater Pump Turbine Exhaust (AFWPT)

a) IF NO release through Main Steam System, THEN GO TO Step 4.

b) Determine number of monitor in alarm:

Unit 1 Main Steam	Unit 2 Main Steam
RM-RMS-170 (A Safety Valves)	RM-RMS-270 (A Safety Valves)
RM-RMS-171 (B Safety Valves)	RM-RMS-271 (B Safety Valves)
RM-RMS-172 (C Safety Valves)	RM-RMS-272 (C Safety Valves)
Unit 1 AFWPT	Unit 2 AFWPT
RM-MS-176	RM-MS-276

(STEP 3 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

3 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR MAIN STEAM RELEASE: (Continued)

c) Get reading of monitor in alarm

AND

Record reading on Attachment 2

NOTE:
- Main Tower Delta T is the preferred source of stability class. Sigma Theta (Backup Tower) is the secondary source.
- Primary source of wind speed is the Main Tower Lower Level indicator. Alternates sources are (1) Backup Tower, and (2) Main Tower Upper Level.

d) Get Stability Class and Wind Speed:

- Stability Class: _____
- Wind Speed: _____

e) Get X/Q and conversion factors from Attachment 4:

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

f) Record X/Q, wind speed and conversion factors on Attachment 2

(STEP 3 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	3 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FOR MAIN STEAM RELEASE: (Continued)	
	g) Ask Operations for the number of Main Steam Safety Valves that have lifted or may potentially lift AND Record on Attachment 2	g) IF none, THEN project release using only ONE valve.
	h) Check status of AFWPT isolation (from RAD or RAC)	
	i) Calculate Site Boundary TEDE and THY CDE dose rates using Attachment 2	
	j) Record results of Attachment 2 on to Attachment 5	
_____	4 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FROM CONTAINMENT LEAKAGE:	IF containment leakage not involved, THEN GO TO Step 5.

(STEP 4 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

4 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FROM CONTAINMENT LEAKAGE: (Continued)

a) GET CHRRMS reading, R/hr

AND

Record reading on Attachment 3:

Unit 1	Unit 2
RMS-165	RMS-265
RMS-166	RMS-266

NOTE:
- Main Tower Delta T is the preferred source of stability class. Sigma Theta (Backup Tower) is the secondary source.
- Primary source of wind speed is the Main Tower Lower Level indicator. Alternates sources are (1) Backup Tower, and (2) Main Tower Upper Level.

b) Get Stability Class and Wind Speed:

- Stability Class: _____
- Wind Speed: _____

c) Get X/Q and conversion factors from Attachment 4:

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

d) Record X/Q, wind speed and conversion factors on Attachment 3

(STEP 4 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

4 DETERMINE SITE BOUNDARY DOSE RATES (mrem/hr) FROM CONTAINMENT LEAKAGE: (Continued)

e) Calculate Site Boundary TEDE and THY CDE dose rates using Attachment 3

f) Record results of Attachment 3 on to Attachment 5

_____ 5 DETERMINE DOSE RATES, mrem/hr, AT 2, 5 AND 10 MILES:

a) Use Attachment 5

b) Add results of appropriate release pathways:

- Vents - Attachment 1
- Main Steam - Attachment 2
- Containment - Attachment 3

c) Determine Stability Class Correction Factor (top of Attachment 5) for distance of interest

d) Use Attachment 5 to do calculations for TEDE and THY CDE, mrem/hr, at 2, 5 and 10 miles

e) Report results to RAD or RAC

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 6 COMPARE SITE BOUNDARY DOSE TO EMERGENCY CLASSIFICATION CRITERIA:

a) Determine Site Boundary dose rate (sum of all pathways) from Attachment 5:

- TEDE: _____mrem/hr
- THY CDE: _____mrem/hr

b) Determine release duration: _____hours

b) Use default of 2 hours if duration is unknown.

c) Calculate total dose:

TEDE: _____mrem/hr x _____hours = _____mrem, TEDE

THY CDE: _____mrem/hr x _____hours = _____mrem, THY CDE

d) Compare total dose to emergency classification criteria:

Site Boundary Dose:	Emergency Classification:
≥ 1000 mrem TEDE or ≥ 5000 mrem Thyroid CDE	General Emergency
≥ 100 mrem TEDE or ≥ 500 mrem Thyroid CDE	Site Area Emergency

_____ 7 CHECK IF RESULTS INDICATE A SITE AREA OR GENERAL EMERGENCY EXISTS

GO TO Step 9.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 8	INITIATE PROTECTIVE MEASURES: a) Use EPIP-4.07, PROTECTIVE MEASURES, to determine if any onsite or offsite protective measures are required b) Give the following information to the RAD/RAC: • Emergency Classification • Calculation results • Protective actions required by EPIP-4.07, PROTECTIVE MEASURES c) GO TO Step 12	
_____ 9	CHECK IF EMERGENCY INVOLVES LIQUID RELEASE	GO TO Note prior to Step 11.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 10 DETERMINE PERCENT TECHNICAL SPECIFICATION FOR LIQUID RELEASE:

a) Get highest liquid effluent pathway monitor reading:

- LW-111: _____ cpm
- SW-130: _____ cpm
- SW-230: _____ cpm

b) Determine number of operating Circ. Water Pumps: _____

c) Calculate % Tech. Specs.:

LW-111: cpm x 6.26E-3 / # Circ. Water Pumps = % Tech. Specs.
_____ x 6.26E-3 / _____ = _____%

SW-130 or 230:
cpm x 2.0E-2 = % Tech. Specs.
_____ x 2.0E-2 = _____%

d) Compare % Tech. Spec. with emergency classification criteria:

- ≥ 1000% - ALERT
- ≥ 100% - NOUE
- < 100% - Within Limits

e) Notify SEM (through RAD or RAC) of event classification based on % Tech. Spec. for liquid release

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

* *

CAUTION: During implementation of Design Change 99-006, Ventilation Radiation Monitoring System Replacement, the user needs to identify whether Kaman or MGPI monitor is being used (for GW-178, VG-179 and VG-180).

* *

NOTE:
- Evaluation of percent technical specifications makes conservative assumptions about flow rate, isotopic mixture and detector response. Further analysis (following completion of this procedure) will be necessary to quantify release.
- Kaman (MGPI) monitors (µCi/sec and µCi/cc) should be used as the primary indicator for Vent Vent and Process Vent releases. Westinghouse and NRC monitors may be used as backup.

_____ 11 DETERMINE % TECH. SPEC. FOR GASEOUS RELEASE:

a) Determine monitor in alarm

b) Circle appropriate monitor number on Attachment 6

c) Ask SEM to position an individual to observe monitor in alarm and report increase or decrease in readings

d) Get the highest reading, above background, of monitor in alarm

e) Record monitor reading on Attachment 6

(STEP 11 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
11	DETERMINE % TECH. SPEC. FOR GASEOUS RELEASE: (Continued)	
	f) Determine flow rate (cfm) AND Record flow rate on Attachment 6	f) Use the following default flow rates: • VVA - 142,000 cfm • VVB - 100,000 cfm • PV - 310 cfm • CAE - 25 cfm
	g) Calculate % Tech. Spec. using Attachment 6	
	h) Calculate total % Tech. Spec. for all pathways involved (Add the % Tech. Spec. for each monitor/emission channel)	
	i) Compare % Tech. Spec. with emergency classification criteria: • ≥ 1000% - ALERT • ≥ 100% - NOUE • < 100% - Within Limits	
	j) Notify SEM (through RAD or RAC) of event classification based on % Tech. Spec. for gaseous release	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 12 TERMINATE EPIP-4.08:

- Give completed EPIP-4.08, forms, and other applicable records to the Radiological Assessment Director
- Completed by: _____

  Date: _____

  Time: _____

-END-

NOTE: • MGPI Normal Range Noble Gas monitors: 178-1, 179-1 and 180-1. MGPI High Range Noble Gas monitors: 178-2, 179-2 and 180-2.

• Monitor Conversion Factors (MCF) and Site Boundary X/Q are provided on Attachment 4.

• VG-174, VG-175 and GW-173 should only be used when KAMAN (MGPI) or Normal Range Monitors are offscale or inoperable.

Date:_____; Time:_____

VENT VENT A:

VG-104: (CPM x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

VG-179: (µCi/sec x 1.0E-3 x MCF x X/Q) / WINDSPEED = Value
(-1,-2)

(_____ x 1.0E-3 x _____ x _____) / _____ = _____

VG-179: (µCi/cc x CFM x 4.72E-1 x MCF x X/Q) / WINDSPEED = Value
(-1,-2)

(_____ x _____ x 4.72E-1 x _____ x _____) / _____ = _____

VG-174: (mr/hr x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

Record highest Vent Vent A value from above on Page 3 of Attachment 1.

VENT VENT B:

VG-113: (CPM x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

VG-180: (µCi/sec x 1.0E-3 x MCF x X/Q) / WINDSPEED = Value
(-1,-2)

(_____ x 1.0E-3 x _____ x _____) / _____ = _____

VG-180: (µCi/cc x CFM x 4.72E-1 x MCF x X/Q) / WINDSPEED = Value
(-1,-2)

(_____ x _____ x 4.72E-1 x _____ x _____) / _____ = _____

VG-175: (mr/hr x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

Record highest Vent Vent B value from above on Page 3 of Attachment 1.

NOTE: • MGPI Normal Range Noble Gas monitors: 178-1, 179-1 and 180-1. MGPI High Range Noble Gas monitors: 178-2, 179-2 and 180-2.

• Monitor Conversion Factors (MCF) and Site Boundary X/Q are provided on Attachment 4.

• VG-174, VG-175 and GW-173 should only be used when KAMAN (MGPI) or Normal Range Monitors are offscale or inoperable.

PROCESS VENT:

GW-102: (CPM x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

GW-178: (µCi/sec x 1.0E-3 x MCF x X/Q) / WINDSPEED = Value
(-1,-2)

(_____ x 1.0E-3 x _____ x _____) / _____ = _____

GW-178: (µCi/cc x CFM x 4.72E-1 x MCF x X/Q) / WINDSPEED = Value
(-1,-2)

(_____ x _____ x 4.72E-1 x _____ x _____) / _____ = _____

GW-173: (mr/hr x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

Record highest Process Vent value from above on Page 3 of Attachment 1.

AIR EJECTOR:

SV-121: (CPM x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

SV-221: (CPM x CFM x MCF x X/Q) / WINDSPEED = Value

(_____ x _____ x _____ x _____) / _____ = _____

TOTAL OF AIR EJECTORS = _____

Record sum of Air Ejector values on Page 3 of Attachment 1.

__ 1. Record the following monitor values in left-hand column of table below:

- Highest Vent Vent A value from Attachment 1 Page 1
- Highest Vent Vent B value from Attachment 1 Page 1
- Highest Process Vent value from Attachment 1 Page 2
- Sum of Air Ejector values from Attachment 1 Page 2

__ 2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 4 in middle and right-hand columns in table below.

__ 3. Multiply monitor values in left-hand column by TEDE DCF and THY CDE DCF atop middle and right-hand columns in table below. Record result(s) in intersecting space.

__ 4. Add resulting values in middle and right-hand columns to calculate Total Vent Release (TEDE and THY CDE).

	TEDE DCF from Attachment 4	THY CDE DCF from Attachment 4
HIGHEST VENT VENT A VALUE		
HIGHEST VENT VENT B VALUE		
HIGHEST PROCESS VENT VALUE		
SUM OF AIR EJECTOR VALUES		
SUM OF VENT VENT, PROCESS VENT AND AIR EJECTORS	TEDE mrem/hr	THY CDE mrem/hr

Completed by: _____

Date/Time: _____ / _____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	MAIN STEAM RELEASE - SITE BOUNDARY DOSE RATE	13
ATTACHMENT 2		PAGE 1 of 2

NOTE: Monitor Conversion Factors (MCF) and Site Boundary X/Q are provided on Attachment 4.

Date:_____; Time:_____

UNIT 1 MAIN STEAM:

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

MS-170:(_____ x _____ x _____ x _____) / _____ = _____

MS-171:(_____ x _____ x _____ x _____) / _____ = _____

MS-172:(_____ x _____ x _____ x _____) / _____ = _____

TOTAL OF UNIT 1 MAIN STEAM = _____

UNIT 1 AFWPT:

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

MS-176:(_____ x _____ x _____) / _____ = _____

UNIT 2 MAIN STEAM:

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

MS-270:(_____ x _____ x _____ x _____) / _____ = _____

MS-271:(_____ x _____ x _____ x _____) / _____ = _____

MS-272:(_____ x _____ x _____ x _____) / _____ = _____

TOTAL OF UNIT 2 MAIN STEAM = _____

UNIT 2 AFWPT:

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

MS-276:(_____ x _____ x _____) / _____ = _____

__ 1. Record the following monitor values in left-hand column of table below:

- Total Main Steam value for affected unit
- AFWPT value for affected unit

__ 2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 4 in middle and right-hand columns in table below.

__ 3. Multiply monitor values in left-hand column by TEDE DCF and THY CDE DCF atop middle and right-hand columns in table below. Record result(s) in intersecting space.

__ 4. Add resulting values in middle and right-hand columns to calculate Total Main Steam Release (TEDE and THY CDE) (sum of Main Steam and AFWPT).

	TEDE DCF from Attachment 4	THY CDE DCF from Attachment 4
TOTAL OF MAIN STEAM VALUES		
AFWPT VALUE		
SUM OF AFFECTED UNIT(s) MAIN STEAM AND AFWPT	TEDE mrem/hr	THY CDE mrem/hr

Completed by: _____

Date/Time: _____/_____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	CONTAINMENT RELEASE - SITE BOUNDARY DOSE RATE	13
ATTACHMENT 3		PAGE 1 of 1

NOTE: • Monitor Conversion Factors (MCF), Site Boundary X/Q, TEDE Dose Conversion Factors (TEDE DCF) and Thyroid CDE Factors (THY DCF) are provided on Attachment 4.

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

Date:_____; Time:_____

CONTAINMENT:

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

RMS-165
RMS-166
RMS-265
RMS-266: (_____ x _____ x _____) / _____ = _____

__ 1. Record result of calculation above in left-hand column of table below.

__ 2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 4 in middle and right-hand columns in table below.

__ 3. Multiply monitor value in left-hand column by TEDE DCF and THY CDE DCF atop middle and right-hand columns in table below. Record result(s) in intersecting space (Total Containment Release (TEDE and THY CDE)).

	TEDE DCF from Attachment 4	THY CDE DCF from Attachment 4
CONTAINMENT VALUE	TEDE mrem/hr	THY CDE mrem/hr

Completed by: _____
Date/Time: _____/_____

NOTE: Kaman and MGPI Monitor Conversion Factors are provided for use during implementation of Design Change 99-006, Ventilation Radiation Monitoring System Replacement.

MONITOR CONVERSION FACTORS (MCF) for Vent Release (Attachment 1):

MONITOR	MSLB	SGTR	FHA	WGDT	VCT	LOCA MELT	LOCA GAP	LOCA PC	NORMAL
VG-104	9.7E-8	7.0E-8	------	------	------	-------	-------	------	4.7E-8
VG-174	2.4E+1	1.8E+1	------	------	------	-------	-------	------	1.1E+1
VG-179-1 (KAMAN)	9.7E-1	9.6E-1	------	------	------	-------	-------	------	9.5E-1
VG-179-1 (MGPI)	8.8E-1	8.6E-1	------	------	------	-------	-------	------	8.1E-1
VG-179-2 (KAMAN)	8.3E-1	7.4E-1	------	------	------	-------	-------	------	5.9E-1
VG-179-2 (MGPI)	1.0E+0	1.0E+0	------	------	------	-------	-------	------	1.1E+0
VG-113	------	------	1.4E-8	------	------	4.0E-8	4.3E-8	1.9E-8	1.4E-8
VG-175	------	------	5.9E+1	------	------	1.8E+0	1.7E+0	4.1E+0	5.8E+1
VG-180-1 (KAMAN)	------	------	9.8E-1	------	------	1.7E+0	-------	1.2E+0	9.8E-1
VG-180-1 (MGPI)	------	------	9.2E-1	------	------	7.9E-1	8.2E-1	8.5E-1	9.2E-1
VG-180-2 (KAMAN)	------	------	1.0E+0	------	------	1.8E-1	-------	3.6E-1	1.0E+0
VG-180-2 (MGPI)	------	------	1.0E+0	------	------	7.3E+0	6.8E+0	1.5E+0	1.0E+0
GW-102	------	------	------	6.1E-8	1.1E-7	-------	------	------	2.3E-7
GW-173	------	------	------	5.0E+1	2.3E+1	-------	------	------	2.7E+1
GW-178-1 (KAMAN)	------	------	------	9.1E-1	9.8E-1	-------	------	------	1.0E+0
GW-178-1 (MGPI)	------	------	------	7.7E-1	9.0E-1	-------	------	------	9.3E-1
GW-178-2 (KAMAN)	------	------	------	1.1E+0	8.1E-1	-------	------	------	8.9E-1
GW-178-2 (MGPI)	------	------	------	1.1E+0	1.0E+0	-------	------	------	1.1E+0
SV-121,-221	3.1E-4	2.2E-4	------	------	-------	-------	------	------	1.4E-4

(CONTINUED ON NEXT PAGE)

MONITOR CONVERSION FACTORS (MCF) for Main Steam Release (Attachment 2):

MONITOR	MSLB	SGTR	LKD. ROTOR	NORMAL
MS-1(2)70 MS-1(2)71 MS-1(2)72	5.3E+3	6.9E+3	3.9E+2	5.7E+3
MS-176	1.9E+3	4.2E+3	4.3E+2	3.5E+3
MS-276	2.6E+3	5.7E+3	5.6E+2	4.6E+3

MONITOR CONVERSION FACTORS (MCF) for Containment Release (Attachment 3):

MONITOR	LOCA MELT	LOCA GAP	LOCA PC	NORMAL
RMS-1(2)65 RMS-1(2)66	6.6E-2	6.3E-2	1.0E-1	1.7E-1

X/Q, SITE BOUNDARY:

STABILITY CLASS						
A	B	C	D	E	F	G
1.84 E-6	1.65 E-5	5.98 E-5	1.77 E-4	3.46 E-4	7.26 E-4	1.40 E-3

TEDE DOSE CONVERSION FACTORS (TEDE DCF):

MSLB	SGTR	FHA	WGDT	VCT	LOCA MELT	LOCA GAP	LOCA PC	LKD. ROTOR
6.1E+3	1.8E+2	3.2E+1	2.0E+1	3.3E+1	1.7E+3	4.7E+2	2.9E+2	7.2E+3

THYROID CDE DOSE CONVERSION FACTORS (THY DCF):

	MSLB	SGTR	FHA	WGDT	LOCA MELT	LOCA GAP	LOCA PC	LKD. ROTOR
UNFILTERED	2.6E+4	1.5E+1	7.1E-1	2.5E-5	1.6E+4	4.3E+2	2.4E+2	3.7E+4
FILTERED	7.1E+1	1.5E-1	7.1E-2	2.5E-6	1.6E+3	4.3E+1	2.4E+1	------

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	DETERMINATION OF 2, 5 AND 10 MILE DOSE RATES	13
ATTACHMENT 5		PAGE 1 of 1

	STABILITY CLASS CORRECTION FACTOR						
MILES	A	B	C	D	E	F	G
2	0.359	0.109	0.234	0.271	0.289	0.331	0.414
5	0.158	0.023	0.0484	0.0678	0.0838	0.0964	0.136
10	0.0815	0.0121	0.0154	0.0249	0.0347	0.0399	0.0564

CALCULATION:

SUM OF TEDE:
ATT. 1: _____
ATT. 2: _____
ATT. 3: _____
SUM: _____

TEDE DOSE RATE, SITE BOUNDARY mrem/hr — x

CORRECTION FACTOR 2 miles:	=	TEDE mrem/hr 2 miles:
CORRECTION FACTOR 5 miles:	=	TEDE mrem/hr 5 miles:
CORRECTION FACTOR 10 miles:	=	TEDE mrem/hr 10 miles:

SUM OF THY CDE:
ATT. 1: _____
ATT. 2: _____
ATT. 3: _____
SUM: _____

THY. CDE DOSE RATE SITE BOUNDARY mrem/hr — x

CORRECTION FACTOR 2 miles:	=	THY CDE mrem/hr 2 miles:
CORRECTION FACTOR 5 miles: -	=	THY CDE mrem/hr 5 miles:
CORRECTION FACTOR 10 miles:	=	THY CDE mrem/hr 10 miles:

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	% TECHNICAL SPECIFICATION WORKSHEET	13
ATTACHMENT 6		PAGE 1 of 1

NOTE: • Percent TS should be calculated for all affected release pathways.

• MGPI Normal Range Noble Gas monitors: 178-1, 179-1 and 180-1. MGPI High Range Noble Gas monitors: 178-2, 179-2 and 180-2.

Date:_____; Time:_____

VENT VENT A:

	CPM	x	CFM	x	CF	=	% TS	% TECH. SPEC.
VG-104:	_____	x	_____	x	2.35 E-7	=	_____	Highest % TS
	µCi/sec	x	CF			=	% TS	
VG-179-1:	_____	x	~~5.46 E-4~~ 4.41 E-4			=	_____	_____
	µCi/cc	x	CFM		CF	=	% TS	
VG-179-1:	_____	x	_____	x	~~2.58 E-1~~ 2.08 E-1	=	_____	

VENT VENT B:

	CPM	x	CFM	x	CF	=	% TS	
VG-113:	_____	x	_____	x	9.54 E-9	=	_____	Highest % TS
	µCi/sec	x	KAMAN CF		MGPI CF	=	% TS	
VG-180-1:	_____	x	5.46 E-4	OR	5.02 E-4	=	_____	_____
	µCi/cc	x	CFM		KAMAN CF	=	% TS	
VG-180-1:	_____	x	_____	x	2.58 E-1	=	_____	

OR MGPI CF 2.37 E-1

PROCESS VENT:

	CPM	x	CFM	x	CF	=	% TS	
GW-102:	_____	x	_____	x	3.03 E-8	=	_____	Highest % TS
	µCi/sec	x	CF			=	% TS	
GW-178-1:	_____	x	~~5.06 E-5~~ 6.57 E-5			=	_____	_____
	µCi/cc	x	CFM		CF	=	% TS	
GW-178-1:	_____	x	_____	x	~~2.39 E-2~~ 3.10 E-2	=	_____	

AIR EJECTOR MONITORS:

	CPM	x	CFM	x	CF	=	% TS
SV-121:	_____	x	_____	x	6.4 E-4	=	_____
	CPM	x	CFM	x	CF	=	% TS
SV-221:	_____	x	_____	x	6.4 E-4	=	_____

Completed by: _____ TOTAL % TECH. SPECS.: _____

Date/Time: _____/_____