

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

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

To assess potential emergency conditions and initiate corrective actions.

LEVEL 2 DISTRIBUTION
The _____ Must Be Verified
And Assigned To A Controlled Source
As Required to Perform Work

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

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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

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

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

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
1	<p>EVALUATE EMERGENCY ACTION LEVELS: (Continued)</p> <p>e) Record procedure initiation:</p> <ul style="list-style-type: none"> By: _____ Date: _____ Time: _____ <p>f) Initiate a chronological log of events</p> <p>g) Declare position of Station Emergency Manager</p> <p>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.</p>	
2	<p>CHECK - CONDITIONS ALLOW FOR NORMAL IMPLEMENTATION OF EMERGENCY RESPONSE ACTIONS</p>	<p><u>IF</u> deviation from normal emergency response actions warranted, <u>THEN</u> do the following:</p> <p>a) Refer to Attachment 4, Considerations for Operations Response Under Abnormal Conditions.</p> <p>b) Consider applicability of 50.54(x).</p> <p>c) <u>IF</u> classification/assembly announcement deferred, <u>THEN</u> GO TO Step 4.</p>

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
3	<p>NOTIFY PLANT STAFF OF ALERT OR HIGHER CLASSIFICATION:</p> <p>a) Check classification - ALERT OR HIGHER</p> <p>b) Check if emergency assembly and accountability - PREVIOUSLY CONDUCTED</p> <p>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)</p> <p>d) Repeat Step 3.c</p>	<p>a) GO TO Step 4.</p> <p>b) Do the following:</p> <p>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"</p> <p>2) Repeat RNO Step 3.b.1.</p> <p>3) GO TO Step 4.</p>

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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CAUTION: Continue through this and all further instructions unless otherwise directed to hold.

_____ 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

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	CHECK TSC - ACTIVATED	<p>IF TSC <u>NOT</u> activated, <u>THEN</u> do the following:</p> <ul style="list-style-type: none"> 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) <u>WHEN</u> relief SEM arrives, <u>THEN</u> perform turnover using EPIP-1.01, Attachment 3, Turnover Checklist.
_____ 6	<p>IMPLEMENT EPIP FOR EMERGENCY CLASSIFICATION IN EFFECT:</p> <ul style="list-style-type: none"> • 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 	

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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_____ 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 EIPs, forms and
other applicable records to
Nuclear Emergency Preparedness
(TSC Emergency Procedures
Coordinator if TSC activated)

• Completed By: _____

Date: _____

Time: _____

-END-

NUMBER	ATTACHMENT TITLE	REVISION
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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.

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.

EVENT CATEGORY:

TAB

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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB A)	34
ATTACHMENT 1	SAFETY, SHUTDOWN, OR ASSESSMENT SYSTEM EVENT	PAGE 2 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
<p>CAUTION: EAL C.2 is duplicated below for cross-reference/comparison to EAL A.1:</p>		
<p>C.2. Probable large radioactivity release initiated by loss of heat sink leading to core degradation</p> <p>MODES 1, 2, 3 & 4</p>	<p>Loss of Main Feedwater System, Condensate System and Auxiliary Feedwater System</p>	<p>GENERAL EMERGENCY</p>
<p>1. Loss of function needed for unit HSD condition</p> <p>MODES 1, 2, 3 & 4</p>	<ul style="list-style-type: none"> Total loss of the Charging/SI System <p><u>OR</u></p> <p>Total loss of the Main Feedwater and Auxiliary Feedwater systems</p>	<p>SITE AREA EMERGENCY</p>
<p>2. Failure of the Reactor Protection System to initiate and complete a required trip while at power</p> <p>MODES 1 & 2</p>	<ul style="list-style-type: none"> Reactor trip setpoint and coincidences - EXCEEDED <p><u>AND</u></p> <ul style="list-style-type: none"> Automatic trip from RPS - FAILED <p><u>AND</u></p> <ul style="list-style-type: none"> Manual trip from Control Room - FAILED 	<p>SITE AREA EMERGENCY</p>

NUMBER	ATTACHMENT TITLE	REVISION
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
<p>3. Inability to monitor a significant transient in progress</p> <p>MODES 1, 2, 3 & 4</p>	<ul style="list-style-type: none"> Most (>75%) or all annunciator alarms on panels "A" to "K" - NOT AVAILABLE <p><u>AND</u></p> <ul style="list-style-type: none"> All computer monitoring capability (e.g., plant computer, ERFCs) - NOT AVAILABLE <p><u>AND</u></p> <ul style="list-style-type: none"> Significant transient - IN PROGRESS (e.g., reactor trip, SI actuation, turbine runback >25% thermal reactor power, thermal power oscillations >10%) <p><u>AND</u></p> <ul style="list-style-type: none"> Inability to directly monitor any one of the following using Control Room indications: <ul style="list-style-type: none"> Subcriticality Core Cooling Heat Sink Vessel Integrity Containment Integrity 	<p>SITE AREA EMERGENCY</p>
<p>4. Evacuation of Main Control Room with control not established within 15 minutes</p> <p>ALL MODES</p>	<p>Evacuation of the Control Room with local shutdown control not established within 15 minutes</p>	<p>SITE AREA EMERGENCY</p>

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
5. Total loss of function needed for unit CSD condition MODES 5 & 6	<ul style="list-style-type: none"> Secondary system cooling capability - UNAVAILABLE <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Loss of any of the following systems: <ul style="list-style-type: none"> Service Water Component Cooling RHR <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Reactor trip setpoint and coincidences - EXCEEDED <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Automatic trip from RPS - FAILED <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Manual trip - REQUIRED <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Manual trip from Control Room - SUCCESSFUL 	ALERT

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
7. Unplanned loss of safety system annunciators with compensatory indicators unavailable or a transient in progress MODES 1, 2, 3 & 4	<ul style="list-style-type: none"> Unplanned loss of most (>75%) or all annunciator alarms on panels "A" to "K" for GREATER THAN 15 minutes <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> All computer monitoring capability (e.g., plant computer, ERFCs) - NOT AVAILABLE <p style="text-align: center;"><u>OR</u></p> <p>Significant transient - INITIATED OR IN PROGRESS (e.g., reactor trip, SI, turbine runback > 25% thermal reactor power, thermal power oscillations > 10%)</p>	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	<ul style="list-style-type: none"> Intentional reduction in power, load or temperature IAW T.S. Action Statement - HAS COMMENCED <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> T.S. Action Statement time limit for mode change - CANNOT BE MET 	NOTIFICATION OF UNUSUAL EVENT

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
<p>10. Failure of a safety or relief valve to close after pressure reduction, which may affect the health and safety of the public</p> <p>MODES 1, 2, 3, 4 & 5</p>	<ul style="list-style-type: none"> • <u>RCS</u> <ul style="list-style-type: none"> • RCS pressure - LESS THAN 2000 psig • <u>OR</u> <ul style="list-style-type: none"> • NDT Protection System - IN SERVICE • <u>AND</u> <ul style="list-style-type: none"> • Any indication after lift or actuation that Pressurizer Safety or PORV - REMAINS OPEN • <u>AND</u> <ul style="list-style-type: none"> • Flow - UNISOLABLE • <u>Main Steam</u> <ul style="list-style-type: none"> • Excessive Steam Generator Safety, PORV or Decay Heat Release flow as indicated by rapid RCS cooldown rate • <u>AND</u> <ul style="list-style-type: none"> • Main Steam pressure greater than 100 psi below setpoint of affected valve 	<p>NOTIFICATION OF UNUSUAL EVENT</p>
<p>11. Unplanned loss of most or all safety system annunciators for greater than 15 minutes</p> <p>MODES 1, 2, 3 & 4</p>	<ul style="list-style-type: none"> • Unplanned loss of most (>75%) or all annunciators on panels "A" to "K" for GREATER THAN 15 minutes 	<p>NOTIFICATION OF UNUSUAL EVENT</p>

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
12. Loss of communications capability ALL MODES	<ul style="list-style-type: none"> Station PBX phone system - FAILED AND Station Gai-tronics system - FAILED AND Station UHF radio system - FAILED 	NOTIFICATION OF UNUSUAL EVENT

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EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB B)	34
ATTACHMENT 1	REACTOR COOLANT SYSTEM EVENT	PAGE 8 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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 $\mu\text{Ci/gram}$ dose equivalent I-131 <u>OR</u> 5 or more core exit thermocouples greater than 1200 °F <u>OR</u> Containment High Range Radiation Monitor <div style="border: 1px solid black; padding: 5px; margin: 5px 0;">RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 1.88x10² R/hr</div> b) Loss of RCS integrity as indicated by any of the following: • RCS pressure greater than 2735 psig <u>OR</u> 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 <u>OR</u> Release path to environment -EXISTS	GENERAL EMERGENCY

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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 $\mu\text{Ci/gram}$ dose equivalent I-131 <u>OR</u> 5 or more core exit thermocouples GREATER THAN 1200 °F <u>OR</u> High Range Letdown radiation monitor <div style="border: 1px solid black; padding: 2px; display: inline-block;">1-CH-RI-128 or 2-CH-RI-228 GREATER THAN 5.9×10^4 mR/hr</div> b) Steam Generator tube rupture as indicated by both of the following: • SI coincidence - SATISFIED <u>AND</u> • 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 <u>OR</u> Main Steam Code Safety Valve - OPEN <u>OR</u> Loss of secondary coolant outside containment - IN PROGRESS	GENERAL EMERGENCY

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
3. RCS leak rate limit - EXCEEDED MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Loss of Reactor Coolant in progress and inventory balance indicates leakage GREATER THAN 300 gpm <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Pressurizer level cannot be maintained with two (2) or more Charging/SI pumps in operation 	SITE AREA EMERGENCY

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
4. Gross primary to secondary leakage with loss of offsite power MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Steam Generator Tube Rupture - IN PROGRESS <p><u>AND</u></p> <ul style="list-style-type: none"> Safety Injection - REQUIRED <p><u>AND</u></p> <ul style="list-style-type: none"> Vent Vent A Kaman Monitor <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> RM-VG-179 GREATER THAN $1.3 \times 10^8 \mu\text{Ci/sec}$ </div> <p><u>OR</u></p> <p>HP determines Site Boundary DDE GREATER THAN 50 mrem/hr</p> <p><u>OR</u></p> <p>Vent Vent A MGPI Monitor</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> RM-VG-179 GREATER THAN $1.25 \times 10^8 \mu\text{Ci/sec}$ </div> <p><u>OR</u></p> <p>Steam Generator Blowdown monitor on affected pathway</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> RM-SS-122, -222 RM-SS-123, -223 RM-SS-124, -224 GREATER THAN 1×10^6 cpm </div> <p><u>AND</u></p> <ul style="list-style-type: none"> A subsequent loss of offsite power indicated by zero volts on voltmeters for 4160V buses D, E, & F 	SITE AREA EMERGENCY

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
5. RCS leak rate limit - EXCEEDED MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Pressurizer level cannot be maintained greater than 20% with one (1) Charging/SI pump in operation <p><u>AND</u></p> <ul style="list-style-type: none"> RCS inventory balance indicates leakage - greater than 50 gpm 	ALERT
6. Gross primary to secondary leakage MODES 1, 2, 3, & 4	<p>Steam Generator Tube Rupture - IN PROGRESS</p> <p><u>AND</u></p> <p>Safety Injection - REQUIRED</p>	ALERT

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
7. Excessive primary to secondary leakage with loss of offsite power MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Intentional reduction in power, load or temperature because the unit has entered an Action Statement or will exceed an LCO <p><u>AND</u></p> <ul style="list-style-type: none"> Vent Vent A Kaman Monitor <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> RM-VG-179 GREATER THAN $1.83 \times 10^6 \mu\text{Ci/sec}$ </div> <p><u>OR</u></p> <p>HP assessment of sample results indicates GREATER THAN 10 times ODCM allowable limit (Alert per EAL E-3)</p> <p><u>OR</u></p> <p>Vent Vent A MGPI Monitor</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> RM-VG-179 GREATER THAN $1.73 \times 10^6 \mu\text{Ci/sec}$ </div> <p><u>OR</u></p> <p>Steam Generator Blowdown monitor on affected pathway</p> <div style="border: 1px solid black; padding: 2px; margin: 5px 0;"> RM-SS-122, -222 RM-SS-123, -223 RM-SS-124, -224 GREATER THAN 1×10^5 cpm </div> <p><u>AND</u></p> <ul style="list-style-type: none"> A subsequent loss of offsite power indicated by zero volts on voltmeters for 4160V buses D, E, & F 	ALERT

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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
8. RCS leak rate requiring plant shutdown IAW T.S. 3.4.6.2 or 3.4.6.3 MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Intentional reduction in power, load or temperature because the unit has entered an action statement or will exceed an LCO <p><u>AND</u></p> <ul style="list-style-type: none"> Unidentified RCS leakage - greater than 1 gpm <p><u>OR</u></p> <p>Identified leakage - greater than 10 gpm</p> <p><u>OR</u></p> <p>Controlled leakage to RCP Seals - greater than 30 gpm total</p> <p><u>OR</u></p> <p>Any pressure boundary leakage - EXISTS</p>	NOTIFICATION OF UNUSUAL EVENT
9. Primary to Secondary leakage - greater than 1 gpm MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Intentional reduction in power, load or temperature because the unit has entered an action statement or will exceed an LCO <p><u>AND</u></p> <ul style="list-style-type: none"> Primary to Secondary leakage greater than 1 gpm <p><u>OR</u></p> <p>N-16 monitor indicates primary to secondary leakage greater than T. S. allowable limits</p>	NOTIFICATION OF UNUSUAL EVENT

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CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
1. Probable large radioactivity release initiated by LOCA with ECCS failure leading to core degradation ALL MODES	<ul style="list-style-type: none"> Loss of reactor coolant in progress <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> RCS specific activity - greater than 300 $\mu\text{Ci/gram}$ dose equivalent I-131 <p style="text-align: center;"><u>OR</u></p> <p>Containment High Range Radiation Monitor</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 1.88×10^2 R/hr </div> <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Total loss of the Charging/SI System <p style="text-align: center;"><u>OR</u></p> <p>Total loss of the Main Feedwater and Auxiliary Feedwater systems</p>	SITE AREA EMERGENCY
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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
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
3. Probable large radioactivity release initiated by failure of protection system to bring Rx subcritical and causing core degradation ALL MODES	<ul style="list-style-type: none"> Rx nuclear power after a trip - greater than 5% <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> RCS pressure greater than or equal to 2485 psig <p style="text-align: center;"><u>OR</u></p> <p>Containment pressure and temperature rapidly increasing</p>	GENERAL EMERGENCY
4. Probable large radioactivity release initiated by loss of AC power and all feedwater ALL MODES	<ul style="list-style-type: none"> Loss of all onsite and offsite AC power <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Turbine Driven Auxiliary Feedwater Pump not operable <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Restoration of either of the above not likely within 2 hours 	GENERAL EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB C)	34
ATTACHMENT	FUEL FAILURE OR FUEL HANDLING ACCIDENT	PAGE
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
5. Probable large radioactivity release initiated by LOCA with loss of ECCS and containment cooling ALL MODES	<ul style="list-style-type: none"> Loss of reactor coolant in progress <p><u>AND</u></p> <ul style="list-style-type: none"> High or low head ECCS flow not being delivered to the core (if expected by plant conditions) <p><u>AND</u></p> <ul style="list-style-type: none"> Containment RS sump temperature greater than 190°F and NOT decreasing <p><u>OR</u></p> <p>All Quench Spray and Recirculation Spray systems - NOT OPERABLE</p>	GENERAL EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB C) FUEL FAILURE OR FUEL HANDLING ACCIDENT	34
ATTACHMENT 1		PAGE 18 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
6. Core damage with possible loss of coolable geometry MODES 1, 2, 3, & 4	<p>a) Fuel clad failure as indicated by any of the following:</p> <ul style="list-style-type: none"> RCS Specific activity greater than 60 $\mu\text{Ci/gram}$ dose equivalent I-131 <p><u>OR</u></p> <p>High Range Letdown radiation monitor</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> 1-CH-RI-128 or 2-CH-RI-228 GREATER THAN 1.2×10^4 mR/hr </div> <p><u>AND</u></p> <p>b) Loss of cooling as indicated by any of the following:</p> <ul style="list-style-type: none"> 5 confirmed core exit thermocouples greater than 1200 °F <p><u>OR</u></p> <p>Core delta T - zero</p> <p><u>OR</u></p> <p>Core delta T - rapidly diverging</p>	SITE AREA EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB C)	34
ATTACHMENT 1	FUEL FAILURE OR FUEL HANDLING ACCIDENT	PAGE 19 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
7. Major fuel damage accident with radioactivity release to containment or fuel buildings ALL MODES	<ul style="list-style-type: none"> Water level in Rx vessel during refueling below the top of core <u>OR</u> Water level in spent fuel pool below top of spent fuel <u>AND</u> Verified damage to irradiated fuel resulting in readings on Vent Vent "B" Kaman monitor RM-VG-180 GREATER THAN 2.74 x 10⁸ μCi/sec <u>OR</u> HP determines Site Boundary DDE GREATER THAN 50 mrem/hr <u>OR</u> Verified damage to irradiated fuel resulting in readings on Vent Vent "B" MGPI monitor RM-VG-180 GREATER THAN 2.69 x 10⁸ μCi/sec 	SITE AREA EMERGENCY
8. Severe Fuel Clad Damage MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> 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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE	34
ATTACHMENT	(TAB C)	PAGE
1	FUEL FAILURE OR FUEL HANDLING ACCIDENT	20 of 43

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
9. Fuel damage accident with release of radioactivity to containment or fuel buildings ALL MODES	<ul style="list-style-type: none"> Verified accident involving damage to irradiated fuel <p><u>AND</u></p> <ul style="list-style-type: none"> Health Physics confirms fission product release from fuel <p><u>OR</u></p> <p>Vent Vent "B" Kaman monitor</p> <div>RM-VG-180 GREATER THAN 1.83 x 10⁶ µCi/sec</div> <p><u>OR</u></p> <p>HP assessment of sample results indicates GREATER THAN 10 times ODCM allowable limit (Alert per EAL E-3)</p> <p><u>OR</u></p> <p>Vent Vent "B" MGPI monitor</p> <div>RM-VG-180 GREATER THAN 1.99 x 10⁶ µCi/sec</div>	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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB C)	34
ATTACHMENT 1	FUEL FAILURE OR FUEL HANDLING ACCIDENT	PAGE 21 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
11. Fuel clad damage indication MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Intentional reduction in power, load or temperature IAW reactor coolant activity T.S. Action Statement - HAS COMMENCED <p style="text-align: center;"><u>OR</u></p> <p>High Range Letdown radiation monitor</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> 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 </div>	NOTIFICATION OF UNUSUAL EVENT
12. Independent Spent Fuel Storage Installation (ISFSI) event ALL MODES	<ul style="list-style-type: none"> Verified Sealed Surface Storage Cask (SSSC) seal leakage <p style="text-align: center;"><u>OR</u></p> <p>Sealed Surface Storage Cask (SSSC) dropped or mishandled</p>	NOTIFICATION OF UNUSUAL EVENT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB D) CONTAINMENT EVENT	34
ATTACHMENT 1		PAGE 22 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
1. Extremely high containment radiation, pressure and temperature MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Containment High Range radiation monitor <div> RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 3.76×10^2 R/hr </div> <p><u>AND</u></p> <ul style="list-style-type: none"> Containment pressure greater than 45 psia and not decreasing <p><u>OR</u></p> <p>Containment temperature greater than 280°F</p>	GENERAL EMERGENCY
2. High-high containment radiation, pressure, and temperature MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Containment High Range radiation monitor <div> RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 1.88×10^2 R/hr </div> <p><u>AND</u></p> <ul style="list-style-type: none"> Containment pressure - greater than 27.75 psia and not decreasing <p><u>OR</u></p> <p>Containment temperature - greater than 200 °F</p>	SITE AREA EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB D) CONTAINMENT EVENT	34
ATTACHMENT 1		PAGE 23 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
3. High Containment radiation, pressure and temperature MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Containment High Range radiation monitor <div> RM-RMS-165, -166 or RM-RMS-265, -266 GREATER THAN 81.5 R/hr </div> <p><u>AND</u></p> <ul style="list-style-type: none"> Containment pressure - greater than 17 psia <p><u>OR</u></p> <p>Containment temperature - greater than 150°F</p>	ALERT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB E) RADIOACTIVITY EVENT	34
ATTACHMENT 1		PAGE 24 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE	34
ATTACHMENT	(TAB E)	PAGE
1	RADIOACTIVITY EVENT	25 of 43

CONDITION/APPLICABILITY	INDICATION	CLASSIFICATION
3. Effluent release greater than 10 times ODCM allowable limit ALL MODES	<p>a) Any of the following monitors indicate valid readings above the specified values for greater than 15 minutes</p> <ul style="list-style-type: none"> 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 $\mu\text{Ci/sec}$ Vent Vent A MGPI RM-VG-179 GREATER THAN 1.73×10^6 $\mu\text{Ci/sec}$ Vent Vent B Kaman RM-VG-180 GREATER THAN 1.83×10^6 $\mu\text{Ci/sec}$ Vent Vent B MGPI RM-VG-180 GREATER THAN 1.99×10^6 $\mu\text{Ci/sec}$ Process Vent Kaman RM-GW-178 GREATER THAN 2.0×10^7 $\mu\text{Ci/sec}$ Process Vent MGPI RM-GW-178 GREATER THAN 1.35×10^7 $\mu\text{Ci/sec}$ <p>OR</p> <p>b) HP assessment (sample results or dose projections) indicate greater than 10 times ODCM allowable limit</p>	ALERT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB E) RADIOACTIVITY EVENT	34
ATTACHMENT		PAGE
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
<p>4. High radiation or airborne contamination levels indicate a severe degradation in control of radioactive material</p> <p>ALL MODES</p>	<p>Valid readings on any of the following monitors have increased by a factor of 1000 and remain for at least 15 minutes:</p> <ul style="list-style-type: none"> 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 	<p>ALERT</p>

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB E) RADIOACTIVITY EVENT	34
ATTACHMENT		PAGE
1		27 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
5. Effluent release greater than ODCM allowable limit ALL MODES	<p>a) Any of the following monitors indicate valid readings above the specified value for more than 1 hour:</p> <ul style="list-style-type: none"> 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 $\mu\text{Ci/sec}$ Vent Vent A MGPI RM-VG-179 GREATER THAN 1.73×10^5 $\mu\text{Ci/sec}$ Vent Vent B Kaman RM-VG-180 GREATER THAN 1.83×10^5 $\mu\text{Ci/sec}$ Vent Vent B MGPI RM-VG-180 GREATER THAN 1.99×10^5 $\mu\text{Ci/sec}$ Process Vent Kaman RM-GW-178 GREATER THAN 2.0×10^6 $\mu\text{Ci/sec}$ Process Vent MGPI RM-GW-178 GREATER THAN 1.35×10^6 $\mu\text{Ci/sec}$ <p>OR</p> <p>b) HP assessment (sample results or dose projections) indicates greater than ODCM allowable limit</p>	NOTIFICATION OF UNUSUAL EVENT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB G)	34
ATTACHMENT 1	LOSS OF SECONDARY COOLANT	PAGE 28 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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1. Major secondary line break with significant primary to secondary leakage and fuel damage indicated	Conditions a) and b) exist with c): a) Uncontrolled loss of secondary coolant - IN PROGRESS <u>AND</u>	SITE AREA EMERGENCY
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MODES 1, 2, 3, & 4	b) RCS specific activity exceeds limits of T.S. Figure 3.4-1 (See Attachment 2)	
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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 $\mu\text{Ci/sec}$

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 $\mu\text{Ci/sec}$

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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB G) LOSS OF SECONDARY COOLANT	34
ATTACHMENT		PAGE
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
2. Major secondary line break with significant primary to secondary leakage MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Uncontrolled loss of secondary coolant - IN PROGRESS <u>AND</u> Vent Vent A Kaman Monitor <div>RM-VG-179 GREATER THAN 1.83 x 10⁶ µCi/sec</div> <u>OR</u> HP assessment of sample results indicates GREATER THAN 10 times ODCM allowable limit (Alert per EAL E-3) <u>OR</u> Vent Vent A MGPI Monitor <div>RM-VG-179 GREATER THAN 1.76 x 10⁶ µCi/sec</div> <u>OR</u> Steam Generator Blowdown monitor on affected pathway <div>RM-SS-122, -123, -124 RM-SS-222, -223, -224 GREATER THAN 1x10⁵ cpm</div> <u>OR</u> Main Steam Line High Range monitor on affected pathway <div>RM-MS-170, -171, -172 RM-MS-270, -271, -272 GREATER THAN 0.14 mR/hr</div> 	ALERT
3. Major secondary line break MODES 1, 2, 3, & 4	Uncontrolled loss of secondary coolant - IN PROGRESS	NOTIFICATION OF UNUSUAL EVENT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB H) ELECTRICAL FAILURE	34
ATTACHMENT		PAGE
1		30 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
1. Loss of offsite and onsite AC power for more than 15 minutes ALL MODES	<p>The following conditions exist for greater than 15 minutes:</p> <ul style="list-style-type: none"> Ammeters for 4160V Reserve Station Service Buses D, E, & F all indicate - zero (0) amps <p><u>AND</u></p> <ul style="list-style-type: none"> Ammeters for 4160V Station Service Buses A, B, & C all indicate - zero (0) amps <p><u>AND</u></p> <ul style="list-style-type: none"> 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	<p>The following conditions exist for greater than 15 minutes:</p> <ul style="list-style-type: none"> All station battery voltmeters indicate zero (0) volts <p><u>AND</u></p> <ul style="list-style-type: none"> No light indication available to Reserve Station Service breakers 15D1, 15E1 and 15F1 	SITE AREA EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB H) ELECTRICAL FAILURE	34
ATTACHMENT		PAGE
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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 | <ul style="list-style-type: none"> Total loss of the Charging/SI System <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none"> Total loss of the Main Feedwater and Auxiliary Feedwater Systems | SITE AREA
EMERGENCY |
|--|--|------------------------|

- | | | |
|---|--|-------|
| 3. Loss of all offsite and onsite AC power

ALL MODES | <ul style="list-style-type: none"> Ammeters for 4160V Reserve Station Service Buses D, E, & F all indicate - zero (0) amps <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Ammeters for 4160V Station Service Buses A, B, & C all indicate - zero (0) amps <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Ammeters for 4160V Emergency Buses H and J both indicate - zero (0) amps | ALERT |
|---|--|-------|

- | | | |
|---|--|-------|
| 4. Loss of all onsite DC power

ALL MODES | <ul style="list-style-type: none"> All station battery voltmeters indicate - zero (0) volts <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> No light indication available to Reserve Station Service Breakers 15D1, 15E1 and 15F1 | ALERT |
|---|--|-------|

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB H) ELECTRICAL FAILURE	34
ATTACHMENT 1		PAGE 32 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
5. Loss of offsite power or onsite AC power capability ALL MODES	<ul style="list-style-type: none"> Unit main generator and both emergency diesel generators out of service <p><u>OR</u></p> <p>Loss of all 34.5 KV reserve station service buses</p>	NOTIFICATION OF UNUSUAL EVENT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB I) FIRE	34
ATTACHMENT 1		PAGE 33 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
1. Fire resulting in degradation of safety systems MODES 1, 2, 3, & 4	<ul style="list-style-type: none"> Fire which causes major degradation of a safety system function required for protection of the public <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> Affected systems are caused to be <u>NOT</u> 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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB J) SECURITY EVENT	34
ATTACHMENT		PAGE
1		34 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
1. Loss of physical Station control ALL MODES	<ul style="list-style-type: none"> Shift Supervisor has been informed that the security force has been neutralized by attack, resulting in loss of physical control of station <p style="text-align: center;"><u>OR</u></p> <p>Shift Supervisor has been informed of intrusion into one or more Vital Areas which are occupied or controlled by an aggressor</p>	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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB K) HAZARD TO STATION OPERATION	34
ATTACHMENT		PAGE
1		35 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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: <ul style="list-style-type: none"> • CVCS System <u>OR</u> ECCS System <u>OR</u> 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	<ul style="list-style-type: none"> • Uncontrolled release of toxic or flammable agents greater than life threatening or explosive limits in Vital Areas <u>AND</u> • Evacuation of Vital Area other than Control Room - REQUIRED <u>OR</u> Significant degradation of plant safety systems resulting in loss of a safety system function required for protection of the public 	SITE AREA EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB K) HAZARD TO STATION OPERATION	34
ATTACHMENT		PAGE
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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: <ul style="list-style-type: none"> Evacuation of personnel from plant areas <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> 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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB K) HAZARD TO STATION OPERATION	34
ATTACHMENT		PAGE
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<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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	<ul style="list-style-type: none"> Confirmed notification of aircraft crash within the site boundary <p style="text-align: center;"><u>OR</u></p> <p>Unusual aircraft activity in the vicinity of the site as determined by the Operations Shift Supervisor or the Security Shift Supervisor</p>	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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE	34
ATTACHMENT	(TAB K)	PAGE
1	HAZARD TO STATION OPERATION	38 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB L) NATURAL EVENTS	34
ATTACHMENT		PAGE
1		39 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
1. Earthquake greater than or equal to DBE levels ALL MODES	<ul style="list-style-type: none"> Confirmed earthquake which activates the Event Alarm on the Strong Motion Accelerograph <p style="text-align: center;"><u>AND</u></p> <ul style="list-style-type: none"> 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	<p>Either condition a) or b) exists</p> <p>a) Flood in the Lake Anna Reservoir with indicated level - greater than 264 feet MSL</p> <p style="text-align: center;"><u>OR</u></p> <p>b) Low water level in the Lake Anna Reservoir with indicated level - less than 244 feet MSL</p> <p style="text-align: center;"><u>AND</u></p> <p>Inability to satisfy action requirements of T.S. 3.7.5.1 for Ultimate Heat Sink</p>	SITE AREA EMERGENCY

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB L) NATURAL EVENTS	34
ATTACHMENT		PAGE
1		40 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
4. Earthquake greater than or equal to OBE levels ALL MODES	<ul style="list-style-type: none"> Confirmed earthquake which activates Event Alarm on the Strong Motion Accelerograph <p><u>AND</u></p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Flood in the Lake Anna Reservoir with indicated level - greater than 263 feet MSL <p><u>OR</u></p> <p>Low water level in the Lake Anna Reservoir with indicated level - less than 244 feet MSL</p>	ALERT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB L) NATURAL EVENTS	34
ATTACHMENT 1		PAGE 41 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Flood in the Lake Anna Reservoir with indicated level - greater than 254 feet MSL <p style="text-align: center;"><u>OR</u></p> <p>Low water level in the Lake Anna Reservoir with indicated level less than 246 feet MSL</p>	NOTIFICATION OF UNUSUAL EVENT

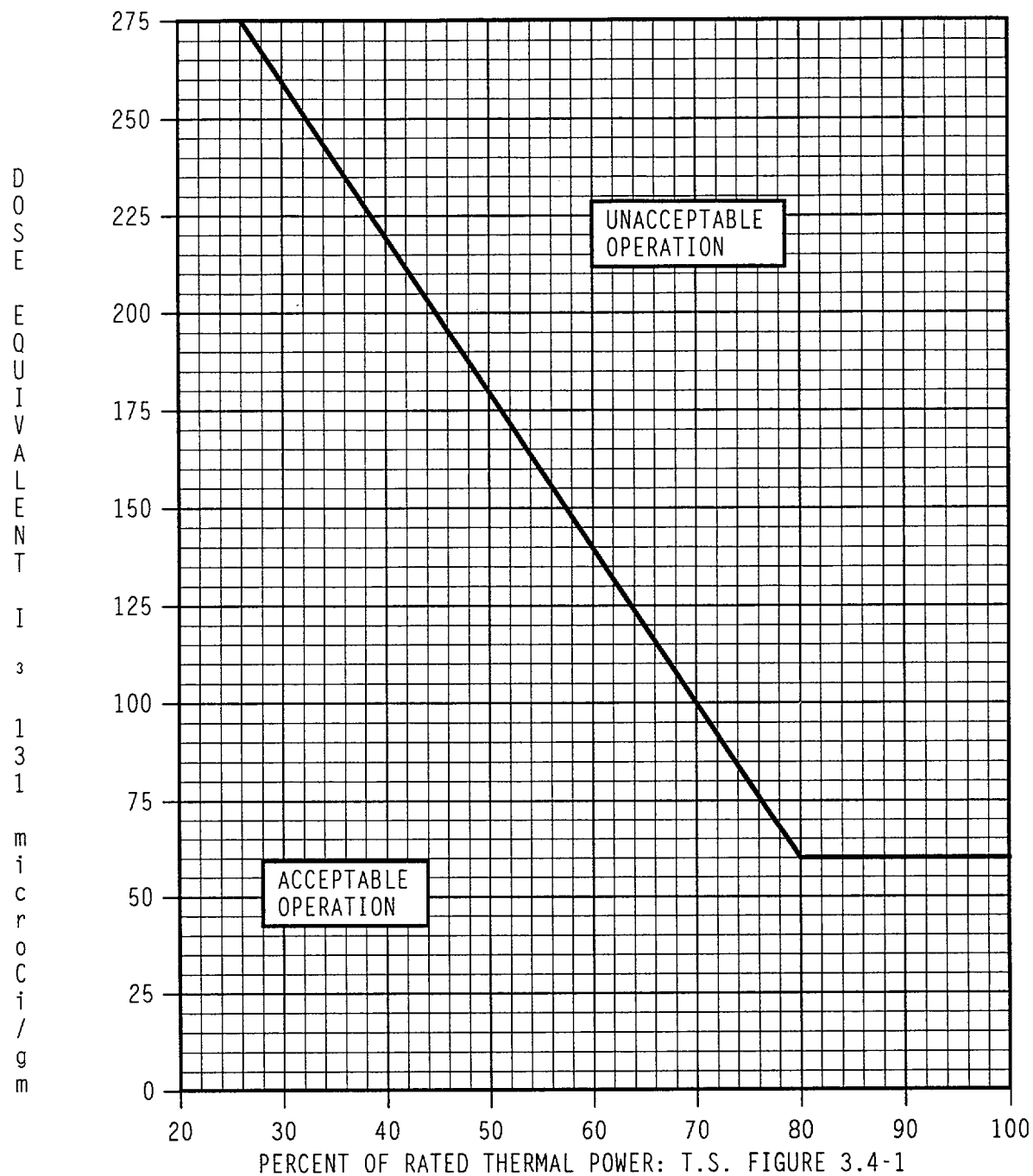
NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE (TAB M) MISCELLANEOUS ABNORMAL EVENTS	34
ATTACHMENT 1		PAGE 42 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	EMERGENCY ACTION LEVEL TABLE	34
ATTACHMENT	(TAB M)	PAGE
1	MISCELLANEOUS ABNORMAL EVENTS	43 of 43

<u>CONDITION/APPLICABILITY</u>	<u>INDICATION</u>	<u>CLASSIFICATION</u>
4. Station conditions which warrant increased awareness of state and/or local authorities ALL MODES	Shift Supervisor judgement that any of the following exist: <ul style="list-style-type: none"> Unit shutdown is other than a controlled shutdown <p><u>OR</u></p> <p>Unit is in an uncontrolled condition during operation</p> <p><u>OR</u></p> <p>A condition exists which has the potential for escalation and therefore warrants notification</p>	NOTIFICATION OF UNUSUAL EVENT

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	TECH SPEC FIGURE 3.4-1	34
ATTACHMENT		PAGE
2		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 $\mu\text{Ci/gm}$ Dose Equivalent I-131

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.01	TURNOVER CHECKLIST	34
ATTACHMENT		PAGE
3		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		PAGE
4		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 EPIP-1.06	PROCEDURE TITLE PROTECTIVE ACTION RECOMMENDATIONS (With 3 Attachments)	REVISION 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

NUMBER EPIP-1.06	PROCEDURE TITLE PROTECTIVE ACTION RECOMMENDATIONS	REVISION 4 PAGE 2 of 3
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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

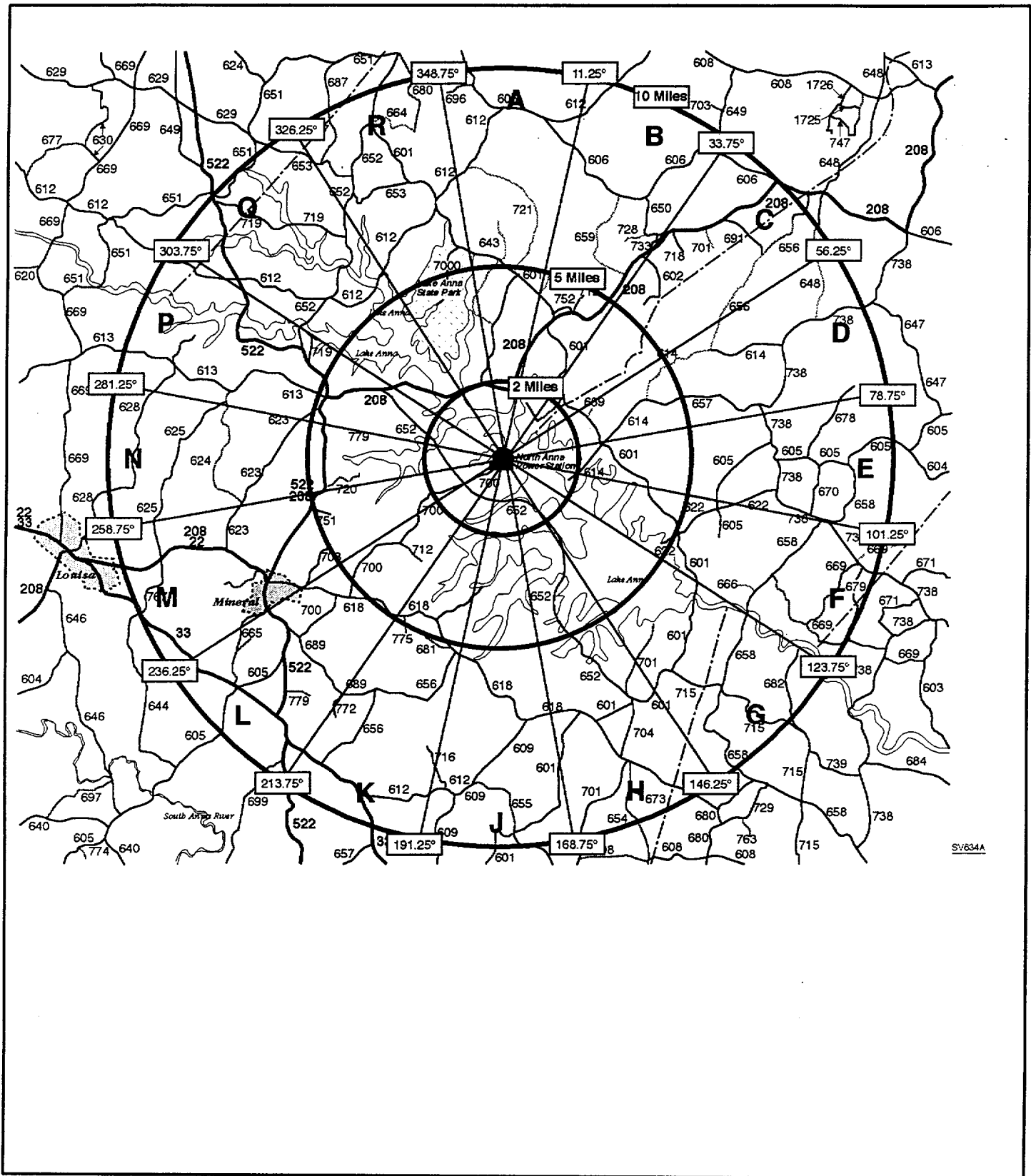
• NRC notified IAW EPIP-2.02, NOTIFICATION OF NRC (notifications made from Control Room or TSC, when activated)

NUMBER EPIP-1.06	PROCEDURE TITLE PROTECTIVE ACTION RECOMMENDATIONS	REVISION 4 PAGE 3 of 3
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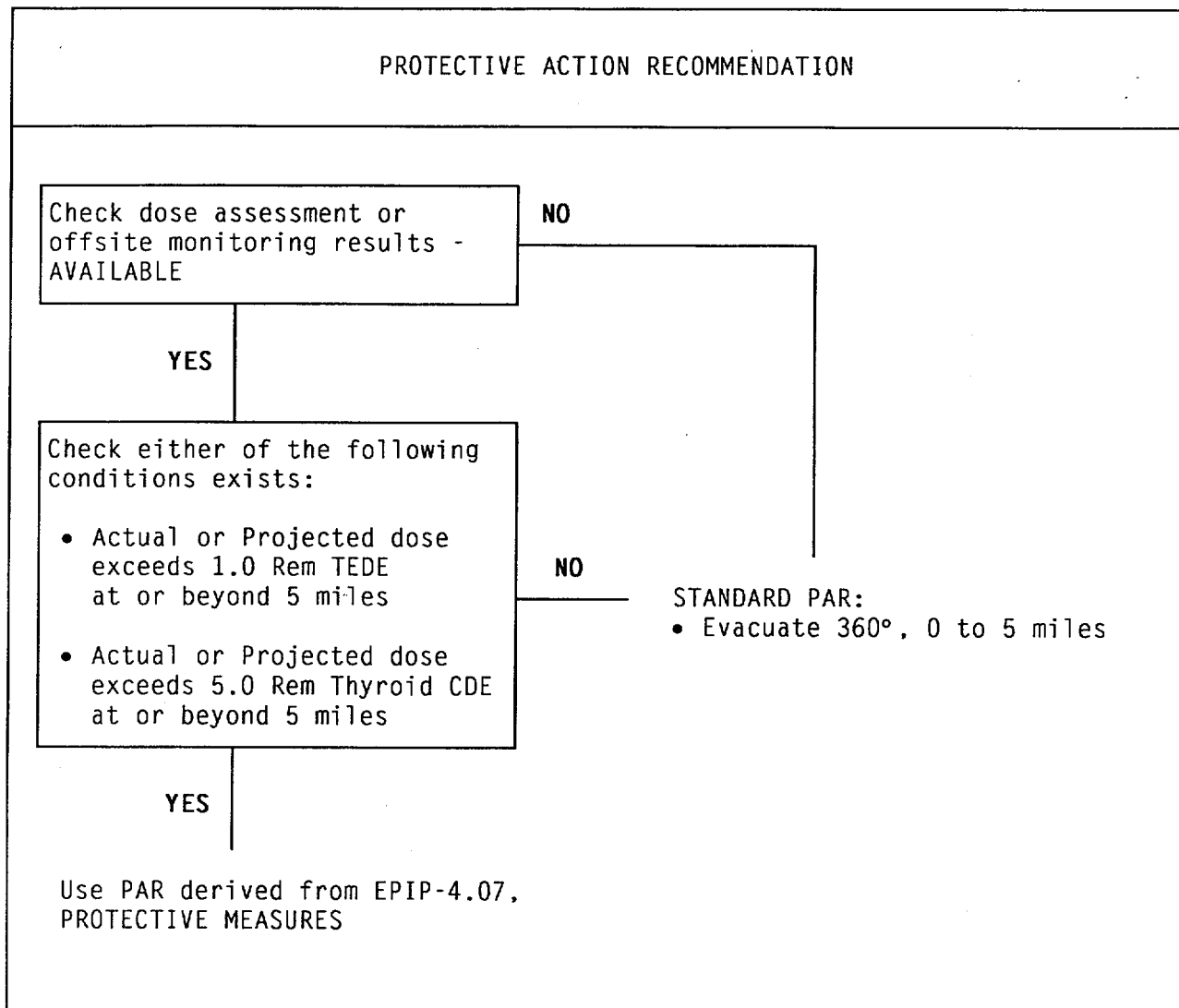
STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 5	HAVE RADIOLOGICAL ASSESSMENT DIRECTOR (RAD) IMPLEMENT EPIP-4.07, PROTECTIVE MEASURES [RADIOLOGICAL ASSESSMENT COORDINATOR (RAC) IF IN LEOF]	
_____ 6	CHECK IF RADIOLOGICAL-BASED PAR RECOMMENDS PROTECTIVE ACTIONS IN ANY NEW AREA(s)	<u>IF</u> PAR in effect - UNCHANGED, <u>THEN</u> GO TO Step 8.
_____ 7	RETURN TO STEP 3	
_____ 8	CHECK EMERGENCY - TERMINATED	<u>IF</u> RAD/RAC recommends a PAR change, <u>THEN</u> RETURN TO Step 6.
_____ 9	TERMINATE EPIP-1.06: <ul style="list-style-type: none"> • 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
EP-1.06	SECTOR MAP	4
ATTACHMENT		PAGE
1		1 of 1



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



NUMBER	ATTACHMENT TITLE	REVISION
EPIP-1.06	PROTECTIVE ACTION RECOMMENDATION FORM	4
ATTACHMENT		PAGE
3		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 EPIP-2.01	PROCEDURE TITLE NOTIFICATION OF STATE AND LOCAL GOVERNMENTS (With 3 Attachments)	REVISION 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.

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. 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.

NUMBER EPIP-2.01	PROCEDURE TITLE NOTIFICATION OF STATE AND LOCAL GOVERNMENTS	REVISION 24 <hr/> PAGE 2 of 17
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
<p>_____ 1 INITIATE PROCEDURE:</p> <ul style="list-style-type: none"> • By: _____ Date: _____ Time: _____ Location: _____ 		
<p>_____ 2 CHECK FIRST REPORT OF EMERGENCY FOR EVENT - REQUIRED</p>	<p><u>IF</u> procedure previously initiated, <u>THEN</u> continue from step in effect identified during relief/turnover.</p>	
<p>NOTE:</p> <ul style="list-style-type: none"> • 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. 		
<p>_____ 3 RECORD INFORMATION ON ATTACHMENT 2 (REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS)</p>		
<p>_____ 4 CHECK EMERGENCY - REMAINS IN EFFECT</p>	<p><u>IF</u> emergency terminated before message sent, <u>THEN</u> do the following:</p> <ul style="list-style-type: none"> 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. 	
<p>_____ 5 HAVE SEM/RM APPROVE REPORT (initial at top of Attachment 2)</p>		

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.

NUMBER	PROCEDURE TITLE	REVISION
EPIP-2.01	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS	24
		PAGE 3 of 17

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	RECORD TIME NOTIFICATION STARTED	
	<p>NOTE:</p> <ul style="list-style-type: none"> 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) <u>IF</u> Instaphone <u>NOT</u> available, <u>THEN</u> 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) <u>WHEN</u> Instaphone available for message transmittal, <u>THEN</u> GO TO Step 7.b.
	b) Use Instaphone to contact State and local Emergency Operations Centers (EOCs)	b) <u>IF</u> Instaphone <u>NOT</u> operable, <u>THEN</u> 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.

NUMBER	PROCEDURE TITLE	REVISION
EPIP-2.01	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS	24
		PAGE 4 of 17

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) <u>IF</u> State EOC acknowledged message, <u>THEN</u> GO TO Step 9.
		<u>IF</u> State EOC did <u>NOT</u> acknowledge message, <u>THEN</u> do the following:
		1) Use DEM ARD phone to contact State EOC (Alternate: (804) 674-2400 (ask for Duty Officer)).
		<u>IF</u> all means of communications with State EOC are inoperable, <u>THEN</u> 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.

NUMBER EPIP-2.01	PROCEDURE TITLE NOTIFICATION OF STATE AND LOCAL GOVERNMENTS	REVISION 24
		PAGE 5 of 17

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) <u>IF</u> all means of communications with State EOC are inoperable, <u>THEN</u> 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.

NUMBER	PROCEDURE TITLE	REVISION
EPIP-2.01	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS	24
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED										
9	VERIFY ALL LOCAL EOCs ANSWERED ACKNOWLEDGEMENT ROLL CALL	<p>IF any EOC(s) did NOT answer acknowledgement roll-call, THEN do the following:</p> <p>a) Use telephone to call EOC(s) that did not answer.</p> <p>b) Refer to the table below for order of priority and list of local EOC phone numbers:</p> <table><tr><td>Louisa:</td><td>(540) 967-1234 (local)</td></tr><tr><td>Spotsylvania:</td><td>(540) 582-7115</td></tr><tr><td>Caroline:</td><td>(804) 633-5555</td></tr><tr><td>Orange:</td><td>(540) 672-1234</td></tr><tr><td>Hanover:</td><td>(804) 537-6140</td></tr></table> <p>c) IF State EOC notified, THEN read Items 1 through 9.</p> <p>IF NO communications with State EOC, THEN read Items 1 through 10.</p> <p>d) Record the following on Attachment 2:</p> <ul style="list-style-type: none">• Method of contact.• Reason Instaphone failed (if known).• Date and time of contact.	Louisa:	(540) 967-1234 (local)	Spotsylvania:	(540) 582-7115	Caroline:	(804) 633-5555	Orange:	(540) 672-1234	Hanover:	(804) 537-6140
Louisa:	(540) 967-1234 (local)											
Spotsylvania:	(540) 582-7115											
Caroline:	(804) 633-5555											
Orange:	(540) 672-1234											
Hanover:	(804) 537-6140											
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.

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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.

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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.
	<p>NOTE:</p> <ul style="list-style-type: none"> 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	<p>GET REPORT OF RADIOLOGICAL CONDITIONS FOR THE STATE:</p> <p>a) Check if either of the following Radiological Status reports available:</p> <ul style="list-style-type: none"> MIDAS Radiological Status report <p style="text-align: center;"><u>OR</u></p> <ul style="list-style-type: none"> EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE, Attachment 1, Radiological Status <p>b) Get Radiological Status report from radiological assessment organization</p> <p>c) Check report - COMPLETE</p>	<p>a) Do the following:</p> <ol style="list-style-type: none"> Determine from radiological assessment organization when report will be available. Notify SEM/RM about delay. <u>WHEN</u> Radiological Status report becomes available, <u>THEN</u> continue in this procedure. <p>c) <u>IF</u> blank items remain on Radiological Status report, <u>THEN</u> return report to radiological assessment organization for completion.</p>

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.

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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) <u>IF</u> Radiological Status report communicated verbally or delivered, <u>THEN</u> 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) <u>IF</u> receipt of message <u>NOT</u> verified, <u>THEN</u> do the following:
		1) Call State EOC on DEM ARD (Alternate: (804) 674-2400).
		2) Ask State EOC Duty Officer if message received.
		3) <u>IF</u> receipt of message verified, <u>THEN</u> GO TO Step 16.f.
		<u>IF</u> message <u>NOT</u> received, <u>THEN</u> 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.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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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

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

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.

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.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p><u>NOTE:</u></p> <ul style="list-style-type: none"> • 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. 	<p><u>IF</u> on-site data <u>NOT</u> available, <u>THEN</u> do the following:</p> <p>a) Get regional information from one of the following:</p> <ul style="list-style-type: none"> • Company Weather Center: (804) 273-3025. • National Weather Service (NWS): (800) 737-8624. • Have HP initiate EPIP-4.10, DETERMINATION OF X/Q. <p>b) Give meteorological information to requestor.</p> <p>c) RETURN TO procedure step in effect.</p>
19	CHECK ON-SITE METEOROLOGICAL INFORMATION - AVAILABLE	

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.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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____ 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.

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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:
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- 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.

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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.
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- 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.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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- 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.
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- 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.

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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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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/CEO)
 - 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.

NUMBER	PROCEDURE TITLE	REVISION
EPIP-2.01	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS	24
		PAGE 17 of 17

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
27	<p>TERMINATE PROCEDURE:</p> <ul style="list-style-type: none"> • 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-		

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		1 of 7

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:

- Check block for highest applicable emergency class.
- 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:

- Check Emergency Terminated block.
- Complete Items 2, 3 and 9.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		2 of 7

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.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		3 of 7

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.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		4 of 7

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.]

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		5 of 7

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.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		6 of 7

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.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	INSTRUCTIONS FOR COMPLETING REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
1		7 of 7

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.)

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	REPORT OF EMERGENCY TO STATE AND LOCAL GOVERNMENTS	24
ATTACHMENT		PAGE
2		1 of 2

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:

<input type="checkbox"/> Notification of Unusual Event	<input type="checkbox"/> Site Area Emergency	Declared at _____ on _____ (24-hr time) (date)
<input type="checkbox"/> Alert	<input type="checkbox"/> General Emergency	

☐ 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)

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-2.01	REPORT OF EMERGENCY TO	24
ATTACHMENT	STATE AND LOCAL GOVERNMENTS	PAGE
2		2 of 2

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 _____ on _____.
(24-hr time) (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 (CEO).
☐ 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 _____ on _____.
(24-hr time) (date)

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

- Date/Time Message Delivered to VDEM Representative in Local/Central EOF: ____ / ____ / ____ : ____
- Date/Time Message Delivered to VDH Representative in Local/Central EOF: ____ / ____ / ____ : ____
- 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 achievable, THEN do the following:

- Notify State EOC using DEM ARD or call (804) 674-2400
- Identify yourself and your location
- Ask LOC Duty Officer to use a Report of Radiological Conditions form to copy message
- Read the attached report
- Record when message transmittal completed: Date/Time Message Completed: ____ / ____ / ____ : ____
- 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 EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT (With 6 Attachments)	REVISION 13
		PAGE 1 of 15

PURPOSE

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

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. 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

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 2 of 15
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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:

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

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

OR

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

(STEP 2 CONTINUED ON NEXT PAGE)

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13
		PAGE 3 of 15

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)

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 4 of 15
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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 <u>AND</u> Record data on Attachment 1	d) <u>IF</u> flow rates <u>NOT</u> available, <u>THEN</u> use default flow rates: <ul style="list-style-type: none"> • VVA - 142,000 cfm • VVB - 100,000 cfm • PV - 310 cfm • CAE - 25 cfm
	<u>NOTE:</u> <ul style="list-style-type: none"> • 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): <ul style="list-style-type: none"> • Stability Class: _____ • Wind Speed: _____ 	
	f) Get X/Q and conversion factors from Attachment 4: <ul style="list-style-type: none"> • 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)	

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 5 of 15
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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

RM-RMS-170 (A Safety Valves)
RM-RMS-171 (B Safety Valves)
RM-RMS-172 (C Safety Valves)

Unit 2 Main Steam

RM-RMS-270 (A Safety Valves)
RM-RMS-271 (B Safety Valves)
RM-RMS-272 (C Safety Valves)

Unit 1 AFWPT

RM-MS-176

Unit 2 AFWPT

RM-MS-276

(STEP 3 CONTINUED ON NEXT PAGE)

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

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 7 of 15
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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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

g) IF none, THEN project release
using only ONE valve.

AND

Record on Attachment 2

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)

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 8 of 15
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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:

<u>Unit 1</u>	<u>Unit 2</u>
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)

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 9 of 15
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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

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13
		PAGE 10 of 15

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.

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 11 of 15
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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.

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 13 of 15
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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 ($\mu\text{Ci}/\text{sec}$ and $\mu\text{Ci}/\text{cc}$) 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:

- Determine monitor in alarm
- Circle appropriate monitor number on Attachment 6
- Ask SEM to position an individual to observe monitor in alarm and report increase or decrease in readings
- Get the highest reading, above background, of monitor in alarm
- Record monitor reading on Attachment 6

(STEP 11 CONTINUED ON NEXT PAGE)

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13 PAGE 14 of 15
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	<p>11 DETERMINE % TECH. SPEC. FOR GASEOUS RELEASE: (Continued)</p> <p>f) Determine flow rate (cfm)</p> <p style="text-align: center;"><u>AND</u></p> <p>Record flow rate on Attachment 6</p> <p>g) Calculate % Tech. Spec. using Attachment 6</p> <p>h) Calculate total % Tech. Spec. for all pathways involved (Add the % Tech. Spec. for each monitor/emission channel)</p> <p>i) Compare % Tech. Spec. with emergency classification criteria:</p> <ul style="list-style-type: none"> • $\geq 1000\%$ - ALERT • $\geq 100\%$ - NOUE • $< 100\%$ - Within Limits <p>j) Notify SEM (through RAD or RAC) of event classification based on % Tech. Spec. for gaseous release</p>	<p>f) Use the following default flow rates:</p> <ul style="list-style-type: none"> • VVA - 142,000 cfm • VVB - 100,000 cfm • PV - 310 cfm • CAE - 25 cfm

NUMBER EPIP-4.08	PROCEDURE TITLE INITIAL OFFSITE RELEASE ASSESSMENT	REVISION 13
		PAGE 15 of 15

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
12	<p>TERMINATE EPIP-4.08:</p> <ul style="list-style-type: none">• Give completed EPIP-4.08, forms, and other applicable records to the Radiological Assessment Director• Completed by: _____ Date: _____ Time: _____ <p>-END-</p>	

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

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: (μ Ci/sec x 1.0E-3 x MCF x X/Q) / WINDSPEED = Value
 (-1,-2) (_____ x 1.0E-3 x _____ x _____) / _____ = _____

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

VG-180: (μ Ci/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.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	VENT RELEASE SITE BOUNDARY DOSE RATE	13
ATTACHMENT		PAGE
1		2 of 3

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: (μ Ci/sec x 1.0E-3 x MCF x X/Q) / WINDSPEED = Value
 (-1,-2) (_____ x 1.0E-3 x _____ x _____) / _____ = _____

GW-178: (μ Ci/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.

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

- ___ 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		PAGE
2		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 _____) / _____ = _____

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

- ___ 1. Record the following monitor values in left-hand column of table below:
 - Total Main Steam value for affected unit
 - AFWPT value for affected unit
- ___ 2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 4 in middle and right-hand columns in table below.
- ___ 3. Multiply monitor values in left-hand column by TEDE DCF and THY CDE DCF atop middle and right-hand columns in table below. Record result(s) in intersecting space.
- ___ 4. Add resulting values in middle and right-hand columns to calculate Total Main Steam Release (TEDE and THY CDE) (sum of Main Steam and AFWPT).

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

Completed by: _____

Date/Time: _____ / _____

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

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

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

Date: _____; Time: _____

CONTAINMENT:

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

RMS-165

RMS-166

RMS-265

RMS-266: (_____ x _____ x _____) / _____ = _____

1. Record result of calculation above in left-hand column of table below.
2. Record TEDE and THY CDE Dose Conversion Factors (DCFs) from Attachment 4 in middle and right-hand columns in table below.
3. Multiply monitor value in left-hand column by TEDE DCF and THY CDE DCF atop middle and right-hand columns in table below. Record result(s) in intersecting space (Total Containment Release (TEDE and THY CDE)).

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

Completed by: _____
Date/Time: _____ / _____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	MONITOR CONVERSION FACTORS, SITE BOUNDARY X/Q VALUES, TEDE FACTORS, AND THYROID CDE FACTORS	13
ATTACHMENT		PAGE
4		1 of 2

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)

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.08	MONITOR CONVERSION FACTORS, SITE BOUNDARY X/Q VALUES, TEDE FACTORS, AND THYROID CDE FACTORS	13
ATTACHMENT		PAGE
4		2 of 2

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		PAGE
5		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: _____	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: _____	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		PAGE
6		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:

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

VENT VENT B:

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

PROCESS VENT:

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

AIR EJECTOR MONITORS:

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

Completed by: _____
Date/Time: _____ / _____

TOTAL % TECH. SPECS.: _____

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

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

PURPOSE

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

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. 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

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 2 of 11
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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

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 3 of 11
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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)

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 4 of 11
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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): $\mu\text{Ci/sec}$ or $\mu\text{Ci/cc}$
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

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 5 of 11
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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

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

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

(STEP 4 CONTINUED ON NEXT PAGE)

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 6 of 11
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
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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,
 $\mu\text{Ci/ml}$

- e) Check if this is an initial
source term assessment
- f) Check if sample taken at
maximum monitor reading

- e) GO TO Step 4.g.

- f) IF sample NOT taken at maximum
monitor reading, THEN do the
following:

- 1) Determine corrected $\mu\text{Ci/cc}$
for gross Noble Gas and for
Iodine:

MAX READING	\times	μCi	=	CORRECTED
READING AT		cc		$\mu\text{Ci/cc}$
TIME OF SAMPLE				

- 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)

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 7 of 11
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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

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 8 of 11
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	<p>DETERMINE SITE BOUNDARY DOSE RATES BASED ON EFFLUENT SAMPLE RESULTS:</p> <p>a) Ask RAD or RAC if Site Boundary dose rate calculation based on effluent sample - DESIRED</p> <p>b) Record TEDE and THY CDE DCFs from bottom of Attachment 3 on to Attachment 5:</p> <ul style="list-style-type: none"> Record on calculation line for each affected pathway <p>c) Get effluent flow rate (cfm) for each affected pathway</p> <p>d) Record CFM on Attachment 5</p> <p><u>NOTE:</u></p> <ul style="list-style-type: none"> 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. <p>e) Determine Stability Class and wind speed:</p> <ul style="list-style-type: none"> Ask RAD or RAC <p>f) Use Attachment 5 Site Boundary X/Q value for appropriate Stability Class and divide by wind speed</p> <p>g) Record corrected X/Q value on calculation line for each affected pathway</p> <p>h) Do calculations to determine Site Boundary TEDE and THY CDE dose rate, mrem/hr</p> <p>i) Give results to RAD or RAC</p>	<p>a) GO TO Step 7.</p>

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 9 of 11
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

7 DETERMINE SOURCE TERM FROM STATION INVENTORY:

- | | |
|---|--|
| <ul style="list-style-type: none"> a) Check if release originated from a gas storage tank (ie. Waste Gas Decay Tank, Volume Control Tank, etc.) 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, $\mu\text{Ci/ml}$, for total of Noble Gas and Iodine: <ul style="list-style-type: none"> • Use Count Room results or completed Attachment 3 e) Record the following on Attachment 4: <ul style="list-style-type: none"> • 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 | <ul style="list-style-type: none"> a) GO TO Step 8. |
|---|--|

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 10 of 11
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
8	<p>DETERMINE SOURCE TERM FROM CONTAINMENT HIGH RANGE MONITOR (INNER CRANE WALL):</p> <p>a) Check if LOCA conditions exist</p> <p>b) Get dose rate (R/hr) from Containment High Range Monitor (Inner Crane Wall) of affected unit:</p> <ul style="list-style-type: none"> • RMS-165 (-265): _____ • RMS-166 (-266): _____ <p>c) Determine length of time (hours) since unit shutdown</p> <p>d) Use Attachment 6 to estimate Curies Noble Gas (Ci NG) and Curies Iodine (Halogens) available for release</p> <p>e) Calculate release rate:</p> <p>_____ Ci Noble Gas x 4.35E-8 = _____ Ci/Sec Noble Gas</p> <p>_____ Ci Iodine x 4.35E-8 = _____ Ci/sec Iodine</p> <p>f) Give results to RAD or RAC</p>	<p>a) GO TO Step 10.</p>

NUMBER EPIP-4.09	PROCEDURE TITLE SOURCE TERM ASSESSMENT	REVISION 12 PAGE 11 of 11
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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,
 $\mu\text{Ci/ml}$, for Noble Gas and Iodine
- e) Calculate release rates:
$$\mu\text{Ci/ml} \times 2.25\text{E}+3 \times 1.0\text{E}-6 = \text{Ci/Sec}$$
- 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

NOTE: • 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: _____

VENT VENT A:						IODINE Ci/sec	NOBLE GAS Ci/sec
CPM	x	MCF	x	CFM	= Ci/sec		
VG-104: _____	x	_____	x	_____	= _____		
VG-179: $\mu\text{Ci/sec}$	x	MCF	x	1.00E-6	= Ci/sec		
(-1,-2) _____	x	_____	x	1.00E-6	= _____		
VG-179: $\mu\text{Ci/cc}$	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	_____	= _____		

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

VENT VENT B:						IODINE Ci/sec	NOBLE GAS Ci/sec
CPM	x	MCF	x	CFM	= Ci/sec		
VG-113: _____	x	_____	x	_____	= _____		
VG-180: $\mu\text{Ci/sec}$	x	MCF	x	1.00E-6	= Ci/sec		
(-1,-2) _____	x	_____	x	1.00E-6	= _____		
VG-180: $\mu\text{Ci/cc}$	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	_____	= _____		

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

AIR EJECTOR:						IODINE Ci/sec	NOBLE GAS Ci/sec
CPM	x	MCF	x	CFM	= Ci/sec		
SV-121: _____	x	_____	x	_____	= _____		
CPM	x	MCF	x	CFM	= Ci/sec		
SV-221: _____	x	_____	x	_____	= _____		

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

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

PROCESS VENT:

	CPM	x	MCF	x	CFM	=	Ci/sec		IODINE Ci/sec	NOBLE GAS Ci/sec
GW-102:	_____	x	_____	x	_____	=	_____	Highest Ci/sec	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> IODINE CF (Att. 2): </div>	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Ci/sec Iod. </div>
	_____	x	_____	x	_____	=	_____			
GW-178:	μCi/sec	x	MCF	x	1.00E-6	=	Ci/sec	X	MINUS	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Ci/sec NG </div>
(-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	_____	=	_____			

MAIN STEAM:

	mR/hr	x	# valves	MCF	=	Ci/sec		SUM OF Ci/sec		IODINE CF (Att. 2):	=	Ci/sec Iod.		Ci/sec NG
MS-170:	_____	x	_____	x	_____	=	_____	SUM OF Ci/sec	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> IODINE CF (Att. 2): </div>	=	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Ci/sec Iod. </div>	MINUS	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Ci/sec NG </div>	
MS-171:	_____	x	_____	x	_____	=	_____							
MS-172:	_____	x	_____	x	_____	=	_____							
MS-270:	_____	x	_____	x	_____	=	_____							
MS-271:	_____	x	_____	x	_____	=	_____							
MS-272:	_____	x	_____	x	_____	=	_____							

AFWPT:

	mR/hr	x	MCF	=	Ci/sec		Highest Ci/sec		IODINE CF (Att. 2):	=	Ci/sec Iod.		Ci/sec NG
MS-176:	_____	x	_____	=	_____	Highest Ci/sec	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> IODINE CF (Att. 2): </div>	=	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Ci/sec Iod. </div>	MINUS	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Ci/sec NG </div>		
MS-276:	_____	x	_____	=	_____								

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: _____ / _____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	MONITOR CONVERSION FACTORS AND IODINE CONVERSION FACTORS	12
ATTACHMENT		PAGE
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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)

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	MONITOR CONVERSION FACTORS AND IODINE CONVERSION FACTORS	12
ATTACHMENT		PAGE
2		2 of 2

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		PAGE
3		1 of 1

Sample Identification: _____; Sample Time: _____

NOTE: • Total Noble Gas and Iodine activity, $\mu\text{Ci/ml}$, are for use on Attachment 4.

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

NUCLIDE	ACTIV. $\mu\text{Ci/ml}$	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, $\mu\text{Ci/ml}$: _____

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,
 $\mu\text{Ci/ml}$: _____

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		PAGE
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MONITOR	$\mu\text{Ci/ml}$		CFM			Ci/sec	
						NOBLE GAS	IODINE
<u>VV A:</u>	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		
<u>VV B:</u>	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		
<u>PV:</u>	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		
<u>AIR EJECTOR #1:</u>							
	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		
<u>AIR EJECTOR #2:</u>							
	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		
<u>STATION INVENTORY:</u>							
	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 SAMPLE EFFLUENT SITE BOUNDARY DOSE RATE WORKSHEET	REVISION
EPIP-4.09		12
ATTACHMENT		PAGE
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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
<u>1.84E-6</u> Windspeed	<u>1.65E-5</u> Windspeed	<u>5.98E-5</u> Windspeed	<u>1.77E-4</u> Windspeed	<u>3.46E-4</u> Windspeed	<u>7.26E-4</u> Windspeed	<u>1.40E-3</u> Windspeed

MONITOR	TEDE DCF OR THY CDE DCF		CFM						TEDE mrem/hr	THY. CDE mrem/hr
<u>VV A:</u>	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		=		
<u>VV B:</u>	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		=		
<u>PV:</u>	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		=		
<u>AIR EJECTOR #1:</u>	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		=		
<u>AIR EJECTOR #2:</u>	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		=		
<u>STATION INVENTORY:</u>	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	CHRRMS - EVENT - AVAILABLE CURIES	PAGE
6		1 of 2

- NOTE:
- No letdown or sprays are assumed available.
 - Containment Air concentration ($\mu\text{Ci/cc}$) = Ci Cont. Air $\times 1.92\text{E-}5$.
 - RCS concentration ($\mu\text{Ci/cc}$) = Ci Cont. Air $\times 3.765\text{E-}3$.
 - 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 $\mu\text{Ci/ml}$
0	1.5E+6	100% NG, 50% HAL Released to Cont. Air	8.2E+8 Ci	4.4E+8 Ci	1.99E+5 $\mu\text{Ci/ml}$
	1.5E+5	10% NG, 5% HAL Released to Cont. Air	8.2E+7 Ci	4.4E+7 Ci	1.99E+4 $\mu\text{Ci/ml}$
	1.5E+4	1% NG, .5% HAL Released to Cont. Air	8.2E+6 Ci	4.4E+6 Ci	1.99E+3 $\mu\text{Ci/ml}$
	1.9E+3	100% GAP Released to Cont. Air	1.74E+6 Ci	1.59E+6 Ci	2.76E+3 $\mu\text{Ci/ml}$
	1.9E+2	10% GAP Released to Cont. Air	1.74E+5 Ci	1.59E+5 Ci	2.76E+2 $\mu\text{Ci/ml}$
	1.9E+1	1% GAP Released to Cont. Air	1.74E+4 Ci	1.59E+4 Ci	2.76E+1 $\mu\text{Ci/ml}$
	9.0	1% Failed Fuel Primary Gas Release	6.12E+4 Ci	2.00E+3 Ci	2.40E+0 $\mu\text{Ci/ml}$

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

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.09	MATRIX:	12
ATTACHMENT	CHRRMS - EVENT - AVAILABLE CURIES	PAGE
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- NOTE:
- No Letdown or Sprays are assumed available.
 - Containment Air concentration ($\mu\text{Ci/cc}$) = Ci Cont. Air $\times 1.92\text{E-}5$.
 - RCS concentration ($\mu\text{Ci/cc}$) = Ci Cont. Air $\times 3.765\text{E-}3$.
 - 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 EPIP-4.26	PROCEDURE TITLE HIGH LEVEL ACTIVITY SAMPLE ANALYSIS (With 2 Attachments)	REVISION 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

NUMBER EPIP-4.26	PROCEDURE TITLE HIGH LEVEL ACTIVITY SAMPLE ANALYSIS	REVISION 11 PAGE 2 of 6
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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.

NUMBER EPIP-4.26	PROCEDURE TITLE HIGH LEVEL ACTIVITY SAMPLE ANALYSIS	REVISION 11 PAGE 3 of 6
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STEP

ACTION/EXPECTED RESPONSE

RESPONSE NOT OBTAINED

4 DETERMINE RESPONSE ACTIONS BASED
ON SAMPLE ACTIVITY LEVEL:

<u>IF</u> the following condition exists:	<u>THEN</u> 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

NUMBER EPIP-4.26	PROCEDURE TITLE HIGH LEVEL ACTIVITY SAMPLE ANALYSIS	REVISION 11 PAGE 4 of 6
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
6	<p>VERIFY LIQUID OR GAS SAMPLE TO BE DILUTED:</p> <p>a) Use a Fume Hood when doing dilutions in Hot Lab or HRSS hood</p> <p>b) Verify LIQUID sample to be diluted</p> <p>c) Verify liquid sample from source other than Sentry System</p> <p>d) Do LIQUID sample dilution:</p> <p>1) Determine appropriate dilution ratio, e.g., 1:10 dilution (0.1 times original volume), 1:1000 dilution (0.001 times original volume)</p> <p>2) Perform dilution</p> <p>3) Check sample activity - WITHIN LIMITS</p> <p>4) GO TO Step 11</p>	<p><u>IF</u> diluting radioiodine or particulate air sample, or if sample dilution is <u>NOT</u> acceptable, <u>THEN</u> GO TO Step 9.</p> <p>b) <u>IF</u> diluting GASEOUS sample, <u>THEN</u> do the following:</p> <p>1) Perform a 1:100 dilution (0.01 times original volume).</p> <p>2) GO TO Step 11.</p> <p>c) <u>IF</u> sample activity of liquid sample from Sentry System LESS THAN 1000 mR/hr, <u>THEN</u> GO TO Step 6.d.</p> <p><u>IF</u> sample activity of liquid sample from Sentry System GREATER THAN 1000 mR/hr, <u>THEN</u> GO TO Step 7.</p> <p>3) <u>IF</u> sample activity still too high, <u>THEN</u> do additional dilution(s) to yield an acceptable activity level.</p>

NUMBER EPIP-4.26	PROCEDURE TITLE HIGH LEVEL ACTIVITY SAMPLE ANALYSIS	REVISION 11 PAGE 5 of 6
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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 (\approx 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 (\approx 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.

NUMBER EPIP-4.26	PROCEDURE TITLE HIGH LEVEL ACTIVITY SAMPLE ANALYSIS	REVISION 11 PAGE 6 of 6
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STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
10	REDUCE SAMPLE VOLUME: a) Verify GAS sample b) Record volume of undiluted sample in the container	a) <u>IF</u> LIQUID sample, <u>THEN</u> do the following: 1) Put desired sample volume in suitable container with a calibrated geometry. 2) Dilute sample (to appropriate mark) with water.
11	VERIFY BOTH THE FOLLOWING CONDITIONS EXIST: • Verify sample dose rate reads LESS THAN 10 mR/hr • Calibrated elevated geometry <u>NOT</u> 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-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.26	HRSS DILUTOR ASSEMBLY	11
ATTACHMENT	FIGURE 1	PAGE
1		1 of 4

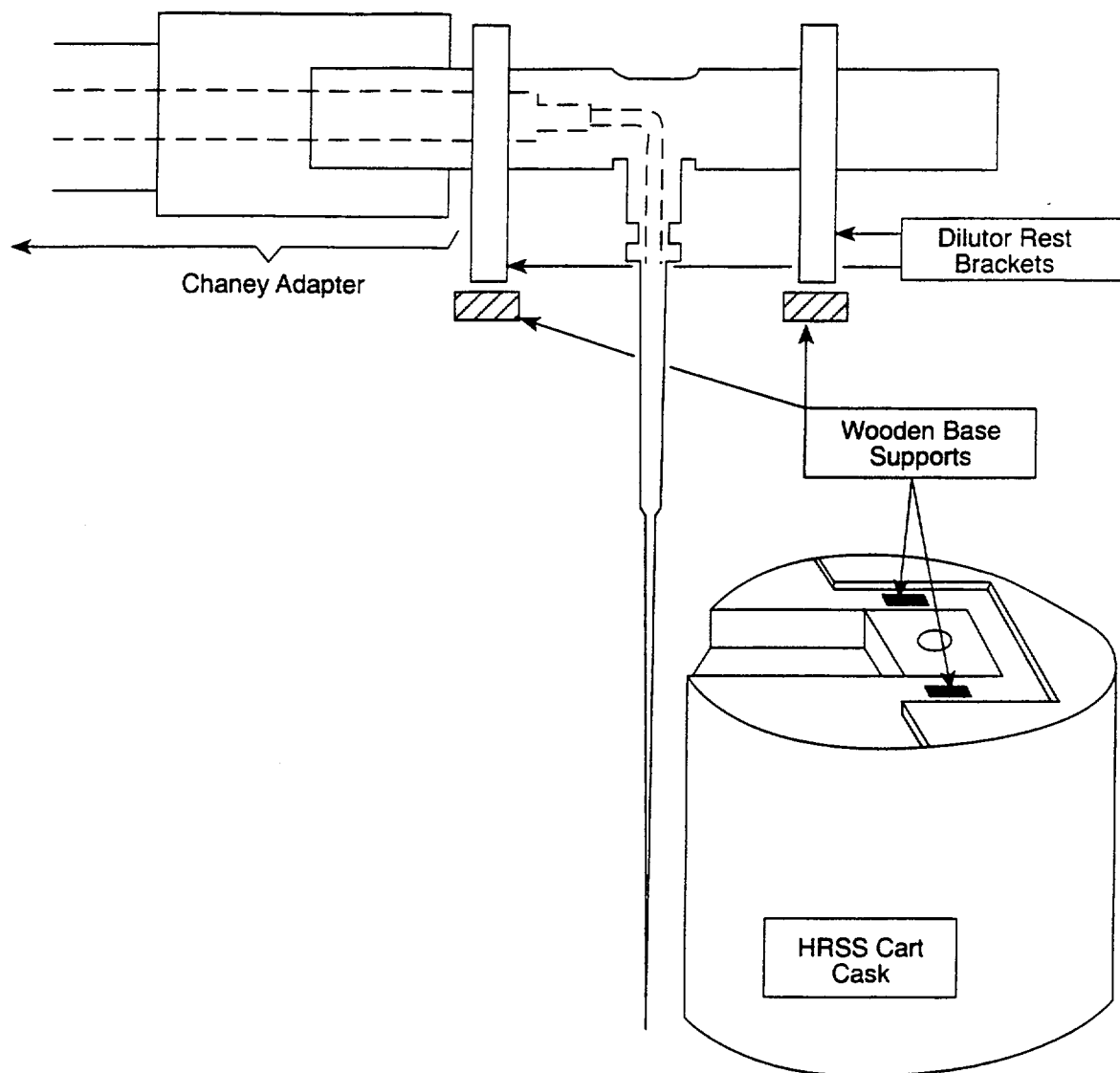
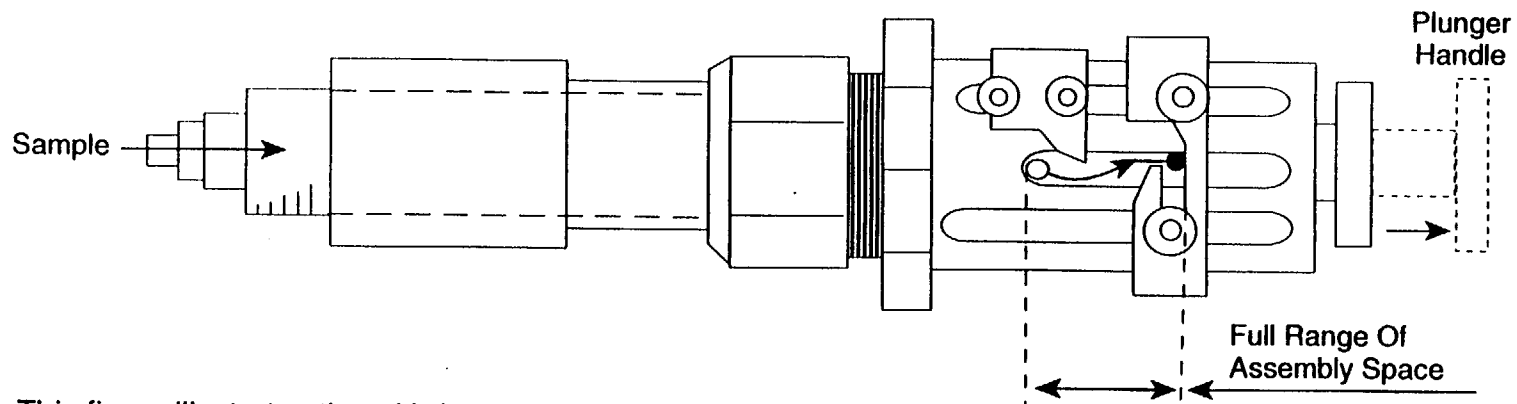


FIGURE 1
HRSS DILUTOR ASSEMBLY

Graphics No: LD262K

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
CHANEY ADAPTER

Graphics No: BP562A

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NUMBER EPIP-4.26	ATTACHMENT TITLE CHANNEY ADAPTER FIGURE 3	REVISION 11
ATTACHMENT 1		PAGE 3 of 4

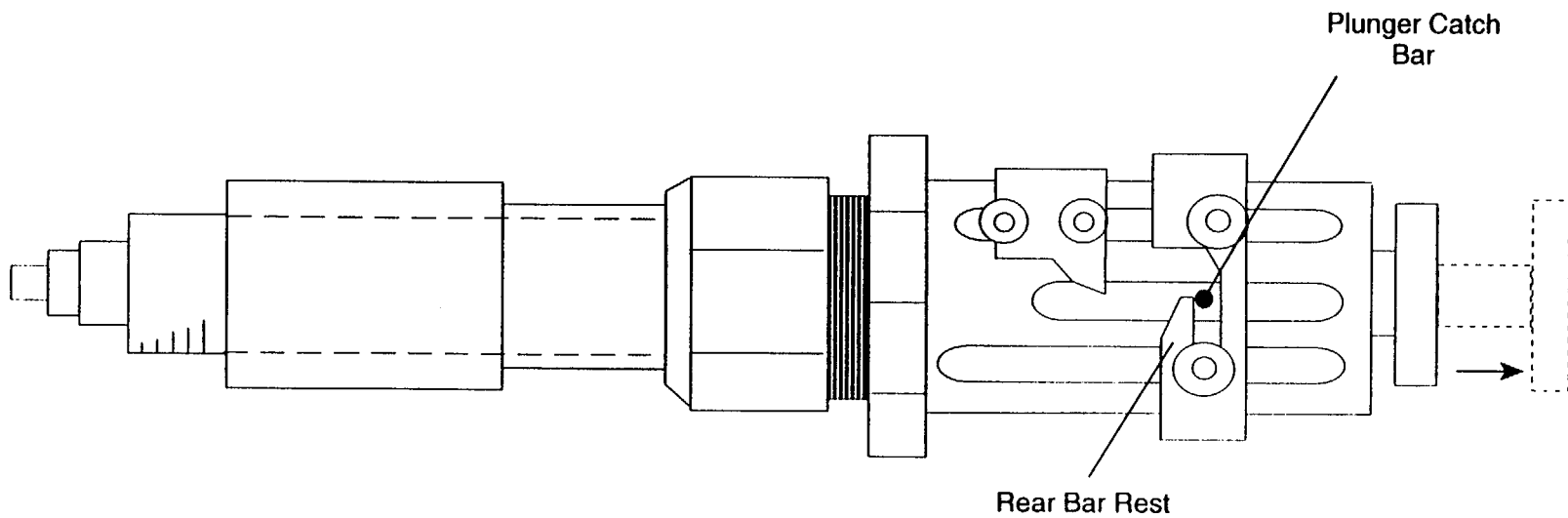


Figure illustrates the resting of the plunger catch bar on the rear bar rest following the withdrawal of sample.

FIGURE 3

CHANNEY ADAPTER

Graphics No: BP561A

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.26 ATTACHMENT 1	CHANNEY ADAPTER FIGURE 4	11 PAGE 4 of 4

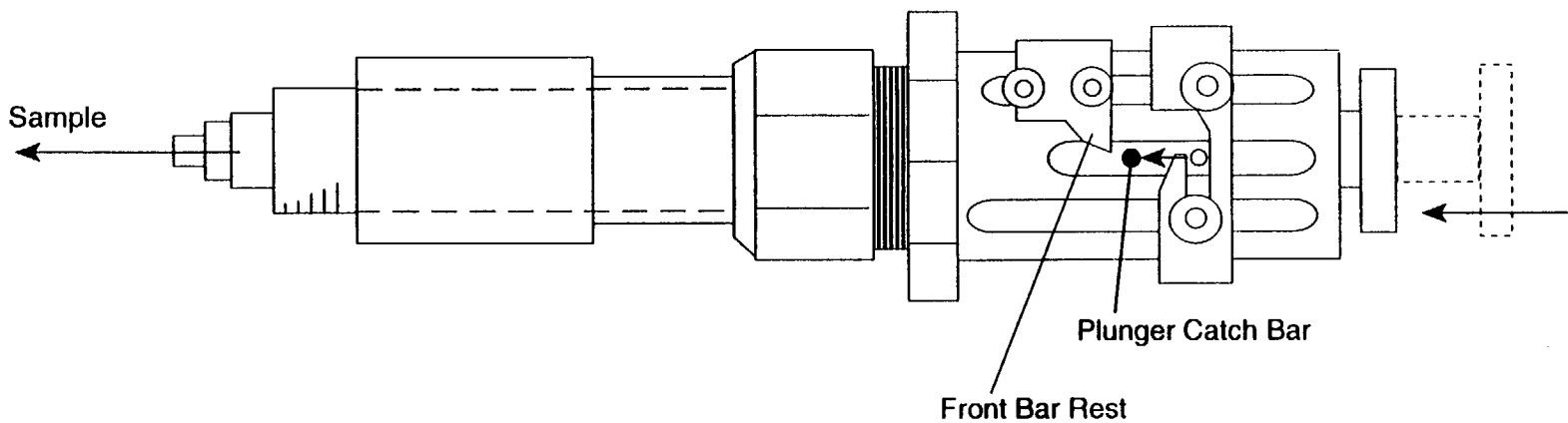


Figure illustrates the expulsion of sample into flask or tared vial. Plunger catch bar travels from rear to front bar rest.

FIGURE 4

Graphics No: BP563.4

CHANNEY ADAPTER

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.26	DILUTE SAMPLE USING SENTRY SYSTEM	11
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- 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.

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.26	DILUTE SAMPLE USING SENTRY SYSTEM	11
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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.