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Section V

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Monticello Nuclear Generating Plant
Docket 50-263
License No. DPR-22

Emergency Plan Implementing Procedures

Enclosed with this letter are revisions to the Monticello Nuclear Generating Plant (MNGP) Emergency Plan Implementing Procedures. The following procedures are revised:

Procedure	Procedure Title	Revision
A.2-413	Small Volume Liquid Sample Obtained at the Post Accident Sampling System	18
A.2-414	Large Volume Liquid Sample Obtained at the Post Accident Sampling System	22
A.2-415	Containment Gas Sample Obtained at Post Accident Sampling System	17
A.2-417	Draining The Trap, Sump, and Collector of Post Accident Sampling System	8

Please post the changes in your copy of the MNGP Emergency Plan Implementing Procedures manual. The superseded procedures should be destroyed.

These revisions do not reduce the effectiveness of the MNGP Emergency Plan. Nuclear Management Company has not made new or revised commitments in this letter or the enclosure.

Thomas J. Palmisano
Site Vice President, Monticello Nuclear Generating Plant
Nuclear Management Company, LLC

A045

cc: Administrator, Region III, USNRC (with two copies of enclosure)
Project Manager, Monticello, USNRC (w/o enclosure)
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Minnesota Department of Commerce (w/o enclosure)

Enclosure

MONTICELLO NUCLEAR GENERATING PLANT		A.2-413
TITLE:	SMALL VOLUME LIQUID SAMPLE OBTAINED AT THE POST ACCIDENT SAMPLING SYSTEM	Revision 18
		Page 1 of 10

EMERGENCY PLAN IMPLEMENTING PROCEDURE - TABLE OF CONTENTS

Prepared By:	Reviewed By:	
ALARA Coord Review By:		
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l/plr

1.0 PURPOSE

The purpose of this procedure is to provide instructions for collection and handling of small volume liquid samples obtained from the Post Accident Sampling System during and following an Emergency.

2.0 APPLICABILITY

2.1 An emergency (Alert or higher classification) has been declared at Monticello Nuclear Generating Plant which involves abnormal or elevated radiological conditions which preclude use of normal sampling methods.

2.2 The REC/CSL has requested analysis of RHR or Jet Pump liquid samples.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 The Radiological Emergency Coordinator (REC) is responsible for:

3.1.1 Overall coordination of the Radiation Protection and Chemistry Group activities.

3.2 The Chemistry Section Leader (CSL) is responsible for:

3.2.1 Overall direction for PASS sampling and analysis.

3.2.2 Overall coordination of Chemistry Group activities. I

3.3 The Chemistry Coordinator is responsible for:

3.3.1 Coordination of Chemistry group activities in the Chemistry Lab.

3.3.2 Coordination of sample logging, identification and documentation. I

3.4 The Chemistry Technicians (Chem Techs) is responsible for:

3.4.1 Performing post accident sampling using the PASS system.

4.0 DISCUSSION

I

The Post Accident Sampling System is located on the south side of the 951' level of the Turbine Building. The most efficient route to the PASS is through access control and into the Turbine Building. Move to the 951' level via the east stairway.

The Post Accident Sampling System is used to meet NRC Commitment M03003A.

5.0 PRECAUTIONS

5.1 Exposures of sampling and analysis personnel ***SHALL*** be in accordance with A.2-401 (EMERGENCY EXPOSURE CONTROL).

5.2 Exposures to all personnel due to sampling and analysis operations should be maintained AS LOW AS IS REASONABLY ACHIEVABLE. Techniques such as temporary shielding, remote handling, and sample dilution prior to analysis should be considered to reduce exposure to personnel.

5.3 When actual or potential radiations levels so warrant, high range portable survey instruments, and self-reading dosimeters ***SHALL*** be provided to sampling and analysis personnel. Alarming dosimeters should also be considered.

5.4 Appropriate extremity dosimeters should be provided and worn when handling samples which themselves represent high level radiation sources.

5.5 Two Chem Techs should be used to obtain a post-accident sample.

6.0 INSTRUCTIONS

6.1 Preparation For Sampling

6.1.1 Obtain key 55 and PASS cabinet key from the Shift Chemist key ring.

6.1.2 Initiate Form 5790-413-01 (SMALL VOLUME LIQUID SAMPLING AND ANALYSIS CHECKLIST).

6.1.3 Obtain sample type and number from Chemistry Coordinator per Procedure A.2-408 (SAMPLE COORDINATION DURING EMERGENCIES)

6.1.4 Call the Control Room to:

A. Determine whether A or B RHR is operating.

B. Verify RBCCW is operating.

NOTE: If a 3D-Monicore (or other core monitoring software) computer case runs while jet pump sampling is in progress, incorrect core flow will be used in the calculation and incorrect thermal margins will be calculated.

C. IF jet pumps are in operation,
THEN perform the following:

1. Advise Control Room personnel that Jet Pump A flow transmitter FT-2-3-64W or Jet Pump B flow transmitter FT-2-3-64M may be affected during primary coolant sampling (computer point REC 136).

2. Request Operations inhibit the automatic 3D-monicore (or other core monitoring software) case schedule. (Operations may request Nuclear Engineering assistance if needed.)

ELSE go to section 6.2.1.

6.2 Obtaining Samples

6.2.1 IF PASS demin water tank level is below the Low Level indicator, THEN fill the tank IAW A.2-418 (POST ACCIDENT SAMPLING STATION DEMIN WATER TANK FILL PROCEDURE).

6.2.2 Open nitrogen supply as follows:

A. OPEN main cylinder valve on one nitrogen cylinder.

B. OPEN corresponding manifold valve either PAS-57-21 (N_2 GAS BOTTLE MANIFOLD SHUTOFF) or PAS-57-11 (N_2 GAS BOTTLE MANIFOLD SHUTOFF).

C. CLOSE regulator outlet isolation valve.

D. Adjust regulator to 100 psi.

E. OPEN regulator outlet isolation valve.

6.2.3 Verify all control panel switches are in the arrow UP and OFF position.

6.2.4 Turn HC-730 (PASS VENTILATION) to start.

6.2.5 IF vacuum is not between 0.10" and 0.05",
THEN adjust ventilation damper to obtain proper reading.

6.2.6 Insert PASS key into HC-600 (POWER SOURCE SELECTION SWITCH).

6.2.7 Place HC-600 to position A or B.

6.2.8 Obtain 20 ml sample vial (with velcro strip), cap, and retainer ring from the cabinet. Cap the vial and remove aluminum ring from the center of the cap.

6.2.9 Label the vial with sample number obtained in section 6.1.3.

6.2.10 Using flashlight and inspection mirror, check condition of needles.

A. IF sample needles are bent or damaged,
THEN straighten or replace the needles as necessary.

1. IF (re)installing needle(s),
THEN perform the following:

a. Carefully align needle/installation tool with Luer-Lok.

CAUTION

If needle does not initially freely rotate onto Luer-Lok, needle may be misaligned with Luer-Lok. Use of more torque could jam needle in Luer-Lok.

B. Rotate needle about 1/2 turn onto Luer-Lok, until contact with internal seating surface is made. Needle should rotate freely, except for occasional "snags", until contact with internal seating surface is made.

C. Apply light torque to seat needle on the Luer-Lok seating surface.

6.2.11 Insert the capped vial into the sample station as follows:

A. Verify cylinder in sample cask.

B. Engage the cable into the sample vial by gently pushing the cable in and turning clockwise.

C. Remove the cylinder cask shield plug from the cask.

D. Raise the sample vial holder and insert capped vial. Ensure vial is firmly attached to velcro strip and aligned vertically.

E. Lower the sample vial into cask using the cable.

F. Place the shim on the LEFT SIDE of the cask.

G. Close the hydraulic valve and jack up the cask until the top of the cask is just below the bottom of the sample station.

H. Gently roll the cask under the right side of the sample station.

CAUTION

Misalignment of the sample bottle in the station can damage sample needles and prevent obtaining a sample.

I. Using cable, raise sample vial into position; perform the following:

1. Do not use excessive force on cable to position bottle or obtain "bottle in" indication.

2. If practical, monitor vial, through observation port on side of sample station, for correct alignment as it enters the sample station. Bottle should not be tipped or catch on guide as it is raised into position.

3. If misaligned, lower bottle and re-position cask.

J. Maintain sample vial in elevated position and jack up the cask until it is flush with the bottom of the station.

CAUTION

Do not allow the demin water pressure to exceed 110 psi.

6.2.12 Adjust demin water pressure regulator to 100 psi.

6.2.13 Place HC-700 (LIQUID/GAS SELECTOR) to LIQD.

6.2.14 Place HC-626 (LIQUID SAMPLE SOURCE SELECTOR) to position 2 (Jet Pump) or position 4 (RHR) as required.

6.2.15 IF bottle position status light is not green,
THEN adjust the bottle holder.

6.2.16 Place HC-626 to position 1 (Jet Pump Bypass) or position 5 (RHR Bypass).

6.2.17 Place HC-500 (SAMPLE SOURCE SELECTOR SWITCH) to required sample position.

6.2.18 Place Liquid Return Selector switch to operating RHR loop.
IF neither RHR loop is operating,
THEN place the Selector switch to A.

6.2.19 IF pressure on PI-661 (LIQUID PRESSURE - PSIG) does not increase to near target system pressure within 10 min, THEN cycle HC-500 between 'A' and 'B' sample points.

6.2.20 Slowly turn PCV-627 (FLOW CONTROL VALVE) clockwise to get a flow of at least 0.8 gpm for jet pump sample or at least 0.4 gpm for RHR (as indicated on FI-664 (SAMPLE RETURN FLOW)).

6.2.21 Flush for 10 minutes.

6.2.22 Record the flow and flush time on Form 5790-413-01.

6.2.23 Place HC-626 to position 2 (Jet Pump) or position 4 (RHR) for the required sample.

6.2.24 Adjust PCV-627 to obtain flow of at least 0.3 gpm as indicated on FI-664 (SAMPLE RETURN FLOW).

6.2.25 Flush for 5 minutes.

6.2.26 Record the following on Form 5790-413-01:

A. Flow per FI-664.

B. Pressure per PI-661.

C. Temperature per TI-660.

D. Conductivity per CI-663.

E. Radiation per RI-665.

6.2.27 Place HC-616-1 (SMALL VOL SAMPLE SWITCH) to position 1 (Take Sample).

6.2.28 After CV-616 light is energized, verify flow per FI-664 is zero.

6.2.29 Record sample time on Form 5790-413-01.

6.2.30 Fill the 10 ml syringe with 10 ml demin water.

6.2.31 Connect the syringe to the top-right side of the sample station.

6.2.32 Open the two block valves and PAS-63.

6.2.33 Inject the 10 mls of water into the line.

6.2.34 Close PAS-63.

6.2.35 Remove the syringe and fill it with air.

6.2.36 Reattach the syringe.

6.2.37 Open PAS-63.

6.2.38 Inject the air.

6.2.39 Close PAS-63 and the two block valves.

6.2.40 Remove the syringe.

6.2.41 Place HC-616-1 to OFF.

6.2.42 Place HC-500 to OFF.

6.2.43 Place HC-616-1 to position 3 (Flush Loop).

6.2.44 Adjust PCV-627 for maximum flow.

6.2.45 Flush for 2 minutes or until RI-665 reaches a minimum.

6.2.46 Place HC-626 to OFF.

6.2.47 Place HC-616-1 to OFF.

6.2.48 Turn PCV-627 fully counterclockwise.

6.2.49 IF no additional sampling is required,
THEN perform Procedure A.2-417 (DRAINING THE TRAP, SUMP, AND COLLECTOR OF POST ACCIDENT SAMPLING SYSTEM).

6.2.50 Notify Control Room that sampling is completed.

6.3 Removing Vial From Sample Station

CAUTION

Observe appropriate radiological precautions when handling vial, as potentially high dose rates may exist.

NOTE: Do not twist the cable. This would bend the needles.

6.3.1 Remove the sample vial from the sample station as follows:

CAUTION

Removing bottle when misaligned could break bottle or damage sample station.

A. Pull up on the cable. If unusual force is required to remove sample vial from station, investigate and correct as required bottle alignment.

B. Open the hydraulic valve.

C. Roll the cask from under the sample station.

D. Install shield plug in cask top.

E. Disengage the cable from the sample vial by turning the cable counterclockwise and pulling gently outward.

6.3.2 Verify HC-730 is in STOP.

6.4 Sample Transport and Analysis

6.4.1 Transport the small volume liquid sample in a shielded container for high activity samples or use a remote carrying device for low activity samples.

6.4.2 Perform analysis requested by REC/CC/CSL IAW Chemistry Manual Procedures.

6.4.3 Complete Form 5790-413-01.

7.0 FIGURES

None

MONTICELLO NUCLEAR GENERATING PLANT		A.2-414
TITLE:	LARGE VOLUME LIQUID SAMPLE OBTAINED AT POST ACCIDENT SAMPLING SYSTEM	Revision 22
		Page 1 of 10

EMERGENCY PLAN IMPLEMENTING PROCEDURE - TABLE OF CONTENTS

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ALARA Coord Review By: [signature]		
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I/lcc

1.0 PURPOSE

The purpose of this procedure is to provide instructions and precautions for collection, handling, and analysis of large volume liquid during and following an emergency.

2.0 APPLICABILITY

2.1 The REC/CC/CSL has requested a large volume liquid sample for off-site analysis or on-site if coolant activity is low enough that a large volume sample can be handled without undue exposure to technicians.

2.2 Actual or potential radiological conditions are such that special methods and/or precautions are necessary in order to collect and analyze samples under conditions which may present a much greater than normal radiation hazard to individuals performing the sampling and analyses, or the normal sample points are not available.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 The Radiological Emergency Coordinator (REC) is responsible for:

3.1.1 Overall direction of the Radiation Protection and Chemistry Group activities.

3.2 The Chemistry Section Leader (CSL) is responsible for:

3.2.1 Overall direction of PASS sampling and analysis.

3.2.2 Overall coordination of Chemistry Group activities.

3.3 The Chemistry Coordinator is responsible for:

3.3.1 Coordination of Chemistry Group activities in the Chemistry Lab.

3.3.2 Coordination of sample logging, identification and documentation.

3.4 The Chemistry Technicians (Chem Techs) are responsible for:

3.4.1 Implementation of this procedure.

4.0 DISCUSSION

4.1 The Post Accident Sampling Station is located on the south side of the 951' level of the Turbine Building. The most efficient route to the PASS is through Access Control and into the Turbine Building. Move to the 951' level via the east stairway.

4.2 The Post Accident Sampling System is used to meet NRC Commitment M03003A.

5.0 PRECAUTIONS

5.1 Exposures of sampling and analysis personnel ***SHALL*** be in accordance with A.2-401 (EMERGENCY EXPOSURE CONTROL).

5.2 Exposures to all personnel due to sampling and analysis operations should be maintained as low as is reasonably achievable. Techniques such as temporary shielding, remote handling, and sample dilution prior to analysis should be considered to reduce exposure to personnel.

5.3 When actual or potential radiation levels so warrant, high range portable survey instruments, and self-reading dosimeters should be provided to sampling and analysis personnel. Alarming dosimeters should also be considered.

5.4 Appropriate extremity dosimeters should be provided and worn when handling samples which themselves represent high level radiation sources.

5.5 Two Chem Techs should be used to obtain a post-accident sample when applicable and possible.

6.0 INSTRUCTIONS

6.1 Preparation for Sampling

6.1.1 Obtain key 55 and the PASS cabinet key from the Shift Chemist key ring.

6.1.2 Initiate a Form 5790-414-01 (LARGE VOLUME LIQUID SAMPLING AND ANALYSIS CHECKLIST).

6.1.3 Obtain sample type and number from Chemistry coordinator (see FIGURE 7.7 in A.2-408 (SAMPLE COORDINATION DURING EMERGENCIES)).

6.1.4 Call the Control Room to:

A. Determine whether A or B RHR is operating.

B. Verify RBCCW is operating.

NOTE: If a 3D-Monicore (or other core monitoring software) computer case runs while jet pump sampling is in progress, incorrect core flow will be used in the calculation and incorrect thermal margins will be calculated.

C. IF jet pumps are in operation,
THEN perform the following:

1. Advise Control Room personnel that Jet Pump A flow transmitter FT-2-3-64W or Jet Pump B flow transmitter FT-2-3-64M may be affected during primary coolant sampling (computer point REC 136).

2. Request Operations inhibit the automatic 3D-monicore (or other core monitoring software) case schedule. (Operations may request Nuclear Engineering assistance if needed.)

ELSE go to section 6.2.1.

6.2 Obtaining Samples

6.2.1 IF PASS demin water tank level is below the Low Level indicator, THEN fill the tank IAW A.2-418 (POST ACCIDENT SAMPLING STATION DEMIN WATER TANK FILL PROCEDURE).

6.2.2 Open nitrogen supply as follows:

A. OPEN main cylinder valve on one nitrogen cylinder.

B. OPEN corresponding manifold valve either PAS-57-21 (N_2 GAS BOTTLE MANIFOLD SHUTOFF) or PAS-57-11 (N_2 GAS BOTTLE MANIFOLD SHUTOFF).

C. CLOSE regulator outlet isolation valve.

D. Adjust regulator to 100 psi.

E. OPEN regulator outlet Isolation valve.

6.2.3 Verify all control panel switches are in the arrow UP and OFF position.

6.2.4 Turn HC-730 (PASS VENTILATION) to start.

6.2.5 IF vacuum is not between 0.10" and 0.05",
THEN adjust ventilation damper to obtain proper reading.

6.2.6 Insert PASS key into HC-600 (POWER SOURCE SELECTOR SWITCH).

6.2.7 Place HC-600 to position A or B.

6.2.8 Obtain 20 ml sample vial (with velcro strip), cap, and retainer ring from cabinet. Cap the vial and remove the aluminum ring from the center of the cap.

6.2.9 Label the vial with the sample number obtained in section 6.1.3.

6.2.10 Using a flashlight and inspection mirror, check the condition of the needles.

A. IF sample needles are bent or damaged,
THEN straighten or replace the needles as necessary.

1. IF (re)installing needle(s),
THEN perform the following:

a. Carefully align needle/installation tool with Luer-Lok.

CAUTION

If needle does not initially freely rotate onto Luer-Lok, needle may be misaligned with Luer-Lok. Use of more torque could jam needle in Luer-Lok.

B. Rotate needle about 1/2 turn onto Luer-Lok, until contact with internal seating surface is made. Needle should rotate freely, except for occasional "snags", until contact with internal seating surface is made.

C. Apply light torque to seat needle on the Luer-Lok seating surface.

6.2.11 Insert the capped vial into the sample station as follows:

A. Verify cylinder in cask.

B. Engage the cable in the sample vial by gently pushing the cable in and turning clockwise.

C. Remove the cylinder cask shield plug from the cask.

D. Raise the sample vial holder and insert the capped vial. Ensure vial is firmly attached to velcro strip and aligned vertically.

E. Lower the sample vial into the cask using the cable.

F. Place the shim on the RIGHT SIDE of the cask.

G. Close the hydraulic valve and jack up the cask until the top of the cask is just below the bottom of the sample station.

H. Gently roll the cask under the left side of the station.

CAUTION

Misalignment of the sample bottle in the station can damage sample needles and prevent obtaining a sample.

I. Using cable, raise the sample vial into position; perform the following:

1. Do not use excessive force on cable to position bottle or obtain "bottle in" indication.

2. If practical, monitor vial, through observation port on side of sample station, for correct alignment as it enters the sample station. Bottle should not be tipped or catch on guide as it is raised into position.

3. If misaligned, lower bottle and re-position cask.

J. Maintain sample vial in elevated position and jack up the cask until lit is flush with the bottom of the station.

CAUTION

Do not allow the demin water pressure to exceed 110 psi.

6.2.12 Adjust demin water pressure regulator to 100 psi.

6.2.13 Place HC-700 to LIQD.

6.2.14 Place HC-626 (LIQUID SAMPLE SOURCE SELECTOR) to position 2 (JET PUMP) or position 4 (RHR) as required.

6.2.15 IF bottle position status light is not green, THEN adjust the bottle holder.

6.2.16 Place HC-626 to position 1 (JET PUMP BYPASS) or position 5 (RHR BYPASS).

6.2.17 Place HC-500 (SAMPLE SOURCE SELECTOR SWITCH) to required sample position.

6.2.18 Place LIQUID RETURN SELECTOR switch to the operating RHR loop.
IF neither RHR loop is operating,
THEN place the selector switch to A.

6.2.19 IF pressure on PI-661 (LIQUID PRESSURE - PSIG) does not increase to near target system pressure within 10 minutes,
THEN cycle HC-500 between 'A' and 'B' sample points.

6.2.20 Slowly turn PCV-627 (FLOW CONTROL VALVE) clockwise to get a flow of at least 0.8 gpm for jet pump sample or at least 0.4 gpm for RHR (as indicated on FI-664 (SAMPLE RETURN FLOW)).

6.2.21 Flush for 10 minutes.

6.2.22 Record flow and flush time on Form 5790-414-01.

6.2.23 Place HC-626 to position 2 (JET PUMP) or position 4 (RHR) for the required sample.

6.2.24 Adjust PCV-627 to obtain flow of at least 0.3 gpm as indicated on FI-664 (SAMPLE RETURN FLOW).

6.2.25 Flush for 5 minutes.

6.2.26 Record the following on Form 5790-414-01:

A. Flow per FI-664.

B. Pressure per PI-661.

C. Temperature per TI-660.

D. Conductivity per CI-663.

E. Radiation per RI-665.

6.2.27 Place HC-601 to position 2 (START P-601).

6.2.28 Flush for 10 minutes.

6.2.29 Place HC-601 to position 10 (TAKE LIQUID SAMPLE).

6.2.30 Press and hold in pushbutton HC-629-1 for 10 seconds.

6.2.31 Place HC-601 to OFF.

6.2.32 Inform Control Room sampling is completed.

CAUTION 1

Do not position body at any time directly over cask, as potentially high dose rates may exist.

CAUTION 2

Removing bottle when misaligned could break bottle or damage station.

6.2.33 Lower the sample into the large volume cask by pulling up on the cable. DO NOT twist the plunger. If unusual force is required to remove sample vial from station, investigate and correct as required bottle alignment.

6.2.34 Lower the cask.

6.2.35 Roll the cask out from under the station.

6.2.36 Install the shield plug in the cask.

6.2.37 Disengage the cable from the sample vial by turning the cable counterclockwise and pulling gently outward.

6.2.38 Verify HC-601 is in OFF.

6.2.39 Place HC-500 to OFF.

6.2.40 Place HC-628-1 (FLUSH SYSTEM) to position 2 (START FLUSH), AND adjust PCV-627 for MAXIMUM flow per FI-664.

6.2.41 After RI-665 shows radiation has decreased significantly, place HC-628-1 to position 3 (FLUSH V-610 LOOP).

6.2.42 WHEN the radiation no longer decreases, place HC-628-1 to position 4 (FLUSH P-601 LOOP).

6.2.43 WHEN the radiation no longer decreases, place switch HC-628-1 to position 5 (FLUSH P-601 LOOP).

6.2.44 WHEN the radiation no longer decreases, place switch HC-628-1 to position 6 (FLUSH PIPING STATION).

6.2.45 Flush for 3 minutes.

6.2.46 Place HC-628-1 to position 7 (FLUSH CV-622 LOOP).

6.2.47 IF any abnormal radiation levels are indicated on RI-665, THEN repeat 6.2.41 through 6.2.46.

6.2.48 Place HC-626 to OFF.

6.2.49 Place HC-628-1 to OFF.

6.2.50 Turn PCV-627 fully counterclockwise.

6.2.51 IF no additional sampling is required, THEN perform A.2-417 (DRAIN THE TRAP, SUMP, AND COLLECTOR OF POST ACCIDENT SAMPLING SYSTEM).

6.2.52 Verify HC-730 is in STOP.

6.3 Sample Transport and Analysis

6.3.1 Transport the large volume liquid sample in a shielded container for high activity samples or use a remote carrying device for low activity samples.

6.3.2 Perform analysis requested by REC/CC/CSL IAW Chemistry Manual Procedures.

6.3.3 IF a large volume sample is to be sent off-site for analysis, THEN notify the REC for instructions.

7.0 FIGURES

None

EMERGENCY PLAN IMPLEMENTING PROCEDURE - TABLE OF CONTENTS

Prepared By:	Reviewed By:	
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l/plr

1.0 PURPOSE

The purpose of this procedure is to provide instructions and precautions for collection and handling of containment gas samples during and following an emergency.

2.0 APPLICABILITY

2.1 An emergency (Alert or higher classification) has been declared at Monticello Nuclear Generating Plant which involves abnormal or elevated radiological conditions which preclude use of normal sampling methods.

2.2 The REC/CSL has requested analysis of containment gas samples.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 The Radiological Emergency Coordinator (REC) is responsible for:

3.1.1 Overall direction of the Radiation Protection and Chemistry Group activities.

3.2 The Chemistry Section Leader (CSL) is responsible for:

3.2.1 Overall coordination for PASS sampling and analysis.

3.2.2 Overall coordination of Chemistry Group activities.

3.3 The Chemistry Coordinator is responsible for:

3.3.1 Coordination of Chemistry Group activities in the Chemistry Lab.

3.4 The Chemistry Technicians (Chem Techs) are responsible for:

3.4.1 Implementation of this procedure.

3.4.2 Performing post-accident sampling using the PASS system.

4.0 DISCUSSION

The primary objective of the Post-Accident Sampling System (PASS) is to obtain representative liquid and gas samples for radiochemical analysis in the event of a LOSS-OF-COOLANT ACCIDENT (LOCA). The gas samples taken from this system are considered to be representative of the atmosphere within the primary containment.

The Post-Accident Sampling System (PASS) is located on the south side of the 951' level of the Turbine Building. The most efficient route to the PASS is through access control and into the Turbine Building. Move to the 951' level via the east stairway.

The Post Accident Sampling System is used to meet NRC Commitment M03003A.

5.0 PRECAUTIONS

5.1 Exposures of sampling and analysis personnel ***SHALL*** be in accordance with EPIP A.2-401 (EMERGENCY EXPOSURE CONTROL).

5.2 Exposures to all personnel due to sampling and analysis operations should be maintained AS LOW AS REASONABLY ACHIEVABLE. Techniques such as temporary shielding, remote handling and sample dilution prior to analysis should be considered to reduce exposure to personnel.

5.3 When actual or potential radiation levels so warrant, high range portable survey instruments, and self-reading dosimeters ***SHALL*** be provided to sampling and analysis personnel. Alarming dosimeters should also be considered.

5.4 Appropriate extremity dosimeters should be provided and worn when handling samples which themselves represent high level radiation sources.

5.5 Two-man teams should be used to obtain a post-accident sample, when possible.

6.0 INSTRUCTIONS

6.1 Pre-Sample Preparations

6.1.1 Notify the Control Room of impending sample.

6.1.2 Obtain PASS key 55 and the PASS cabinet key from the Shift Chemist key ring.

6.1.3 Obtain the desired sample location from the Chemistry Coordinator and determine which primary containment isolation valves need to be opened using the following table:

HC-500 Position	PASS Sample Valve	Associated Primary Containment Valves
1. DW High	SV-4010	SV-4001A/SV-4005A and SV-4020A/SV-4004A
2. DW Med	SV-4011	SV-4081 and SV-4082 and SV-4005A and SV-4004A
3. Torus 1	SV-4012A	SV-4003A/SV-4005A and SV-4002A/SV-4004A
4. Torus 2	SV-4012B	SV-4003B/SV-4005B and SV-4002B/SV-4004B and SV-4005A and SV-4004A

6.1.4 Initiate Form 5790-415-01 (CONTAINMENT GAS SAMPLING AND ANALYSIS CHECKLIST).

6.1.5 Proceed to the Control Room with Form 5790-415-01 and have an Operator open the applicable primary containment valves for the desired sample as follows:

A. IF a Group II isolation signal exists, THEN perform the following:

1. Place the ISOL/BYPASS switch in BYPASS on Panel C-259 and C-260.

2. IF SV-4081 and SV-4082 need to be opened, THEN perform the following:

a. Place the handswitches at Panel C-26 for the following valves to close:

SV-3307	CV-3311	CV-3313	SV-4081
SV-3308	CV-3312	CV-3314	SV-4082

b. At Panel C-26, lift and tape the external wires at the following terminals:

Q530/1

Q528/1

c. At Panel C-26, jumper the following terminals:

Q530/x1 - Q530/1

Q528/x1 - Q528/1

NOTE: The sample return valves SV-4004A and SV-4005A OPEN when a Div I H_2 O_2 Analyzer sample inlet line's isolation valves are opened.

B. OPEN the primary containment valves indicated on Form 5790-415-1.

6.1.6 Proceed to the PASS Sample Station.

6.1.7 IF the PASS Demin Water Tank level is below the Low Level indicator on the sightglass, THEN fill the tank IAW A.2-418 (PASS DEMIN WATER TANK FILL PROCEDURE).

CAUTION

Do not allow the demin water pressure to exceed 110 psi.

NOTE: It will take several minutes to bring the system to 100 psi.

6.1.8 Open the nitrogen supply as follows:

A. OPEN main cylinder valve on one nitrogen cylinder.

B. OPEN corresponding manifold valve either PAS-57-21 (N_2 GAS BOTTLE MANIFOLD SHUTOFF)or PAS-57-11 (N_2 GAS BOTTLE MANIFOLD SHUTOFF).

C. CLOSE regulator outlet isolation valve.

D. Adjust regulator to 100 psi.

E. OPEN regulator outlet isolation valve.

6.2 Obtaining Sample

6.2.1 Verify all control panel switches are in the UP and OFF position.

6.2.2 Turn HC-730 (PASS VENTILATION) to start.

6.2.3 IF vacuum is not between 0.10" and 0.05", THEN adjust ventilation damper to obtain proper reading.

6.2.4 Insert PASS key into HC-600 (CONTROL PANEL POWER SELECTOR SWITCH).

6.2.5 Place switch HC-600 to position A or B.

6.2.6 Place HC-700 (LIQUID/GAS SELECTOR) to "Gas" position.

6.2.7 Turn on V-502 (PAS SYSTEM CHILLER).

6.2.8 Label a standard 15 milliliter off-gas vial.

6.2.9 Perform the following:

A. Visually check the condition of the gas sample needle.

1. IF gas sample needle is bent or damaged, THEN straighten or replace the needle as necessary.

B. Place the off-gas vial with Rubber Septum into the gas vial holder.

C. With the bottle plunger fully out, slide holder fully into gas port at the sample station.

CAUTION

Do not twist plunger assembly once vial is seated on gas sample needle.

D. Push bottle plunger in until vial status light changes from red to green.

E. Secure the plunger in place with tape as necessary to maintain green vial status light.

6.2.10 Turn HC-723 (GAS SAMPLE SELECTOR SWITCH) to the desired sample location.

CAUTION

Part 3 of Form 5790-415-01 must be completed or the CAMS analyzers performance may be affected.

6.2.11 Verify primary containment isolation valves are open by checking Form 5790-415-01 is complete through part 3.

6.2.12 Place switch HC-500 (SAMPLE SOURCE SELECTOR SWITCH) in the position corresponding to the desired sample.

6.2.13 Turn HC-705 (10 ML GAS SAMPLE SWITCH) to position 2 (CIRCULATE GAS).

6.2.14 Circulate gas for 5 minutes.

6.2.15 Record the flow as indicated on Rotameter FI-725 and flush duration on Form 5790-415-01.

6.2.16 Call Control Room to obtain primary containment pressure and temperature log both on Form 5790-415-01.

6.2.17 Turn HC-705 to position 3 (EVACUATE BOTTLE).

6.2.18 Record stabilized pressure (P_1) from PI-708 (SAMPLE GAS PRESSURE-PSIA) on Form 5790-415-1.

6.2.19 Turn HC-705 to position 4 (TAKE SAMPLE).

6.2.20 IF pressure on PI-708 changes,
THEN there is a leak in the system. Notify the CSL.

6.2.21 Press button HC-720 (PRESS FOR SAMPLE) until a steady pressure is received on PI-708.

6.2.22 Record the final pressure of the sample from PI-708 (P_2), sample temperature from TI-724 and sample time on Form 5790-415-01.

6.2.23 Turn HC-705 to position 5 (FLUSH SYSTEM).

6.2.24 Flush for approximately one minute or until the area radiation monitor located on the sample station reaches a minimum.

6.2.25 Turn HC-705 through position 6 (OFF), 7 (OFF), and 8 (OFF) and then to OFF.

CAUTION

Potentially high dose rates may exist, use appropriate radiological precautions when handling sample.

6.2.26 Withdraw the gas vial positioner. Keep the vial at a maximum distance and quickly insert the sample bottle into the gas vial cask.

6.2.27 IF no additional sample is required,
THEN perform Procedure A.2-417 (DRAINING THE TRAP, SUMP, AND COLLECTOR OF POST-ACCIDENT SAMPLING SYSTEM).

6.2.28 Turn off V-502.

6.2.29 Verify HC-730 is in STOP.

6.2.30 Transport the sample to the Hot Lab for analysis per Procedure A.2-420 (CONTAINMENT ATMOSPHERE RADIOCHEMICAL ANALYSIS).

6.2.31 IF valves were opened in section 6.1.5,
THEN proceed to the Control Room and request that an Operator close the valves that were opened in 6.1.5.

6.2.32 Complete analysis and log results per Form 5790-415-01.

7.0 FIGURES

None

EMERGENCY PLAN IMPLEMENTING PROCEDURE - TABLE OF CONTENTS

Prepared By:	Reviewed By:	
OC Review Req'd: YES	OC Meeting Number: 2407F	Date: 3/25/04
Approved By:		Date: 3/25/04

FOR ADMINISTRATIVE USE ONLY

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ARMS: A.2-417	Doc Type: 1060	Admin Initials:		Date: 4/5/04

l/plr

1.0 PURPOSE

The purpose of this procedure is to provide instructions and precautions for draining the trap, sump, and collector of the PASS.

2.0 APPLICABILITY

2.1 An emergency (Alert or higher classification) has been declared at Monticello Nuclear Generating Plant which involves abnormal or elevated radiological conditions which preclude use of normal sampling methods, and

2.2 The REC/CSL has requested sampling and analysis of containment gas samples, and

2.3 A sample has been obtained at the PASS.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 The Radiological Emergency Coordinator (REC) is responsible for:

3.1.1 Overall direction of the Radiation Protection and Chemistry Group activities.

3.2 The Chemistry Section Leader (CSL) is responsible for:

3.2.1 Overall direction for PASS sampling and analysis.

3.2.2 Overall coordination of Chemistry Group activities.

3.3 The Chemistry Coordinator is responsible for:

3.3.1 Coordination of Chemistry Group activities in the Chemistry Lab.

3.3.2 Coordination of sample logging, identification and documentation.

3.4 The Chemistry Technicians are responsible for:

3.4.1 Implementation of this procedure.

4.0 DISCUSSION

There is no automatic drain or blow down, but there is an alarm light to indicate that the level in the trap T-717 is high and that the trap needs to be drained. This trap removes water from the gas sample lines. If the liquid level becomes too high, water will be sucked into the air pump of the PASS and mechanical damage may result.

The Post Accident Sampling System is located on the south side of the 951' level of the Turbine Building. The most efficient route to the PASS is through Access Control and into the Turbine Building. Move to the 951' level via the east stairway.

5.0 PRECAUTIONS

5.1 Exposures of sampling personnel ***SHALL*** be in accordance with A.2-401 (EMERGENCY EXPOSURE CONTROL).

5.2 Exposures to all personnel due to sampling operations should be maintained as low as is reasonably achievable.

5.3 When actual or potential radiation levels so warrant, high range portable survey instruments, and self-reading dosimeters should be provided to sampling personnel. Alarming dosimeters should also be considered.

6.0 INSTRUCTIONS

6.1 Draining the Trap, Sump, and Collector

6.1.1 Verify that the nitrogen pressure is set at 100 psig.

6.1.2 IF the PASS Demin Water Tank level is below the low indicator on the sightglass,
THEN fill the tank IAW A.2-418 (POST ACCIDENT SAMPLING STATION DEMIN WATER TANK FILL PROCEDURE).

6.1.3 Verify all control panel switches are in the arrow UP and OFF position.

6.1.4 Turn HC-730 (PASS VENTILATION) to START.

6.1.5 Insert PASS key in HC-600 (CONTROL PANEL POWER SELECTOR SWITCH).

6.1.6 Place HC-600 to position A or B.

6.1.7 Turn HC-700 (LIQUID GAS SELECTOR SWITCH) to LIQD.

6.1.8 Turn HC-626 (LIQUID SAMPLE SOURCE SELECTOR SWITCH) to position 2 (JET PUMP).

CAUTION

Minimize the time spent with HC-500 in positions 1 through 4 and the associated primary containment isolation valves closed.

6.1.9 Turn switch HC-500 (SAMPLE SELECTOR SWITCH) counter-clockwise to position 9 (RHR).

6.1.10 Set Liquid Return Selection Switch to Operating RHR Loop,
IF neither RHR Loop is operating,
THEN place selector switch to "A".

6.1.11 Rotate the HC-628-1 (FLUSH SYSTEM SWITCH) counterclockwise to position 6 (FLUSH PIPING STATION).

6.1.12 Adjust PCV-627 (FLOW CONTROL VALVE) to obtain a flow of at least 0.4 gpm on FI-664 (SAMPLE RETURN FLOW).

6.1.13 Rotate HC-715-1 (DRAIN SYSTEM SWITCH) to positions 2 through 7, pausing about 5 seconds at each position.

6.1.14 Turn HC-626 to OFF position.

6.1.15 Turn HC-628-1 to OFF position.

6.1.16 Turn HC-715-1 to OFF position.

6.1.17 Turn HC-700 to OFF position.

6.1.18 Place HC-600 to OFF position.

6.1.19 Turn PCV-627 fully counterclockwise.

6.1.20 Place all switches to the up and OFF position.

6.1.21 Close the nitrogen supply (cylinder valve).

6.1.22 Close the applicable nitrogen supply valve PAS-57-21 OR PAS-57-11.

6.1.23 Return to the original procedure.

7.0 FIGURES

None