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

115 - 115 - CHEMISTRY SAMPLING TEAM: EMERGENCY PLAN-POSITION SPECIFIC PROCEDURE

REMOVE MANUAL TABLE OF CONTENTS DATE: 06/26/2003

ADD MANUAL TABLE OF CONTENTS DATE: 10/31/2003

CATEGORY: PROCEDURES TYPE: EP

ID: EP-PS-115

ADD: PCAF 2003-1726 REV: N/A

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PROCEDURE CHANGE PROCESS FORM

1. PCAF NO. <u>2003-1726</u>	2. PAGE 1 OF <u>17</u>	3. PROC. NO. <u>EP-PS-115</u> REV. <u>15</u>
4. FORMS REVISED - <u>D R 10</u> , - <u> </u> R <u> </u>		
5. PROCEDURE TITLE CHEMISTRY SAMPLING TEAM EMERGENCY PLAN POSITION SPECIFIC INSTRUCTION		
6. REQUESTED CHANGE PERIODIC REVIEW <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES INCORPORATE PCAFS <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES # <u> </u> # <u> </u> # <u> </u> # <u> </u> REVISION <input type="checkbox"/> PCAF <input checked="" type="checkbox"/> DELETION <input type="checkbox"/> (CHECK ONE ONLY)		
7. SUMMARY OF / REASON FOR CHANGE Add procedural enhancement.		
Continued <input type="checkbox"/>		
8. DETERMINE COMMITTEE REVIEW REQUIREMENTS (Refer to Section 6.1.4) PORC REVIEW REQ'D? <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES		9. PORC MTG# <u>N/A</u>
BLOCKS 11 THRU 16 ARE ON PAGE 2 OF FORM		
17. <u>James R. Wolfer</u> / <u>3981</u> / <u>10/08/2003</u> PREPARER ETN DATE (Print or Type)	18. COMMUNICATION OF CHANGE REQUIRED? <input checked="" type="checkbox"/> NO <input checked="" type="checkbox"/> YES (TYPE) <u>Non Routine Training</u> <u>PA 10/21/03</u>	
19. <u>Bruce Rhoads</u> RESPONSIBLE SUPERVISOR <u>10/21/03</u> DATE	SIGNATURE ATTESTS THAT RESPONSIBLE SUPERVISOR HAS CONDUCTED QADR AND TECHNICAL REVIEW UNLESS OTHERWISE DOCUMENTED IN BLOCK 16 OR ATTACHED REVIEW FORMS. CROSS DISCIPLINE REVIEW (IF REQUIRED) HAS BEEN COMPLETED BY SIGNATURE IN BLOCK 16 OR ATTACHED REVIEW FORMS.	
20. <u>Jeffrey General</u> FUM APPROVAL <u>10/27/03</u> DATE		
21. RESPONSIBLE APPROVER <u>NA</u> INITIALS _____ DATE	ENTER N/A IF FUM HAS APPROVAL AUTHORITY	

PROCEDURE CHANGE PROCESS FORM

1. PCAF NO. 2003-1724 | 2. PAGE 2 OF 17 | 3. PROC. NO. EP-PS-115 REV. 15

11. This question documents the outcome of the 50.59 and 72.48 Review required by NDAP-QA-0726. Either 11a, b, c or d must be checked "YES" and the appropriate form attached or referenced.
- a. This change is an Administrative Correction for which 50.59 and 72.48 are not applicable. YES N/A
 - b. This change is a change to any surveillance, maintenance or administrative procedure for which 50.59 and 72.48 are not applicable. YES N/A
 - c. This change is bounded by a 50.59/72.48 Screen/Evaluation, therefore, no new 50.59/72.48 Evaluation is required. YES N/A
Screen/Evaluation No. _____
 - d. 50.59 and/or 72.48 are applicable to this change and a 50.59/72.48 Screen/Evaluation is attached. YES N/A
12. This change is consistent with the FSAR or an FSAR change is required. YES
Change Request No. _____
13. Should this change be reviewed for potential effects on Training Needs or Material? YES NO
If YES, enter an Action Item @ NIMS/Action/Gen Work Mech/PICN
14. Is a Surveillance Procedure Review Checklist required per NDAP-QA-0722? YES NO
15. Is a Special, Infrequent or Complex Test/Evolution Analysis Form required per NDAP-QA-0320? (SICT/E form does not need to be attached.) YES NO

16. Reviews may be documented below or by attaching Document Review Forms NDAP-QA-0101-1.

REVIEW	REVIEWED BY WITH NO COMMENTS	DATE
QADR	_____	_____
TECHNICAL REVIEW	_____	_____
REACTOR ENGINEERING/NUCLEAR FUELS *	_____	_____
IST **	_____	_____
OPERATIONS	_____	_____
NUCLEAR SYSTEMS ENGINEERING	_____	_____
NUCLEAR MODIFICATIONS	_____	_____
MAINTENANCE	_____	_____
HEALTH PHYSICS	_____	_____
NUCLEAR TECHNOLOGY	_____	_____
CHEMISTRY	_____	_____
OTHER _____	_____	_____

* Required for changes that affect, or have potential for affecting core reactivity, nuclear fuel, core power level indication or impact the thermal power heat balance. ⁽⁵⁸⁾

** Required for changes to Section XI Inservice Test Acceptance Criteria.

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CHEMISTRY SAMPLING TEAM

Emergency Plan-Position Specific Procedure

WHEN: All Phases, Alert or higher
HOW NOTIFIED: Plant Page System
REPORT TO: Chemistry Coordinator or TSC Coordinator
WHERE TO REPORT: Control Room and then TSC

OVERALL DUTY:

Collect and analyze samples to obtain data required to manage the emergency.

MAJOR TASKS:

TAB:

REVISION:

BRIEFING, ASSIGNMENTS, AND PREPARATION OF RADIOCHEMISTRY LAB(S)

Report for briefing and assignment(s)	TAB A	9
Prepare In-Plant Chemistry Lab to accept samples	TAB B-	4
Prepare West Building Chemistry Lab to accept samples	TAB C	6

PASS SAMPLING AND ANALYSIS PROCEDURES

Prepare Post Accident Sample Station (PASS) for sample collection. Secure PASS after sample(s) have been taken	TAB D	8 10
Collect Small Volume Liquid Sample(s) from PASS	TAB E	7
Collect Dissolved Gas Sample(s) and/or Large Volume Liquid Sample(s) from PASS	TAB F	8
Collect 14.7cc Gas Sample(s) from PASS	TAB G	7
Collect Iodine/Particulate Sample(s) from PASS	TAB H	5
Prepare and Analyze PASS Small Volume Liquid Sample(s)	TAB I	6

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MAJOR TASK:

Prepare Post Accident Sample Station (PASS) for sample collection. Secure PASS after sample(s) have been taken.

SPECIFIC TASKS:

HOW:

INITIALS

1. After briefing and assignment and following setup of appropriate Chemistry Lab, obtain necessary equipment.

1a. Obtain the following supplies:

- Respiratory protection devices
- Hi-range and extremity dosimetry
- Survey meter (calibrated at highest range)
- 18 gauge syringe needles for liquid samples
- 25 gauge syringe needles for gas samples
- Needle changing tool
- Flashlight
- Mirror
- Stopwatch
- Calculator
- Numbered liquid sample vials
- Numbered gas vials
- Keys to PASS power switch and supply cabinet
- Adjustable wrenches for changing gas bottles
- 10 cc syringe
- Luer-lok valves
- Demineralized water
- Watch
- Pen and marker
- Locking gas syringe with extended needle
- Sample cask (If required for requested samples)

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SPECIFIC TASKS: **HOW:** **INITIALS**

2. If Iodine/Particulate sample requested, assemble cartridge retainer.

NOTE:
Direction of flow in retainer is through opening to particulate filter and cartridges and exiting through critical orifice.

2a. Align all iodine cartridges with arrow pointing in direction of flow (toward critical orifice). _____

2b. Check critical orifice at closed end of retainer. 3 L/min orifice should be used unless otherwise directed by Chemistry Coordinator. _____

2c. Assemble particulate/iodine cartridge retainer in the following order:
O-ring, iodine cartridge,
O-ring, iodine cartridge,
O-ring, iodine cartridge,
O-ring, aluminum ring spacer,
O-ring, filter retainer assembly with 47 mm filter paper, screen, and retainer cap with O-ring
cartridge retainer cap with two lightly greased O-rings _____

2d. Record rated flow of installed orifice:
Critical Orifice Flow _____ L/min _____

2e. Ensure lightly greased O-rings are installed at both ends of cartridge retainer. _____

3. Perform instrument checks on survey meter calibrated at highest range.

3a. Check the following on survey meter:
____ Calibration has not expired.
____ Battery indication is good.
____ Source check is satisfactory. _____

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SPECIFIC TASKS:	HOW:	INITIALS
4. Request Operations perform the following to activate PASS Sample Station:	4a. Activate PASS Isolation Valve Panel Permissive Switch HS-12370 (HS-22370).	_____
	4b. Place RHR Loop A MOV OL BYPS HS-E11-1S62A (HS-E11-2S62A) to the TEST position.	_____
	4c. Confirm RHR Loop OUT of SERVICE annunciator alarms.	_____
	4d. Open the Outboard RHR Heat Exchanger Vent Valve to Suppression Pool, HV-151F103A (HV-251F103A).	_____
	4e. Wait 2 minutes, then place RHR Loop A MOV OL BYPS HS-E11-1S62A (HS-E11-2S62A) to the NORMAL position.	_____
	4f. Confirm RHR Loop OUT of SERVICE annunciator clears.	_____

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SPECIFIC TASKS:

HOW:

INITIALS

5. Record reactor pressure and RHR mode from TAB A.

NOTE:

To obtain representative liquid sample from Jet Pumps at low power conditions (<1%) for small pipe break or non-break events, reactor level must be raised to level of moisture separators. This will fully flood moisture separators and induce thermal recirculation for good mixing.

5a. Reactor Pressure _____ psig _____

5b. RHR Mode: _____

(1) RHR Pump A&C In Service/
Out of Service. (Circle)

(2) RHR Pump B&D In Service/
Out of Service. (Circle) _____

NOTE:

RHR must be in the same mode of operation for thirty minutes prior to sampling. _____

5c. If reactor vessel is depressurized (<109 psig), sample reactor water from RHR in shutdown cooling or LPCI mode.

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SPECIFIC TASKS: **HOW:** **INITIALS**

- | | | |
|--|--|-------|
| | 5d. If sampling suppression pool, ensure RHR system is running in suppression pool cooling mode for a minimum of 30 minutes before collecting sample. | _____ |
| 6. Don protective clothing and respiratory protection as directed by Radiation Protection Coordinator. | | _____ |
| 7. Ensure each team member present has required dosimetry. | | _____ |
| 8. Ensure survey meter is on highest range. | | _____ |
| 9. Notify Chemistry Coordinator before leaving Chemistry lab. | | _____ |
| 10. Proceed to PASS via best route while continuously monitoring radiation levels and status of CAMs and ARMs. | 10a. Retreat to low background area and notify Chemistry Coordinator if any of the following conditions are encountered:

(1) General area radiation levels exceed 1,000 mR/hr at any time.

(2) Total annual whole body exposure (TEDE) approaches 2000 mrem. | _____ |
| 11. At PASS station, check area radiation levels and notify Chemistry Coordinator. | 11a. PASS general area radiation level:
_____ mR/hr | _____ |
| | 11b. Report radiation levels to the Chemistry Coordinator. | _____ |
| 12. Check alignment of switches on Control Panel 1C104A (2C104A). | 12a. Ensure Gas Sample Selector Switch HC-723 is set to position 4, SPARE. | _____ |
| | 12b. Ensure all other switches are set to UP and OFF. | _____ |

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SPECIFIC TASKS:	HOW:	INITIALS
13. Check switches on PASS Isolation Valve Control Panel 1C104D (2C104D).	13a. Ensure PASS Isolation Valve Panel Permissive Switch HS-12371 (HS-22371) is set to OFF.	_____
	13b. Ensure all other switches are set to OFF.	_____
14. Establish sample station ventilation.	14a. Record Gas Sample Panel pressure: PI-123728(223728) _____ in. H ₂ O.	_____
	14b. At top side of sample station 1C104C (2C104C), loosen wing nut and rotate handle 90° clockwise.	_____
	14c. Tighten wing nut.	_____
	14d. Record Gas Sample Panel pressure: PI-123728(223728) _____ in. H ₂ O.	_____
	14e. If step 14a is NOT greater than step 14d, notify Chemistry Coordinator.	_____
15. If Demineralized Water Tank 1T-171 (2T-171) indicates less than 1/3 full on tank level sight glass LI-12368 (LI-22368), add water to above the 2/3 level.	15a. Check closed Nitrogen Supply Valve 123242 (223242).	_____
	15b. Open Makeup Water Supply Valves 123258 (223258) and 123239 (223261).	_____
	15c. If excess pressure in tank prevents filling, perform the following:	
	(1) Remove vent line cap.	
	(2) Open Demin Tank Vent Valve 123251 (223251).	
	(3) After tank indicates greater than 2/3 full, close Demin Tank Vent Valve 123251 (223251).	
	(4) Replace vent line cap.	

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SPECIFIC TASKS:	HOW:	INITIALS
16. Establish nitrogen supply as follows:	(5) Close Makeup Water Supply Valve 123239 (223261). 16a. Open nitrogen tank valve 123330(223330) and check tank pressure. 16b. If tank pressure is less than 500 psig, close tank valve, bleed pressure from regulator, and change nitrogen tank.	
17. Pressurize demineralized water tank.	17a. Set regulator on nitrogen cylinder to approximately 100 psig on PI-12361 (PI-22361). 17b. Check open two regulator discharge valves, 123331 (223331) and 123335 (223335) 17c. Open nitrogen supply valves 123242 (223242) and 123249 (223249). 17d. Check demineralized water tank pressure is between 95 and 105 psig on Demineralized Water Tank PI 12368 (22368). 17e. Open valve 123244 (223244) from demineralized water tank to sample system.	
18. Line up PASS Isolation Valve Control Panel 1C104D (2C104D), perform applicable lineups.	18a. Turn PASS Isolation Valve Panel Permissive Switch HS-12371 (HS-22371) to ON. 18b. Turn Wetwell Return Valve Switch SV-12364 (SV-22364) to ON to open liquid return line to wetwell. 18c. Turn Suppression Pool Isolation Valve Switch SV-12361 (SV-22361) to ON to open gas return line to suppression pool.	

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SPECIFIC TASKS:	HOW:	INITIALS
19. Line up Control Panel 1C104A (2C104A).	19a. Slowly adjust Flow Control Valve PCV-627 until reading of approximately 15 psig is attained on adjacent pressure gauge. NOTE: Area Monitor RI-507, Liquid Monitor RI-665, and Cartridge Monitor RI-704 on Monitor Panel 1C104B (2C104B) may alarm upon startup.	_____
	19b. Turn Control Panel Power Selector Switch HC-600 to position A or B, as required, for power.	_____
	19c. Press green light button of each monitor to reset alarm, as required.	_____

CAUTION

LIQUID PRESSURE PI-661 SHOULD BE LESS THAN 100 PSIG. PRESSURE GREATER THAN 100 PSIG INDICATES SUSPECTED LEAKAGE THROUGH ISOLATION VALVE. DO NOT PROCEED WITH PROCEDURE. NOTIFY CHEMISTRY COORDINATOR.

20. Ensure liquid return line to wetwell is open.	20a. Turn Liquid/Gas Selector Switch HC-700 to LIQD.	_____
	20b. Turn Flush System Switch HC-628-1 counterclockwise to position 6, FLUSH PIPING STATION.	_____
	20c. Turn Liquid Sample Source Selector Switch HC-626 to position 5, RHR ON BYPASS.	_____
	20d. Slowly adjust Flow Control Valve PCV-627 to obtain between 0.8 to 1.2 gpm on Sample Return Flow FI-664.	_____

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SPECIFIC TASKS: **HOW:** **INITIALS**

- | | | |
|------|---|-------|
| 20e. | If unable to obtain flow on Sample Return Flow FI-664, notify Chemistry Coordinator. | _____ |
| 20f. | Maintain flow for a minimum of 10 seconds to confirm liquid return line is open. | _____ |
| 20g. | Turn Liquid Sample Source Selector Switch HC-626 to UP and OFF. | _____ |
| 20h. | Turn Flush System Switch HC-628-1 to UP and OFF. | _____ |
| 20i. | Turn Flow Control Valve PCV-627 counterclockwise to obtain approximately 0 psi on adjacent pressure gauge. | _____ |
| 21. | Initiate collector drain/blowdown sequence to drain collector tank, trap, and sump. | _____ |
| 21a. | Rotate Drain System Switch HC-715-1 clockwise through all positions, pausing for a minimum of 5 seconds in each position. | _____ |
| 21b. | Ensure Drain System Switch HC-715-1 is placed in UP and OFF position to end sequence. | _____ |

NOTE (1):
Removable components that are common to both units may be used on either unit of the PASS. This includes (but is not limited to) items such as casks, vials, positioners, iodine cartridge retainers, and needle changing tools.

NOTE (2):
If unable to complete any step in the following sampling procedures, contact Chemistry Coordinator for further instructions.

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SPECIFIC TASKS: **HOW:** **INITIALS**

22. Take required samples.

HELP
Small Volume Liquid Sample
See TAB E

HELP
Dissolved Gas Sample
See TAB F

HELP
Large Volume Liquid Sample
See TAB F

HELP
14.7 cc Gas Sample
See TAB G

HELP
Iodine/Particulate Sample
See TAB H

23. At completion of sampling, secure sample station.

23a. Rotate Drain System Switch HC-715-1 clockwise through all positions, pausing for a minimum of 5 seconds in each position.

23b. Ensure Drain System Switch HC-715-1 is placed in UP and OFF position to end sequence.

24. Secure Control Panel 1C104A (2C104A).

24a. Ensure Gas Sample Selector Switch HC-723 is set to position 4, SPARE.

24b. Ensure Liquid/Gas Selector Switch HC-700 is set to OFF.

24c. Ensure Control Panel Power Selector Switch HC-600 is set to OFF.

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SPECIFIC TASKS:	HOW:	INITIALS
25. Secure PASS Isolation Valve Control Panel 1C104D (2C104D).	24d. Ensure all other switches are set to UP and OFF.	_____
	25a. Ensure all switches other than HS-12371 (HS-22371) on panel 1C104D are set to OFF, and indicate closed.	_____
	25b. Notify Chemistry Coordinator if any switch other than HS-12371 (HS-22371) indicates open or has dual indication.	_____
	25c. Ensure PASS Isolation Valve Panel Permissive Switch HS-12371 (HS-22371) is set to OFF.	_____
26. Secure nitrogen supply system.	26a. Close nitrogen tank valve 123330 (223330).	_____
	26b. Close nitrogen supply valve 123242 (223242).	_____
27. Secure chiller.	27a. Turn off gas chiller circulation pump, if applicable.	_____
	27b. ENSURE OPEN petcock located on top of sight glass at rear of chiller.	_____
28. Secure demineralized water tank.	28a. Close Valve 123244 (223244) from demineralized water tank to sample system.	_____
	28b. Perform step 15 of this tab to ensure proper demineralized water tank level.	_____
29. Secure sample station vent damper on top right side of Sampler Panel 1C104C (2C104C).	29a. Loosen wing nut and rotate handle 90° counterclockwise.	_____
	29b. Tighten wing nut.	_____

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SPECIFIC TASKS:	HOW:	INITIALS
30. Request Operations perform the following lineups to deactivate PASS Sample Station.	30a. Place RHR Loop A MOV OL BYPS HS-E11-1S62A (HS-E11-2S62A) to the TEST position.	_____
	30b. Confirm RHR Loop OUT of SERVICE annunciator alarms.	_____
	30c. Close the Outboard RHR Heat Exchanger Vent Valve to Suppression Pool, HV-151F103A (HV-251F103A).	_____
	30d. Wait 2 minutes, then place RHR Loop A MOV OL BYPS HS-E11-1S62A (HS-E11-2S62A) to the NORMAL position.	_____
	30e. Confirm RHR Loop OUT of SERVICE annunciator clears.	_____
	30f. Deactivate PASS Isolation Valve Panel Permissive Switch HS-12370 (HS-22370).	_____

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SPECIFIC TASKS: **HOW:** **INITIALS**

31. Notify Chemistry Coordinator
sampling is complete and sample
station is secured.

32. Return to In-plant Chemistry Lab.

32a. Transfer samples to In-plant
Chemistry Lab using precautions to
minimize personnel exposure.

- (1) If large volume liquid sample
was taken, allow sample to
remain in cask at PASS
Sample Station unless
otherwise directed.
- (2) If assistance required to
transport small volume liquid
cask, use lifting bar with
S-hooks (located at PAVSS
work area) and second person.
Suspend cask from S-hook.
- (3) Notify Chemistry Coordinator
upon arrival at In-plant
Chemistry Lab.

33. Analyze samples in accordance with
appropriate procedures.

HELP

**PASS Small Volume Liquid
Sample(s)
See TAB I**

HELP

**PASS Dissolved Gas Sample(s)
See TAB J**

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SPECIFIC TASKS:

HOW:

INITIALS

HELP

**PASS 14.7 cc Gas Sample(s)
See TAB K**

HELP

**PASS Iodine/Particulate
Sample(s)
See TAB L**