VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.01	EMERGENCY MANAGER CONTROLLING PROCEDURE (With 4 Attachments)	34
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PURPOSE

To assess potential emergency conditions and initiate corrective actions.

ENTRY CONDITIONS

Any of the following:

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

Approvals on File

Effective Date 9/13/01

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

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

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

_____ 1 EVALUATE EMERGENCY ACTION LEVELS:

a) Determine event category using Attachment 1, EMERGENCY ACTION LEVEL TABLE INDEX

b) Review EAL Tab associated with event category

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

d) Verify EAL - CURRENTLY EXCEEDED

d) IF basis for EAL no longer exists when discovered AND no other reasons exist for an emergency declaration, THEN do the following:

- RETURN TO procedure in effect.
- GO TO VPAP-2802, NOTIFICATIONS AND REPORTS, to make one-hour, non-emergency reports for classification without declaration.

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

(STEP 1 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

1 EVALUATE EMERGENCY ACTION LEVELS: (Continued)

e) Record procedure initiation:

- By: _____
  Date: _____
  Time: _____

f) Initiate a chronological log of events

g) Declare position of Station Emergency Manager

NOTE: Assembly, accountability and/or initiation of facility staffing may not be desired during certain situations (e.g., security event, severe weather, anticipated grid disturbance) or may have already been completed. These activities should be implemented as quickly as achievable given the specific situation.

_____ 2 CHECK - CONDITIONS ALLOW FOR NORMAL IMPLEMENTATION OF EMERGENCY RESPONSE ACTIONS

IF deviation from normal emergency response actions warranted, THEN do the following:

a) Refer to Attachment 4, Considerations for Operations Response Under Abnormal Conditions.

b) Consider applicability of 50.54(x).

c) IF classification/assembly announcement deferred, THEN GO TO Step 4.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 3	NOTIFY PLANT STAFF OF ALERT OR HIGHER CLASSIFICATION:	
	a) Check classification - ALERT OR HIGHER	a) GO TO Step 4.
	b) Check if emergency assembly and accountability - PREVIOUSLY CONDUCTED	b) Do the following: 1) Have Control Room sound EMERGENCY alarm and make announcement on station Gai-Tronics system as follows: "(Emergency classification) has been declared as the result of _____ (event)" "All Emergency Response personnel report to your assigned stations" "All contractor personnel not responding to the emergency and all visitors report to the Security Building" "All other personnel report to your Emergency Assembly Areas" 2) Repeat RNO Step 3.b.1. 3) GO TO Step 4.
	c) Have Control Room sound EMERGENCY alarm and make announcement on station Gai-Tronics system as follows: "(Emergency classification) has been declared as the result of _____ (event)"	
	d) Repeat Step 3.c	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

* *

CAUTION: Continue through this and all further instructions unless otherwise directed to hold.

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_____ 4 INITIATE SUPPORTING PROCEDURES:

a) Direct Emergency Communicators to initiate the following procedures:

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

2) EPIP-2.02, NOTIFICATION OF NRC

b) Direct HP to initiate EPIP-4.01, RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE

c) Establish communications with Security Team Leader:

1) Provide Security with current emergency classification

2) Notify Security which Operations Shift is designated for coverage

3) Direct Security to initiate EPIP-5.09, SECURITY TEAM LEADER CONTROLLING PROCEDURE

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	CHECK TSC - ACTIVATED	IF TSC NOT activated, THEN do the following: a) Have STA report to the Control Room. b) Notify Superintendent Operations or Operations Manager On Call. c) Consider having Radiological Assessment Director report to the Control Room. d) WHEN relief SEM arrives, THEN perform turnover using EPIP-1.01, Attachment 3, Turnover Checklist.
_____ 6	IMPLEMENT EPIP FOR EMERGENCY CLASSIFICATION IN EFFECT: • **Notification of Unusual Event** - GO TO EPIP-1.02, RESPONSE TO NOTIFICATION OF UNUSUAL EVENT • **Alert** - GO TO EPIP-1.03, RESPONSE TO ALERT • **Site Area Emergency** - GO TO EPIP-1.04, RESPONSE TO SITE AREA EMERGENCY • **General Emergency** - GO TO EPIP-1.05, RESPONSE TO GENERAL EMERGENCY	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 7 NOTIFY OFFSITE AUTHORITIES OF EMERGENCY TERMINATION:

a) State and local governments (made by LEOF or CEOF when activated)

b) NRC

_____ 8 NOTIFY STATION PERSONNEL ABOUT THE FOLLOWING:

- Emergency termination
- Facility de-activation
- Selective release of personnel
- Completion and collection of procedures
- Recovery

_____ 9 TERMINATE EPIP-1.01:

- Give completed EPIPs, forms and other applicable records to Nuclear Emergency Preparedness (TSC Emergency Procedures Coordinator if TSC activated)
- Completed By: _____

  Date: _____

  Time: _____

-END-

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CAUTION:
- Declaration of the highest emergency class for which an EAL is exceeded shall be made.
- Emergency Action Levels shall be conservatively classified based on actual or anticipated plant conditions.

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NOTE: Design Change Package 99-006, Replacement of Ventilation Radiation Monitors (NAPS Units 1 & 2), replaces KAMAN process and vent stack particulate, iodine and gaseous radiation monitors with a radiation monitor system manufactured by MGP Instruments (MGPI). Affected EALs are: B-4, B-7, C-7, C-9, E-3, E-5, G-1 and G-2. Both KAMAN and MGPI indications are provided for classification depending upon which system is in service. During the interim period when neither system is in service, indications are provided for classification based on HP monitoring and assessments.

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
CAUTION: EAL C.2 is duplicated below for cross-reference/comparison to EAL A.1:		
C.2. Probable large radioactivity release initiated by loss of heat sink leading to core degradation MODES 1, 2, 3 & 4	Loss of Main Feedwater System, Condensate System and Auxiliary Feedwater System	GENERAL EMERGENCY
1. Loss of function needed for unit HSD condition MODES 1, 2, 3 & 4	• Total loss of the Charging/SI System OR Total loss of the Main Feedwater and Auxiliary Feedwater systems	SITE AREA EMERGENCY
2. Failure of the Reactor Protection System to initiate and complete a required trip while at power MODES 1 & 2	• Reactor trip setpoint and coincidences - EXCEEDED AND • Automatic trip from RPS - FAILED AND • Manual trip from Control Room - FAILED	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. Inability to monitor a significant transient in progress MODES 1, 2, 3 & 4	• Most (>75%) or all annunciator alarms on panels "A" to "K" - NOT AVAILABLE AND • All computer monitoring capability (e.g., plant computer, ERFCS) - NOT AVAILABLE AND • Significant transient - IN PROGRESS (e.g., reactor trip, SI actuation, turbine runback >25% thermal reactor power, thermal power oscillations >10%) AND • Inability to directly monitor any one of the following using Control Room indications: • Subcriticality • Core Cooling • Heat Sink • Vessel Integrity • Containment Integrity	SITE AREA EMERGENCY
4. Evacuation of Main Control Room with control not established within 15 minutes ALL MODES	Evacuation of the Control Room with local shutdown control not established within 15 minutes	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. Total loss of function needed for unit CSD condition MODES 5 & 6	• Secondary system cooling capability - UNAVAILABLE AND • Loss of any of the following systems: • Service Water • Component Cooling • RHR AND • RCS temperature GREATER THAN 140 °F	ALERT
6. Failure of the Reactor Protection System to complete a trip which takes the Reactor Subcritical MODES 1 & 2	• Reactor trip setpoint and coincidences - EXCEEDED AND • Automatic trip from RPS - FAILED AND • Manual trip - REQUIRED AND • Manual trip from Control Room - SUCCESSFUL	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
7. Unplanned loss of safety system annunciators with compensatory indicators unavailable or a transient in progress MODES 1, 2, 3 & 4	• Unplanned loss of most (>75%) or all annunciator alarms on panels "A" to "K" for GREATER THAN 15 minutes AND • All computer monitoring capability (e.g., plant computer, ERFCS) - NOT AVAILABLE OR Significant transient - INITIATED OR IN PROGRESS (e.g., reactor trip, SI, turbine runback > 25% thermal reactor power, thermal power oscillations > 10%)	ALERT
8. Evacuation of Main Control Room required ALL MODES	Evacuation of the Control Room with shutdown control established within 15 minutes	ALERT
9. Inability to reach required mode within technical specification limits MODES 1, 2, 3 & 4	• Intentional reduction in power, load or temperature IAW T.S. Action Statement - HAS COMMENCED AND • T.S. Action Statement time limit for mode change - CANNOT BE MET	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
10. Failure of a safety or relief valve to close after pressure reduction, which may affect the health and safety of the public MODES 1, 2, 3, 4 & 5	• RCS • RCS pressure - LESS THAN 2000 psig OR NDT Protection System - IN SERVICE AND • Any indication after lift or actuation that Pressurizer Safety or PORV - REMAINS OPEN AND • Flow - UNISOLABLE • Main Steam • Excessive Steam Generator Safety, PORV or Decay Heat Release flow as indicated by rapid RCS cooldown rate AND • Main Steam pressure greater than 100 psi below setpoint of affected valve	NOTIFICATION OF UNUSUAL EVENT
11. Unplanned loss of most or all safety system annunciators for greater than 15 minutes MODES 1, 2, 3 & 4	• Unplanned loss of most (>75%) or all annunciators on panels "A" to "K" for GREATER THAN 15 minutes	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
12. Loss of communications capability ALL MODES	• Station PBX phone system - FAILED AND • Station Gai-tronics system - FAILED AND • Station UHF radio system - FAILED	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Loss of 2 of 3 fission product barriers with potential loss of 3rd barrier ALL MODES	Any two of a), b) or c) exist and the third is imminent: a) Fuel clad integrity failure as indicated by any of the following: • RCS specific activity greater than or equal to 300.0 µCi/gram dose equivalent I-131 OR 5 or more core exit thermocouples greater than 1200 °F OR Containment High Range Radiation Monitor RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 1.88×10^2 R/hr b) Loss of RCS integrity as indicated by any of the following: • RCS pressure greater than 2735 psig OR Loss of Reactor Coolant in progress c) Loss of containment integrity as indicated by any of the following: • Containment pressure greater than 60 psia and not decreasing OR Release path to environment -EXISTS	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
2. Fuel failure with steam generator tube rupture ALL MODES	Any two of a), b) or c) exist and the third is imminent: a) Fuel clad integrity failure as indicated by any of the following: • RCS specific activity greater than 300 μCi/gram dose equivalent I-131 OR 5 or more core exit thermocouples GREATER THAN 1200 °F OR High Range Letdown radiation monitor 1-CH-RI-128 or 2-CH-RI-228 GREATER THAN 5.9×10^4 mR/hr b) Steam Generator tube rupture as indicated by both of the following: • SI coincidence - SATISFIED AND • Steam Generator tube rupture -IN PROGRESS c) Loss of secondary integrity associated with ruptured steam generator pathway as indicated by any of the following: • Steam Generator PORV - OPEN OR Main Steam Code Safety Valve - OPEN OR Loss of secondary coolant outside containment - IN PROGRESS	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. RCS leak rate limit - EXCEEDED MODES 1, 2, 3, & 4	• Loss of Reactor Coolant in progress and inventory balance indicates leakage GREATER THAN 300 gpm AND • Pressurizer level cannot be maintained with two (2) or more Charging/SI pumps in operation	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Gross primary to secondary leakage with loss of offsite power MODES 1, 2, 3, & 4	• Steam Generator Tube Rupture - IN PROGRESS AND • Safety Injection - REQUIRED AND • Vent Vent A Kaman Monitor RM-VG-179 GREATER THAN 1.3×10^8 µCi/sec OR HP determines Site Boundary DDE GREATER THAN 50 mrem/hr OR Vent Vent A MGPI Monitor RM-VG-179 GREATER THAN 1.25×10^8 µCi/sec OR Steam Generator Blowdown monitor on affected pathway RM-SS-122, -222 RM-SS-123, -223 RM-SS-124, -224 GREATER THAN 1×10^6 cpm AND • A subsequent loss of offsite power indicated by zero volts on voltmeters for 4160V buses D, E, & F	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. RCS leak rate limit - EXCEEDED MODES 1, 2, 3, & 4	• Pressurizer level cannot be maintained greater than 20% with one (1) Charging/SI pump in operation AND • RCS inventory balance indicates leakage - greater than 50 gpm	ALERT
6. Gross primary to secondary leakage MODES 1, 2, 3, & 4	Steam Generator Tube Rupture - IN PROGRESS AND Safety Injection - REQUIRED	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
7. Excessive primary to secondary leakage with loss of offsite power MODES 1, 2, 3, & 4	• Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO AND • Vent Vent A Kaman Monitor RM-VG-179 GREATER THAN 1.83×10^6 µCi/sec OR HP assessment of sample results indicates GREATER THAN 10 times ODCM allowable limit (Alert per EAL E-3) OR Vent Vent A MGPI Monitor RM-VG-179 GREATER THAN 1.73×10^6 µCi/sec OR Steam Generator Blowdown monitor on affected pathway RM-SS-122, -222 RM-SS-123, -223 RM-SS-124, -224 GREATER THAN 1×10^5 cpm AND • A subsequent loss of offsite power indicated by zero volts on voltmeters for 4160V buses D, E, & F	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
8. RCS leak rate requiring plant shutdown IAW T.S. 3.4.6.2 or 3.4.6.3 MODES 1, 2, 3, & 4	• Intentional reduction in power, load or temperature because the unit has entered an action statement or will exceed an LCO AND • Unidentified RCS leakage - greater than 1 gpm OR Identified leakage - greater than 10 gpm OR Controlled leakage to RCP Seals - greater than 30 gpm total OR Any pressure boundary leakage - EXISTS	NOTIFICATION OF UNUSUAL EVENT
9. Primary to Secondary leakage - greater than 1 gpm MODES 1, 2, 3, & 4	• Intentional reduction in power, load or temperature because the unit has entered an action statement or will exceed an LCO AND • Primary to Secondary leakage greater than 1 gpm OR N-16 monitor indicates primary to secondary leakage greater than T. S. allowable limits	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Probable large radioactivity release initiated by LOCA with ECCS failure leading to core degradation ALL MODES	• Loss of reactor coolant in progress AND • RCS specific activity - greater than 300 µCi/gram dose equivalent I-131 OR Containment High Range Radiation Monitor RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 1.88×10^2 R/hr AND • High or low head ECCS flow not being delivered to the core (if expected by plant conditions)	GENERAL EMERGENCY

CAUTION: EAL A.1 is duplicated below for cross-reference/comparison to EAL C.2:

A.1.	Loss of function needed for unit HSD condition MODES 1, 2, 3 & 4	• Total loss of the Charging/SI System OR Total loss of the Main Feedwater and Auxiliary Feedwater systems	SITE AREA EMERGENCY

2.	Probable large radioactivity release initiated by loss of heat sink leading to core degradation MODES 1, 2, 3 & 4	Loss of Main Feedwater System, Condensate System and Auxiliary Feedwater System	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. Probable large radioactivity release initiated by failure of protection system to bring Rx subcritical and causing core degradation ALL MODES	• Rx nuclear power after a trip - greater than 5% AND • RCS pressure greater than or equal to 2485 psig OR Containment pressure and temperature rapidly increasing	GENERAL EMERGENCY
4. Probable large radioactivity release initiated by loss of AC power and all feedwater ALL MODES	• Loss of all onsite and offsite AC power AND • Turbine Driven Auxiliary Feedwater Pump not operable AND • Restoration of either of the above not likely within 2 hours	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. Probable large radioactivity release initiated by LOCA with loss of ECCS and containment cooling ALL MODES	• Loss of reactor coolant in progress AND • High or low head ECCS flow not being delivered to the core (if expected by plant conditions) AND • Containment RS sump temperature greater than 190°F and NOT decreasing OR All Quench Spray and Recirculation Spray systems - NOT OPERABLE	GENERAL EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
6. Core damage with possible loss of coolable geometry MODES 1, 2, 3, & 4	a) Fuel clad failure as indicated by any of the following: • RCS Specific activity greater than 60 µCi/gram dose equivalent I-131 OR High Range Letdown radiation monitor 1-CH-RI-128 or 2-CH-RI-228 GREATER THAN 1.2×10^4 mR/hr AND b) Loss of cooling as indicated by any of the following: • 5 confirmed core exit thermocouples greater than 1200 °F OR Core delta T - zero OR Core delta T - rapidly diverging	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
7. Major fuel damage accident with radioactivity release to containment or fuel buildings ALL MODES	• Water level in Rx vessel during refueling below the top of core OR Water level in spent fuel pool below top of spent fuel AND • Verified damage to irradiated fuel resulting in readings on Vent Vent "B" Kaman monitor RM-VG-180 GREATER THAN 2.74×10^8 µCi/sec OR HP determines Site Boundary DDE GREATER THAN 50 mrem/hr OR Verified damage to irradiated fuel resulting in readings on Vent Vent "B" MGPI monitor RM-VG-180 GREATER THAN 2.69×10^8 µCi/sec	SITE AREA EMERGENCY
8. Severe Fuel Clad Damage MODES 1, 2, 3, & 4	• High Range Letdown radiation monitor 1-CH-RI-128 or 2-CH-RI-228 Increases to GREATER THAN Hi Hi Alarm setpoint within 30 minutes and remains for at least 15 minutes	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
9. Fuel damage accident with release of radioactivity to containment or fuel buildings ALL MODES	• Verified accident involving damage to irradiated fuel AND • Health Physics confirms fission product release from fuel OR Vent Vent "B" Kaman monitor RM-VG-180 GREATER THAN 1.83×10^6 µCi/sec OR HP assessment of sample results indicates GREATER THAN 10 times ODCM allowable limit (Alert per EAL E-3) OR Vent Vent "B" MGPI monitor RM-VG-180 GREATER THAN 1.99×10^6 µCi/sec	ALERT
10. Potential for fuel damage to occur during refueling MODE 6	Continuing uncontrolled decrease of water level in Reactor Refueling Cavity or Spent Fuel Pool	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
11. Fuel clad damage indication MODES 1, 2, 3, & 4	• Intentional reduction in power, load or temperature IAW reactor coolant activity T.S. Action Statement - HAS COMMENCED OR High Range Letdown radiation monitor 1-CH-RI-128 or 2-CH-RI-228 Increases to GREATER THAN Hi Alarm setpoint within 30 minutes and remains for at least 15 minutes	NOTIFICATION OF UNUSUAL EVENT
12. Independent Spent Fuel Storage Installation (ISFSI) event ALL MODES	• Verified Sealed Surface Storage Cask (SSSC) seal leakage OR Sealed Surface Storage Cask (SSSC) dropped or mishandled	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Extremely high containment radiation, pressure and temperature MODES 1, 2, 3, & 4	• Containment High Range radiation monitor RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 3.76×10^2 R/hr AND • Containment pressure greater than 45 psia and not decreasing OR Containment temperature greater than 280°F	GENERAL EMERGENCY
2. High-high containment radiation, pressure, and temperature MODES 1, 2, 3, & 4	• Containment High Range radiation monitor RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 1.88×10^2 R/hr AND • Containment pressure - greater than 27.75 psia and not decreasing OR Containment temperature - greater than 200 °F	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. High Containment radiation, pressure and temperature MODES 1, 2, 3, & 4	• Containment High Range radiation monitor RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 81.5 R/hr AND • Containment pressure - greater than 17 psia OR Containment temperature - greater than 150°F	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Release imminent or in progress and site boundary doses projected to exceed 1.0 Rem TEDE or 5.0 Rem Thyroid CDE ALL MODES	• HP assessment indicates actual or projected doses at or beyond site boundary greater than 1.0 Rem TEDE or 5.0 Rem Thyroid CDE	GENERAL EMERGENCY
2. Release imminent or in progress and site boundary doses projected to exceed 0.1 Rem TEDE or 0.5 Rem Thyroid CDE ALL MODES	• HP assessment indicates actual or projected dose at or beyond Site Boundary exceeds 0.1 Rem TEDE or 0.5 Rem Thyroid CDE	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. Effluent release greater than 10 times ODCM allowable limit ALL MODES	a) Any of the following monitors indicate valid readings above the specified values for greater than 15 minutes • Clarifier Effluent RM-LW-111 GREATER THAN 4.8×10^5 cpm • Discharge Canal RM-SW-130 or -230 GREATER THAN 5×10^4 cpm • Vent Vent A Kaman RM-VG-179 GREATER THAN 1.83×10^6 µCi/sec • Vent Vent A MGPI RM-VG-179 GREATER THAN 1.73×10^6 µCi/sec • Vent Vent B Kaman RM-VG-180 GREATER THAN 1.83×10^6 µCi/sec • Vent Vent B MGPI RM-VG-180 GREATER THAN 1.99×10^6 µCi/sec • Process Vent Kaman RM-GW-178 GREATER THAN 2.0×10^7 µCi/sec • Process Vent MGPI RM-GW-178 GREATER THAN 1.35×10^7 µCi/sec OR b) HP assessment (sample results or dose projections) indicate greater than 10 times ODCM allowable limit	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. High radiation or airborne contamination levels indicate a severe degradation in control of radioactive material ALL MODES	Valid readings on any of the following monitors have increased by a factor of 1000 and remain for at least 15 minutes: • Ventilation Vent Multi-sample gaseous or particulate monitor RM-VG-106 or -105 • Control Room Area RMS-157 • Aux. Bldg. Control Area RMS-154 • Decon. Bldg. Area RMS-151 • Fuel Pool Bridge Area RMS-153 • New fuel storage Area RMS-152 • Laboratory Area RMS-158 • Sample Room Area RMS-156	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. Effluent release greater than ODCM allowable limit ALL MODES	a) Any of the following monitors indicate valid readings above the specified value for more than 1 hour: • Clarifier Effluent RM-LW-111 GREATER THAN 4.8×10^4 cpm • Discharge Canal RM-SW-130 or -230 GREATER THAN 5×10^3 cpm • Vent Vent A Kaman RM-VG-179 GREATER THAN 1.83×10^5 µCi/sec • Vent Vent A MGPI RM-VG-179 GREATER THAN 1.73×10^5 µCi/sec • Vent Vent B Kaman RM-VG-180 GREATER THAN 1.83×10^5 µCi/sec • Vent Vent B MGPI RM-VG-180 GREATER THAN 1.99×10^5 µCi/sec • Process Vent Kaman RM-GW-178 GREATER THAN 2.0×10^6 µCi/sec • Process Vent MGPI RM-GW-178 GREATER THAN 1.35×10^6 µCi/sec OR b) HP assessment (sample results or dose projections) indicates greater than ODCM allowable limit	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Major secondary line break with significant primary to secondary leakage and fuel damage indicated MODES 1, 2, 3, & 4	Conditions a) and b) exist with c): a) Uncontrolled loss of secondary coolant - IN PROGRESS AND b) RCS specific activity exceeds limits of T.S. Figure 3.4-1 (See Attachment 2) OR High Range Letdown radiation monitor 1-CH-RI-128 or 2-CH-RI-228 GREATER THAN Hi Alarm setpoint AND c) Vent Vent A Kaman Monitor RM-VG-179 GREATER THAN 6.45×10^7 µCi/sec OR HP determines Site Boundary DDE GREATER THAN 50 mrem/hr OR Vent Vent A MGPI Monitor RM-VG-179 GREATER THAN 6.21×10^7 µCi/sec OR Affected pathway Steam Generator Blowdown monitor RM-SS-122, -123, -124, -222, -223, -224 GREATER THAN 1×10^6 cpm OR Affected pathway Main Steam Line High Range monitor RM-MS-170, -171, -172, -270, -271, -272 GREATER THAN 12.2 mR/hr	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
2. Major secondary line break with significant primary to secondary leakage MODES 1, 2, 3, & 4	• Uncontrolled loss of secondary coolant - IN PROGRESS AND • Vent Vent A Kaman Monitor RM-VG-179 GREATER THAN 1.83×10^6 µCi/sec OR HP assessment of sample results indicates GREATER THAN 10 times ODCM allowable limit (Alert per EAL E-3) OR Vent Vent A MGPI Monitor RM-VG-179 GREATER THAN 1.76×10^6 µCi/sec OR Steam Generator Blowdown monitor on affected pathway RM-SS-122, -123, -124 RM-SS-222, -223, -224 GREATER THAN 1×10^5 cpm OR Main Steam Line High Range monitor on affected pathway RM-MS-170, -171, -172 RM-MS-270, -271, -272 GREATER THAN 0.14 mR/hr	ALERT
3. Major secondary line break MODES 1, 2, 3, & 4	Uncontrolled loss of secondary coolant - IN PROGRESS	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Loss of offsite and onsite AC power for more than 15 minutes ALL MODES	The following conditions exist for greater than 15 minutes: • Ammeters for 4160V Reserve Station Service Buses D, E, & F all indicate - zero (0) amps AND • Ammeters for 4160V Station Service Buses A, B, & C all indicate - zero (0) amps AND • Ammeters for 4160V Emergency Buses H & J both indicate - zero (0) amps	SITE AREA EMERGENCY
2. Loss of all onsite DC power for greater than 15 minutes ALL MODES	The following conditions exist for greater than 15 minutes: • All station battery voltmeters indicate zero (0) volts AND • No light indication available to Reserve Station Service breakers 15D1, 15E1 and 15F1	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
CAUTION: EAL A.1 is duplicated below for cross-reference/comparison to EAL H.3:		
A.1. Loss of function needed for unit HSD condition MODES 1, 2, 3 & 4	• Total loss of the Charging/SI System OR Total loss of the Main Feedwater and Auxiliary Feedwater Systems	SITE AREA EMERGENCY
3. Loss of all offsite and onsite AC power ALL MODES	• Ammeters for 4160V Reserve Station Service Buses D, E, & F all indicate - zero (0) amps AND • Ammeters for 4160V Station Service Buses A, B, & C all indicate - zero (0) amps AND • Ammeters for 4160V Emergency Buses H and J both indicate - zero (0) amps	ALERT
4. Loss of all onsite DC power ALL MODES	• All station battery voltmeters indicate - zero (0) volts AND • No light indication available to Reserve Station Service Breakers 15D1, 15E1 and 15F1	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
5. Loss of offsite power or onsite AC power capability ALL MODES	• Unit main generator and both emergency diesel generators out of service OR Loss of all 34.5 KV reserve station service buses	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Fire resulting in degradation of safety systems MODES 1, 2, 3, & 4	• Fire which causes major degradation of a safety system function required for protection of the public AND • Affected systems are caused to be NOT operable as defined by Tech. Specs.	SITE AREA EMERGENCY
2. Fire potentially affecting station safety systems MODES 1, 2, 3, & 4	Fire which has potential for causing a safety system not to be operable as defined by Tech. Specs.	ALERT
3. Fire lasting greater than 10 minutes in Protected Area or Service Water Pump/Valve House ALL MODES	Fire within the Protected Area or Service Water Pump/Valve House which is not under control within 10 minutes after Fire Brigade - DISPATCHED	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Loss of physical Station control ALL MODES	• Shift Supervisor has been informed that the security force has been neutralized by attack, resulting in loss of physical control of station OR Shift Supervisor has been informed of intrusion into one or more Vital Areas which are occupied or controlled by an aggressor	GENERAL EMERGENCY
2. Imminent loss of physical Station control ALL MODES	Security Shift Supervisor has notified the Operations Shift Supervisor of imminent intrusion into a Vital Area	SITE AREA EMERGENCY
3. Ongoing Security compromise ALL MODES	Security Shift Supervisor has notified the Operations Shift Supervisor of a confirmed unneutralized intrusion into the Protected Area	ALERT
4. Security threat, unauthorized attempted entry, or attempted sabotage ALL MODES	Security Shift Supervisor has recommended that the Operations Shift Supervisor declare a Notification of Unusual Event IAW applicable Security Contingency Plan Implementing Procedures	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Aircraft damage to vital plant systems MODES 1, 2, 3, & 4	Aircraft crash which affects vital structures by impact or fire	SITE AREA EMERGENCY
2. Severe explosive damage MODES 1, 2, 3, & 4	Explosion which results in severe degradation of any of the following systems required for safe shutdown: • CVCS System OR ECCS System OR Main/Auxiliary Feedwater System	SITE AREA EMERGENCY
3. Entry of toxic or flammable gases into plant vital areas other than the Control Room MODES 1, 2, 3, & 4	• Uncontrolled release of toxic or flammable agents greater than life threatening or explosive limits in Vital Areas AND • Evacuation of Vital Area other than Control Room - REQUIRED OR Significant degradation of plant safety systems resulting in loss of a safety system function required for protection of the public	SITE AREA EMERGENCY

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Severe missile damage to safety systems MODES 1, 2, 3, & 4	Missile impact causing severe degradation of safety systems required for unit shutdown	SITE AREA EMERGENCY
5. Aircraft crash on the facility ALL MODES	Aircraft crash within the Protected Area or Switchyard	ALERT
6. Explosion damage to facility ALL MODES	Unplanned explosion resulting in damage to plant structure or equipment that affects plant operations	ALERT
7. Entry of toxic or flammable gases or liquids into plant facility ALL MODES	Notification of uncontrolled release of toxic or flammable agent which causes: • Evacuation of personnel from plant areas AND • Safety related equipment is rendered inoperable	ALERT
8. Turbine failure or missile impact MODES 1 & 2	Failure of turbine/generator rotating equipment resulting in casing penetration	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
9. Missile damage to safety related equipment or structures MODES 1, 2, 3, & 4	Notification of missile impact causing damage to safety related equipment or structures	ALERT
10. Aircraft crash or unusual aircraft activity ALL MODES	• Confirmed notification of aircraft crash within the site boundary OR Unusual aircraft activity in the vicinity of the site as determined by the Operations Shift Supervisor or the Security Shift Supervisor	NOTIFICATION OF UNUSUAL EVENT
11. Train derailment within Protected Area ALL MODES	Confirmed report of train derailment within Protected Area	NOTIFICATION OF UNUSUAL EVENT
12. Explosion within Protected Area ALL MODES	Confirmed report of unplanned explosion within Protected Area	NOTIFICATION OF UNUSUAL EVENT
13. Onsite or nearsite release of toxic or flammable liquids or gases ALL MODES	Notification of unplanned release of toxic or flammable agents which may affect safety of station personnel or equipment	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
14. Turbine rotating component failure with no casing penetration MODES 1 & 2	Failure of turbine/generator rotating equipment resulting in immediate unit shutdown	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Earthquake greater than or equal to DBE levels ALL MODES	• Confirmed earthquake which activates the Event Alarm on the Strong Motion Accelerograph AND • Alarms on the Peak Shock Annunciator indicate a horizontal motion of greater than or equal to 0.12 g or a vertical motion of greater than or equal to 0.08g	SITE AREA EMERGENCY
2. Sustained winds in excess of design levels experienced or projected MODES 1, 2, 3, & 4	Sustained winds 150 mph OR GREATER experienced or projected	SITE AREA EMERGENCY
3. Flood or low water level above design levels MODES 1, 2, 3, & 4	Either condition a) or b) exists a) Flood in the Lake Anna Reservoir with indicated level - greater than 264 feet MSL OR b) Low water level in the Lake Anna Reservoir with indicated level - less than 244 feet MSL AND Inability to satisfy action requirements of T.S. 3.7.5.1 for Ultimate Heat Sink	SITE AREA EMERGENCY

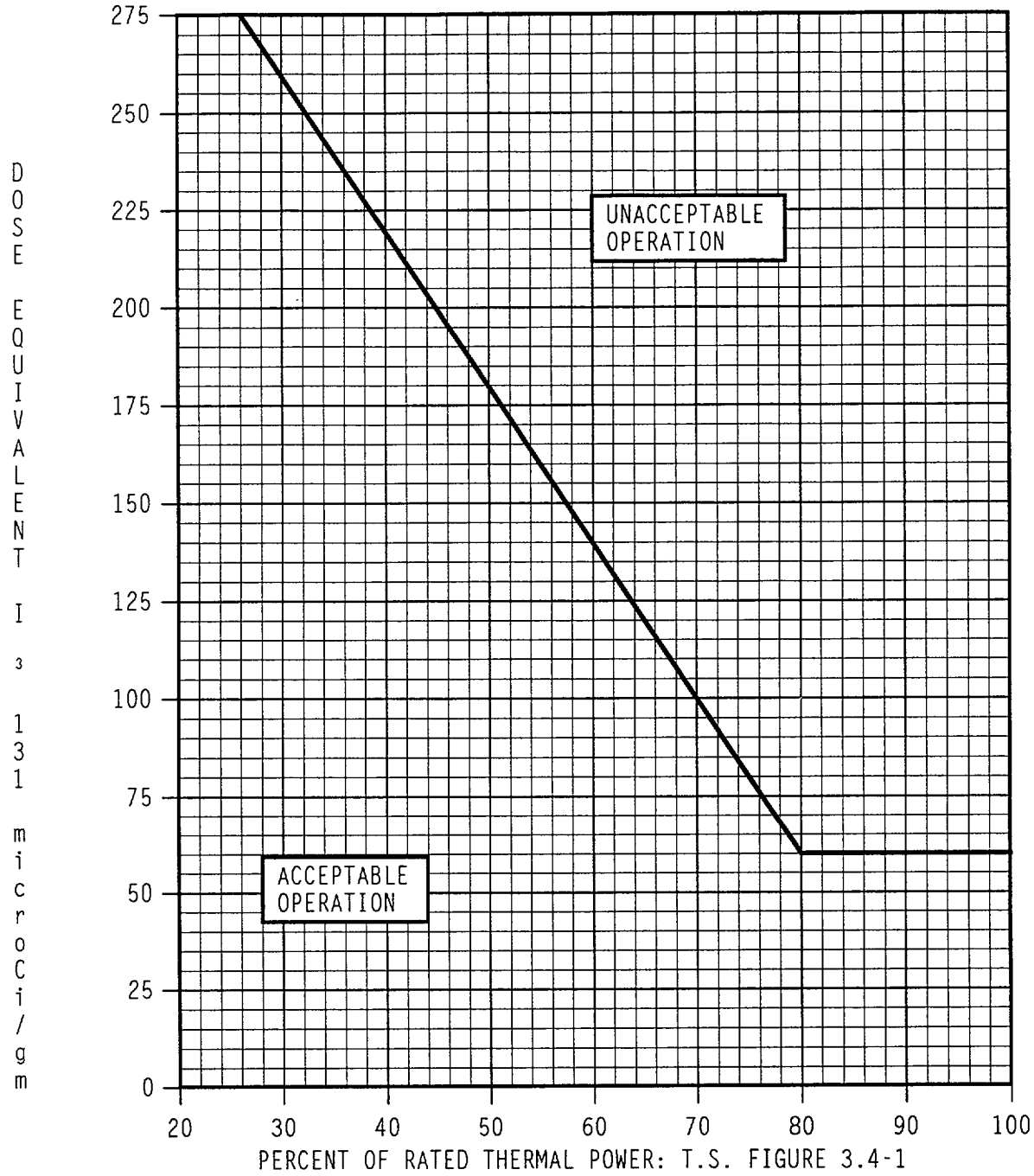
CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Earthquake greater than or equal to OBE levels ALL MODES	• Confirmed earthquake which activates Event Alarm on the Strong Motion Accelerograph AND • Alarms on the Peak Shock Annunciator indicate a horizontal motion of greater than or equal to 0.06 g or a vertical motion of greater than or equal to 0.04g	ALERT
5. Tornado striking facility ALL MODES	Tornado visually detected striking structures within the Protected Area or Switchyard	ALERT
6. Hurricane winds near design basis level experienced or projected ALL MODES	Hurricane winds 120 mph OR GREATER experienced or projected	ALERT
7. Flood or low water level near design levels ALL MODES	• Flood in the Lake Anna Reservoir with indicated level - greater than 263 feet MSL OR Low water level in the Lake Anna Reservoir with indicated level - less than 244 feet MSL	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
8. Earthquake detected ALL MODES	Confirmed earthquake which activates the Event Alarm on the Strong Motion Accelerograph	NOTIFICATION OF UNUSUAL EVENT
9. Tornado within Protected Area or Switchyard ALL MODES	Tornado visually detected within Protected Area or Switchyard	NOTIFICATION OF UNUSUAL EVENT
10. Hurricane force winds projected onsite within 12 hours ALL MODES	• Confirmation by Virginia Power Weather Center that hurricane force winds (greater than 73 mph) projected onsite within 12 hours	NOTIFICATION OF UNUSUAL EVENT
11. 50 year flood or low water level ALL MODES	• Flood in the Lake Anna Reservoir with indicated level - greater than 254 feet MSL OR Low water level in the Lake Anna Reservoir with indicated level less than 246 feet MSL	NOTIFICATION OF UNUSUAL EVENT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Any major internal or external events which singly or in combination cause massive damage to station facilities or may warrant evacuation of the public ALL MODES	Shift Supervisor/Station Emergency Manager judgement	GENERAL EMERGENCY
2. Station conditions which may warrant notification of the public near the site ALL MODES	Shift Supervisor/Station Emergency Manager judgement	SITE AREA EMERGENCY
3. Station conditions which have the potential to degrade or are actually degrading the level of safety of the station ALL MODES	Shift Supervisor/Station Emergency Manager judgement	ALERT

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
4. Station conditions which warrant increased awareness of state and/or local authorities ALL MODES	Shift Supervisor judgement that any of the following exist: • Unit shutdown is other than a controlled shutdown OR Unit is in an uncontrolled condition during operation OR A condition exists which has the potential for escalation and therefore warrants notification	NOTIFICATION OF UNUSUAL EVENT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	TECH SPEC FIGURE 3.4-1	34
ATTACHMENT 2		PAGE 1 of 1



DOSE EQUIVALENT I-131 PRIMARY COOLANT SPECIFIC ACTIVITY LIMIT Versus Percent of RATED THERMAL POWER with the Primary Coolant Specific Activity > 1.0 µCi/gm Dose Equivalent I-131

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	TURNOVER CHECKLIST	34
ATTACHMENT 3		PAGE 1 of 1

Conduct a turnover between the onshift and relief SEM in accordance with the following checklist. Use placekeeping aid at left of item, "_____", to track completion.

___ 1. Determine the status of primary responder notification.

___ 2. Determine the status of "Report of Emergency to State and Local Governments," EPIP-2.01, Attachment 2. Get completed copies if available.

___ 3. Determine status of the "Report of Radiological Conditions to the State," EPIP-2.01, Attachment 3. Get completed copy if available.

___ 4. Determine status of Emergency Notification System (ENS) communications and completion status of NRC Event Notification Worksheet (EPIP-2.02 Attachment 1).

___ 5. Review classification and initial PAR status.

___ 6. Review present plant conditions and status. Get copy of Critical Safety Functions form.

___ 7. Review status of station firewatches and re-establish if conditions allow.

___ 8. Determine readiness of TSC for activation.

___ 9. After all information is obtained, transfer location to TSC. (Consider direct transfer of State & local notifications to LEOF/CEOF.)

___ 10. Call the Control Room and assess any changes that may have occurred during transition to the TSC.

___ 11. When sufficient personnel are available, the relief SEM is to assume the following responsibilities from the onshift Station Emergency Manager:
   a. Reclassification.
   b. Protective Action Recommendations until LEOF activated.
   c. Notifications (i.e., state, local, & NRC). Upon LEOF activation, transfer notification responsibilities except for the NRC ENS.
   d. Site evacuation authorization.
   e. Emergency exposure authorization.
   f. Command/control of onsite response.

___ 12. Formally relieve the Interim SEM and assume control in the TSC. Announce name and facility activation status to facility.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	CONSIDERATIONS FOR OPERATIONS RESPONSE UNDER ABNORMAL CONDITIONS	34
ATTACHMENT 4		PAGE 1 of 1

This attachment provides procedural guidance for controlling selected emergency response actions when their implementation would have adverse results.

Station Emergency Manager (SEM) approval is required before any required action is postponed, suspended or modified. The guidance below is not all-inclusive.

SECURITY EVENT RESPONSE:

IF implementation of emergency response facility activation or assembly of personnel for accountability could compromise Security Plan response strategies or create a personnel safety hazard due to movement of personnel, THEN consider postponing or suspending emergency response actions until threat has been resolved.

UNANTICIPATED HAZARDOUS CONDITIONS EXIST (e.g., tornado or toxic release):

IF assembling personnel for accountability or activating emergency response facilities could endanger plant personnel, THEN consider postponing emergency assembly. (Consider implementing alternative notification methods on an ad hoc basis, e.g., selectively notify personnel in unaffected areas or defer notifications until hazardous conditions are resolved.)

IF notifying augmentation could create a safety hazard for personnel coming to the station, THEN consider postponing augmentation notification. (Consider implementing alternative notification methods on an ad hoc basis, e.g., selectively notify personnel reporting to unaffected areas or defer notifications until the hazardous condition is resolved.)

ANTICIPATED SITUATION (e.g., forecasted severe weather or grid disturbance):

IF all or part of the ERO has been staged in anticipation of a predicted event, THEN notify Security to omit performance of augmentation notification (as described in EPIP-3.05, AUGMENTATION OF EMERGENCY RESPONSE ORGANIZATION).

IF adequate controls have been established to continually account for personnel staged in anticipation of a predicted event, THEN notify Security to omit performance of initial accountability (as described in EPIP-5.03, PERSONNEL ACCOUNTABILITY).

IF a decision has been made to staff the Central EOF in lieu of the LEOF, THEN notify Security that performance of EPIP-3.04, ACTIVATION OF LOCAL EMERGENCY OPERATIONS FACILITY, is not required.

IF environmental conditions are hazardous, THEN consult with Security Team Leader about suspending procedural requirements for staging road blocks (IAW EPIP-5.04, ACCESS CONTROL).

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-1.06	PROTECTIVE ACTION RECOMMENDATIONS (With 3 Attachments)	4
		PAGE 1 of 3

PURPOSE

Give guidance to the Station Emergency Manager or Recovery Manager regarding determination of Protective Action Recommendations.

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

ENTRY CONDITIONS

Any of the following:

1. Activation by EPIP-1.05, RESPONSE TO GENERAL EMERGENCY.
2. Activation by CPIP-1.0, CORPORATE RESPONSE MANAGER ACTIVATION.
3. Activation by CPIP-6.0, LEOF RECOVERY MANAGER GUIDANCE.
4. As directed by the Station Emergency Manager or Recovery Manager.

Approvals on File

Effective Date 9/5/01

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE: The initial notification of General Emergency and an applicable Protective Action Recommendation (PAR) must be made to the State within 15 minutes following declaration of the General Emergency.

_____ 2 USE ATTACHMENT 2, PROTECTIVE ACTION RECOMMENDATION MATRIX, TO DETERMINE INITIAL PAR

_____ 3 COMPLETE ATTACHMENT 3, PROTECTIVE ACTION RECOMMENDATION FORM:

a) Fill in Item 1 (Meteorological Data)

b) Mark appropriate PAR box of Item 2

c) Sign and date form

_____ 4 DIRECT EMERGENCY COMMUNICATORS TO NOTIFY OFFSITE AUTHORITIES OF PAR:

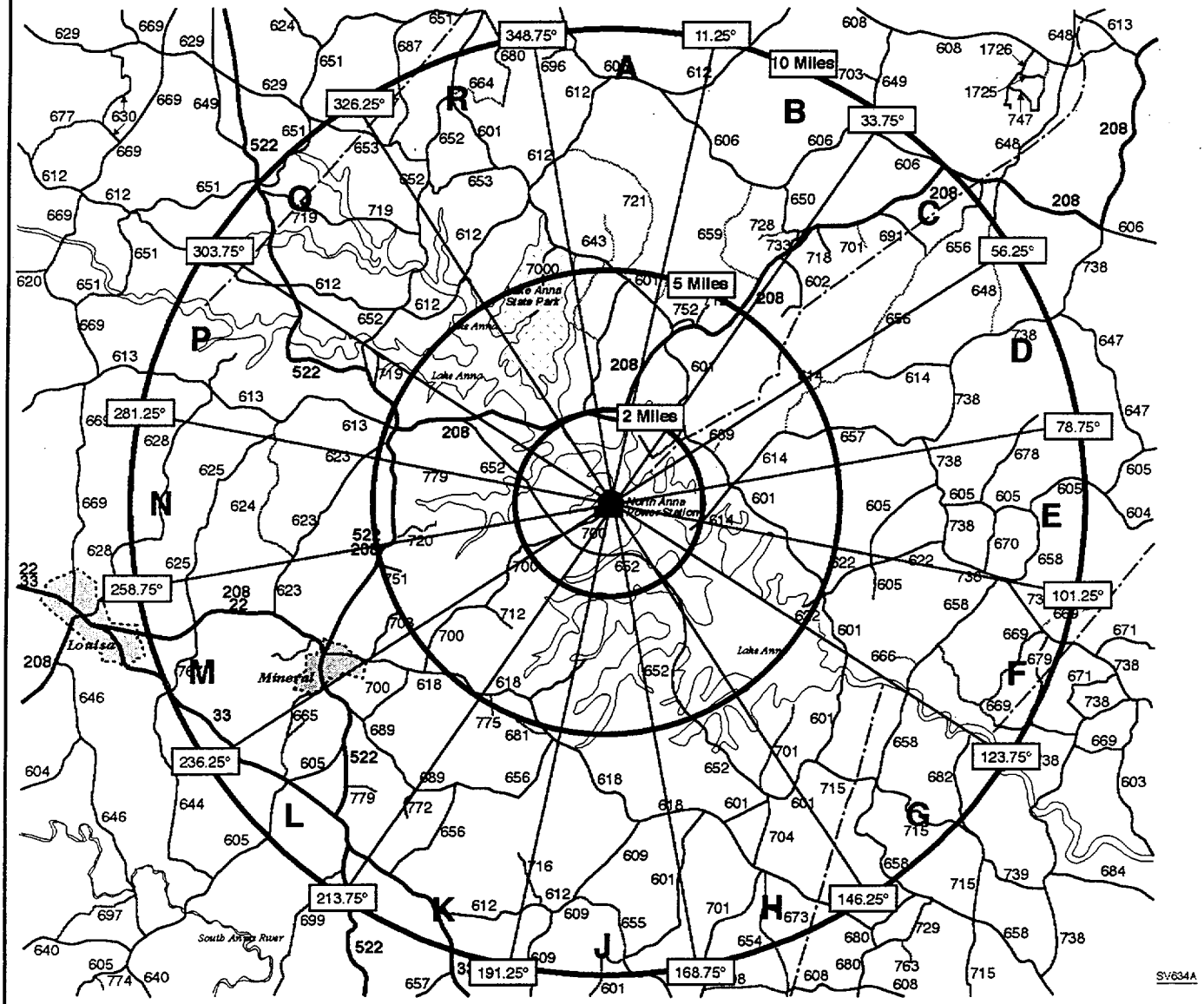
- State Emergency Operations Center notified IAW EPIP-2.01, NOTIFICATION OF STATE AND LOCAL GOVERNMENTS

- NRC notified IAW EPIP-2.02, NOTIFICATION OF NRC (notifications made from Control Room or TSC, when activated)

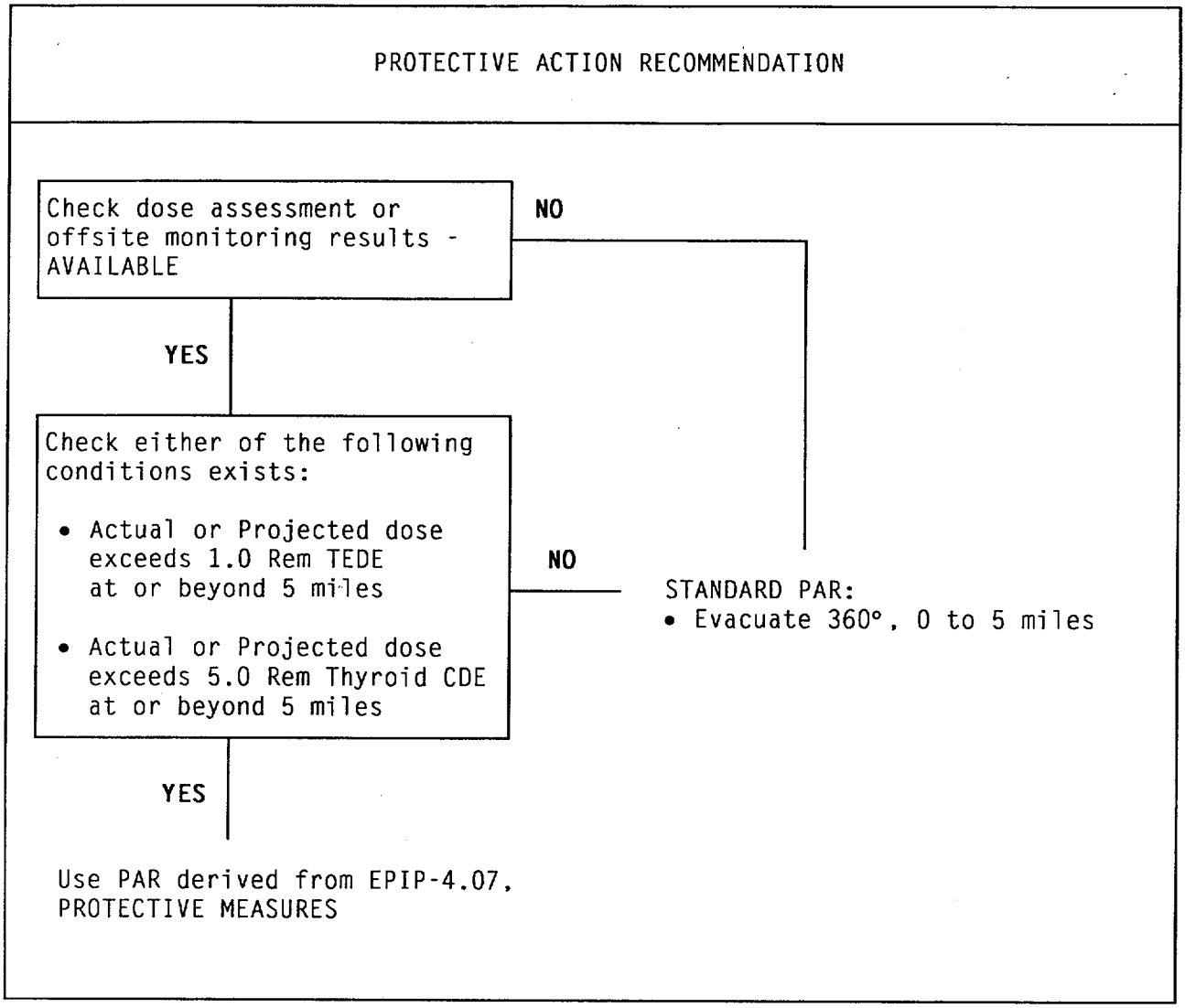
STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR (RAD) IMPLEMENT EPIP-4.07, PROTECTIVE MEASURES [RADIOLOGICAL ASSESSMENT COORDINATOR (RAC) IF IN LEOF]	
_____ 6	CHECK IF RADIOLOGICAL-BASED PAR RECOMMENDS PROTECTIVE ACTIONS IN ANY NEW AREA(s)	IF PAR in effect - UNCHANGED, THEN GO TO Step 8.
_____ 7	RETURN TO STEP 3	
_____ 8	CHECK EMERGENCY - TERMINATED	IF RAD/RAC recommends a PAR change, THEN RETURN TO Step 6.
_____ 9	TERMINATE EPIP-1.06: • Give completed EPIP-1.06, forms, and other applicable records to TSC Emergency Procedures Coordinator or LEOF Services Coordinator • Completed by:_____ Date:_____ Time:_____	

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.06	SECTOR MAP	4
ATTACHMENT 1		PAGE 1 of 1



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.06	PROTECTIVE ACTION RECOMMENDATION MATRIX	4
ATTACHMENT 2	(NAPS)	PAGE 1 of 1



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.06	PROTECTIVE ACTION RECOMMENDATION FORM	4
ATTACHMENT 3		PAGE 1 of 1

NOTE:

- Downwind sectors (primary plus 2 buffer sectors) may be determined from the State/Local Emergency Communicator, facility maps, or Attachment 1, Sector Map.
- Wind direction is always given as the compass point the wind blows from, which is opposite from the primary downwind sector. Example: Wind direction from East North East (ENE) means Sector M is primary.
- Recommendations for sheltering may be made at the discretion of the Station Emergency Manager / Recovery Manager.

1. METEOROLOGICAL DATA:

   WIND SPEED: _____ mph

   DOWNWIND SECTORS: _____ _____ _____

2. PROTECTIVE ACTION RECOMMENDATION:

   [ ] STANDARD PAR:

   Evacuate 360° from 0 to 5 miles.

   [ ] EXPANDED PAR:

   [ ] Evacuate 360° from 0 to 5 miles.

   [ ] Evacuate 360° from 5 to ___ miles.

   [ ] Evacuate sectors ___ ___ ___ from ___ to ___ miles.

   [ ] Shelter 360° from ___ to ___ miles.

   [ ] Shelter sectors ___ ___ ___ from ___ to ___ miles.

   [ ] Shelter unaffected sectors from ___ to ___ miles.

APPROVED BY: _____ _____ / _____

Station Emergency Manager or Recovery Manager — Date / Time

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-2.01	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS (With 3 Attachments)	24 PAGE 1 of 17

PURPOSE

To initially notify State and local governments of the declaration of an emergency and to provide status updates related to the event.

ENTRY CONDITIONS

Any of the following:

1. An emergency has been declared.

2. Entry directed by Station Emergency Manager.

Approvals on File

Effective Date 9/26/2001

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

Date: _____

Time: _____

Location: _____

_____ 2 CHECK FIRST REPORT OF EMERGENCY FOR EVENT - REQUIRED

IF procedure previously initiated, THEN continue from step in effect identified during relief/turnover.

NOTE:
- The initial notification of any emergency classification must be completed within 15 minutes of declaring the emergency class.
- Items 4 through 8 on Attachment 2 may be excluded from the first report of any emergency classification (including termination).
- Attachment 1, Instructions for Completing Report of Emergency to State and Local Governments, may be referenced as needed.

_____ 3 RECORD INFORMATION ON ATTACHMENT 2 (REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS)

_____ 4 CHECK EMERGENCY - REMAINS IN EFFECT

IF emergency terminated before message sent, THEN do the following:

a) Record reason event terminated in Item 3.

b) Record "State EOC-only portion of message not applicable" on bottom of Attachment 2 Page 2.

_____ 5 HAVE SEM/RM APPROVE REPORT (initial at top of Attachment 2)

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 6 RECORD TIME NOTIFICATION STARTED

NOTE:
- Multiple items excluded from a message may be read as a single statement, e.g., "Items 4 through 8 excluded from this message."
- Outbound calls through the PBX system are made by dialing 8-1-(area code)-###-####. Direct outbound calls may be made using unrestricted telephones by dialing 9-1-(area code)-###-#### (area code not required for direct outbound calls within local calling area). No prefix is required when using a commercial telephone.

_____ 7 SEND REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS:

a) Check Instaphone - CLEAR OF CONFLICTING MESSAGE TRAFFIC

a) IF Instaphone NOT available, THEN do the following:

1) Call State EOC on DEM ARD (Alternate: (804) 674-2400).

2) Notify State EOC Duty Officer of need to transmit message.

3) WHEN Instaphone available for message transmittal, THEN GO TO Step 7.b.

b) Use Instaphone to contact State and local Emergency Operations Centers (EOCs)

b) IF Instaphone NOT operable, THEN GO TO Step 11.

c) Perform initial roll-call (check boxes as EOC(s) answer or circle if no response)

d) Read Items 1 through 9

e) Perform acknowledgement roll-call (check boxes as EOC(s) answer or circle if no response)

(STEP 7 CONTINUED ON NEXT PAGE)

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
7	SEND REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS: (Continued)	
	f) Repeat any items upon request	
	g) Record date and time transmittal of Items 1 through 9 completed	
	h) Check message reports emergency - REMAINS IN EFFECT	h) IF State EOC acknowledged message, THEN GO TO Step 9. IF State EOC did NOT acknowledge message, THEN do the following: 1) Use DEM ARD phone to contact State EOC (Alternate: (804) 674-2400 (ask for Duty Officer)). IF all means of communications with State EOC are inoperable, THEN do the following: a) Notify SEM/RM. b) GO TO Step 9. 2) Read Items 1 through 9. 3) GO TO Step 9.

(STEP 7 CONTINUED ON NEXT PAGE)

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
7	SEND REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS: (Continued)	
	i) Use DEM ARD phone to contact State EOC (Alternate: (804) 674-2400 (ask for Duty Officer))	i) IF all means of communications with State EOC are inoperable, THEN do the following: 1) Use Instaphone to transmit Item 10 to local EOCs. 2) Record the following on second page of Attachment 2: • "Transmitted Item 10 to local EOCs." • Date and time transmitted to each local EOC. 3) GO TO Step 9.
	j) Check State EOC acknowledged message	j) Read Items 1 through 9.
	k) Read Items 10 and 11	
	l) Consult with State EOC Duty Officer to determine desired update message schedule	
	m) Record the following at Item 12: • Update message schedule • State EOC Duty Officer's name	
_____ 8	RECORD DATE AND TIME TRANSMITTAL OF ITEMS TO STATE EOC COMPLETE	

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 9	VERIFY ALL LOCAL EOCs ANSWERED ACKNOWLEDGEMENT ROLL CALL	IF any EOC(s) did NOT answer acknowledgement roll-call, THEN do the following: a) Use telephone to call EOC(s) that did not answer. b) Refer to the table below for order of priority and list of local EOC phone numbers: Louisa: (540) 967-1234 (local) Spotsylvania: (540) 582-7115 Caroline: (804) 633-5555 Orange: (540) 672-1234 Hanover: (804) 537-6140 c) IF State EOC notified, THEN read Items 1 through 9. IF NO communications with State EOC, THEN read Items 1 through 10. d) Record the following on Attachment 2: • Method of contact. • Reason Instaphone failed (if known). • Date and time of contact.
_____ 10	GO TO STEP 12	

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

   WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

   a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

      1) Complete transmittal of current message.

      2) RETURN TO Step 3 to prepare new emergency message.

   b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

      - Update current message to include changed condition(s).

      - RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

   WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

   WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

   IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

   WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Other personnel may assist by making notifications simultaneously using other telephones.

_____ 11 SEND ATTACHMENT 2 USING ALTERNATIVE MEANS:

a) Call State EOC:

1) Use DEM ARD (Alternate: (804) 674-2400, ask for EOC Duty Officer)

2) Read entire Attachment 2

3) Record date/time transmittal to State EOC complete

b) Call each local EOC and read Items 1 through 9:

Louisa:	(540) 967-1234 (local)
Spotsylvania:	(540) 582-7115
Caroline:	(804) 633-5555
Orange:	(540) 672-1234
Hanover:	(804) 537-6140

c) Record date/time transmittal of Items 1 through 9 complete

_____ 12 NOTIFY SEM/RM TRANSMITTAL WAS SENT

_____ 13 KEEP ATTACHMENT 2 WITH THIS PROCEDURE

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 14	CHECK IF ITEM 11 ON REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS INDICATES REPORT OF RADIOLOGICAL CONDITIONS - REQUIRED	GO TO Step 17.

NOTE:
- The initial Report of Radiological Conditions must be transmitted to the State EOC (or State representatives in the LEOF/CEOF) as soon as possible following the release of radioactive material.
- Follow-up reports should be issued approximately every 60 minutes or when there are changes in radiological conditions. Time should be measured from time of delivery, time facsimile sent, or time verbal transmittal completed.

_____ 15	GET REPORT OF RADIOLOGICAL CONDITIONS FOR THE STATE:	
	a) Check if either of the following Radiological Status reports available: • MIDAS Radiological Status report OR • EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE, Attachment 1, Radiological Status	a) Do the following: 1) Determine from radiological assessment organization when report will be available. 2) Notify SEM/RM about delay. 3) WHEN Radiological Status report becomes available, THEN continue in this procedure.
	b) Get Radiological Status report from radiological assessment organization	
	c) Check report - COMPLETE	c) IF blank items remain on Radiological Status report, THEN return report to radiological assessment organization for completion.

CONTINUOUS ACTION PAGE FOR EPIP-2.01

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

   WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

   a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

      1) Complete transmittal of current message.

      2) RETURN TO Step 3 to prepare new emergency message.

   b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

      - Update current message to include changed condition(s).

      - RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

   WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

   WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

   IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

   WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 16	SEND REPORT OF RADIOLOGICAL CONDITIONS TO THE STATE TO EOC:	
	a) Attach Radiological Status report to Attachment 3	
	b) Follow Attachment 3 Part I, Instructions for Virginia Power/North Anna Emergency Communicator	
	c) Check Report of Radiological Conditions to the State - SENT VIA FACSIMILE MACHINE	c) IF Radiological Status report communicated verbally or delivered, THEN GO TO Step 16.g.
	d) Allow 5 minutes for State EOC Duty Officer to verify receipt of message	
	e) Check receipt of message - VERIFIED BY STATE EOC DUTY OFFICER	e) IF receipt of message NOT verified, THEN do the following: 1) Call State EOC on DEM ARD (Alternate: (804) 674-2400). 2) Ask State EOC Duty Officer if message received. 3) IF receipt of message verified, THEN GO TO Step 16.f. IF message NOT received, THEN do the following: a) Follow Attachment 3 Part I Item 6 instructions. b) GO TO Step 16.g.
	f) Record Date/Time verified on Attachment 3 Part III Item 1	
	g) Notify SEM/RM transmittal - SENT	
	h) Keep Attachment 3 with this procedure	

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Follow-up reports of emergency conditions must be provided to State and local governments approximately every 60 minutes (from previous message notification start time) or when there are changes in emergency conditions, unless otherwise agreed upon with the State.

_____ 17 CHECK ANY OF THE FOLLOWING MESSAGE UPDATE CONDITIONS - EXISTS:

- Status of any of the following Report of Emergency items - CHANGED:
  - Emergency class (including event termination)
  - Offsite Assistance Required
  - Site Evacuation
  - Prognosis Worsening
  - Radioactive Release
  - Protective Action Recommendation

OR

- Updated Radiological Status report provided by radiological assessment organization

OR

- Follow-up report due IAW schedule established with State EOC Duty Officer

WHEN Report of Emergency message update conditions satisfied, THEN RETURN TO Step 3.

WHEN Report of Radiological Conditions message update conditions satisfied, THEN RETURN TO Step 15.

IF termination message has been sent, THEN GO TO Step 27.

_____ 18 RETURN TO APPLICABLE STEP AS INDICATED BELOW:

Report of Emergency to State and Local Governments	RETURN TO Step 3
Report of Radiological Conditions to the State	RETURN TO Step 15

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- Data may be obtained from meteorological panel charts (via TSC staff communicating with Control Room when ERFCS not available) or ERFCS (group reviews or EMCOMM, activated by typing EMCOMM and pressing the gray button labeled LAST).
- Both the ERFCS EMCOMM feature and ERFCS Group Review #39, COMERDS-1, Common ERDS Points, contain meteorological information averaged over the previous 15 minutes.

_____ 19 CHECK ON-SITE METEOROLOGICAL INFORMATION - AVAILABLE

IF on-site data NOT available, THEN do the following:

a) Get regional information from one of the following:
   - Company Weather Center: (804) 273-3025.
   - National Weather Service (NWS): (800) 737-8624.
   - Have HP initiate EPIP-4.10, DETERMINATION OF X/Q.

b) Give meteorological information to requestor.

c) RETURN TO procedure step in effect.

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 20 GET ON-SITE METEOROLOGICAL INFORMATION AS REQUESTED:

a) Refer to specified step(s) to acquire requested information:

Temperature	Step 21
Wind Speed	Step 22
Wind Direction	Step 23
Affected Sectors	Steps 23 and 24
Stability Class	Step 25

b) Give meteorological information to requestor

c) RETURN TO procedure step in effect

_____ 21 GET TEMPERATURE FROM MAIN TOWER TEMPERATURE INDICATOR

NOTE: Primary source of wind speed is the Main Tower Lower Level indicator. Alternates sources are (1) Backup Tower, and (2) Main Tower Upper Level.

_____ 22 GET WIND SPEED

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

   1) Complete transmittal of current message.

   2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

   - Update current message to include changed condition(s).

   - RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- An approximate average wind direction for previous 15 minutes should be determined.
- Primary source of wind direction is the Main Tower Lower indicator. Alternates sources are (1) Backup Tower, and (2) Main Tower Upper Level.
- Wind direction is always given as the compass point the wind blows from. Example: Wind direction is from East North East (ENE).

_____ 23 GET WIND DIRECTION IN TERMS OF COMPASS POINT WIND BLOWING FROM:

DEGREES	COMPASS POINT	DEGREES	COMPASS POINT	DEGREES	COMPASS POINT
0-11	N	192-214	SSW	350-371	N
12-34	NNE	215-236	SW	372-394	NNE
35-56	NE	237-259	WSW	395-416	NE
57-79	ENE	260-281	W	417-439	ENE
80-101	E	282-304	WNW	440-461	E
102-124	ESE	305-326	NW	461-484	ESE
125-146	SE	327-349	NNW	485-506	SE
147-169	SSE			507-529	SSE
170-191	S			530-540	S

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Downwind sectors are recorded using alphabetic designations.

_____ 24 DETERMINE DOWNWIND SECTORS:

COMPASS POINT	DOWNWIND SECTORS	COMPASS POINT	DOWNWIND SECTORS
N	H - J - K	S	R - A - B
NNE	J - K - L	SSW	A - B - C
NE	K - L - M	SW	B - C - D
ENE	L - M - N	WSW	C - D - E
E	M - N - P	W	D - E - F
ESE	N - P - Q	WNW	E - F - G
SE	P - Q - R	NW	F - G - H
SSE	Q - R - A	NNW	G - H - J

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

   1) Complete transmittal of current message.

   2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

   - Update current message to include changed condition(s).

   - RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- Main Tower Delta T is the preferred source of stability class. Sigma Theta (Backup Tower) is the secondary source.
- The value closer to "G" should be used if unable to distinguish Delta T or Sigma Theta value.
- Numerical ranges presented below for Delta T and Sigma Theta are less than the range of the chart recorder and indicator in the Control Room. Indications are not expected to read outside the ranges found on these tables.

_____ 25 DETERMINE STABILITY CLASS:

MAIN TOWER DELTA T			BACKUP TOWER SIGMA THETA		
DELTA T (°F)		STABILITY CLASS	SIGMA THETA (°)		STABILITY CLASS
≤ -1.31	=	A	≥ 22.5	=	A
-1.30 to -1.18	=	B	22.4 to 17.5	=	B
-1.17 to -1.04	=	C	17.4 to 12.5	=	C
-1.03 to -0.35	=	D	12.4 to 7.5	=	D
-0.34 to +1.04	=	E	7.4 to 3.8	=	E
+1.05 to +2.77	=	F	3.7 to 2.1	=	F
> +2.77	=	G	< 2.1	=	G

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Responsibilities may be transferred to relief within a facility or to another facility, e.g., Control Room to TSC, Control Room to LEOF or CEOF, or TSC to LEOF or CEOF.

_____ 26 TRANSFER RESPONSIBILITY FOR STATE/LOCAL NOTIFICATIONS:

a) Notify SEM (or RM if in LEOF/CEOF)

b) Tell relief Emergency Communicator about current event status

c) Review most recently completed Attachments 2 and 3 with relief

d) Tell relief Emergency Communicator when next notification is due

e) Provide this procedure and all attachments or send copies of attachments to relief

f) Have relief/turnover recorded in event log

g) Check - INTERFACILITY TURNOVER HAS BEEN COMPLETED

g) RETURN TO step in effect prior to relief.

1. REPORT OF EMERGENCY CONDITION CHANGE CRITERIA

WHEN emergency conditions change (e.g., classification, event termination, offsite assistance, site evacuation, worsening prognosis, release of radioactive material, Protective Action Recommendation), THEN do one of the following:

a. IF preparation of a new/revised message will prevent timely transmittal of an initial message reporting an emergency class (i.e., within 15 minutes of classification), THEN do the following:

1) Complete transmittal of current message.

2) RETURN TO Step 3 to prepare new emergency message.

b. IF new/revised message can be prepared without delaying timely transmittal of an initial message reporting an emergency class, THEN do one the following:

- Update current message to include changed condition(s).
- RETURN TO Step 3 to prepare new emergency message.

2. REPORT OF EMERGENCY UPDATE CRITERIA

WHEN scheduled Report of Emergency to State and Local Governments - DUE, THEN RETURN TO Step 3 to prepare new emergency message.

NOTE: Transmittal of a Report of Emergency to State and Local Governments takes precedence over preparing a new radiological status message, responding to requests for meteorological information and turning-over duties to relief.

3. REPORT OF RADIOLOGICAL STATUS CONDITION CHANGE CRITERIA

WHEN updated Radiological Status report provided by radiological assessment organization, THEN RETURN TO Step 15 to prepare new radiological status message.

4. METEOROLOGICAL INFORMATION REQUEST CRITERIA

IF requested to acquire on-site meteorological information, THEN GO TO Step 19.

5. SHIFT RELIEF OR INTERFACILITY TURNOVER CRITERIA

WHEN shift relief or interfacility turnover occurs, THEN GO TO Step 26.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 27 TERMINATE PROCEDURE:

- Give EPIP-2.01, forms and other applicable records to the Control Room STA (TSC Emergency Procedures Coordinator or EOF Services Coordinator)

- Completed by: _____

  Date: _____

  Time: _____

-END-

Form Field	Instructions for Preparing Form:
Approval (SEM or RM)	Leave blank. (The Station Emergency Manager (SEM) or Recovery Manager (RM) signs/initials this space after message is drafted.)
Message #	Record sequential message number on pages 1 and 2. A single numbering sequence is used for Reports of Emergency to State and Local Governments (Attachment 2) from the initial classification until the Emergency Plan is exited. The numbering sequence for Reports of Radiological Conditions to the State (Attachment 3) is separate.
Notification Start Time	Leave blank. (Enter notification start time when beginning transmittal of the approved message.)
Location	Check off facility from which notification will be made.
Roll Call	Leave blank. (Check off recipients of the emergency message when they answer the roll call.)

NOTE:

- **Information to complete Items 1-2 and 4-7 obtained from SEM/RM.**
- **Items 4, 5, 6, 7 and/or 8 are optional for a message reporting initial entry into the Emergency Plan or an emergency class change, including emergency termination and may be checked 'Excluded from this message.'**
- **Inclusion of optional items, e.g., Item 6, Evacuation of onsite personnel, should be considered when it can result in avoiding an immediate follow-up message.**

Item 1 **Emergency Class.**

IF message initial or follow-up report, THEN do the following:

a. Check block for highest applicable emergency class.

b. Enter time (0001-2400) and date of declaration.

IF initial message is also a termination report, THEN record time of termination Item 3.

IF message emergency termination report, THEN do the following:

a. Check Emergency Terminated block.

b. Complete Items 2, 3 and 9.

Form Field	Instructions for Preparing Form:
Item 2	**Release of radioactive material.** The SEM/RM determines whether a release of radioactive material is occurring, has occurred, has occurred and has been terminated, or is projected to occur based on plant indications and/or consultation with the RAD/RAC. For the purposes of emergency messages, release refers to a radiological release attributable to the emergency event.
Item 3	**Remarks / Description of event.** Write Remarks / Description of event in plain language. Avoid technical jargon, abbreviations and acronyms. Explain any change in the prognosis of situation (Item 7) reported in the previous message. IF Item 2 indicated a radiological release is occurring or has occurred, THEN remarks should be entered placing the release in context, e.g., release is estimated to be confined to the site, release estimated to be within normal plant limits, site boundary dose rates are below offsite protective action levels. Avoid repeating Remarks / Description of event from the previous message. The description should describe current conditions at the time the report approved by the SEM/RM.
Item 4	**Assistance requested.** [ ] Excluded from this message may be checked for the initial report of any emergency class only (including termination). This item documents requests that have been made for on-site assistance from off-site organizations such as from fire departments, rescue squads or law enforcement agencies, including local law enforcement, Virginia State Police, Federal Bureau of Investigation, etc.). This item is NOT for requesting assistance. A check block for other off-site organizations and space to record a description of the off-site organization is provided, e.g., U.S. Department of Energy. Continue to record requests for assistance until the request has been canceled or off-site assistance has been released. For an ambulance, continue to record request for assistance until the ambulance has been released from the hospital.

Form Field	Instructions for Preparing Form:
Item 5	**Emergency Response Actions Underway.** [ ] Excluded from this message may be checked for the initial report of any emergency class only (including termination). Check blocks are provided for the following: [ ] Station monitoring teams dispatched offsite (teams may be dispatched for any emergency classification, but dispatch is generally required at the Site Area Emergency and General Emergency classifications) [ ] Station emergency personnel called in (unless special circumstances are involved, station emergency personnel are called-in at an Alert or higher emergency class, but may be called-in for a Notification of Unusual Event) [ ] Other (examples of other emergency response actions include dispatch of damage control teams, relocation of personnel from selected areas, etc.)
Item 6	**Evacuation of onsite personnel.** [ ] Excluded from this message may be checked for the initial report of any emergency class only (including termination). The Remote Assembly Area is selected in accordance with EPIP-5.05, SITE EVACUATION. An "Other" check block is provided in case personnel are evacuated to different location, e.g., local evacuation assembly center. Early release of personnel, i.e., non-essential personnel are sent home early, is reported in Item 3, Remarks / Description of event. Continue to record evacuation of onsite personnel until evacuated personnel released from the applicable Remote Assembly Area.

Form Field	Instructions for Preparing Form:
	NOTE: Changes in the prognosis of situation should be explained in Item 3, Remarks / Description of event.
Item 7	**Prognosis of situation.**
	[ ] Excluded from this message may be checked for the initial report of any emergency class only (including termination).
	The "Other" check block can be used to provide an indication of anticipated event termination, e.g., emergency will be terminated when unit reaches cold shutdown at or about 1700 hours.
Item 8	**Meteorological data.**
	[ ] Excluded from this message may be checked for the initial report of any emergency class only (including termination).
	[ ] Not available may be checked when waiting for meteorological information will delay transmission of a message. Efforts to obtain meteorological data from alternative sources should not delay sending emergency messages.
	Check [ ] Based on onsite measurements when meteorological information is acquired from onsite instruments.
	Onsite measurements may be acquired from any of the following:
	• ERFCS EMCOMM feature (15-minute average) (activated by typing EMCOMM and pressing the gray button labeled LAST)
	• ERFCS Group Review #39, COMERDS-1, Common ERDS Points (15-minute average)
	• Control Room meteorological panel charts (approximate average for previous 15 minutes) (communicate with Control Room staff when ERFCS not available in other facilities)

[Instructions for Item 8, Meteorological data, continued on following page.]

Form Field	Instructions for Preparing Form:
Item 8 [continued]	**Meteorological data.**

Multiple indications of wind direction and wind speed are available. The priority for using these indications is:

1 Main Tower Lower Level

2 Backup Tower

3 Main Tower Upper Level

Check [ ] Based on offsite regional data when onsite measurements are NOT available. Regional wind speed and wind direction data may be obtained from the following in the order indicated:

1 Company Weather Center, (804) 273-3025

2 National Weather Service (NWS), (800) 737-8624

Use the following table to convert indicated degree reading to compass point wind blowing from.

DEGREES	COMPASS POINT
0-11 or 350-371	N (NORTH)
12-34 or 372-394	NNE (NORTH NORTHEAST)
35-56 or 395-416	NE (NORTHEAST)
57-79 or 417-439	ENE (EAST NORTHEAST)
80-101 or 440-461	E (EAST)
102-124 or 462-484	ESE (EAST SOUTHEAST)
125-146 or 485-506	SE (SOUTHEAST)
147-169 or 507-529	SSE (SOUTH SOUTHEAST)
170-191 or 530-540	S (SOUTH)
192-214	SSW (SOUTH SOUTHWEST)
215-236	SW (SOUTHWEST)
237-259	WSW (WEST SOUTHWEST)
260-281	W (WEST)
282-304	WNW (WEST NORTHWEST)
305-326	NW (NORTHWEST)
327-349	NNW (NORTH NORTHWEST)

Record wind direction in compass point wind is blowing from.

Record wind speed.

Form Field	Instructions for Preparing Form:
Item 9	**Emergency Communicator identification.** Enter name of Emergency Communicator.
Roll Call	Leave blank. (Check off recipients of the emergency message when they answer the roll call.)
Message Close-Out	Leave blank. (Check off facility from which notification was made and enter date/time after transmitting Items 1-9.)
Item 10	**Recommended offsite protective actions.** IF Item 1 indicates the emergency class is a Notification of Unusual Event, Alert or Site Area Emergency, THEN check [ ] None. IF Item 1 indicates the emergency class is a General Emergency, THEN copy recommended offsite protective action from EPIP-1.06, PROTECTIVE ACTION RECOMMENDATION, Attachment 3, in Item 10.
Item 11	**Report of Radiological Conditions.** IF Item 2 indicates a release of radioactive material has NOT occurred and is NOT projected, THEN check [ ] We will not issue a Report of Radiological Conditions. IF a Report of Radiological Conditions is required AND all the following conditions are met: • LEOF (or CEOF) - RESPONSIBLE FOR STATE NOTIFICATIONS • Department of Emergency Management - PRESENT • Department of Health (Radiological Health Programs) representative - PRESENT THEN check [ ] We will provide the Report of Radiological Conditions to the State representatives in the LEOF (CEOF). IF a Report of Radiological Conditions is required AND has to be transmitted to the State EOC, THEN check [ ] We will transmit a Report of Radiological Conditions to the State EOC.

Form Field	Instructions for Preparing Form:
Item 12	**Update schedule and name of State EOC Duty Officer.** Leave blank. (Update schedule and identification of State EOC Duty Officer is determined in consultation with the State EOC Duty Officer after message is transmitted.)
Message Close-Out	Leave blank. (Check off facility from which notification was made and enter date/time after transmitting Items 10-12.)

APPROVAL: (SEM or RM): _____; **MESSAGE #** _____; **TIME NOTIFICATION STARTED:** _____

This is North Anna Power Station [] Control Room [] TSC [] LEOF [] CEOF. Standby for a roll-call followed by an emergency message. Use a Report of Emergency form to copy this message. **(Conduct a roll-call and check boxes as each party answers)**

[] Louisa County [] State EOC [] Orange County
[] Spotsylvania County [] Hanover County [] Caroline County

The emergency message is as follows: **(READ SLOWLY)**

Item 1: Emergency Class:

[] Notification of Unusual Event [] Site Area Emergency
[] Alert [] General Emergency

Declared at _____ on _____
(24-hr time) (date)

[] Emergency Terminated

Item 2: Release of radioactive material:
[] Has NOT occurred and is NOT projected [] Is presently occurring
[] Has occurred and is now terminated [] Is projected to occur

Item 3: Remarks / Description of event: _____
_____
_____

NOTE: **Items 4 - 8 may be excluded from initial message reporting any emergency class (including termination).**

Item 4: Assistance requested: [] Excluded from this message
[] None
____ (#) Fire Units from _____
____ (#) Police Units from _____
____ (#) Rescue Units from _____
[] Other _____

Item 5: Emergency response actions underway: [] Excluded from this message
[] None
[] Station monitoring teams dispatched offsite
[] Station emergency personnel called in
[] Other _____

Item 6: Evacuation of onsite personnel: [] Excluded from this message
[] No
[] Yes, evacuated to: [] Primary Remote Assembly Area
[] Secondary Remote Assembly Area
[] Other _____

(ATTACHMENT 2 CONTINUED ON NEXT PAGE)

MESSAGE # _____

Item 7: Prognosis of situation: [] Excluded from this message

[] Improving [] Stable

[] Worsening [] Other _____

Item 8: Meteorological data is: [] Excluded from this message

[] Based on onsite measurements; [] Based on offsite regional data;

[] Wind direction is from the _____; [] Wind speed is _____ mph

[] Not available

Item 9: This is (name) _____/Emergency Communicator.

Please acknowledge receipt of this message. **(Conduct roll-call and check boxes)**

[] Louisa County [] State EOC [] Orange County

[] Spotsylvania County [] Hanover County [] Caroline County

This is North Anna Power Station [] Control Room [] TSC [] LEOF [] CEOF out at _____ (24-hr time) on _____ (date).

NOTE: **The remainder of this report is not transmitted when the message reports emergency termination. When transmitted, the following information is for state use only. Transmit to State EOC using the DEM ARD.**

This is North Anna Power Station [] Control Room [] TSC [] LEOF [] CEOF continuing the emergency message.

Item 10: Recommended offsite protective actions are:

[] None

[] Standard: Evacuate 360° from 0 miles to 5 miles.

[] Expanded:

[] Evacuate 360° from 0 miles to 5 miles.

[] Evacuate 360° from 5 miles to _____ miles.

[] Evacuate sectors _____ _____ _____ from _____ miles to _____ miles.

[] Shelter 360° from _____ miles to _____ miles.

[] Shelter sectors _____ _____ _____ from _____ miles to _____ miles.

[] Shelter unaffected sectors from _____ miles to _____ miles.

Item 11: [] We will transmit a Report of Radiological Conditions to the State EOC.

[] We will provide the Report of Radiological Conditions to the State representatives in the LEOF (CEOF).

[] We will not issue a Report of Radiological Conditions.

Item 12: Update schedule: [] 60 minute; [] Other _____.

Name of State EOC Duty Officer:_____.

This is North Anna Power Station [] Control Room [] TSC [] LEOF [] CEOF out at _____ (24-hr time) on _____ (date).

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	REPORT OF RADIOLOGICAL CONDITIONS TO THE STATE	24
ATTACHMENT 3		PAGE 1 of 1

PART I. Instructions for North Anna Emergency Communicator:

1. Check name of facility: [ ] Control Room [ ] TSC [ ] Local EOF [ ] Central EOF

2. Record Message #: ___ Communicator's name: _____ Call-back #: (___) ___-_____

3. Check which report is attached and record the report number and run time (as appropriate):

   _____ MIDAS Radiological Status computer printout (2 pages) Report # _____ Run Time _____
   _____ Radiological Status attachment from EPIP-4.03 (1 page) Report # _____

4. Have Station Emergency Manager (SEM) / Recovery Manager (RM) approve transmittal:

   APPROVED FOR TRANSMITTAL: _____ (SEM / RM initials) DATE: __/__/__ TIME: __:__

5. IF report can be delivered to both VDES AND VDH staff in EOF, THEN GO TO PART I, ITEM 6.
   IF report will be sent by facsimile, THEN notify State EOC Report of Radiological Conditions will be sent by facsimile (Use DEM ARD or (804) 674-2400) and request receipt confirmation.

6. Deliver report to both VDEM AND VDH staff in EOF:
   a. Date/Time Message Delivered to VDEM Representative in Local/Central EOF: __/__/__ __:__
   b. Date/Time Message Delivered to VDH Representative in Local/Central EOF: __/__/__ __:__
   c. Record N/A by Part II and Part III below.

   IF report will be sent by facsimile, THEN ask facsimile machine operator to transmit this message.

   IF transmittal of report by facsimile NOT achieveable, THEN do the following:
   a. Notify State EOC using DEM ARD or call (804) 674-2400
   b. Identify yourself and your location
   c. Ask EOC Duty Officer to use a Report of Radiological Conditions form to copy message
   d. Read the attached report
   e. Record when message transmittal completed: Date/Time Message Completed: __/__/__ __:__
   f. Record N/A by Part II and Part III below.

PART II. Instructions for Facsimile Machine Operator:

1. Record facsimile Operator's name : _____ Date/Time Sent: __/__/__ __:__

2. Transmit this message to State EOC facsimile machine (804) 674-2419.
   If facsimile transmission NOT successful, THEN RETURN message to Emergency Communicator.

3. Return original report to State and Local Emergency Communicator.

PART III. Instructions for State EOC Duty Officer:

1. Notify North Anna Emergency Communicator report received. Date/Time Verified: __/__/__ __:__
   (Use DEM ARD or see PART I, Item 2 above for call-back number). Receipt Verification

2. Forward message to EOC Operations Officer for distribution to State Radiological Health Programs and Information & Planning representatives.

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: _____ / _____

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:_____

% TECH. SPEC.

VENT VENT A:

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

VENT VENT B:

	CPM	x	CFM	x	CF	=	% TS		
VG-113:	_____	x	_____	x	9.54 E-9	=	_____		Highest % TS
	µCi/sec	x	CF			=	% TS		
VG-180-1:	_____	x	5.46 E-4			=	_____		_____
	µCi/cc	x	CFM		CF	=	% TS		
VG-180-1:	_____	x	_____	x	2.58 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			=	_____		_____
	µCi/cc	x	CFM		CF	=	% TS		
GW-178-1:	_____	x	_____	x	2.39 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: _____/_____

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.09	SOURCE TERM ASSESSMENT (With 6 Attachments)	12 PAGE 1 of 11

PURPOSE

Provide guidance and data to Dose Assessment Team to more accurately predict 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.

Approvals on File

Effective Date 9/13/01

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

NOTE:
- Source term is expressed in Ci/sec.
- Source term calculations derived from monitor readings should be used only for initial assessment and to establish trends. Sampling should also be performed to more accurately determine the source term.
- Source term derived from Containment High Range Monitors or Containment sampling is used for analysis following a LOCA.

_____ 2 DETERMINE METHOD FOR SOURCE TERM CALCULATION:

- Station Monitors - GO TO Step 3
- Sample Effluent - GO TO Step 4
- Sample of Station Inventory - GO TO Step 7
- Containment High Range Monitor (Inner Crane Wall) - GO TO Step 8
- Sample of Containment Air - GO TO Step 9

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:
- 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.
- Should Vent Vent or Process Vent Normal Range monitors be inoperable or offscale, assessments should continue using High Range and/or Kaman (MGPI) monitors.
- The Condenser Air Ejector may be diverted to containment.

_____ 3 DETERMINE SOURCE TERM FROM STATION MONITORS:

a) Get monitor readings and effluent flow rates (cfm) for release pathways of concern:

- Vent Vent A: VG-104, VG-179, VG-174
- Vent Vent B: VG-113, VG-180, VG-175
- Process Vent: GW-102, GW-178, GW-173
- Condenser Air Ejector: SV-121, SV-221
- Main Steam: MS-170, MS-171, MS-172, MS-270, MS-271, MS-272
- AFWPT: MS-176, MS-276

a) IF monitor readings NOT available, THEN GO TO Step 4.

(STEP 3 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

3 DETERMINE SOURCE TERM FROM STATION MONITORS: (Continued)

b) Record the following information on Attachment 1:

- Date
- Time
- Flow rate (when applicable) and monitor reading for pathway(s) of concern:

Normal Range: cpm (use NET cpm: Gross - Background) Kaman (MGPI): µCi/sec or µCi/cc High Range: mR/hr

c) Determine accident type

d) Determine status of effluent charcoal filtration

e) Determine Monitor Conversion Factors (MCF) and Iodine Conversion Factors (Iodine CF) using Attachment 2

f) Record conversion factors on Attachment 1

g) Use Attachment 1 to calculate Iodine and Noble Gas release rates, Ci/sec

h) Add Ci/sec for all pathways of concern

AND

Record results at end of Attachment 1

i) Give results to RAD or RAC

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- In the event that a release involves multiple pathways, Step 4 should be repeated for each pathway. Results of each analysis are then added to determine the total source term.
- The Condenser Air Ejector may be diverted to containment, eliminating need to assess source term.

_____ 4 DETERMINE SOURCE TERM FROM EFFLUENT SAMPLE:

a) Ask Radiation Protection Supervisor to initiate EPIP-4.24, GASEOUS EFFLUENT SAMPLING DURING AN EMERGENCY, for sample of appropriate pathway:
- Vent Vent A
- Vent Vent B
- Process Vent
- Condenser Air Ejector

a) IF source term determination from effluent sample NOT required, THEN GO TO Step 7.

b) Get monitor reading:
- Maximum:_____
- Reading at time of sample:_____

c) Have Count Room analyze sample:
- Request initiation of EPIP-4.26, HIGH LEVEL ACTIVITY SAMPLE ANALYSIS, for high activity samples

(STEP 4 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
4	DETERMINE SOURCE TERM FROM EFFLUENT SAMPLE: (Continued)	
	d) Record nuclide activity on Attachment 3, left column AND Add results to determine Noble Gas and Iodine gross activity, µCi/ml	
	e) Check if this is an initial source term assessment	e) GO TO Step 4.g.
	f) Check if sample taken at maximum monitor reading	f) IF sample NOT taken at maximum monitor reading, THEN do the following: 1) Determine corrected µCi/cc for gross Noble Gas and for Iodine: $\frac{\text{MAX READING}}{\text{READING AT TIME OF SAMPLE}} \times \frac{\mu Ci}{cc} = \text{CORRECTED } \mu Ci/cc$ 2) Record results on Attachment 4. 3) GO TO Step 4.h.
	g) Get Noble Gas activity from Attachment 3 and record activity on to Attachment 4	
	h) Get effluent flow rate (cfm)	
	i) Record cfm on Attachment 4	
	j) Record Iodine activity on to Attachment 4	

(STEP 4 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

4 DETERMINE SOURCE TERM FROM EFFLUENT SAMPLE: (Continued)

k) Use Attachment 4 to calculate Noble Gas and Iodine source term (Ci/sec)

l) Add Ci/sec for applicable pathways at end of Attachment 4

_____ 5 DETERMINE DDE, TEDE AND THYROID CDE DOSE CONVERSION FACTORS BASED ON SAMPLE RESULTS:

a) Use Attachment 3 that was previously filled out for gross activity determination

a) Do Steps 4.a through 4.d

AND

GO TO Step 5.b.

b) Do calculations on Attachment 3 to determine the following conversion factors:

- DDE
- TEDE
- THY CDE

c) Determine TEDE/DDE ratio:

$$\frac{\text{TEDE}}{\text{DDE}} = \text{Ratio TEDE/DDE}$$

d) Give source term results, Ci/sec, and TEDE/DDE ratio to RAD or RAC

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 6 DETERMINE SITE BOUNDARY DOSE RATES BASED ON EFFLUENT SAMPLE RESULTS:

a) Ask RAD or RAC if Site Boundary dose rate calculation based on effluent sample - DESIRED

a) GO TO Step 7.

b) Record TEDE and THY CDE DCFs from bottom of Attachment 3 on to Attachment 5:

- Record on calculation line for each affected pathway

c) Get effluent flow rate (cfm) for each affected pathway

d) Record CFM on Attachment 5

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) Determine Stability Class and wind speed:

- Ask RAD or RAC

f) Use Attachment 5 Site Boundary X/Q value for appropriate Stability Class and divide by wind speed

g) Record corrected X/Q value on calculation line for each affected pathway

h) Do calculations to determine Site Boundary TEDE and THY CDE dose rate, mrem/hr

i) Give results to RAD or RAC

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 7	DETERMINE SOURCE TERM FROM STATION INVENTORY:	
	a) Check if release originated from a gas storage tank (ie. Waste Gas Decay Tank, Volume Control Tank, etc.)	a) GO TO Step 8.
	b) Have tank sampled	
	c) Ask Dose Assessment Team Leader to get information on volume of release from Emergency Technical Director	
	d) Get sample activity results, µCi/ml, for total of Noble Gas and Iodine: • Use Count Room results or completed Attachment 3	
	e) Record the following on Attachment 4: • Noble Gas activity • Iodine activity • Volume of release, ml • Duration of release, sec	
	f) Use Attachment 4, Station Inventory section, to determine Noble Gas and Iodine release rate, Ci/sec	
	g) Give results to RAD or RAC	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 8 DETERMINE SOURCE TERM FROM CONTAINMENT HIGH RANGE MONITOR (INNER CRANE WALL):

a) Check if LOCA conditions exist — a) GO TO Step 10.

b) Get dose rate (R/hr) from Containment High Range Monitor (Inner Crane Wall) of affected unit:

- RMS-165 (-265):_____
- RMS-166 (-266):_____

c) Determine length of time (hours) since unit shutdown

d) Use Attachment 6 to estimate Curies Noble Gas (Ci NG) and Curies Iodine (Halogens) available for release

e) Calculate release rate:

_____Ci Noble Gas x 4.35E-8 = _____Ci/Sec Noble Gas

_____Ci Iodine x 4.35E-8 = _____Ci/sec Iodine

f) Give results to RAD or RAC

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 9	DETERMINE SOURCE TERM FROM CONTAINMENT AIR SAMPLE:	
	a) Check if LOCA conditions exist	a) GO TO Step 10.
	b) Ask RPS to activate EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR	
	c) Record sample results (nuclide concentration) on Attachment 3, left column	
	d) Determine gross activity, µCi/ml, for Noble Gas and Iodine	
	e) Calculate release rates: µCi/ml x 2.25E+3 x 1.0E-6 = Ci/Sec	
	f) Record results: _____Ci/sec Noble Gas _____Ci/sec Iodine	
	g) Give results to RAD or RAC	
_____ 10	TERMINATE EPIP-4.09:	
	• Give completed EPIP-4.09, forms, and other applicable records to the Radiological Assessment Director	
	• Completed by: _____ Date: _____ Time: _____	

-END-

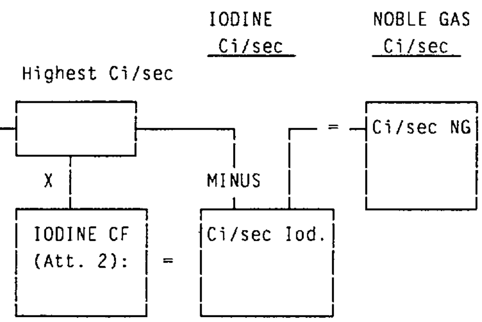
NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	MONITOR Ci/sec WORKSHEET	12
ATTACHMENT		PAGE
1		1 of 2

<u>NOTE</u>:
- Monitor Conversion Factors (MCF) and Iodine Conversion Factors (Iodine CF) are provided on Attachment 2.
- 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:_________

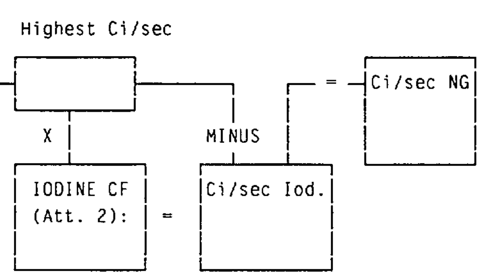
<u>VENT VENT A:</u>

	CPM	x	MCF	x	CFM		=	Ci/sec
VG-104:	________	x	________	x	________		=	________
VG-179:	μCi/sec	x	MCF	x	1.00E-6		=	Ci/sec
(-1,-2)	________	x	________	x	1.00E-6		=	________
VG-179:	μCi/cc	x	MCF	x	CFM	x 4.72E-4	=	Ci/sec
(-1,-2)	________	x	________	x	________	x 4.72E-4	=	________
	mR/hr	x	MCF	x	CFM		=	Ci/sec
VG-174:	________	x	________	x	________		=	________



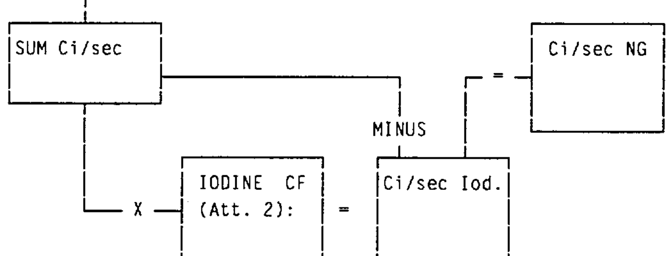
<u>VENT VENT B:</u>

	CPM	x	MCF	x	CFM		=	Ci/sec
VG-113:	________	x	________	x	________		=	________
VG-180:	μCi/sec	x	MCF	x	1.00E-6		=	Ci/sec
(-1,-2)	________	x	________	x	1.00E-6		=	________
VG-180:	μCi/cc	x	MCF	x	CFM	x 4.72E-4	=	Ci/sec
(-1,-2)	________	x	________	x	________	x 4.72E-4	=	________
	mR/hr	x	MCF	x	CFM		=	Ci/sec
VG-175:	________	x	________	x	________		=	________



<u>AIR EJECTOR:</u>

	CPM	x	MCF	x	CFM	=	Ci/sec
SV-121:	________	x	________	x	________	=	
	CPM	x	MCF	x	CFM	=	Ci/sec
SV-221:	________	x	________	x	________	=	



PROCESS VENT:

	CPM	x	MCF	x	CFM			= Ci/sec
GW-102:	_____	x	_____	x	_____			= _____
GW-178:	µCi/sec	x	MCF	x	1.00E-6			= Ci/sec
(-1,-2)	_____	x	_____	x	1.00E-6			= _____
GW-178:	µCi/cc	x	MCF	x	CFM	x 4.72E-4		= Ci/sec
(-1,-2)	_____	x	_____	x	_____	x 4.72E-4		= _____
	mR/hr	x	MCF	x	CFM			= Ci/sec
GW-173:	_____	x	_____	x	_____			= _____

Highest Ci/sec → X IODINE CF (Att. 2): = IODINE Ci/sec → MINUS Ci/sec Iod. = NOBLE GAS Ci/sec → Ci/sec NG

MAIN STEAM:

	mR/hr	x	# valves	x	MCF	=	Ci/sec
MS-170:	_____	x	_____	x	_____	=	_____
MS-171:	_____	x	_____	x	_____	=	_____
MS-172:	_____	x	_____	x	_____	=	_____
MS-270:	_____	x	_____	x	_____	=	_____
MS-271:	_____	x	_____	x	_____	=	_____
MS-272:	_____	x	_____	x	_____	=	_____

SUM OF Ci/sec → X IODINE CF (Att. 2): = → MINUS Ci/sec Iod. = → Ci/sec NG

AFWPT:

	mR/hr	x	MCF	=	Ci/sec
MS-176:	_____	x	_____	=	_____
MS-276:	_____	x	_____	=	_____

Highest Ci/sec → X IODINE CF (Att. 2): = → MINUS Ci/sec Iod. = → Ci/sec NG

TOTAL Curies/sec: Sum above results for Iodine and for Noble gas (separately).

TOTAL Ci/sec IOD

TOTAL Ci/sec NG

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 Vent A:

MONITOR	MSLB	SGTR	NORMAL
VG-104	9.7E-11	7.0E-11	4.7E-11
VG-174	2.4E-2	1.8E-2	1.1E-2
VG-179-1 (KAMAN)	9.7E-4	9.6E-4	9.5E-4
VG-179-1 (MGPI)	8.8E-4	8.6E-4	8.1E-4
VG-179-2 (KAMAN)	8.3E-4	7.4E-4	5.9E-4
VG-179-2 (MGPI)	1.0E-3	1.0E-3	1.1E-3

MONITOR CONVERSION FACTORS (MCF) for Vent Vent B:

MONITOR	FHA	LOCA MELT	LOCA GAP	LOCA PC	NORMAL
VG-113	1.4E-11	4.0E-11	4.3E-11	1.9E-11	1.4E-11
VG-175	5.9E-2	1.8E-3	1.7E-3	4.1E-3	5.8E-2
VG-180-1 (KAMAN)	9.8E-4	1.7E-3	-------	1.2E-3	9.8E-4
VG-180-1 (MGPI)	9.2E-4	7.9E-4	8.2E-4	8.5E-4	9.2E-4
VG-180-2 (KAMAN)	1.0E-3	1.8E-4	-------	3.6E-4	1.0E-3
VG-180-2 (MGPI)	1.0E-3	7.3E-3	6.8E-3	1.5E-3	1.0E-3

MONITOR CONVERSION FACTORS (MCF) for Air Ejector:

MONITOR	MSLB	SGTR	NORMAL
SV-121,-221	3.1E-7	2.2E-7	1.4E-7

(CONTINUED ON NEXT PAGE)

MONITOR CONVERSION FACTORS (MCF) for Process Vent:

MONITOR	WGDT	VCT	NORMAL
GW-102	6.1E-11	1.1E-10	2.3E-10
GW-173	5.0E-2	2.3E-2	2.7E-2
GW-178-1 (KAMAN)	9.1E-4	9.8E-4	1.0E-3
GW-178-1 (MGPI)	7.7E-4	9.0E-4	9.3E-4
GW-178-2 (KAMAN)	1.1E-3	8.1E-4	8.9E-4
GW-178-2 (MGPI)	1.1E-3	1.0E-3	1.1E-3

MONITOR CONVERSION FACTOR (MCF) for Main Steam:

MONITOR	MSLB	SGTR	LKD. ROTOR	NORMAL
MS-1(2)70 MS-1(2)71 MS-1(2)72	5.3E+0	6.9E+0	3.9E-1	5.7E+0

MONITOR CONVERSION FACTORS (MCF) for AFWPT:

MONITOR	LOCA MELT	LOCA GAP	LOCA PC	NORMAL
MS-176	1.9E+0	4.2E+0	4.3E-1	3.5E+0
MS-276	2.6E+0	5.7E+0	5.6E-1	4.6E+0

IODINE CONVERSION FACTORS (ICF):

	MSLB	SGTR	FHA	WGDT	LOCA MELT	LOCA GAP	LOCA PC	LKD. ROTOR
UNFILTERED	2.0E-1	5.1E-3	2.4E-3	1.8E-5	5.4E-1	8.8E-2	6.2E-2	2.6E-1
FILTERED	5.4E-4	5.2E-5	2.4E-4	1.8E-6	5.4E-2	8.8E-3	6.2E-3	------

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	NOBLE GAS, IODINE AND DOSE CONVERSION FACTOR WORKSHEET USING SAMPLE ANALYSIS RESULTS	12
ATTACHMENT 3		PAGE 1 of 1

Sample Identification: _____; Sample Time: _____

NOTE: • Total Noble Gas and Iodine activity, µCi/ml, are for use on Attachment 4.

• Adjusted DDE, TEDE and THY CDE are for use on Attachment 5.

NUCLIDE	ACTIV. µCi/ml		EPA DDE DCF		SAMPLE DDE		EPA TEDE DCF		SAMPLE TEDE		EPA THY CDE DCF		SAMPLE THY CDE
Kr-83M	_____		NA										
Kr-85	_____	x	1.3	=	_____	x	1	=	_____				
Kr-85M	_____	x	93	=	_____	x	1	=	_____				
Kr-87	_____	x	510	=	_____	x	1	=	_____				
Kr-88	_____	x	1300	=	_____	x	1	=	_____				
Kr-89	_____	x	1200	=	_____	x	1	=	_____				
Xe-131M	_____	x	4.9	=	_____	x	1	=	_____				
Xe-133	_____	x	20	=	_____	x	1	=	_____				
Xe-133M	_____	x	17	=	_____	x	1	=	_____				
Xe-135	_____	x	140	=	_____	x	1	=	_____				
Xe-135M	_____	x	250	=	_____	x	1	=	_____				
Xe-137	_____	x	110	=	_____	x	1	=	_____				
Xe-138	_____	x	710	=	_____	x	1	=	_____				
TOTAL NOBLE GAS, µCi/ml: _____					CONTINUE ADDING DOWN				CONTINUE ADDING DOWN				
I-125	_____	x	6.3	=	_____	x	4762	=	_____	x	32	=	_____
I-129	_____	x	4.8	=	_____	x	43750	=	_____	x	33	=	_____
I-131	_____	x	220	=	_____	x	241	=	_____	x	24.5	=	_____
I-132	_____	x	1400	=	_____	x	3.5	=	_____	x	1.6	=	_____
I-133	_____	x	350	=	_____	x	43	=	_____	x	14.6	=	_____
I-134	_____	x	1600	=	_____	x	1.9	=	_____	x	0.43	=	_____
I-135	_____	x	950	=	_____	x	8.5	=	_____	x	4.7	=	_____

TOTAL IODINE, µCi/ml: _____	DDE DCF: _____	TEDE DCF: _____	THY. CDE DCF: _____

Completed by: _____

Date/Time: _____ / _____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	SAMPLE EFFLUENT Ci/sec WORKSHEET	12
ATTACHMENT 4		PAGE 1 of 1

MONITOR	µCi/ml		CFM				Ci/sec NOBLE GAS	Ci/sec IODINE
VV A:	N.G.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=	_____	
	IOD.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=		_____
VV B:	N.G.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=	_____	
	IOD.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=		_____
PV:	N.G.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=	_____	
	IOD.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=		_____
AIR EJECTOR #1:								
	N.G.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=	_____	
	IOD.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=		_____
AIR EJECTOR #2:								
	N.G.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=	_____	
	IOD.	x	CFM	x	4.72E-4			
	_____	x	_____	x	4.72E-4	=		_____

STATION INVENTORY:

	N.G.	x	VOLUME (mls)	x	1.0E-6	/ SECONDS		
	_____	x	_____	x	1.0E-6	/ _____ =	_____	
	IOD.	x	VOLUME (mls)	x	1.0E-6	/ SECONDS		
	_____	x	_____	x	1.0E-6	/ _____ =		_____

SUM Ci/sec: _____ NG _____ IOD

Completed by: _____

Date: _____

Time: _____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	SAMPLE EFFLUENT SITE BOUNDARY DOSE RATE WORKSHEET	12
ATTACHMENT 5		PAGE 1 of 1

NOTE: TEDE and Thyroid CDE factors from Attachment 3 are to be applied to this worksheet.

X/Q, SITE BOUNDARY:

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

MONITOR	TEDE DCF OR THY CDE DCF		CFM		4.72E-1		X/Q WINDSPEED		TEDE mrem/hr	THY. CDE mrem/hr
VV A:	TEDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=	_____	
	THY CDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=		_____
VV B:	TEDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=	_____	
	THY CDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=		_____
PV:	TEDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=	_____	
	THY CDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=		_____
AIR EJECTOR #1:										
	TEDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=	_____	
	THY CDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=		_____
AIR EJECTOR #2:										
	TEDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=	_____	
	THY CDE	x	CFM	x	4.72E-1	x	X/Q/WINDSPEED			
	_____	x	_____	x	4.72E-1	x	_____	=		_____

STATION INVENTORY:									
TEDE	x	VOLUME (mls)	x	1.0E-3 /	SECONDS	x	X/Q/WINDSP.		
_____	x	_____	x	1.0E-3 /	_____	x	_____	=	_____
THY CDE	x	VOLUME (mls)	x	1.0E-3 /	SECONDS	x	X/Q/WINDSP.		
_____	x	_____	x	1.0E-3 /	_____	x	_____	=	_____

Completed by: _____ SUM mrem/hr: _____ TEDE _____ THY CDE

Date/Time: _____ / _____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	MATRIX:	12
ATTACHMENT 6	CHRRMS - EVENT - AVAILABLE CURIES	PAGE 1 of 2

NOTE:
- No letdown or sprays are assumed available.
- Containment Air concentration (μCi/cc) = Ci Cont. Air x 1.92E-5.
- RCS concentration (μCi/cc) = Ci Cont. Air x 3.765E-3.
- Data is given for 0, 1, 2 and 4 hours after LOCA occurs.

HOURS AFTER LOCA	CHRRMS R/hr	EVENT DESCRIPTION	Ci N.G. Cont. Air	Ci IODINE (HALOGEN) Cont. Air	RCS D.E. I-131 μCi/ml
0	1.5E+6	100% NG, 50% HAL Released to Cont. Air	8.2E+8 Ci	4.4E+8 Ci	1.99E+5 μCi/ml
	1.5E+5	10% NG, 5% HAL Released to Cont. Air	8.2E+7 Ci	4.4E+7 Ci	1.99E+4 μCi/ml
	1.5E+4	1% NG, .5% HAL Released to Cont. Air	8.2E+6 Ci	4.4E+6 Ci	1.99E+3 μCi/ml
	1.9E+3	100% GAP Released to Cont. Air	1.74E+6 Ci	1.59E+6 Ci	2.76E+3 μCi/ml
	1.9E+2	10% GAP Released to Cont. Air	1.74E+5 Ci	1.59E+5 Ci	2.76E+2 μCi/ml
	1.9E+1	1% GAP Released to Cont. Air	1.74E+4 Ci	1.59E+4 Ci	2.76E+1 μCi/ml
	9.0	1% Failed Fuel Primary Gas Release	6.12E+4 Ci	2.00E+3 Ci	2.40E+0 μCi/ml

HOURS AFTER LOCA	CHRRMS R/hr	EVENT DESCRIPTION	Ci N.G. Cont. Air	Ci IODINE (HALOGEN) Cont. Air
1	5.5E+5	100% NG, 50% HAL Released to Cont. Air	3.57E+8 Ci	2.72E+8 Ci
	5.5E+4	10% NG, 5% HAL Released to Cont. Air	3.57E+7 Ci	2.72E+7 Ci
	5.5E+3	1% NG, .5% HAL Released to Cont. Air	3.57E+6 Ci	2.72E+6 Ci
	1.75E+3	100% GAP Released to Cont. Air	1.69E+6 Ci	1.45E+6 Ci
	1.75E+2	10% GAP Released to Cont. Air	1.69E+5 Ci	1.45E+5 Ci
	1.75E+1	1% GAP Released to Cont. Air	1.69E+4 Ci	1.45E+4 Ci
	8.0	1% Failed Fuel Primary Gas Release	6.01E+4 Ci	1.84E+3 Ci

NOTE:
- No Letdown or Sprays are assumed available.
- Containment Air concentration (μCi/cc) = Ci Cont. Air x 1.92E-5.
- RCS concentration (μCi/cc) = Ci Cont. Air x 3.765E-3.
- Data is given for 0, 1, 2 and 4 hours after LOCA occurs.

HOURS AFTER LOCA	CHRRMS R/hr	EVENT DESCRIPTION	Ci N.G. Cont. Air	Ci IODINE (HALOGEN) Cont. Air
2	4.0E+5	100% NG, 50% HAL Released to Cont. Air	3.14E+8 Ci	2.26E+8 Ci
	4.0E+4	10% NG, 5% HAL Released to Cont. Air	3.14E+7 Ci	2.26E+7 Ci
	4.0E+3	1% NG, .5% HAL Released to Cont. Air	3.14E+6 Ci	2.26E+6 Ci
	1.5E+3	100% GAP Released to Cont. Air	1.65E+6 Ci	1.37E+6 Ci
	1.5E+2	10% GAP Released to Cont. Air	1.65E+5 Ci	1.37E+5 Ci
	1.5E+1	1% GAP Released to Cont. Air	1.65E+4 Ci	1.37E+4 Ci
	7.5	1% Failed Fuel Primary Gas Release	6.00E+4 Ci	1.73E+3 Ci

HOURS AFTER LOCA	CHRRMS R/hr	EVENT DESCRIPTION	Ci N.G. Cont. Air	Ci IODINE (HALOGEN) Cont. Air
4	2.75E+5	100% NG, 50% HAL Released to Cont. Air	2.70E+8 Ci	1.78E+8 Ci
	2.75E+4	10% NG, 5% HAL Released to Cont. Air	2.70E+7 Ci	1.78E+7 Ci
	2.75E+3	1% NG, .5% HAL Released to Cont. Air	2.70E+6 Ci	1.78E+6 Ci
	1.2E+3	100% GAP Released to Cont. Air	1.59E+6 Ci	1.25E+6 Ci
	1.2E+2	10% GAP Released to Cont. Air	1.59E+5 Ci	1.25E+5 Ci
	1.2E+1	1% GAP Released to Cont. Air	1.59E+4 Ci	1.25E+4 Ci
	7	1% Failed Fuel Primary Gas Release	5.85E+4 Ci	1.56E+3 Ci

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.26	HIGH LEVEL ACTIVITY SAMPLE ANALYSIS (With 2 Attachments)	11
		PAGE 1 of 6

PURPOSE

To provide guidance for analyzing high activity samples during an emergency.

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. Activation by EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR.
2. Activation by EPIP-4.23, POST ACCIDENT SAMPLING OF REACTOR COOLANT.
3. Activation by another EPIP.
4. Detector dead time exceeds 10%.
5. Sample activity greater than 10 mrem/hr.

Approvals on File

Effective Date 9/13/01

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

_____ 2 VERIFY HP COUNT ROOM AREA RADIATION LEVELS PERMIT SAMPLE ANALYSIS

IF use of alternate analysis facility required, THEN establish alternate analysis facility in Admin Annex HP Lab.

IF alternate facility NOT available, THEN do the following:

a) Ask RPS for assistance in preparation for sample shipment offsite.

b) GO TO Step 13.

NOTE: Gross failure of fuel cladding may yield significant quantities of noble gases or volatiles, as well as fission products, in the sample. Use of protective clothing and respiratory protection is advisable during sample preparation.

_____ 3 ACTIVATE RWP FOR POST-ACCIDENT SAMPLE OF REACTOR COOLANT OR CONTAINMENT AIR

IF NOT analyzing a post-accident reactor coolant or containment air sample, THEN ask RPS to assess need for RWP.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 4 DETERMINE RESPONSE ACTIONS BASED ON SAMPLE ACTIVITY LEVEL:

IF the following condition exists:	THEN do the following:
Sample activity GREATER THAN 1000 mR/hr	GO TO Step 6.
Sample activity GREATER THAN 10 mR/hr (but LESS THAN 1000 mR/hr)	a. Take sample to Hot Lab or HRSS hood. b. GO TO Step 5.
Sample activity yields GREATER THAN 10% detector dead time	a. Take sample to Hot Lab or HRSS hood. b. GO TO Step 5.
Sample activity LESS THAN 10 mR/hr	a. Take sample to Count Room. b. GO TO Step 11.

_____ 5 DETERMINE FOLLOW-UP ACTIONS:

- Dilute sample: GO TO Step 6
- Allow sample to decay: GO TO Step 9
- Reduce sample volume: GO TO Step 10
- Analyze sample in elevated position: GO TO Step 12

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 6	VERIFY LIQUID OR GAS SAMPLE TO BE DILUTED:	IF diluting radioiodine or particulate air sample, or if sample dilution is NOT acceptable, THEN GO TO Step 9.
	a) Use a Fume Hood when doing dilutions in Hot Lab or HRSS hood	
	b) Verify LIQIUD sample to be diluted	b) IF diluting GASEOUS sample, THEN do the following: 1) Perform a 1:100 dilution (0.01 times original volume). 2) GO TO Step 11.
	c) Verify liquid sample from source other than Sentry System	c) IF sample activity of liquid sample from Sentry System LESS THAN 1000 mR/hr, THEN GO TO Step 6.d. IF sample activity of liquid sample from Sentry System GREATER THAN 1000 mR/hr, THEN GO TO Step 7.
	d) Do LIQUID sample dilution: 1) Determine appropriate dilution ratio, e.g., 1:10 dilution (0.1 times original volume), 1:1000 dilution (0.001 times original volume)	
	2) Perform dilution	
	3) Check sample activity - WITHIN LIMITS	3) IF sample activity still too high, THEN do additional dilution(s) to yield an acceptable activity level.
	4) GO TO Step 11	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 7	GET THE FOLLOWING EQUIPMENT: • Operable Fume Hood • 1,000 ml volumetric flasks partially filled with demineralized water (≈ 800 ml) • Dilutor Assembly • Lead bricks (as needed) • Phillips-head screwdriver • Adjustable wrench • Vent tube with attached needle • One squeeze bottle of dilution water • Grease pencil • Three tape strips (≈ 4" each) • Sample containers	
_____ 8	INITIATE ATTACHMENT 2, DILUTE SAMPLE USING SENTRY SYSTEM	
_____ 9	CHECK TIME AVAILABLE TO ALLOW SAMPLE DECAY PRIOR TO ANALYSIS: a) Isolate sample to prevent personnel exposure b) Keep sample for later analysis c) GO TO Step 11	IF air sample, THEN do the following: 1) Separate particulate and silver zeolite cartridges. 2) Count particulate and silver zeolite cartridge separately. 3) GO TO Step 12. IF sample volume to be reduced, THEN GO TO Step 10. IF sample to be analyzed, THEN GO TO Step 11.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 10	REDUCE SAMPLE VOLUME:	
	a) Verify GAS sample	a) IF LIQUID sample, THEN do the following: 1) Put desired sample volume in suitable container with a calibrated geometry. 2) Dilute sample (to appropriate mark) with water.
	b) Record volume of undiluted sample in the container	
_____ 11	VERIFY BOTH THE FOLLOWING CONDITIONS EXIST: • Verify sample dose rate reads LESS THAN 10 mR/hr • Calibrated elevated geometry NOT available for use	RETURN TO Step 5.
_____ 12	TAKE SAMPLE TO COUNT ROOM FOR ANALYSIS IAW NORMAL HP PROCEDURES	
_____ 13	TERMINATE EPIP-4.26: • Give completed EPIP-4.26, forms, and other applicable records to the RPS • Completed by: _____ Date: _____ Time: _____	

-END-

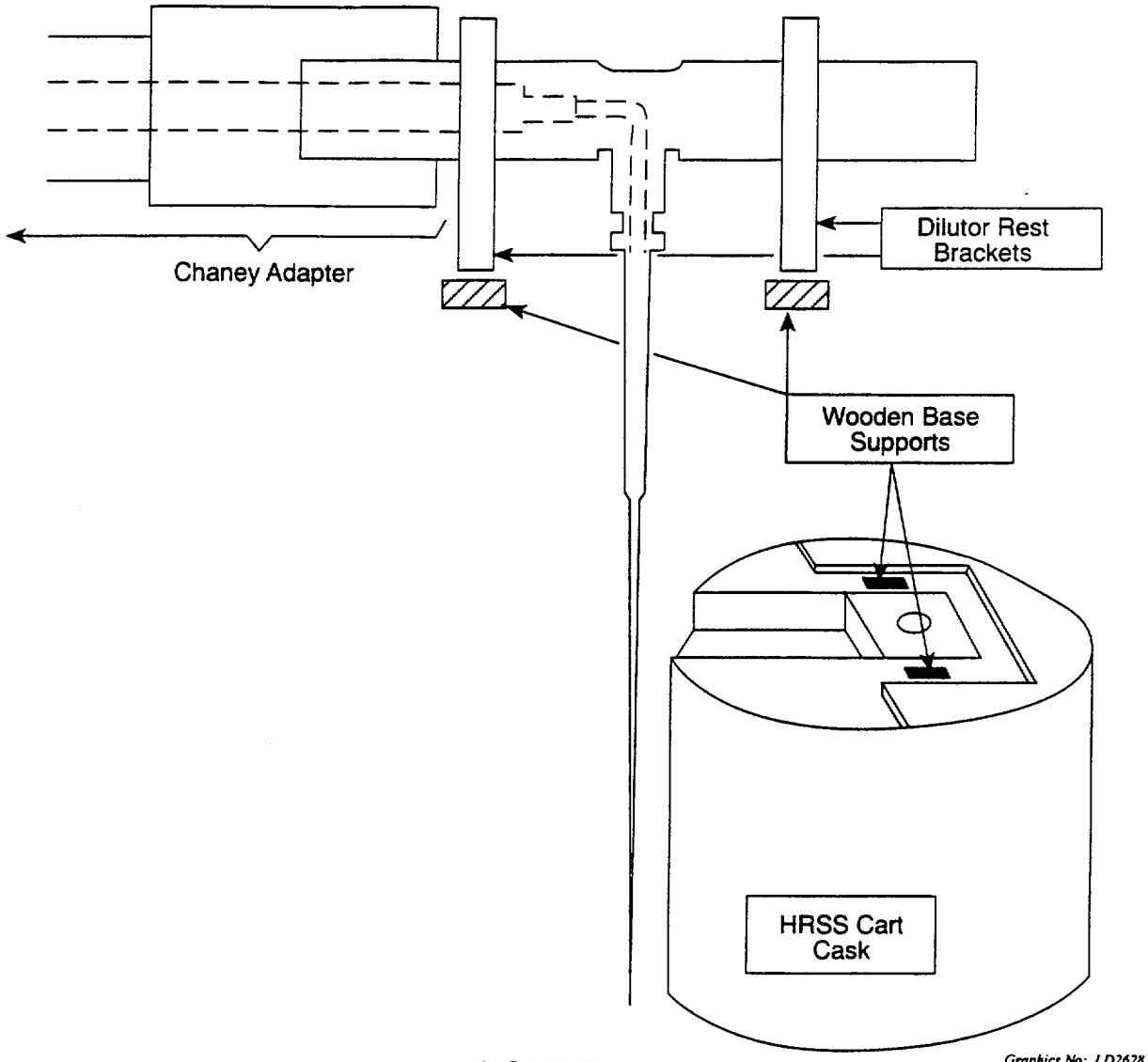
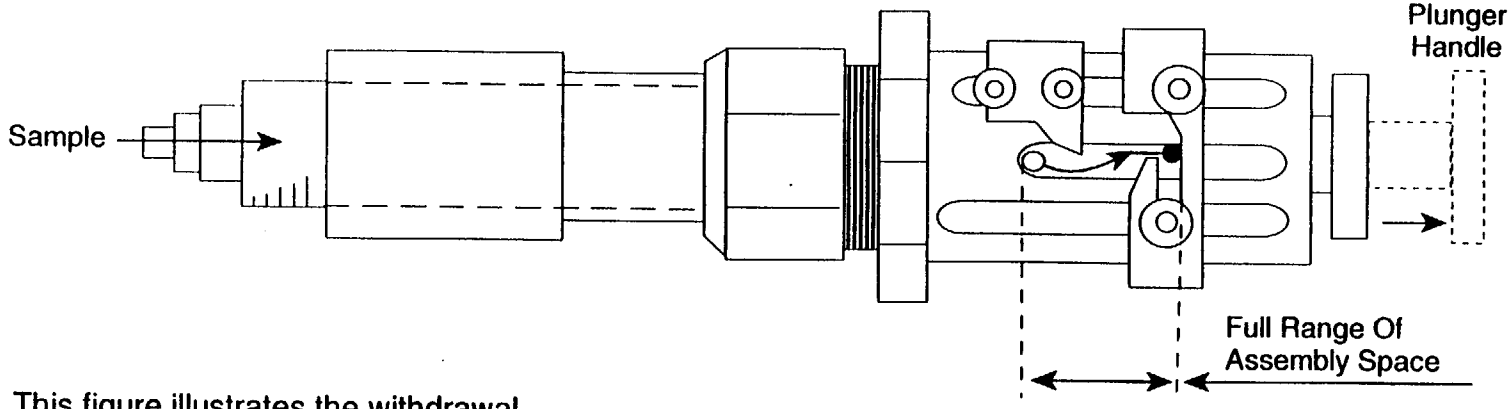


FIGURE 1
HRSS DILUTOR ASSEMBLY

DILUTOR ASSEMBLY INCLUDES SYRINGE AND CHANEY ASSEMBLIES



This figure illustrates the withdrawal of the plunger handle to capture a > 2.0 ml sample.

FIGURE 2

Graphics No: BP562A

CHANEY ADAPTER

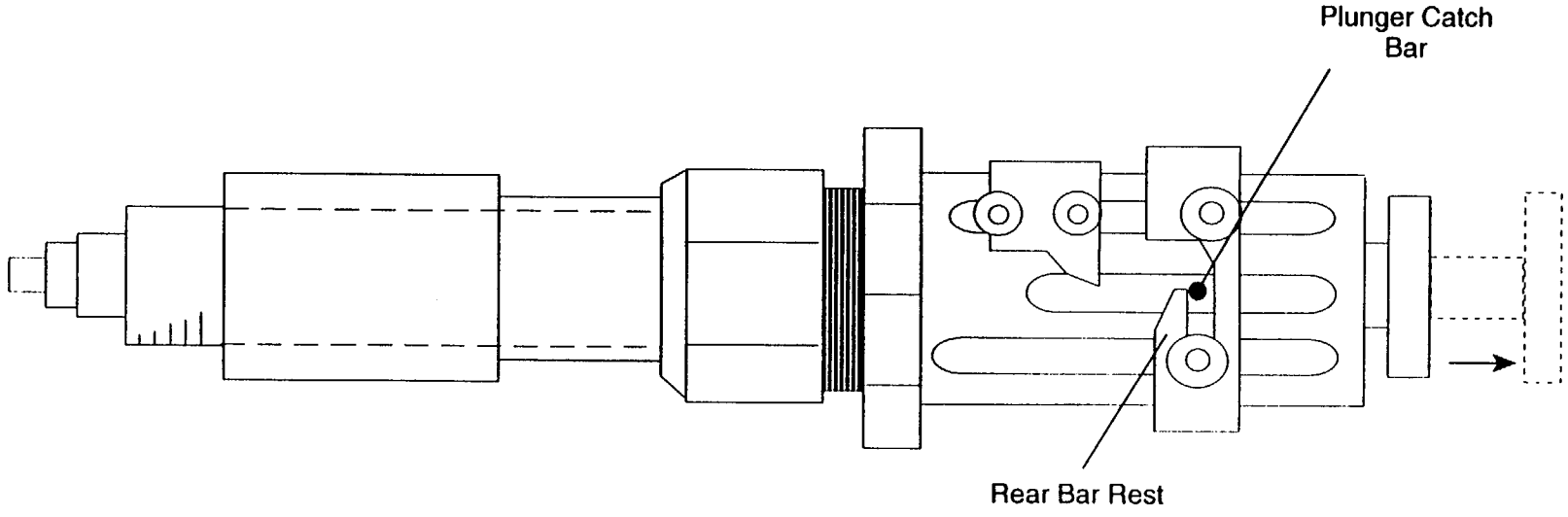


Figure illustrates the resting of the plunger catch bar on the rear bar rest following the withdrawal of sample.

FIGURE 3

Graphics No: BP561A

CHANEY ADAPTER

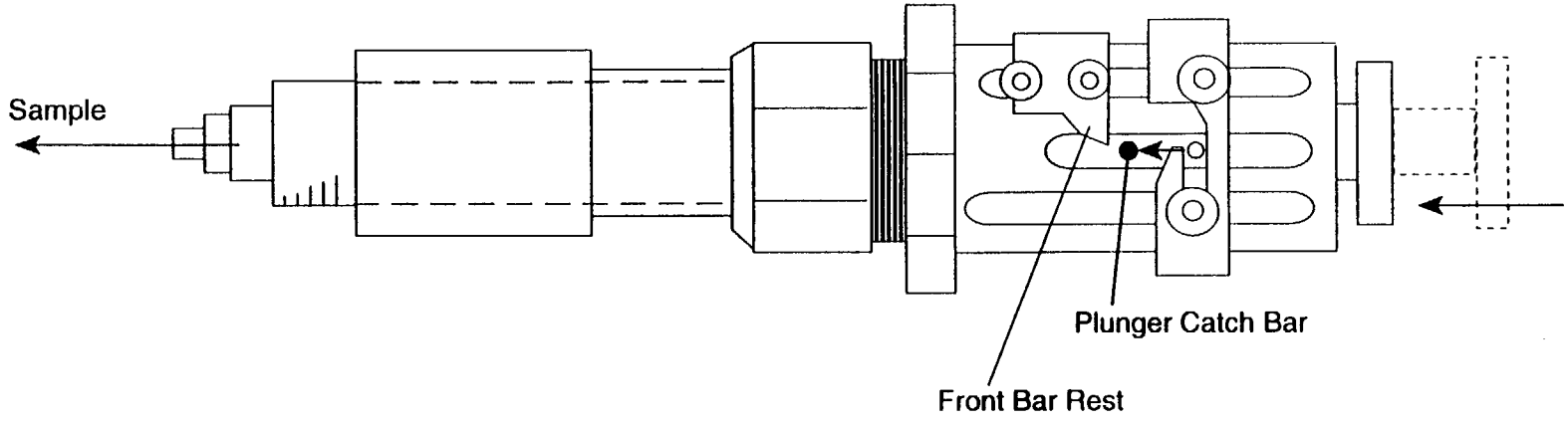


Figure illustrates the expulsion of sample into flask or tared vial. Plunger catch bar travels from rear to front bar rest.

FIGURE 4

Graphics No: BP563.4

CHANEY ADAPTER

1) Place 1000 ml volumetric flask in fume hood.

2) Position cask near the fume hood.

3) Remove auxiliary shield hold-down bolts, as needed.

4) Remove needle plug.

5) IF radiation levels increase when plug is removed, THEN use lead bricks to reduce streaming.

6) Place end of vent tube in strong vacuum area of hood and tape down to inside of the hood.

7) Carefully insert vent needle into guide and puncture septum to vent vial.

8) Remove needle and store in hood.

9) Place support blocks in appropriate locations so that dilutor rest brackets will sit squarely on them (see Attachment 1, Figure 1).

10) Ensure syringe plunger is in the fully expelled position.

11) Carefully insert needle of dilutor into guide and bring to rest on support blocks.

12) Slowly withdraw maximum amount of sample (greater than 2.0 mls) by withdrawing plunger handle full range of assembly space (see Attachment 1, Figure 2).

13) Bring the plunger catch bar to rest on the rear bar rest (see Attachment 1, Figure 3).

14) Carefully remove dilutor assembly from needle guide by pulling up in one straight motion.

15) Carefully insert needle into neck of volumetric flask.

16) Carefully touch tip of needle to wall of flask while slowly expelling contents of syringe and depress plunger handle only as far as front bar rest (see Attachment 1, Figure 4). This expells exactly 2.0 mls.

17) Add dilution water to volumetric flask to bring level up to 1000 mls.

18) Label 1 liter volumetric flask with date, time of sample, sample location, and one of the following:

- 0.002 RCS for diluted HRSS

OR

- 2 mls for an undiluted sample.

19) Check 1 liter volumetric flask is LESS THAN 10 mR/hr, then GO TO Step 20 of this Attachment 2

OR

IF NOT LESS THAN 10 mR/hr, THEN GO TO EPIP-4.26, Step 5.

20) Get HP assistance and select a suitable sample container with a calibrated geometry.

21) Measure diluted sample from Step 18 above into selected sample container with the calibrated geometry.

22) Label container with date, sample time, sample location and actual mls of RCS in the sample geometry:

$$\text{Actual mls RCS} = \frac{\text{mls sample from Step 18}}{1000} \times \text{mls solution from Step 21}$$

23) Remove temporary shielding (if installed) and replace auxiliary shield on cask. Replace needle shield when time permits.

24) GO TO EPIP-4.26, Step 12.