VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 10, 2003

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

Serial No. 03-261
NAPS/MPW
Docket Nos. 50-338/339
License Nos. NPF-4/7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
REVISIONS TO EMERGENCY PLAN AND IMPLEMENTING PROCEDURES

Pursuant to 10 CFR 50.54(q), enclosed are recent revisions to the North Anna Power Station Emergency Plan Implementing Procedures. These revisions do not implement actions that decrease the effectiveness of our Emergency Plan. The Emergency Plan and Implementing Procedures continue to meet the standards of 10 CFR 50.47(b).

Please update your manual by performing the actions described in Attachment 1, Tabulation of Changes.

Very truly yours,

for

D. A. Heacock
Site Vice President

Commitments Stated or Implied: None.

Enclosures

cc: U.S. Nuclear Regulatory Commission (2 copies)
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Mr. M. J. Morgan
NRC Senior Resident Inspector
North Anna Power Station

A045

ATTACHMENT 1
TABULATION OF CHANGES

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

Enclosed are recent revisions to the North Anna Power Station Emergency Plan Implementing Procedures (EPIPs). Please take the following actions in order to keep your manual updated.

REMOVE AND DESTROY	DATED	INSERT	EFFECTIVE DATE
EPIP - 3.05, Rev. 01	10/01/99	EPIP – 3.05, Rev. 02	04/08/03
EPIP - 4.01, Rev. 18	04/09/02	EPIP – 4.01, Rev. 19	04/08/03
EPIP - 4.24, Rev. 12	08/15/02	EPIP – 4.24, Rev. 13	04/08/03
EPIP - 5.08, Rev. 07	11/30/00	EPIP – 5.08, Rev. 08	04/08/03

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

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

DOCUMENT NUMBER	REV	APPROVAL **DATE**	EFFECT** **DATE**	DOCUMENT TITLE
EPIP-1.01	037	12/13/02	12/18/02	EMERGENCY MANAGER CONTROLLING PROCEDURE
EPIP-1.02	011	09/07/99	10/01/99	RESPONSE TO NOTIFICATION OF UNUSUAL EVENT
EPIP-1.03	014	09/07/99	10/01/99	RESPONSE TO ALERT
EPIP-1.04	014	09/07/99	10/01/99	RESPONSE TO SITE AREA EMERGENCY
EPIP-1.05	016	09/07/99	10/01/99	RESPONSE TO GENERAL EMERGENCY
EPIP-1.06	004	09/05/01	09/05/01	PROTECTIVE ACTION RECOMMENDATIONS
EPIP-2.01	025	08/13/02	08/28/02	NOTIFICATION OF STATE AND LOCAL GOVERNMENTS
EPIP-2.02	015	08/13/02	08/28/02	NOTIFICATION OF NRC
EPIP-3.02	021	03/04/03	03/17/03	ACTIVATION OF TECHNICAL SUPPORT CENTER
EPIP-3.03	013	03/04/03	03/17/03	ACTIVATION OF OPERATIONAL SUPPORT CENTER
EPIP-3.04	015	07/14/98	07/20/98	ACTIVATION OF LOCAL EMERGENCY OPERATIONS FACILITY
EPIP-3.05	002	04/02/03	04/08/03	AUGMENTATION OF EMERGENCY RESPONSE ORGANIZATION
EPIP-4.01	019	04/02/03	04/08/03	RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE
EPIP-4.02	013	12/13/02	12/18/02	RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE
EPIP-4.03	011	12/20/93	01/01/94	DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE
EPIP-4.04	009	11/21/94	11/28/94	EMERGENCY PERSONNEL RADIATION EXPOSURE
EPIP-4.05	009	01/28/00	02/04/00	RESPIRATORY PROTECTION AND KI ASSESSMENT
EPIP-4.06	009	12/21/95	12/28/95	PERSONNEL MONITORING AND DECONTAMINATION
EPIP-4.07	014	09/29/00	10/06/00	PROTECTIVE MEASURES
EPIP-4.08	014	05/10/02	06/19/02	INITIAL OFFSITE RELEASE ASSESSMENT
EPIP-4.09	013	05/10/02	06/19/02	SOURCE TERM ASSESSMENT
EPIP-4.10	011	08/13/02	08/28/02	DETERMINATION OF X/Q
EPIP-4.13	009	09/29/00	10/06/00	OFFSITE RELEASE ASSESSMENT WITH ENVIRONMENTAL DATA

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

DOCUMENT NUMBER	REV	APPROVAL **DATE**	EFFECT** **DATE**	DOCUMENT TITLE
EPIP-4.14	007	12/20/93	01/01/94	INPLANT MONITORING
EPIP-4.15	011	02/18/00	02/28/00	ONSITE MONITORING
EPIP-4.16	015	12/13/02	12/18/02	OFFSITE MONITORING
EPIP-4.17	016	12/13/02	12/18/02	MONITORING OF EMERGENCY RESPONSE FACILITIES
EPIP-4.18	013	12/13/02	12/18/02	MONITORING OF LEOF
EPIP-4.21	008	12/20/93	01/01/94	EVACUATION AND REMOTE ASSEMBLY AREA MONITORING
EPIP-4.22	014	04/05/02	04/09/02	POST ACCIDENT SAMPLING OF CONTAINMENT AIR
EPIP-4.23	014	04/05/02	04/09/02	POST ACCIDENT SAMPLING OF REACTOR COOLANT
EPIP-4.24	013	04/02/03	04/08/03	GASEOUS EFFLUENT SAMPLING DURING AN EMERGENCY
EPIP-4.25	008	07/23/93	07/23/93	LIQUID EFFLUENT SAMPLING DURING AN EMERGENCY
EPIP-4.26	011	07/26/01	09/13/01	HIGH LEVEL ACTIVITY SAMPLE ANALYSIS
EPIP-4.28	007	01/09/97	01/14/97	TSC/LEOF RADIATION MONITORING SYSTEM
EPIP-4.30	005	04/05/02	04/09/02	USE OF MIDAS CLASS A MODEL
EPIP-4.31	003	06/20/94	06/20/94	USE OF MIDAS CLASS B MODEL
EPIP-4.33	003	11/28/00	11/30/00	HEALTH PHYSICS NETWORK COMMUNICATIONS
EPIP-4.34	003	12/13/02	12/18/02	FIELD TEAM RADIO OPERATOR INSTRUCTIONS
EPIP-5.01	011	12/11/96	12/17/96	TRANSPORTATION OF CONTAMINATED INJURED PERSONNEL
EPIP-5.03	016	02/18/00	02/28/00	PERSONNEL ACCOUNTABILITY
EPIP-5.04	010	03/04/03	03/17/03	ACCESS CONTROL
EPIP-5.05	013	06/25/96	07/02/96	SITE EVACUATION
EPIP-5.07	011	07/25/00	08/02/00	ADMINISTRATION OF RADIOPROTECTIVE DRUGS
EPIP-5.08	008	04/02/03	04/08/03	DAMAGE CONTROL GUIDELINE
EPIP-5.09	004	08/02/02	08/15/02	SECURITY TEAM LEADER CONTROLLING PROCEDURE

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

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

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-3.05	AUGMENTATION OF EMERGENCY RESPONSE ORGANIZATION (With No Attachments)	2 PAGE 1 of 6

PURPOSE

Provide guidance for notifying the augmentation emergency response organization (ERO).

ENTRY CONDITIONS

Any one of the following:

1. Declaration of an Alert, Site Area Emergency or General Emergency.
2. Direction of the Station Emergency Manager through the on-duty Security Team Leader.

Approvals on File

Effective Date 4/8/03

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

- By: _____

  Date: _____

  Time: _____

_____ 2 USE INSTRUCTIONS IN SEALED ENVELOPE TO ACTIVATE NORTH ANNA AND INNSBROOK GROUP PAGERS

_____ 3 USE INSTRUCTIONS IN SEALED ENVELOPE TO DIRECT COMMUNITY ALERT NETWORK (CAN) TO IMPLEMENT NOTIFICATION

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 4	CHECK CAN - ABLE TO PERFORM AUGMENTATION NOTIFICATION	IF CAN NOT able to perform augmentation notification, THEN do the following: a) Notify Innsbrook Security. b) Call 8-730-2020 (Network) ((804) 273-2020 (Public)) c) Provide the following information: 1) Title/Name 2) Location 3) Emergency classification 4) Indicate results of pager activation attempts: • North Anna Group Pager • Innsbrook Group Pager d) Direct Innsbrook Security to initiate back-up ERO augmentation notification using CPIP-3.4, INNSBROOK SECURITY SUPPORT. e) GO TO Step 6.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 5 NOTIFY INNSBROOK SECURITY:

a) Call 8-730-2020 (Network)
((804) 273-2020 (Public))

b) Provide the following information:

1) Title/Name

2) Location

3) Emergency classification

_____ 6 NOTIFY HYDROELECTRIC PROJECT TECHNICAL ASSISTANT:

a) Call 9-872-3531 (Local Public)

b) Provide the following information:

1) Title/Name

2) Indicate emergency in effect

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 7 NOTIFY OPERATIONS SHIFT DESIGNATED FOR COVERAGE BY OPERATIONS:

a) Find list of shift callout points-of-contact in EPNL

"A" Shift	Position #491
"B" Shift	Position #492
"C" Shift	Position #493
"D" Shift	Position #494
"E" Shift	Position #495

b) Call one Operations shift callout point-of-contact for designated shift

c) Provide the following information:

1) Title/Name

2) Emergency classification

3) Indicate that entire Operations shift is to be called-in for support

_____ 8 USE INSTRUCTIONS IN SEALED ENVELOPE TO SEND POP-UP MESSAGE

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 9 TERMINATE EPIP-3.05:

- Give completed EPIP-3.05. forms and other applicable records to Security Team Leader
- Completed by: _____

  Date: _____

  Time: _____

-END-

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.01	RADIOLOGICAL ASSESSMENT DIRECTOR CONTROLLING PROCEDURE (With 2 Attachments)	19 PAGE 1 of 27

PURPOSE

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

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

ENTRY CONDITIONS

Activation by EPIP-1.01, EMERGENCY MANAGER CONTROLLING PROCEDURE.

Approvals on File

Effective Date 4/8/03

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE PROCEDURE:

a) By: _____

Date: _____

Time: _____

b) Assume position of Radiological Assessment Director (RAD)

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

_____ 2 GO TO THE CONTROL ROOM

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

AND

Report to the Control Room immediately upon completion of task.

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

_____ 3 ASK SEM FOR BRIEFING ON THE FOLLOWING PARAMETERS:

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

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 4	CHECK IF EMERGENCY FACILITIES ARE BEING ACTIVATED	GO TO Step 6.
_____ 5	MOVE TO TSC	
	NOTE: A minimum of 2 (two) Offsite Monitoring Teams must be dispatched (i.e., sent into the field) upon a Site Area Emergency or higher emergency class.	
_____ 6	CHECK HP SUPPORT - REQUIRED	IF HP support NOT immediately required, THEN do the following: • WHEN HP support required, THEN GO TO Step 7. • WHEN emergency is terminated, THEN GO TO Step 38.
_____ 7	CHECK IF EVENT INVOLVES ACTUAL OR POTENTIAL OFFSITE RELEASE	GO TO Step 25.
_____ 8	INITIATE SAMPLING OF EFFLUENT PATHWAY	IF unable to get effluent sample, THEN initiate source term sampling.
_____ 9	DIRECT INITIATION OF EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 10	DIRECT INITIATION OF EPIP-4.30, USE OF MIDAS CLASS A MODEL	IF MIDAS NOT operable, THEN initiate back-up assessment using desk-top calculations: • EPIP-4.08, INITIAL OFFSITE RELEASE ASSESSMENT. • EPIP-4.09, SOURCE TERM ASSESSMENT. • EPIP-4.10, DETERMINATION OF X/Q.
_____ 11	DIRECT RPS TO INITIATE EPIP-4.02, RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE	
_____ 12	DETERMINE EVENT CLASSIFICATION:	

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

_____ 13	GIVE ASSESSMENT BASED CLASSIFICATION TO SEM	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 14	CHECK NOTIFICATION OF UNUSUAL EVENT IN EFFECT OR EVENT IS BELOW CLASSIFICATION LIMITS: a) Report percent Tech. Spec. and Site Boundary dose rate to Station Emergency Manager b) Get backup sample of the effluent release path c) Have sample analyzed using Health Physics Procedures d) GO TO Step 20 for follow up assessment	GO TO Step 15. b) IF unavailable, THEN GO TO Step 20.
_____ 15	INITIATE RESPONSE ACTIONS FOR CONDITION IV LIMITING FAULT ACCIDENT: • Fuel Handling Accident - GO TO Step 16 • Steam Generator Tube Rupture - GO TO Step 17 • Main Steam Line Rupture - GO TO Step 18 • LOCA - GO TO Step 19	IF event NOT Limiting Fault, THEN GO TO Step 20.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: Analysis of accidents involving decayed spent fuel should include consideration of onsite skin dose due to Kr-85.

_____ 16 INITIATE RESPONSE ACTIONS FOR FUEL HANDLING ACCIDENT:

a) Recommend evacuation of the Fuel Building and affected containment

b) Restrict access until radiological assessment can be made

c) Have EPIP-4.06, PERSONNEL MONITORING AND DECONTAMINATION, initiated to monitor individuals evacuated from accident area

d) Report dose assessment (MIDAS or desk-top) results to SEM

e) GO TO Step 21

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 17 INITIATE RESPONSE ACTIONS FOR STEAM GENERATOR TUBE RUPTURE:

a) Get release parameters from SEM:

1) Note length of time between initiation of release and when Air Ejector diverted to containment:_____(min.) (if Air Ejector diverted)

2) Number of Steam Generator Relief or Safety Valves which have lifted:_____

3) Length of time Relief or Safety Valves remained open: _____(min.)

4) Number of relief or Safety Valves which may potentially lift: _____

5) Status of main steam supply to the Steam Driven Auxiliary Feedwater Pump:

Steam isolation from "A" S/G at _____(time)
"B" S/G at _____
"C" S/G at _____

6) Current Steam Generator Blowdown pathway:_____

7) Length of time until blowdown isolated:____(min.)

b) Check Air Ejector - DIVERTED TO CONTAINMENT

b) IF Air Ejector NOT diverted, THEN GO TO Step 17.d.

c) Request immediate evacuation of containment building

(STEP 17 CONTINUED ON NEXT PAGE)

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

(STEP 17 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

17 INITIATE RESPONSE ACTIONS FOR STEAM GENERATOR TUBE RUPTURE: (Continued)

h) Restrict access in the following areas until survey(s) confirm no radiological hazards:

- Steam Generator Blowdown Cooler area
- Steam Generator Blowdown Lines and Vent area
- Steam Generator Relief Valve area
- Steam Driven Auxiliary Feedwater Pump Turbine exhaust area
- Powdex Area - Turbine Building, 303' level
- Main Steam Valve House

i) Consider sampling of Steam Generator Blowdown and Main Steam of affected unit

j) Determine potential for liquid release pathway through the Main Steam Safety Valve

k) GO TO Step 21

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 18	INITIATE RESPONSE ACTIONS FOR MAIN STEAM LINE RUPTURE:	
	a) Ask SEM for release parameters: 1) Location of steam break 2) Status of actual or potential Main Steam Safety Valve lift 3) Number of valves lifted: _____ 4) Length of time valves remained open: _____(min.) 5) Status of Steam Driven Auxiliary Feedwater Pump isolation 6) Monitor reading on Main Steam Monitors and Steam Driven Auxiliary Feedwater Pump exhaust radiation monitors	
	b) Check station ventilation vent radiation monitors for release indication	b) IF NO release indicated, THEN do the following: 1) Notify SEM that potential for source term development will be evaluated because monitors do not indicate release. 2) GO TO Step 18.e.
	c) Evaluate release consequences: 1) Assess onsite dose rate in area of break (after break is isolated) 2) Assess offsite dose rate (STEP 18 CONTINUED ON NEXT PAGE)	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

18 INITIATE RESPONSE ACTIONS FOR MAIN STEAM LINE RUPTURE: (Continued)

d) Report dose assessment (MIDAS or desk-top) results to SEM

e) Determine potential for source term to develop inside containment or from Main Steam Relief Valve lift

f) Direct initiation of EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR

AND

EPIP-4.23, POST ACCIDENT SAMPLING OF REACTOR COOLANT

g) GO TO Step 21

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 19	INITIATE RESPONSE ACTIONS FOR LOCA:	
	a) Ask SEM for location of break	
	b) Ask SEM for status of Containment Isolation - Phase "A" or "B", and any leak paths from the containment	
	c) Recommend evacuation of Auxiliary Building and Safeguards Building to SEM AND Restrict entry until survey(s) confirm no radiological hazard exist	
	d) Determine CHRRMS readings (RMS-165, 166 or RMS-265, 266)	
	e) Check release occurred through monitored pathway(s)	e) Do the following: 1) Direct initiation of EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE. 2) Assess actual (unmonitored) or potential release from containment.
	f) Report dose assessment (MIDAS or desk-top) results to SEM	
	g) Direct initiation of EPIP-4.22, POST ACCIDENT SAMPLING OF CONTAINMENT AIR AND EPIP-4.23, POST ACCIDENT SAMPLING OF REACTOR COOLANT	
	h) GO TO Step 21	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 20	INITIATE RESPONSE ACTIONS FOR RADIOLOGICAL RELEASE:	GO TO Step 25.
	a) Record release pathway(s): _____	
	b) Verify event limited to plant systems	b) IF radiological event at ISFSI, THEN refer to Attachment 2, Response to ISFSI Event.
	c) Report dose assessment (MIDAS or desk-top) results to SEM	
	d) Ask SEM to place an individual at the monitor of interest to report increase or decrease in readings	
	e) Get sample of effluent pathway	e) IF sample NOT available, THEN use monitor readings for follow-up assessment.
	f) Analyze samples using normal Health Physics procedures	
	g) Consider initiation of EPIP-4.26, HIGH LEVEL ACTIVITY SAMPLE ANALYSIS	
	h) Verify that an exposure control individual is available to supply dosimetry	

(STEP 20 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
20	INITIATE RESPONSE ACTIONS FOR RADIOLOGICAL RELEASE: (Continued) i) Have RPS coordinate HP coverage needed for any of the following activities: • Damage Control Teams • Emergency Security activities • Access control • Personnel monitoring • Sample analysis j) Consider having RPS prepare for dispatch of Offsite Monitoring Teams: • Team assembly • Preparation of equipment and vehicles	
_____ 21	ENSURE 40CFR302 EPA NOTIFICATION REQUIREMENTS AND REPORTABLE QUANTITY CALCULATIONS ARE EVALUATED IN ACCORDANCE WITH NORMAL HP PROCEDURES	
_____ 22	CHECK IF RESULTS OF OFFSITE RELEASE ASSESSMENT INDICATE SITE BOUNDARY DOSE RATE ≥ 50 mrem/hr TEDE OR 250 mrem/hr THYROID CDE	GO TO Step 24.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 23	DETERMINE OFFSITE PROTECTIVE MEASURES: a) Get an estimate of release duration (hours) from SEM b) Direct initiation of EPIP-4.07, PROTECTIVE MEASURES c) Give recommendation to SEM	a) Use 2 hour default.
_____ 24	CHECK LEOF (CEOF) HAS LEAD FOR OFFSITE DOSE ASSESSMENT	Do the following: a) Assure dose assessment result identification number recorded on all pages. b) Record initials on each page to document approval for issuance of results. c) Review offsite release assessment results with SEM. d) Give applicable dose assessment report to State/Local Emergency Communicator: • MIDAS Radiological Status Report (2 pages). • EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE, Attachment 1. e) Provide updated dose assessment results when any of the following occur: • Every 60 minutes during Alert or higher classification. • Within 15 minutes after a classification change. • Change in radiological conditions.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE:
- The following step lists response actions that may have to be coordinated by the RAD. These actions are not listed in order of priority.
- A minimum of 2 (two) Offsite Monitoring Teams must be dispatched (i.e., sent into the field) upon a Site Area Emergency or higher emergency class.

_____ 25 REVIEW HP RESPONSE ACTIONS AND INITIATE RESPONSES ON A PRIORITY BASIS:

WHEN all necessary response actions addressed, THEN GO TO Step 36.

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

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
	NOTE: First Aid considerations must be given priority over decontamination of individual.	
_____ 26	INITIATE RESPONSE TO INJURED CONTAMINATED INDIVIDUAL:	
	a) Check if individual requires offsite medical treatment	a) RETURN TO Step 25.
	b) Direct initiation normal HP procedure(s) for response to contaminated injured personnel	
	c) Have RPS review personnel contamination surveys and confirm personnel contaminated	c) RETURN TO Step 25.
	d) Check if clothing removal and/or onsite decontamination eliminates contamination AND Internal contamination is NOT suspected	d) IF individual remains contaminated, THEN do the following: 1) Have HP Technician accompany the individual. 2) Recommend transport to MCV.
	e) RETURN TO Step 25	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 27 GIVE TURNOVER TO RELIEF:

a) WHEN a more Senior Health Physics individual arrives onsite

OR

Relief - NEEDED, THEN brief successor on:

- Existing plant conditions
- Offsite release assessment performed
- Health Physics actions currently underway

b) Notify SEM of position change

c) Have relief remain for about 30 minutes to ensure proper turnover

d) RETURN TO Step 25

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 28 ESTABLISH HP EMERGENCY ORGANIZATION:

a) Establish Dose Assessment Team:

1) Assign 1 Team Leader and 2 Team Members

2) Assign EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE

b) Establish RPS position

AND

Assign EPIP-4.02, RADIATION PROTECTION SUPERVISOR CONTROLLING PROCEDURE

c) RETURN TO Step 25

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

_____ 29 ASSESS NEED FOR OFFSITE MONITORING:

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

b) Check if command and control of Offsite Monitoring Teams has been transferred to the LEOF — b) GO TO Step 29.d.

c) RETURN TO Step 25

(STEP 29 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

29 ASSESS NEED FOR OFFSITE MONITORING: (Continued)

d) Have RPS initiate EPIP-4.16, OFFSITE MONITORING

e) Evaluate protective measures for offsite teams:

- TEDE exposure may exceed 10CFR20 annual limits: Initiate EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE

- Thyroid CDE may exceed 25 Rem: Initiate EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS

- Consider placing teams further downwind

f) Discuss provisions with RPS:

1) Number of monitoring teams required

2) Protective clothing

3) Respiratory protection

4) Standby assembly of teams, vehicles and equipment

5) Notification of TSC prior to team dispatch

6) Initial team placement

7) Relay of samples/supplies between teams and station

8) Relief of teams

g) RETURN TO Step 25

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 30 ACTIVATE LEOF:

a) Have RPS initiate EPIP-4.18, MONITORING OF LEOF

b) Brief RAC on the following parameters:

- Existing plant conditions
- Current offsite dose projections
- HP actions underway

c) Have Dose Assessment Team Leader brief RAC on the following parameters:

- Offsite dose assessment
- Status and location of offsite monitoring teams

d) Have Dose Assessment Team Member continue transmittal of status information to LEOF:

- Meteorological data
- Monitor data
- Sample analysis data

e) RETURN TO Step 25

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 31 INITIATE IN-PLANT / ONSITE MONITORING:

a) Review parameters with RPS:

- Plant conditions
- Selection of monitoring and sample locations
- Protective gear (clothing, respirators), dosimetry and special precautions for teams
- Elevated radiation level readings
- Access control points
- Recent survey results

b) Have RPS assign EPIP-4.14, INPLANT MONITORING

AND

EPIP-4.15, ONSITE MONITORING

AND

EPIP-4.17, MONITORING OF EMERGENCY RESPONSE FACILITIES

AND

EPIP-4.18, MONITORING OF LEOF

(STEP 31 CONTINUED ON NEXT PAGE)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
31	INITIATE IN-PLANT / ONSITE MONITORING: (Continued)	
	c) Notify RPS AND Ask for repeat survey of emergency response facilities for any of the following conditions: • Radiological release occurred • Release severity increases • Change in plume direction toward facility	c) GO TO Step 31.d.
	d) Check if survey data dictates the placement of control points to limit exposure and the spread of contamination	
	e) RETURN TO Step 25	
_____ 32	ESTABLISH ACCESS CONTROL AREAS:	
	a) Evaluate radiological hazards before permitting entrance into access controlled areas	a) GO TO Step 33.
	b) Arrange for HP coverage of emergency evolutions directed by SEM	
	c) Consider having RPS generate an RWP for controlled area entrance requirements	
	d) RETURN TO Step 25	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 33	EVALUATE RESPIRATORY PROTECTION REQUIREMENTS: a) Assess results of air sample analyses b) Recommend relocation of non-essential personnel from areas where high airborne activity is expected or airborne activity > 0.30 DAC c) Initiate EPIP-4.05, RESPIRATORY PROTECTION AND KI ASSESSMENT d) RETURN TO Step 25	
	NOTE: Administration of Potassium Iodine Tables is preferably done prior to exposure, although administration of the drug within 2 hours is considered acceptable.	
_____ 34	DETERMINE NEED FOR ISSUANCE OF RADIOPROTECTIVE DRUGS: a) Direct initiation of EPIP-4.05, RESPIRATORY PROTECTION AND KI ASSESSMENT b) Determine if actual or projected exposure ≥ 25 Rem Thyroid CDE c) Ask SEM for approval to administer radioprotective drugs d) Initiate EPIP-5.07, ADMINISTRATION OF RADIOPROTECTIVE DRUGS e) Get supply of tablets from Health Physics Office f) RETURN TO Step 25	b) RETURN TO Step 25. c) IF approval NOT granted, THEN RETURN TO Step 25. e) Get alternate supply from Surry Power Station.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 35 EVALUATE NEED TO EVACUATE/SHELTER NON-ESSENTIAL PERSONNEL:

a) Ask SEM for duration of release

b) Determine onsite exposure of non-essential personnel:

1) Ask RPS for results of plant surveys and samples

2) Check TEDE dose in occupied areas of station

3) Determine radioiodine dose commitment from concentration (µCi/cc) based on air sample data and exposure duration:

_____µCi/cc x 1.57E+6 x ____hrs = _____Rem

c) Check results indicate onsite exposure greater than or equal to the following:

- 1 Rem TEDE

OR

- 5 Rem Thyroid CDE

c) Do one of the following:

- IF exposure greater than 0.5 Rem TEDE or 1 Rem Thyroid CDE, THEN recommend sheltering

AND

RETURN TO Step 25

OR

- IF exposure less than 0.5 Rem TEDE and 1 Rem Thyroid CDE, THEN RETURN TO Step 25

d) Recommend that the SEM evacuate non-essential personnel

(STEP 35 CONTINUED ON NEXT PAGE)

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

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 40 REVIEW RECOVERY PHASE PARAMETERS WITH SEM:

- Access control to outside contaminated areas
- Return to normal access control throughout site
- Additional HP support personnel
- Radwaste packaging and disposal
- Assistance with decontamination

_____ 41 TERMINATE EPIP-4.01:

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

  Date: _____

  Time: _____

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-4.01	RADIOLOGICAL DATA WORKSHEET	19
ATTACHMENT 1		PAGE 1 of 1

DATE:_____ TIME:_____ UNIT:_____

Meteorological Data:

WIND DIRECTION (from): _____

SECTORS AFFECTED: _____

WIND SPEED (mph): _____

PRECIPITATION: _____

STABILITY CLASS: _____

RADIATION SYSTEM MONITORING DATA

VENT VENT A (VG-104) _____cpm (VG-179)_____μCi/sec

VENT VENT B (VG-113) _____cpm (VG-180)_____μCi/sec

PROCESS VENT (GW-102) _____cpm (GW-178)_____μCi/sec

AIR EJECTOR (SV-121) _____cpm (SV-221)_____cpm

VENT VENT A (VG-174) _____mR/hr

VENT VENT B (VG-175) _____mR/hr

PROCESS VENT (GW-173) _____mR/hr

---

mR/hr

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

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

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

CONTAINMENT MONITORS: R/hr

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

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

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

__ 1. Determine the following from Security or Operations (as appropriate):

- Any restrictions affecting personnel response to ISFSI.
- Readings on personal dosimetry (if available).
- Any visible breach in casks, e.g., number of casks affected, size of breach, etc.
- Any indication that cask contents dispersed from cask(s).
- Any indication that cask seal(s) lost.
- Estimated wind speed and direction.

__ 2. IF simultaneous response to both plant event and ISFSI event required, THEN prioritize HP response(s) based upon potential for adverse radiological consequences.

NOTE: Dose rates from holes offset by 90 ° or more are not additive.

__ 3. IF breach in cask(s) identified or anticipated, THEN do the following:

a) Notify Security to have responders avoid exposure from direction of breach.

b) IF cask contents dispersed from cask(s), THEN notify Security of potential for external and internal exposure hazards.

(STEP 3 CONTINUED ON NEXT PAGE)

NOTE: • The dose rate table and graph below are based on a 1-foot diameter hole. Therefore, smaller holes are bounded.

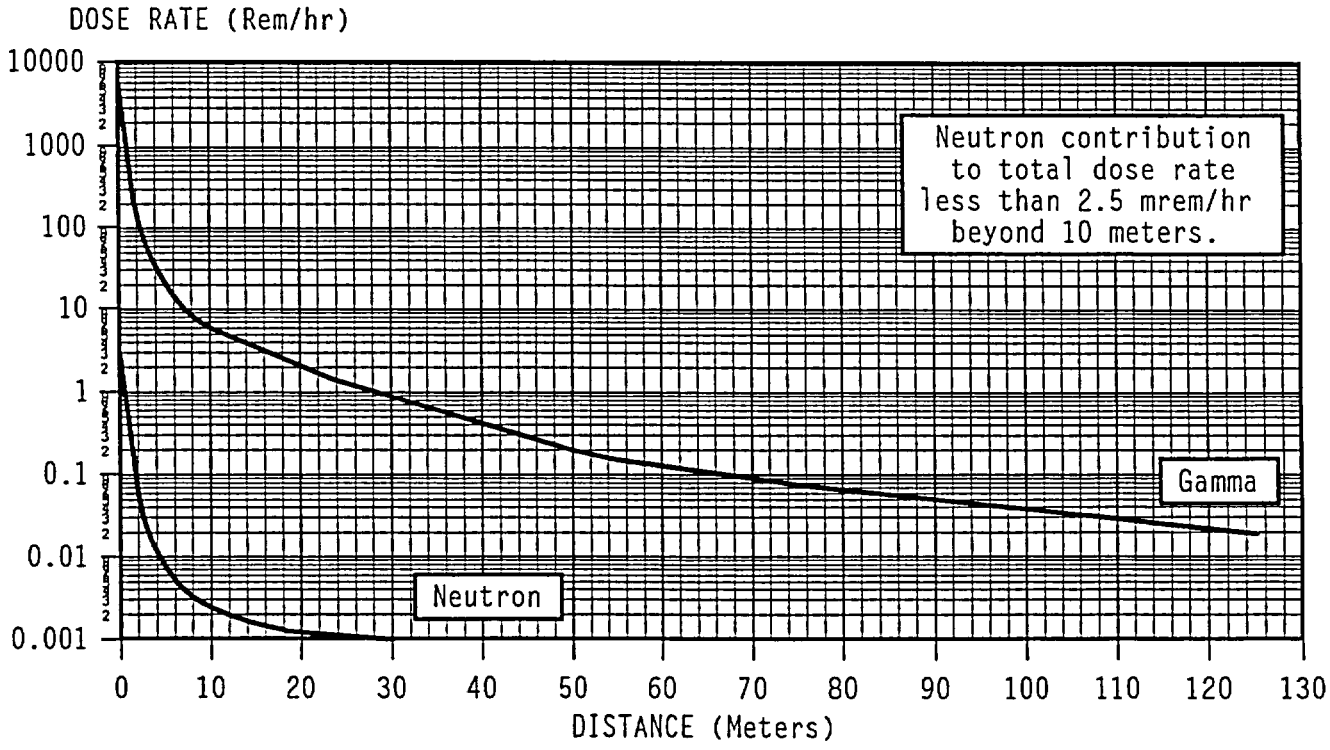
• The neutron dose rate is negligible relative to the gamma dose rate, approximately 0.1%.

3. IF breach in cask(s) identified or anticipated, THEN do the following: (continued)

c) Determine potential external exposure.

1) Use table or graph below for an approximate 1-foot diameter hole [Source: Calculation PA 0204]:

Location (meters)	Gamma Dose Rate (Rem/hr)	Neutron Dose Rate (Rem/hr)
Surface	5369.8	2.7804
3	57.95	0.01981
10	5.86	0.00239
50	0.19	< 0.0001
75	0.07	< 0.0001
100	0.04	< 0.0001
125	0.02	< 0.0001



(STEP 3 CONTINUED ON NEXT PAGE)

NOTE: • Holes larger than 1-foot diameter may not respond as a point source. Therefore, in this case the reduction in dose rates over distance would be less. Thus, the multiplier factor of 5 as shown below.

• Exposure rates decrease in accordance with the inverse square rule.

3. IF breach in cask(s) identified or anticipated, THEN do the following: (continued)

c) Determine potential external exposure. (continued)

2) IF more than 1 hole facing same direction, THEN calculate dose rate using the following formula:

Dose Rate from Dose Rate Table	x	# of holes	=	Dose Rate, mrem/hr

3) IF hole(s) greater than 1-foot diameter, THEN multiply dose rate(s) by 5.

d) Notify the following of potential exposure determined above:

- SEM
- Security (via the Emergency Administrative Director when TSC activated)
- RPS

__ 4. Give the RPS guidance and direction for briefing and equipping team IAW EPIP-4.15, ONSITE MONITORING.

- Monitoring location and surveys required
- Hazards (radiological and physical safety)
- Protective gear (respirators, SCBA, protective clothing, dosimetry, shielding)
- Monitoring equipment (alpha and neutron survey equipment may be needed if cask contents damaged or dispersed)

IF access to ISFSI restricted, THEN notify RPS to assemble and hold team.

WHEN conditions allow for dispatch of Onsite Monitoring Team, THEN have RPS coordinate approach of Onsite Monitoring Team with Security Team.

NOTE: Most of the information needed for the Report of Radiological Conditions to the State will be unknown or not applicable, particularly early in an event at the ISFSI. Therefore, Radiological Status form Item 10, Remarks, will have to provide a description of a radiological event at the ISFSI.

__ 5. Use EPIP-4.03, DOSE ASSESSMENT TEAM CONTROLLING PROCEDURE, Attachment 1, Radiological Status, to provide the State and Local Emergency Communicator event information for transmittal to the Virginia EOC (refer to example remarks below).

- IF survey information available, THEN consider remarks such as: "Survey results indicate affected area limited to __ meters from affected cask in a ____ direction. Survey readings at a distance of ___ meters from the affected cask are below _____."
- IF external exposure estimate available, THEN consider remarks such as: "Preliminary analysis indicates direct exposure hazard ___ at ___ meters."
- IF dosimetry information available, THEN consider remarks such as: "Dosimetry readings for personnel ___ meters from the affected area are below ____."
- IF no information available, THEN consider remarks such as: "Access to the Independent Spent Fuel Storage Installation (ISFSI) is restricted due to ____ concerns. No radiological information is available. It is anticipated information may be available in ___ hours."

__ 6. Assure Dominion Nuclear Analysis & Fuel (NAF) Department notified. The NAF Fuel Performance Analysis Group is responsible for developing calculational methods for producing accident radiation doses for the ISFSI and storage casks. Results of this analysis may not be available during the accident response phase.

__ 7. RETURN TO procedure in effect.

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-4.24	GASEOUS EFFLUENT SAMPLING DURING AN EMERGENCY (With 1 Attachment)	13 PAGE 1 of 9

PURPOSE

Provide guidance to personnel responsible for sampling high level radioactive gaseous effluents.

ENTRY CONDITIONS

Any one of the following:

1. Direction by the Radiation Protection Supervisor.
2. Direction by Dose Assessment Team Leader.
3. Direction by the Radiological Assessment Director.
4. Activation by another EPIP.

Approvals on File

Effective Date 4/8/03

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 1	INITIATE PROCEDURE: • By: _____ Date: _____ Time: _____	
	NOTE: Expertise and exposure should be considered when designating team members.	
_____ 2	ASSEMBLE SAMPLING TEAM	
_____ 3	CONSIDER USE OF SHIELDING FOR SAMPLE TRANSPORT	
_____ 4	CHECK IF EMERGENCY RADIATION EXPOSURE - REQUIRED	IF emergency radiation exposure NOT needed, THEN GO TO Step 6.
_____ 5	ASK RAD TO INITIATE EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

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.

_____ 6 BRIEF SAMPLE TEAM:

- Sampling location and monitor manufacturer
- Sampling procedures
- Sample type (e.g., Noble gas, Tritium, Iodine/Particulate)
- Dose rates in sample location

- Emergency dose authorization (if appropriate)
- RWP requirements:
  - High and low range dosimetry or use of DADs
  - Wrist, head, and ankle TLDs
  - Protective clothing
  - Respiratory protection

- "Buddy System" criteria
- Ingress and egress routes considering:

  - Lowest dose fields
  - Hazards (i.e., high pressure steam, structural damage)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 7 REVIEW SAMPLE LOCATIONS:

MONITOR	PRIMARY	BACKUP
Process Vent	274' Aux. Bldg. near charcoal filter banks	307' Service Bldg.
Vent Vents A and B	Aux. Bldg. roof near elevator shaft	310' Turbine Bldg. behind elevator shaft
Unit 1 Air Ejector	303' Turbine Bldg. near Powdex Resin Control Panel	None
Unit 2 Air Ejector	279' Turbine Bldg. at the Condenser Air Ejectors	None

_____ 8 GET SAMPLE EQUIPMENT:

- Poly bag labelled with:
  - System to be sampled
  - Date
  - Time
  - Volume
- 100 cc gas bomb
- Silver zeolite cartridge and particulate patch
- Silver zeolite sample holder
- Tritium bubbler with 20 mls demineralized water
- Tygon tubing and flow meter
- Maps and sampling procedures
- Portable monitoring equipment
- MGPI grip tongs

_____ 9 EVALUATE METHODS AND MATERIALS FOR TRANSPORTATION OF HIGH ACTIVITY SAMPLES (MGPI shield cart)

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 10	NOTIFY RPS THAT TEAM IS BEING DISPATCHED	
_____ 11	GO TO SAMPLE LOCATION: a) Use pre-planned route b) Verify dose rates within expected levels during transit c) Maintain ALARA	b) IF unexpected radiological conditions are encountered along the route, THEN do the following: 1) Use route of lowest dose field. 2) Notify RPS of radiological conditions.

NOTE: The intent of the transport equipment inspection is to identify:

- Deformation, cracks or excessive wear on any part of the lifting device.
- Loose or missing fasteners.

[Required per VPAP-0906, Control of Fabricated or Modified Tools]

_____ 12 INSPECT SAMPLE TRANSPORT EQUIPMENT FOR WELD AREA OR BOLT DEFECTS (IF USED):

- Lifting device
- MGPI shield cart

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 13	GET IODINE/PARTICULATE SAMPLE:	
	a) Maintain continuous exposure surveillance	
	b) Check if normal gaseous effluent sampling systems to be used	b) IF using MGPI, THEN do the following: 1) Use Attachment 1, High-Range Sampling Using MGPI, to take sample. 2) GO TO Step 14.
	c) Remove iodine/particulate sample assembly	
	d) Determine sample volume on first iodine/particulate sample (assume sample started at beginning of accidental release)	

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 14	CHECK NOBLE GAS SAMPLE - REQUIRED:	IF noble gas sample NOT required, THEN do the following:
	a) Assure charcoal cartridge (located in assembly upstream of noble gas chamber) is removed	1) Assure iodine/particulate sample assembly is installed with a silver zeolite cartridge and particulate patch in place.
	b) Assure particulate patch is in place	2) GO TO Step 15.
	c) Attach 100 cc sample chamber to the two sample valves at grab sample skid with flexible hose	

* *

CAUTION: Closing MGPI bypass valve (V-8) more than 45° may dead head pump.

* *

d) Establish flow through gas chamber:

1) Open both sample valves

2) Open petcocks on gas chamber

3) Slowly close bypass valve

4) Maintain flow to purge chamber

e) Isolate gas chamber:

1) Open bypass valve

2) Close sample valves and petcocks

f) Remove gas chamber

STEP	ACTION/EXPECTED, RESPONSE	RESPONSE NOT OBTAINED

* *

CAUTION: Make sure to open the flowmeter side (supply) before opening the bubbler (discharge). Opening the discharge first may cause air pressure to push water from the bubbler into the flowmeter.

* *

_____ 15 CHECK TRITIUM SAMPLE - REQUIRED: GO TO Step 16.

a) Assure both particulate patch and charcoal filter are in place

b) Attach tritium sampler:

1) Facing sample station, connect flowmeter hose to supply valve

2) Open flowmeter needle valve 3 turns

3) Connect bubble hose/bubbler assembly to discharge valve

c) Establish flow through tritium sampler:

1) Open both sample valves at about the same time

2) Slowly close bypass valve to establish a flowrate of about 2 lpm

3) Adjust ratemeter, as necessary, to obtain 2 lpm

4) Allow flow for about 5 minutes:

- Collect at least 500 mls (to meet LLD)
- Note actual sample duration

d) Isolate tritium sampler:

- Open bypass valve
- Close both sample valves at about the same time

e) Remove tritium sampler apparatus

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 16 DETERMINE WHERE TO TRANSPORT SAMPLE:

IF sample reads	THEN prepare sample for:
GREATER THAN OR EQUAL TO 10 mR/hr	Hot Lab
LESS THAN 10 mR/hr	Count Room

_____ 17 DELIVER SAMPLE:

a) Place sample in clean poly bag

b) Quickly leave area by preplanned route

c) Record the following on sample:

- Date
- Time
- Sample type
- Volume (if normal gaseous effluent system used)

d) Deposit sample in Count Room or Hot Lab IAW Step 16

_____ 18 NOTIFY RPS SAMPLING COMPLETE

_____ 19 TERMINATE EPIP-4.24:

a) Give completed EPIP-4.24, forms and other applicable records to the RPS

b) Completed by:_____
Date:_____
Time:_____

-END-

NOTE: Ball valves V-11 and V-12 are used to turn on or shut off "accident sampling flow through the first shielded Particulate/Iodine Sampler (PIS#1). V-13 and V-14 are used for the second shielded Particulate/ Iodine Sampler (PIS#2).

I. PREPARE FOR SAMPLING

___ 1. Verify shielded Particulate/Iodine (P/I) sample is loaded in PIS#1 or PIS#2.

IF P/I sample NOT loaded, THEN do the following:

a. Verify which PIS to be loaded.

b. Prepare a new P/I holder.

c. Line up PIS#1 (PIS#2) by opening V-13 (V-11) and V-14 (V-12).

d. Close V-11 (V-13) and V-12 (V-14).

e. Open the PIS door.

___ 2. Insert the new holder into the PIS and close the door.

___ 3. Notify Control Room of sampling for any alarms.

* *

CAUTION: Although analog outputs will be frozen at last value, digital ports and log commands remain operational while in Program Mode.

* *

NOTE:
- Flow rate through the PIS is totalized by FIT-2 (the flow transmitter for the accident sampling flow path) and by the Local Processing Unit (LPU). Both totalizers must be reset when switching or replacing PIS samples. Only the Local Display Unit (LDU) totalizer resets when the vent monitor switches from NORMAL mode to ACCIDENT mode and places the shielded PIS in service.
- The keypad sequence to escape is CC.
- The keypad sequence for HELP is HH.
- The display will continue to scroll options while in normal operation.

II. RESET THE FIT-2 TOTALIZER (USING THE MASS FLOW TRANSMITTER KEYPAD)

___ 1. Turn (unscrew) cover to access keypad.

___ 2. Press P key on Mass Flow Transmitter keypad.

The following message screens will appear for about 3 seconds each:

! WARNING ! NO OUTPUT UPDATES

WHILE IN PROGRAM MODE

(SECTION II CONTINUED ON NEXT PAGE)

II. RESET THE FIT-2 TOTALIZER (USING THE MASS FLOW TRANSMITTER KEYPAD) [continued]

___ 3. WHEN the "ENTER ACCESS CODE" message screen appears,

ENTER ACCESS CODE:

THEN enter the user access code followed by the E key (ENTER).

ENTER ACCESS CODE: 123456	(Press E key.)

The following messages will alternate on the display screen:

PRESS E TO SET SYSTEM OF UNITS	PRESS P TO SEE NEXT CHOICE OR

___ 4. Press the P key (NEXT).

The following messages will alternate on the display screen:

PRESS E TO RESET TOTALIZER	PRESS P TO SEE NEXT CHOICE OR

___ 5. Press the E key (ENTER) to reset the totalizer.

The following message will appear:

ARE YOU SURE? /\=YES \/=NO : NO

___ 6. Press the /\ (Up Arrow) (YES) key.

The following message will appear:

ARE YOU SURE? /\=YES \/=NO : YES

___ 7. Press the E key (ENTER) to complete totalizer reset.

___ 8. Press C key twice (CC) (ESCAPE) to close.

III. RESET THE FIT-2 TOTALIZER DISPLAY ON THE LOCAL DISPLAY UNIT

___ 1. Record the FIT-2 totalizer reading from the LDU (for example: D PISTotal 3 RT-3-P, where the final character is vent being monitored, #-P for Process Vent, #-A for Vent A, #-B for Vent B).

___ 2. Reset the FIT-2 totalizer display on the LDU.

a. Press Sel key on LDU keypad repeatedly until COMMAND screen is displayed.

b. Press up or down key on LDU keypad repeatedly until R/FIT-2 is highlighted.

c. Press Sel key on LDU keypad repeatedly until field to right of the command changes to "1".

d. Press up or down key on LDU keypad repeatedly until cursor is at first (next) digit in 4-digit password field. Password is 0000 (four zeroes).

e. Press Sel key on LDU keypad repeatedly until digit changes to first digit of the password.

f. Repeat steps d and e until all four digits of password entered.

g. Press up or down arrow repeatedly until Confirm is highlighted.

h. Press Sel key on LDU keypad to confirm the command

i. Press up or down key on LDU keypad repeatedly until R/FIT-2 is highlighted.

j. Press Sel key on LDU keypad repeatedly until field to right of the command changes to "A".

k. Press up or down key on LDU keypad repeatedly until cursor is at first (next) digit in 4-digit password field. Password is 0000 (four zeroes).

l. Press Sel key on LDU keypad repeatedly until digit changes to first digit of the password.

m. Repeat steps k and l until all four digits of password entered.

n. Press up or down arrow repeatedly until Confirm is highlighted.

o. Press Sel key on LDU keypad to confirm the command.

p. Press Sel key on LDU keypad to confirm the command.

NOTE: For PIS#1 to be in service, V-11 and V-12 are open, and V-13 and V-14 are closed. For PIS#2 to be service V-13 and V-14 are open, and V-11 and V-12 are closed.

IV. REMOVE SAMPLE AND DELIVER TO COUNT ROOM

___ 1. Verify which PIS to be changed.

___ 2. Prepare a new P/I holder to replace the one to be removed.

___ 3. Change out PIS#1 (PIS#2) by opening V-13 (V-11) and V-14 (V-12).

___ 4. Close V-11 (V-13) and V-12 (V-14).

___ 5. Use grip tong to open PIS door and grab P/I holder.

___ 6. Place P/I holder inside shielded cart and close cart door.

___ 7. Insert new holder into PIS and close PIS door.

___ 8. Deliver sample to Count Room.

NOTE: Part V, Install New Particulate/Iodine Holder, below is applicable when there is no P/I sampler installed.

V. INSTALL NEW PARTICULATE/IODINE HOLDER

___ 1. Verify which PIS to be loaded.

___ 2. Prepare a new P/I holder.

___ 3. Line up PIS#1 (PIS#2) by opening V-13 (V-11) and V-14 (V-12).

___ 4. Close V-11 (V-13) and V-12 (V-14).

___ 5. Open the PIS door.

___ 6. Insert the new holder into the PIS and close the door.

VIRGINIA POWER
NORTH ANNA POWER STATION
EMERGENCY PLAN IMPLEMENTING PROCEDURE

NUMBER	PROCEDURE TITLE	REVISION
EPIP-5.08	DAMAGE CONTROL GUIDELINE (With 6 Attachments)	8 PAGE 1 of 6

PURPOSE

To provide guidance, including task definition and evaluation, to the Emergency Maintenance Director and Maintenance Support Team personnel during an emergency.

ENTRY CONDITIONS

Any one of the following:

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

Approvals on File

Effective Date 4/8/03

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 1 INITIATE EPIP-5.08:

- By: _____

  Date: _____

  Time: _____

_____ 2 VERIFY SUPPORT STAFF HAS GUIDELINES:

- Maintenance Support Team Leader: Attachment 1
- Maintenance Support Team: Attachment 2
- Field Team Coordinator: Attachment 3
- Damage Control Coordinator (in HP): Attachment 4

_____ 3 DETERMINE TASK REQUIREMENTS:

a) Consult with Station Emergency Manager (SEM)

b) Check type of support required:

- System or General Walkdown
- Damage Assessment
- Damage Repair
- Contamination Control

- System Modification
- Radwaste Processing
- Other (as specified by SEM)

c) Consider having a pool of craft personnel and operators staged at HP Clean Change for quick dispatch

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

NOTE: More than one maintenance support evolution may be conducted concurrently.

_____ 4 ASSIGN TASK NUMBER(S)

_____ 5 DETERMINE PRIORITY:

a) Evaluate task against other tasks required or underway

b) Confer with SEM

c) Assign priority

_____ 6 INITIATE ATTACHMENT 5, TASK ASSIGNMENT SHEET(S):

a) Fill out Items 1 - 4

b) Assign task to Maintenance Support Team Leader

c) Brief Maintenance Support Team Leader on the following:

- Task requirements
- Task priority

d) Give Attachment 5 to Team Leader

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 7	CHECK IF ADDITIONAL MAINTENANCE SUPPORT TEAM PERSONNEL ARE NEEDED FOR TASK PLANNING: a) Evaluate availability and expertise of onsite support personnel b) Request additional personnel resources through the Emergency Administrative Director	GO TO Step 8.
_____ 8	CHECK IF SUPPORT IS NEEDED FROM OTHER DEPARTMENTS: a) Consult with Emergency Directors b) Have Maintenance Support Team Leader assist with interface to coordinate planning and assignments	GO TO Step 9.
_____ 9	CHECK IF OFFSITE ASSISTANCE IS REQUIRED: a) Evaluate need for support from any of the following: • NSSS Vendor • A & E Vendor • Corporate resources • Other organizations as deemed necessary b) Ask Emergency Administrative Director to coordinate resource requests through LEOF	GO TO Step 10.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
_____ 10	GIVE PERIODIC TASK STATUS UPDATES TO SEM AND COGNIZANT EMERGENCY DIRECTOR(s) (Consult with Maintenance Support Team Leader about status of tasks in progress)	
_____ 11	CHECK - TASK PRIORITIES CHANGED: a) Consult with SEM b) Assign new priorities c) Notify Maintenance Support Team Leader	GO TO Step 12.
_____ 12	ASSURE THE FOLLOWING ARE KEPT CURRENT: • TSC Status Board • Attachment 6, Task Log	
_____ 13	CHECK IF NEW TASKS HAVE BEEN IDENTIFIED	GO TO Step 15.
_____ 14	RETURN TO STEP 3	
_____ 15	CHECK EMERGENCY - TERMINATED	RETURN TO Step 10.

STEP	ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

_____ 16 TERMINATE EPIP-5.08:

a) Consult with SEM on restoration actions

b) Notify Damage Control Coordinator (in HP) of status

c) Collect documentation

d) Give EPIP-5.08, forms and other applicable records to Emergency Procedures Coordinator

e) Completed by: _____

Date: _____

Time: _____

-END-

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-5.08	MAINTENANCE SUPPORT TEAM LEADER GUIDELINES	8
ATTACHMENT 1		PAGE 1 of 1

1. Get Attachment 5, Task Assignment Sheet, from Emergency Maintenance Director

NOTE: The Field Team Coordinator is a Maintenance Support Team member assigned to oversee task planning and control of teams dispatched to the field.

2. Record name of assigned Field Team Coordinator on Attachment 5, Item 5

3. Record Priority, Task Number, and Task Description on the following:

   - Attachment 6, Task Log
   - TSC Status Board

4. Give Attachment 5, Task Assignment Sheet, to Field Team Coordinator and brief individual on task requirements

5. Have Maintenance Support Team Members support Field Team Coordinator in task planning:

   - Procedures needed to perform task
   - Schematics and drawings
   - Identification/acquisition of parts and equipment
   - Determination of protective gear required

6. Check status of tasks in progress:

   a) Confer with Field Team Coordinator

   b) Update Attachment 6, Task Log

   c) Update TSC Status Board

NOTE: The Maintenance Support Team has overall responsibility for the following:

- Developing proposed repair action plans
- Assisting the Field Team Coordinator in task planning
- Specifying/acquiring drawings, procedures, tools, equipment, and parts necessary for task performance

1. Get task assignment from Maintenance Support Team Leader

2. Consider the following when evaluating task requirements:

   a) Walkdowns and damage assessment/repair:

   - Ingress/egress routes
   - Special procedural requirements
   - Damage Control Kit
   - Materials for temporary repair (including non-qualified material for temporary function restoration)
   - Sources of materials (alternate unit, Surry)

   b) Contamination control:

   - Isolation of systems or components
   - Manual containment isolation
   - Isolation of severely contaminated rooms or buildings, including access, piping and ventilation
   - Radiological clean-up
   - Pumping of spills to radwaste systems

   c) System modifications:

   - Emergency changes to existing systems/structures
   - Changes to setpoints or controls
   - Alterations to liquid or gaseous flowpaths
   - Temporary shielding
   - Alterations to radwaste systems
   - Temporary/altered electrical systems

   d) Radwaste:

   - Location of spills (e.g., outside containment)
   - Chemical addition for radioiodide control
   - Contingencies for processing of radwaste which exceeds capacity of existing systems

3. Identify hazards that may be associated with task:

   - Electrical
   - Toxic gases/chemicals
   - High pressure steam
   - Structural damage

   - Radiological
   - Confined entry
   - Other

4. Determine protective measures required

NOTE: Temporary procedures developed for performance of emergency tasks may be approved by the Station Emergency Manager. SNSOC review should be obtained as time permits.

5. Get procedures:

   - Use existing procedures

   OR

   - Get approval of modified/new procedures for task

6. Identify personnel resources/expertise needed to fulfill task

7. Identify and acquire drawings, schematics, maps, tools, equipment and parts, as necessary, to perform task

8. Coordinate provisions to provide plans, procedures, supporting documents, tools, etc. to Damage Control Team through Field Team Coordinator

NOTE: The Field Team Coordinator is a member of the Maintenance Support Team and has overall responsibility for the following:

- Using Maintenance Support Team resources to support task planning, logistics, and determination of procedures and equipment needed to perform task.
- Field Team preparation and control.
- Direct interface with Damage Control Coordinator in HP.

1. Get Attachment 5, Task Assignment Sheet, from Maintenance Support Team Leader and do the following:

   a) Review task assignment and resolve any questions

   b) Complete Task Assignment Sheet as you continue through this guideline

2. Consider phased approach to work task:

   a) Consider dispatch of a team to analyze/assess task requirements and use assessment results in determination of parts, equipment, personnel resources needed to complete task

   b) Report assessment results (if performed) to EMD and evaluate any significant deviations from the expected task

3. Call Damage Control Coordinator (in HP) and inform individual of proposed task and to initiate preparations with HP

NOTE: Damage Control Team members are not designated prior to initiation of this procedure. They are selected based on availability and expertise.

4. Designate Damage Control Team personnel to work task:

   a) Consider use of existing Damage Control Teams and OSC resources

   b) Select team members based on expertise, task requirements and allowable exposure

   c) Record Team ID and names of personnel on Task Assignment Sheet

5. Consider use of dry-run for practice, ALARA versus urgency of task

6. IF HP briefing required, THEN have Damage Control Coordinator ask RPS for assistance.

7. Ask RAD for evaluation of emergency radiation exposure limits

8. Determine if special hazards briefing is required:

   - Electrical hazards
   - High pressure steam
   - Toxic gases/chemicals
   - Structural damage

   - Confined entry
   - Other

9. Specify protective measures required of team members

10. Determine briefing location

11. Specify tools, equipment, and procedures to be used on Task Assignment Sheet

12. Get task approvals

13. Have team get a radio and report to briefing location

14. Brief team:

    - Use Attachment 5, Task Assignment Sheet, to do briefing and give copy to team

    OR

    - Send Task Assignment Sheet to Damage Control Coordinator in HP and have Damage Control Coordinator do briefing

15. Control task evolution:

    a) Direct task performance

    b) Maintain communications with team or set up relay network with Damage Control Coordinator

    c) Check status and update EMD, Maintenance Support Team Leader and Damage Control Coordinator

    d) Get resources through Maintenance Support Team Leader as needed

16. WHEN task complete, THEN do the following:

    a) Notify Maintenance Support Team Leader and Damage Control Coordinator

    b) Check if follow-up tasks required

    c) Complete Task Assignment Sheet

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-5.08	DAMAGE CONTROL COORDINATOR GUIDELINES	8
ATTACHMENT 4		PAGE 1 of 2

1. Establish contact with TSC Maintenance Support Field Team Coordinator

2. Ask to have Task Assignment Sheet sent to you (via fax, if possible)

3. Review Task Assignment Sheet and resolve any issues with Field Team Coordinator

4. Ask Radiation Protection Supervisor (RPS) to initiate the following:

   a) Determine RWP (a Special RWP may have to be created for task)

   b) Check if continuous HP coverage is required

   c) Check availability of the following (as necessary):

      - Protective clothing
      - Dosimetry
      - Survey Instrumentation

   d) IF emergency radiation exposure authorization required, THEN ask RPS to have EPIP-4.04, EMERGENCY PERSONNEL RADIATION EXPOSURE, initiated

   e) Determine ingress and egress routes (considering identified hazards) for each task

5. Brief Damage Control Team (if not performed by Maintenance Support Team Leader or Field Team Coordinator):

   a) Review Task Assignment Sheet with team

   b) Task objectives

   c) Ingress/egress routes

   d) Specific assignments

   e) Radiological considerations (ask RPS for assistance)

   f) Radio Frequency Interference (RFI) area considerations (as appropriate)

6. Ensure team has the following:

   - Means of communication (radio or contingency method)
   - Copy of Task Assignment Sheet

7. Dispatch team

8. WHEN team returns, THEN do the following:

   - Notify Field Team Coordinator of return
   - Have team representative contact Field Team Coordinator in TSC and discuss need for follow-up tasks, special circumstances, etc.
   - Have team representative ensure Task Assignment Sheet completed
   - Have team representative ensure Task Assignment Sheet is returned to the Field Team Coordinator

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-5.08	TASK ASSIGNMENT SHEET	8
ATTACHMENT 5		PAGE 1 of 2

1. TASK NUMBER: _____

2. DATE/TIME ASSIGNED: _____/_____

3. TASK DESCRIPTION:
   [] System or General Walkdown
   [] Damage Assessment
   [] Damage Repair
   [] Contamination Control
   [] Emergency System Modification (e.g., Jumpers)
   [] Radwaste Processing
   [] Special: _____

4. DESCRIBE TASK: _____

   _____

5. NAME OF MAINTENANCE SUPPORT FIELD TEAM COORDINATOR: _____

6. HP BRIEFING REQUIRED: [] YES; [] NO

7. DOSE EXTENSION REQUIRED: [] YES; [] NO. LIMIT IS: _____

8. SPECIAL HAZARDS BRIEFING REQUIRED: [] YES; [] NO
   IF YES, DEFINE HAZARDS: [] ELECTRICAL [] TOXIC GASES/CHEMICALS
   [] HIGH PRESSURE STEAM [] STRUCTURAL [] RADIOLOGICAL
   [] CONFINED ENTRY [] OTHER: _____

9. PROTECTIVE MEASURES REQUIRED: _____

   _____

10. BRIEFING WILL BE CONDUCTED AT:
    [] OSC; [] TSC; [] HP (Fax this sheet); [] OTHER: _____

11. TOOLS/EQUIPMENT TO TAKE: _____

    _____

12. PROCEDURES:
[] NONE; [] STANDARD: SPECIFY - _____
[] SPECIAL: PROVIDE COPY OF PROCEDURE

13. APPROVALS:
[] MAINTENANCE SUPPORT TEAM LEADER: _____
[] EMD: _____
[] SEM: _____

14. TEAM ID: _____
PERSONNEL ASSIGNED TO TEAM: _____

15. REPORTING INTERVAL:
[] Report to _____:
[] Every 30 minutes
[] Other: _____
[] Upon task completion

CAUTION:
DO NOT USE RADIOS IN RADIO FREQUENCY INTERFERENCE (RFI) AREAS.

16. HP BRIEFING (IF REQUIRED) GIVEN BY: _____

17. TASK TEAM BRIEFING CONDUCTED BY: _____

18. DATE/TIME TEAM DISPATCHED: _____

19. DATE/TIME TEAM RETURNED: _____

20. NOTES/COMMENTS (e.g., follow-up actions required, special circumstances encountered, other): _____

_____

_____

_____

21. DATE/TIME TASK COMPLETED: _____/_____

NUMBER	ATTACHMENT TITLE	REVISION
EPIP-5.08	TASK LOG	8
ATTACHMENT 6		PAGE 1 of 1

PRIORITY	TASK NUMBER	TASK DESCRIPTION	TEAM ID	STATUS