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Monticello Nuclear Generating Plant
Operated by Nuclear Management Company, LLC

July 10, 2002

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Section V

US Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

MONTICELLO NUCLEAR GENERATING PLANT
Docket No. 50-263 License No. DPR-22

Emergency Plan Implementing Procedures

Furnished with this letter is a revision to the Monticello Nuclear Generating Plant Emergency Plan Implementing Procedures. The following procedures are revised:

Procedure	Procedure Title	Revision
A.2-422	Stack Iodine/Particulate Sampling and Analysis	10
A.2-423	Reactor Building Vents Iodine/Particulate Sampling & Analysis	7

Please post changes in your copy of the Monticello Nuclear Generating Plant Emergency Plan Implementing Procedures. Superseded procedures should be destroyed. These revisions do not reduce the effectiveness of the Monticello Nuclear Generating Plant Emergency Plan.

Please contact Douglas A. Neve, Licensing Manager, at 763-295-1353 if you require further information.

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OC Review Req'd: YES	OC Meeting Number: 2319F	Date: 6/13/02
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1.0 PURPOSE

1.1 The purpose of this procedure is to provide instructions, precautions, and guidance for collection, handling and analysis of stack iodine/particulate 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 sampling and analysis of stack releases.

3.0 ORGANIZATION AND RESPONSIBILITIES

3.1 The Radiological Emergency Director (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 stack 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

None

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-person teams should be used to obtain a post-accident sample when possible.

5.6 Due to reliability problems with WRGM grab sample timers, they are no longer used for this activity. The standby sample filter is used and samples are taken with a stopwatch using the filter selector switch. See CR 20024613.

6.0 INSTRUCTIONS

6.1 Obtaining Samples

6.1.1 Obtain key No. 179 from the Radiation Protection key cabinet to access stack.

6.1.2 Initiate Form 5790-422-01 (STACK IODINE/PARTICULATE ANALYSIS CHECKLIST).

6.1.3 Verify that the Hot Lab South Exhaust Hood is functioning.
IF the hood is not working,
THEN notify the Chemistry Coordinator and continue.

6.1.4 Proceed to the Control Room and record the process flow (monitor item 029), sample flow (monitor item 028 for high flow or 033 for low flow) and Release Activity (LOW, MID, HIGH buttons) on Form 5790-422-01.

6.1.5 Determine the sampling time required according to the following chart. Record the time setting on Form 5790-422-01:

PUMP	ACTIVITY	TIME
high flow	up to 0.1 μCi/cc	1.0 Min
low flow	0.1 to 50 μCi/cc	10 Sec
low flow	50 to 1E5 μCi/cc	5 Sec

6.1.6 Determine the sample filter to be used and record on Form 5790-422-01. (If the high range channel is required and the filter selector switch is on C, then record D and if its switch is on D, then record C. If the low range channel is required and its filter selector switch is on A, then record B and if the switch is on B, then record A.)

6.1.7 Using a calibrated stopwatch, toggle the filter selector switch for the required channel to the standby filter position for required time and return it to the used filter position. Record time started on Form 5790-422-01.

6.1.8 Don the required protective clothing and dosimetry as specified by the Radiation Protection Coordinator.

6.1.9 Proceed to the stack sample area while observing radiation protection precautions.

6.1.10 Close the four valves on the Sample Filter Apparatus for the channel recorded on Form 5790-422-01. Disconnect and remove the Sample filter holder. Leave the filter in the holder and transport to the Hot Lab, keeping filters as far away from your body as possible.

6.2 Analyzing Samples

6.2.1 Place the filter set into the south hood.

6.2.2 Connect the sample filter holder to the purge air fitting in south hood of Hot Lab. Open the plant air supply valve in the hood and purge the filter holder set into the hood for 5 minutes.

6.2.3 Remove the charcoal filter from the filter holder and place in a poly bag labeled as directed by the Chemistry Coordinator.

6.2.4 Remove the particulate filter from the filter holder and place in a petri dish labeled as directed by the Chemistry Coordinator.

6.2.5 Count the filters IAW Chem Procedure I.03.39 (MCA OPERATION/GAMMA ISOTOPIC ANALYSIS).

6.2.6 IF the charcoal filter < 10% Dead Time,
THEN from the gamma isotopic printout record the Iodine Release Rate on Form 5790-422-01.

6.2.7 IF the charcoal filter > 10% Dead Time,
THEN measure the dose rate at one foot. Calculate the μCi/Sec as I-131 using the following equation:

Iodine Release Rate (μCi/Sec) =

$$\frac{420 \times \text{Dose Rate (mR/HR)} \times \text{Process Flow (cfm)}}{\text{Sample Flow (cfm)} \times \text{Timer Setting (Sec)}}$$

Record the I-131 μCi/Sec on Form 5790-422-01.

6.2.8 Store the charcoal filter in the shielded storage area when not required for analysis.

6.2.9 IF the particulate filter < 10% Dead Time,
THEN from the gamma isotopic print out record the Release Rate on Form 5790-422-01.

6.2.10 IF the particulate filter is > 10% Dead Time,
THEN measure the dose rate at 1 foot. Calculate the particulate activity in μCi/Sec using the following equation:

Particulate Release Rate (μCi/Sec) =

$$\frac{620 \times \text{Dose Rate (mRem/HR)} \times \text{Process Flow (cfm)}}{\text{Sample Flow (cfm)} \times \text{Timer Setting (Sec)}}$$

Record the activity on Form 5790-422-01.

6.2.11 Place the sample into the shielded storage area.

6.2.12 Provide the release rate information and checklist to the Chemistry Coordinator.

6.2.13 Install fresh charcoal and particulate filters into the filter holder.

7.0 FIGURES

FIGURE

7.1 Forms Utilized in this Procedure

5790-422-01 (STACK IODINE/PARTICULATE ANALYSIS CHECKLIST)

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1.0 PURPOSE

The purpose of this procedure is to provide instructions, precautions, and guidance for collection, handling and analysis of Reactor Building vent iodine/particulate 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 sampling and analysis of Reactor Building vent releases.

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 Reactor Building vent 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

None

5.0 PRECAUTIONS

5.1 Exposure 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 Rad Prot Specs should be used to obtain a post-accident sample when possible.

5.6 Due to reliability problems with WRGM grab sample timers, they are no longer used for this activity. The standby sample filter is used and samples are taken with a stopwatch using the filter selector switch. See CR 20024613.

6.0 INSTRUCTIONS

6.1 Obtaining Samples

6.1.1 Prior to sampling, notify the Control Room and advise Shift Supervisor of your intentions.

6.1.2 Plan the route to the 1001' level,

IF area radiation levels prohibit access to the 1001' level by normal access routes,
THEN access should be from the Third Floor Admin Building H&V Room into the 962' Reactor Building MG Set Room. From the MG Set Room Air Lock, up the northeast stairs to the 1001' level.

6.1.3 To access through the third floor Admin Building H&V Room, obtain Vital Key 211 from the Shift Supervisor and notify Security for access through Door 211.

6.1.4 Initiate Form 5790-423-01 (REACTOR BUILDING VENTS IODINE/PARTICULATE ANALYSIS CHECKLIST) (FIGURE 7.1).

6.1.5 Verify that the Hot Lab South Exhaust Hood is functioning,

IF the hood is not working,
THEN notify the Chemistry Coordinator and continue.

6.1.6 Proceed to the Control Room and verify that the Reactor Building Vent Wide Range Gas Monitors are selected to Operating Vent Exhaust Fans, then record the process flow on both channels (monitor item 029), sample flow on the channel being sampled (monitor item 028 for high flow or 033 for low flow) and Release Activity (LOW, MID, HIGH buttons) on Form 5790-423-01.

6.1.7 Determine the sampling time required according to the following chart. Record the time settings on Form 5790-423-01.

PUMP	ACTIVITY	TIME
high flow	up to 0.1 μCi/cc	1.0 Min
low flow	0.1 to 50 μCi/cc	10 Sec
low flow	50 to 1E5 μCi/cc	5 Sec

6.1.8 Determine the sample filter to be used and record on Form 5790-423-01. (If the high range channel is required and its filter selector switch is on C, then record D and if the switch is on D, then record C. If the low range channel is required and its filter switch is on A, then record B and if the switch is on B, then record A.)

6.1.9 Using a calibrated stopwatch, toggle the filter selector switch for the required channel to the standby filter position for required time and return it to the used filter position. Record time started on Form 5790-423-01.

6.1.10 Don the required protective clothing and dosimetry as set by the Radiation Protection Coordinator.

6.1.11 Proceed to the Reactor Building Vent sample area while observing radiation protection precautions.

6.1.12 Close the four valves on the Sample Filter Apparatus for the channel recorded on Form 5790-423-01. Disconnect and remove the Sample filter holder. Leave the filter in the holder and transport to the Hot Lab, keeping filters as far away from your body as possible.

6.2 Analyzing Sample

6.2.1 Place the filter set into the south hood.

6.2.2 Connect the sample filter holder to the purge air fitting in south hood of Hot Lab. Open the plant air supply valve in the hood and purge the filter holder set into the hood for 5 minutes.

6.2.3 Remove the charcoal filter from the filter holder and place in a poly bag labeled as directed by the Chemistry Coordinator.

6.2.4 Remove the particulate filter from the filter holder and place in a petri dish labeled as directed by the Chemistry Coordinator.

6.2.5 Count the filters IAW Chem Procedure I.03.39 (MCA OPERATION/GAMMA ISOTOPIC ANALYSIS).

6.2.6 IF the charcoal filter < 10% dead time,
THEN from the gamma isotopic printout record the Iodine Release Rate on Form 5790-423-01.

6.2.7 IF the charcoal filter > 10% dead time,
THEN measure the dose rate at one foot. Calculate the μCi/Sec as I-131 using the following equation:

Iodine Release Rate (μCi/Sec) =

$$\frac{420 \times \text{Dose Rate (mR/HR)} \times \text{Process Flow (cfm)}}{\text{Sample Flow (cfm)} \times \text{Timer Setting (Sec)}}$$

Record the I-131 μCi/Sec on Form 5790-423-01.

6.2.8 Place the charcoal filter in the shielded storage area.

6.2.9 IF the particulate filter < 10% dead time,
THEN from the gamma isotopic printout record the Release Rate on Form 5790-423-01.

6.2.10 IF the particulate filter > 10% dead time,
THEN measure the dose rate at 1 foot. Calculate the particulate activity in μCi/Sec using the following equation:

Particulate Release Rate (μCi/Sec) =

$$\frac{620 \times \text{Dose Rate (mRem/HR)} \times \text{Process Flow (cfm)}}{\text{Sample Flow (cfm)} \times \text{Timer Setting (Sec)}}$$

Record the activity on Form 5790-423-01.

6.2.11 Place the sample into the shielded storage area.

6.2.12 Provide the release rate information and checklist to the Chemistry Coordinator.

6.2.13 Install fresh charcoal and particulate filters into the filter holder.

7.0 FIGURES

FIGURE

7.1 Forms Utilized in this Procedure

1. 5790-423-01 (REACTOR BUILDING VENTS IODINE/PARTICULATE ANALYSIS CHECKLIST)