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THE FOLLOWING CHANGES HAVE OCCURRED TO THE HARDCOPY OR ELECTRONIC MANUAL ASSIGNED TO YOU:

222 - 222 - OFFSITE EMERGENCY MONITORING TEAM: EMERGENCY PLAN-POSITION SPECIFIC PROCEDURE

REMOVE MANUAL TABLE OF CONTENTS DATE: 08/09/2001

ADD MANUAL TABLE OF CONTENTS DATE: 07/15/2002

CATEGORY: PROCEDURES TYPE: EP
ID: EP-PS-222
REMOVE: REV:7

ADD: REV: 8

REMOVE: PCAF 2001-1603 REV: N/A

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A045

PROCEDURE COVER SHEET

PPL SUSQUEHANNA, LLC	NUCLEAR DEPARTMENT PROCEDURE	
EMERGENCY MONITORING TEAM: Emergency Plan-Position Specific Instruction		EP-PS-222 Revision 8 Page 1 of 3

QUALITY CLASSIFICATION:	APPROVAL CLASSIFICATION:
( ) QA Program (X) Non-QA Program	( ) Plant ( ) Non-Plant (X) Instruction

EFFECTIVE DATE: 7-15-2002

PERIODIC REVIEW FREQUENCY: Two Years

PERIODIC REVIEW DUE DATE: 7-15-2004

RECOMMENDED REVIEWS:
ALL

Procedure Owner: Nuclear Emergency Planning

Responsible Supervisor: Primary Dose Assessment Supv.

Responsible FUM: Supv.-Nuclear Emergency Planning

Responsible Approver: VP - Nuclear Site Operations

EMERGENCY MONITORING TEAM: Emergency Plan-Position Specific Procedure

WHEN: Emergency Operations Facility (EOF) is activated

HOW NOTIFIED: Paged/Telenotification

REPORT TO: Field Team Director

WHERE TO REPORT: Emergency Operations Facility (EOF)

OVERALL DUTY:

Locate and perform surveys of the plume and assist in characterization of deposition patterns following plume passage.

MAJOR TASKS:	TAB:	REVISION:
Plume Phase		
Check out monitoring equipment and load vehicle.	TAB A	6
Move to monitoring location, locate plume centerline, perform radiation survey and collect air sample.	TAB B	5
Post Plume Phase		
Provide radiological support for environmental sampling teams.	TAB C	5
Provide radiological support for sampling teams accessing and egressing contaminated areas.	TAB D	1

SUPPORTING INFORMATION:	TAB:
Emergency Forms • Signout Sheet • Survey Data Form • Field Data Information Form	TAB 1
Instrument Checkout Instructions	TAB 2
Field Survey Instructions for Field Teams	TAB 3
Air Sampling Instructions	TAB 4

REFERENCES:

SSES Emergency Plan

EP-AD-013, Inventory, Inspection, Operational Testing and Calibration of Emergency Equipment and Supplies

HP-TP-443, Use of Portable Radiation Survey Meters

Field Team Information Form

Field Team members shall read and sign-in on RWP #8002, complete this form, and provide it to the Field Team Director (FTD) prior to dispatching.

- If Field Team dispatches before being briefed, leave this completed form on the FTD's desk in the EOF.

FIELD TEAM: _____

NAME(S): _____ YTD EXPOSURE: _____mRem

_____ YTD EXPOSURE: _____mRem

_____ YTD EXPOSURE: _____mRem

CELL PHONE NUMBER: _____

SURVEY DATA FORM
(with RMS Inoperable)

FIELD TEAM: _____

DATE/TIME (military): _____/_____

SECTOR: _____ **DISTANCE:** _____ **miles**

Exposure Data

Name:_____ SRD Reading: _____mR
Badge Slot # _____

Name:_____ SRD Reading: _____mR
Badge Slot # _____

Radiation Survey

Survey Meter HP # _____

CW _____ mR/hr

Air Sample

Air Sampler # _____

Frisker HP # _____

	Cartridge	Particulate
Sample Count Rate:	_____ cpm	_____ cpm
Bkgd Count Rate:	_____ cpm	_____ cpm
Corrected Count Rate: (sample - Bkgd)	_____ ccpm	_____ ccpm

AIR SAMPLING INSTRUCTIONS

1. Check that the particulate filter and cartridge have been properly loaded onto the sample head.

2. Check that the toggle switch is in **"OFF"** position and the glove is removed. Retain this glove to cover sample head after sample is completed.

3. With the engine running and headlights off, turn on the invertor and plug in the air sampler.

4. Extend the sample head outside vehicle facing up wind if possible.

   NOTE: If there is precipitation in progress, place the sample head inside the vehicle near open window.

5. Obtain a set of particulate and cartridge sample tags and verify that they have the same sample number. Fill out date, team, sector, and distance.

6. Obtain a stopwatch from the Emergency Monitoring kit and reset to zero.

   NOTE: Some stopwatches are mechanical and may require winding. A wristwatch may be used if a stopwatch is unavailable.

7. Start the air sampler and stopwatch. Record the start time and flow rate on the sample tags.

   NOTE: The sample flow rate for the nearsite (ALPHA, BRAVO) team air sampler is fixed at 2 cfm.

8. After collecting a 10-minute sample, turn off the air sampler and record the stop time on the sample tags.

9. Cover the sample head assembly with a disposable glove, load equipment into vehicle, turn off the invertor, and exit the plume.

10. Retreat to a low background area.

    a. Using a survey meter, locate an area well outside of the plume in which to count the air sample.

       NOTE: You should be at least one sector away from the plume.

11. Spread a masslin wiping cloth or an equivalent type of covering over a clean area of the tailgate, to be used as a work area, and tape in place.

12. Enter the frisker and air sampler HP #s on the **Survey Data Form**.

13. Obtain two small (approximately 4" x 6") plastic bags from kit.

    a. Attach completed sample tags and **"RADIOACTIVE MATERIAL"** stickers to each bag and a sample tag to the back of the **Survey Data Form**.

    NOTE: Personnel handling potentially contaminated material shall always wear gloves.

14. Remove the cartridge from the air sampler head (filter assembly) and place in small plastic bag labeled with the cartridge sample tag.

15. Set up the frisker for counting as follows:

    a. Ensure alarm set, located on back of frisker, is in the **"SET-OFF"** position.

    b. Set the Range to **X1**.

    c. Set Response switch to **"SLOW"** position.

    d. Place **"ON/OFF"** switch in the **"ON"** position.

16. Determine background count rate.

    a. Place the frisker probe on the work area, away from the samples.

    b. Observe the meter for approximately 30 seconds to determine an average count rate.

    c. Enter this count rate in the background count rate section of the **Survey Data Form.**

17. Determine the cartridge sample count rate.

    a. Hold the frisker probe in contact with the bagged silver zeolite cartridge.

    NOTE: Ensure the inlet side of the cartridge is facing the probe. (Inlet side is side with arrows facing away.)

    b. Observe the meter for approximately 30 seconds to determine an average count rate.

c. Record the sample count rate in the Cartridge column on the **Survey Data Form**.

18. Place the small plastic bag containing the cartridge into the large bag marked **"CARTRIDGE SAMPLES"** and retain for future analysis.

19. Subtract the background count rate from the sample count rate to determine the net count rate. Enter on **Survey Data Form**.

20. Using the tweezers, remove the particulate filter from the air sample head and place in another small plastic bag labeled with the particulate sample tag.

21. Count the Particulate filter.

    a. Hold the frisker probe in contact with the bagged filter.

    b. Observe the meter for approximately 30 seconds to determine an average count rate.

    c. Record the sample count rate in the Particulate column on the **Survey Data Form**.

22. Place the small plastic bag containing the filter into the large plastic bag marked **"PARTICULATE SAMPLES"** and retain for future analysis.

23. Subtract the background count rate from the sample count rate to determine net count rate. Enter on **Survey Data Form**.

24. Before proceeding, put on a pair of clean gloves to prevent cross-contamination of new filter assembly.

25. Re-load the air sampler head assembly onto the air sampler **(see TAB 2)** and cover with a clean disposable glove.

26. Dispose of potentially contaminated items in designated waste bag labeled **"RADIOACTIVE MATERIALS"**.

27. Report net count rates for the cartridge and particulate filter to the Field Team Director.

28. If requested by the Field Team Director, report to the specified pick-up station.

NOTE: The particulate filter is not transferred with the silver zeolite cartridge.

29. Transfer silver zeolite cartridge in small bag to the bag held by Runner.

MAJOR TASK:

Check out monitoring equipment and load vehicle.

SPECIFIC TASKS:	**HOW:**

NOTE:

A primary objective of the Emergency Monitoring Team(s) is to ensure data collected in the field is obtained as expeditiously as possible (consistent with personnel safety and procedural adherence), to assist the event assessment process.

1.	Locate Monitoring Equipment Kit in the EOF storage room.	1a.	Locate Emergency Equipment Kit, Survey/Air Sampling equipment, and GARDS unit with associated antennae.
2.	Check seal on equipment kit.	2a.	If seal is broken you must perform an inventory.
		(1)	Radiological Monitoring Kit Inventory Form,"(EP-AD-013-3), can be found inside the clipboard located inside the equipment kit.
		2b.	If seal is intact proceed with checkout.
3.	Perform instrument checkout.		

HELP

Instrument Checkout Instructions
See TAB 2

4.	Obtain safety vest "or jumpsuit" and shoecovers, as necessary.		
5.	Obtain portable VHF radio (backup for mobile unit).	5a.	Turn on radio.
		5b.	Adjust squelch.
		5c.	Turn to channel 1.
6.	Obtain a cellular phone, charging unit, and copy of the "Emergency Telephone Directory".	6a.	Check battery voltage:
		(1)	Press and hold the "POWER KEY" to energize phone.

SPECIFIC TASKS:	HOW:
	(2) Battery symbol is displayed:
	(3) Four bars indicate fully charged.
	6b. Record cell phone number on the signout sheet.
7. Take three of the large plastic bags, label each with a radioactive materials sticker. Label one waste, one cartridge samples and one particulate samples. Place labeled bags in the equipment kit.	
8. Report to Field Team Director. (Task may be performed after task 9 or as part of Task 10).	8a. The Field Team Director will provide the team with the Field Team Briefing Sheet or an equivalent verbal briefing.
	8b. If only one team member receives the briefing, that team member relays the information to the other team member.
	8c. Provide Field Team Director with the completed Field Team Information Form.
	HELP **Field Team Information Form** **See TAB 1**
9. Exit the EOF (with equipment) through the rear door and load the equipment into the vehicle.	9a. Place the ASP-1 survey meter on the front seat of the vehicle.
	(1) The meter should be on the lowest scale on which you can get a reading.
	(2) The beta shield should be closed with the speaker on.
	(3) The integrate/slow/fastswitch should be in the fast position.

SPECIFIC TASKS:	HOW:
	9b. Place equipment and air sampler in the rear of monitoring vehicle.
	9c. Place GARDS Unit in the rear of the vehicle: (1) Open the case and put the GPS and radio antennae on the vehicle roof. (magnetic base) (2) Thread the cables from antennae into the case. (3) Connect the whip antenna to the TEL-12-A module. (4) Connect the GPS antenna to the J-1 opening on the GPS module. (push in) (5) Turn the power switch on and press test. The DC +12 and -12 lights should come on as a minimum.
	9d. Secure all equipment to reduce shifting or damage while monitoring.
	9e. Verify proper inverter operation: (1) Turn on and observe power up of air sampler. (2) Turn off air sampler and inverter.
10. Proceed to West Nanticoke, obtaining a briefing from the Field Team Director at the EOF or while on route. Alternately, after obtaining a briefing, proceed to monitoring destination.	10a. Stop approach and notify Field Team Director promptly should dose rates approach 1000 mrem/hr.
	10b. Stop at West Nanticoke, unless a briefing and monitoring assignment have been received from the Field Team Director.

MAJOR TASK:

Move to monitoring location, locate plume centerline, perform radiation survey and collect air sample.

SPECIFIC TASKS:	HOW:
1. Contact the Field Team Director (FTD).	1a. Obtain the following information: (1) Monitoring location. (2) Specific tasks to be performed. (3) Special instructions.
2. Determine the best route to your assigned monitoring location.	2a. Select a route which gets you to your assignment as quickly as possible, but keeps you out of the plume as much as possible to minimize your exposure.
3. While enroute determine which team member will perform the radiation survey and which will take the air sample.	**NOTE:** Information from the GARDS Unit, (radiation level and vehicle location) will automatically transmit to "Remote Monitoring System" base stations in the TSC and EOF. It is supplemental to data collected by survey and air samples.
4. Inform the FTD when approaching the suspected location of the plume.	**NOTE:** The team(s) may also be assigned to gather data from locations along plume boundaries or in areas unaffected by the plume.
5. Locate the plume centerline.	5a. Slow down and use the audible response of the speaker to detect the edge of the plume. 5b. Traverse the plume slowly and note when the click rate or meter deflection is highest.

SPECIFIC TASKS:	HOW:
	5c. Identify sector/distance designation of plume centerline and record on Survey Data Form with date and team designation.
6. Pull vehicle off the road as close to the plume centerline as possible, unless directed otherwise. Turn on flashers.	
7. Upon arrival at monitoring location, don safety vest, (or jumpsuit), and shoe covers, as necessary.	**HELP** Field Survey Instructions **See TAB 3**
8. Perform radiation survey.	
9. Complete air sample and analysis.	**HELP** Air Sampling Instructions **See TAB 4**
10. Inform the FTD that your team is ready for the next assignment.	
11. Perform shift turnover/termination.	11a. Proceed in accordance with instructions provided by FTD for shift change.

MAJOR TASK:

Provide radiological support for environmental sampling teams.

SPECIFIC TASKS:	HOW:
1. Obtain a briefing from the Dose Assessment Staffer and/or Field Team Director.	1a. The briefing should provide (as a minimum): (1) Location(s) to be monitored. (2) Access and egress routes to the monitoring location(s). (3) Current/expected radiological conditions in the area to be monitored. (4) Protective clothing requirements and instrumentation requirements. (5) Backout dose rates and any other special precautions.
2. Obtain required monitoring instrumentation.	
3. Perform checkout procedure for monitoring instrument(s).	**HELP** Instrument Checkout Instructions **See TAB 2**
4. Load equipment in vehicle and proceed to monitoring location with environmental sampling personnel.	

SPECIFIC TASKS:	HOW:
5. Upon arrival near the monitoring location, exit vehicle and perform general area survey to determine the best travel path to the monitoring location. Environmental sampling personnel shall remain in the vehicle until survey is completed.	5a. The survey shall be performed with the window of the frisker probe pointed downward while held at waist level. **NOTE:** **If frisker readings are greater than 200 cpm above background, return to the vehicle and notify the Field Team Director immediately.**
6. Once the best travel path to the work area has been determined, return to vehicle and provide travel path information to the sampling team. If an adequate travel path cannot be determined, return to the vehicle and notify the FTD.	
7. Upon completion of the sampling, return to the location designated in the pre-work briefing, unless otherwise notified by the FTD.	

MAJOR TASK:

Provide radiological support for monitoring and sampling teams accessing and egressing contaminated areas.

SPECIFIC TASKS:	HOW:
Off-going Teams	
1. Return all equipment and supplies to the equipment kit. Ensure all equipment is turned off.	
2. Ensure all samples and data sheets are collected.	2a. Ensure all required sample information has been transmitted prior to packing by sampling teams.
3. Proceed to the Decon Facility or location designated by the FTD.	
4. Upon arrival at the location, notify the FTD and stay with vehicle until contacted by the on-coming team or decon facility personnel.	4a. Follow directions as provided by the EOF and on-coming team members. If you are contacted by decon facility personnel, inform them that you are standing by until other team members arrive to assist you.
On-coming team	
1. Upon arrival, notify the FTD and instruct the off-going team to stand-by until you are ready.	
2. Contact decon facility personnel and prepare for monitoring and decon activities.	2a. Identify yourself to decon facility personnel.
	2b. Inspect the facility and become familiar with their set-up and decon procedures. Identify any impacts to your ability to perform monitoring and decon activities.
	2c. Request a holding area for quarantine of PPL vehicles until PPL staff can survey and release them.

SPECIFIC TASKS:		HOW:	
3.	Monitor the off-going team for contamination.	3a.	Direct the off-going team to bring their vehicle to the holding area.
		3b.	Don appropriate protective clothing for the decon activities.
		3c.	Place a plastic ground cover by the passenger side door of the off-going team vehicle.
		3d.	Have each member of the off-going team step on to the ground cover and remove any outside protective clothing.
		3e.	Perform a whole body frisk of each team member.
4.	If contamination is > 100 cpm above background on the skin of the individual, perform decontamination.	4a.	Contain the contamination by dressing the person in protective clothing (tyvek coveralls, shoe covers and/or gloves as appropriate).
		4b.	Escort the individual to the personnel decon area.
		4c.	Decon the affected areas.
		4d.	Provide replacement clothing as necessary.
5.	If no contamination is present or if decon has been completed, secure PPL vehicles and equipment.	5a.	Place ground cover and used protective clothing in a plastic bag and place in monitoring vehicle.
		5b.	Remove keys and lock vehicle.
6.	Perform whole body frisk to ensure you are not contaminated.		
7.	Contact the FTD to report status and request additional directions.	7a.	Follow directions as provided.
		7b.	Provide vehicle keys to off-going team.

SPECIFIC TASKS:	HOW:
	7c. Ensure off-going team has transportation to EOF.