50-255

Date Entered: Dec 10, 2000

TO: USNRC/WASHINGTON
JMCKNIGHT Copy Number: 145

TRANSMITAL NUMBER: **171014**

PROCEDURE NUMBER: EI-7.10

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

TRANSMITTAL: LISTED BELOW ARE NEW/REVISED PROCEDURES WHICH MUST BE IMMEDIATELY INSERTED INTO OR DISCARDED FROM YOUR PROCEDURE MANUAL.

Action Required	Section or Description
REMOVE AND DESTROY	EI-7.10, R/3, ENTIRE PROCEDURE
REPLACE WITH	EI-7.10, R/3, ENTIRE PROCEDURE
	EDITORIAL

SIGN, DATE, AND RETURN THE ACKNOWLEDGEMENT FORM WITHIN 10 DAYS TO THE PALISADES PLANT DOCUMENT CONTROL.

SIGNATURE OR INITIALS _____ DATE _____

A045

Procedure No EI-7.10
Revision 3
Issued Date 12/10/00

PALISADES NUCLEAR PLANT
EMERGENCY IMPLEMENTING PROCEDURE

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

Procedure Sponsor — Date 11/25/00

TPNeal — Technical Reviewer — Date 4/30/98

User Reviewer — Date

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

Table of Contents

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

USER ALERT
INFORMATION USE PROCEDURE

The activities covered by this procedure may be performed from memory.

1.0 PERSONNEL RESPONSIBILITY

The Health Physics Group Leader shall implement this procedure. In the absence of a Health Physics Group Leader, the Site Emergency Director shall delegate this responsibility.

2.0 PURPOSE

To provide the ability to take post accident samples of the stack effluent, using the Radioactive Gaseous Effluent Monitor (RGEM).

3.0 REFERENCES

3.1 SOURCE DOCUMENTS

3.1.1 Palisades Site Emergency Plan, Section 7, "Emergency Facilities and Equipment"

3.1.2 NUREG 0654, Section I, "Accident Assessment"

3.1.3 Technical Specifications Chapter 5, Section 5.5.3, "Post Accident Sampling Program"

3.2 REFERENCE DOCUMENTS

3.2.1 Emergency Implementing Procedure EI-8, "Onsite Radiological Monitoring"

3.2.2 Emergency Implementing Procedure EI-9, "Offsite Radiological Monitoring"

3.2.3 Emergency Implementing Procedure EI-6.0, "Offsite Dose Calculation and Recommendations for Protective Actions"

3.2.4 Engineering Analysis EA-WWD-98-004, "Conversion Factor for the High Range Accident Filter"

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

4.0 INITIAL CONDITIONS AND/OR REQUIREMENTS

USER ALERT
INFORMATION USE PROCEDURE

The activities covered by this procedure may be performed from memory.

4.1 IMPLEMENTATION

a. The normal range iodine and particulate filter should be sampled at high alarm, but may be sampled before this time at the direction of the Health Physics Group Leader. These filters isolate automatically at the RGEM high alarm.

4.1.1 These samples should not be taken prior to high alarm if a release is expected because a system purge removes monitoring capability.

a. The automatic grab sample should be collected after the RGEM alert alarm.

b. The high range iodine filter should be sampled after the high alarm at the direction of the Health Physics Group Leader.

CAUTION

During a situation where the Plant has lost offsite power, the RGEM equipment may show no indication of power. This is due to the fact that source of power for the equipment is a Motor Control Center that is not automatically energized by the diesel generators.

4.1.2 In the event the RGEM has lost power due to the loss of offsite power, the Site Emergency Director (SED) or Operations should be informed that MCC 3 needs to be energized and that Breakers 52-381 and 52-385 on the MCC should be closed. Breaker 52-381 powers the radiation monitors RIA-2326 and RIA-2327 and the stack gas flow recorder FR-2318. Breaker 52-385 powers the RGEM computers and controls.

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

4.2 DOSIMETRY REQUIREMENTS

Each individual that may handle a post accident sample shall as a minimum wear beta/gamma TLDs on their chest and on the inside of both wrists.

4.3 ANTI-CONTAMINATION CLOTHING REQUIREMENTS

Minimum clothing shall consist of full anti-Cs, papers, and a SCBA breathing unit. Any persons who will handle samples shall wear lineman's gloves in addition to their other clothing.

4.4 GENERAL RADIOLOGICAL PRECAUTIONS

a. Two people should be used to gather samples. A qualified Health Physics Technician shall accompany a second technician. The Health Physics Technician shall have as a minimum a Teletector, a RO-2A, and a grab air sampler, or equivalent instruments. The Health Physics Technician shall monitor the area during all sampling operations. Samples shall be monitored for beta radiation prior to any handling.

b. Sampling with general area radiation levels in excess of 10 rem/hr shall not be performed without the approval of the Site Emergency Director.

c. Stay times for technicians performing post accident sampling shall be based on the formula:

$$\text{Stay Time} = \frac{RQ \times 0.9}{DR}$$

Where: "RQ" is the individual's remaining yearly and "DR" is the area's general area dose rate. In cases where the dose rates vary widely during sampling, the Health Physics Technician shall ensure that dosimeters are read frequently and do not exceed 80% of remaining yearly exposure.

d. Handling of samples shall be minimized. When samples must be handled, a beta radiation dose rate reduction of 90% can be assumed for lineman's gloves.

e. When not being handled, samples shall be stored in a shielded or removed location.

f. RGEM control operations should be performed at the remote control panel located behind the C-11A panel in the Control Room.

5.0 RGEM SAMPLING

5.1 ACCESS ROUTES

a. The primary access route to the RGEM room is through the main Control Room door, to the Turbine Building, and up the staircase to the RGEM room.

b. In the case of high radiation levels along the above route, the back door of the Control Room should be used to access the Turbine Building.

5.2 PRESAMPLING SURVEY

A presampling survey may be performed in the RGEM room, but due to the short time required to sample, this precaution may be unnecessary. The Health Physics Group Leader shall make this determination.

5.3 NORMAL RANGE IODINE/PARTICULATE FILTER CHANGEOUT

a. Perform all control operations from the remote control panel in the Control Room.

b. The RGEM system should not be purged if the sample is taken after high alarm. Prior to high alarm, the system should be purged prior to sample collection as follows. Switch System Control Purge to the on position. This will divert purge air through the system during filter change.

c. Proceed to the RGEM room per Section 4.1.

d. The normal range iodine/particulate sampler is located inside the lower cabinet on the right side of the RGEM system.

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

e. Open the cabinet and loosen the two wingnuts on the filter holder assembly. Turn the handle clockwise and draw the filter holder from the sampler.

f. Unscrew the filter cap and remove the filters. Wrap the filters to prevent spread of contamination. Use forceps to handle the filters whenever possible. Samples should be marked with type, time, date, and initials of collector.

g. Inspect the O-rings on the filter holder assembly and replace if damaged.

h. Install new filters by following Steps 5.3e and 5.3f in reverse order.

i. Return to the Control Room and turn the System Control Purge to the off position. This will return the system to sampling mode.

5.4 AUTOMATIC GRAB SAMPLE

a. A 15-second grab sample will be initiated when the alert alarm is given by the Normal Range Noble Gas Monitor (RIA-2326).

Proceed to:

b. The RGEM room and close the two valves located on either side of the grab sampler.

c. The grab sample can then be removed by releasing the two quick release couplings found on both sides of the sampler. Sample should be marked with type, time, date, and initials of collector.

d. The grab sampler can then be removed for counting.

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

5.5 HIGH RANGE IODINE FILTER CHANGEOUT

a. A high alarm will switch the RGEM system to the high range sample mode.

b. The Accident Filter Control Operating Mode Switch is kept in the sample position during normal operation and emergency sampling. During emergency sampling, the system will alternate between sampling and purge every minute in a preset ratio.

c. To collect the high range iodine filter, switch the Accident Filter Control Operating Mode to the Filter Change position. In this mode, purge air is continuously diverted through the high range iodine filter. This change should be made on the Control Room RGEM remote control panel.

d. Proceed to the RGEM room, per Section 5.1.

e. Upon arrival at the high range iodine filter, loosen the two thumbscrews and two wingnuts on the top of the unit and pull the retainer pin located behind the lid.

f. Draw the filter holder into the carrier by pulling the filter changer handle to its fully extended position. Insert the small retainer pin on the top of the side bracket. The filter carrier can be removed for counting. Mark the carrier with sample type, time, date, and initials of collector. The filter changer may be unscrewed and removed to facilitate transport.

g. Install a new filter by following Steps 5.5e and 5.5f in reverse order.

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

5.6 **SAMPLE COUNTING**

a. Purge the noble gases from the high range iodine accident filter by using the special (labeled) air sample head jig located in the OSC Equipment Locker.

b. Perform dose rate survey on both sides of the high range iodine accident filter with an E-520 or equivalent. If highest contact dose rate is < 1 mrem continue with Step 5.6c, and count the filter on the low-level ND. If dose rate is > 1 mrem/hr go to Section 5.7 methodology to determine iodine release rate.

NOTE: The ND system in the low-level count room is the only ND system that has a geometry for the high range iodine accident filter.

c. Determine sample volume of the high range iodine accident filter by multiplying the expected sample flow rate of 500 cc/m X's sample collection minutes, X's the sample collection efficiency of 0.9. Sample start time can be determined by reviewing chart recorders RR-2325, and/or RR-2327.

d. Entering the corrected sample volume determined in above step, perform a 1000 second count using the Rgem cartridge geometry in the low-level count room.

e. Counting results shall be reported to the Health Physics Dose Assessor or Group Leader in the TSC or EOF.

f. These results should be incorporated into Offside Dose estimates (refer to Emergency Implementing Procedures EI-6.0, "Offsite Dose Calculation and Recommendations for Protective Actions.")

TITLE: POST ACCIDENT SAMPLING, RADIOACTIVE GASEOUS EFFLUENT MONITORING

NOTE: Section 5.7 should only be used in the event the high range iodine accident filter has a contact radiation reading greater than 1 mrem/hr.

5.7 SAMPLE ANALYSIS

a. Determine the total Iodine Curies released by: multiplying the contact does rate obtained on the high range iodine accident filter in Step 5.6b by **1.325 E-06**. (This value was calculated in EA-WWD-98-004).

Total Iodine Curies Released from Stack = Contact reading mr/hr x 1.32E-06

b. Determine the sample time (in seconds) that the high range iodine accident filter was in service. Sample start time can be determined by reviewing chart recorders RR-2325, and/or RR-2327.

c. Determine the Iodine Stack Release Rate (Ci/sec), by dividing Step 5.7a by Step 5.7b.

d. Iodine release rate shall be reported to the Health Physics Group Leader or Dose Assessor in the TSC or EOF.

e. These results should be incorporated into Offsite Dose estimates (refer to Emergency Implementing Procedure EI-6.0, "Offside Dose Calculation and Recommendations for Protective Actions.")

6.0 ATTACHMENTS AND RECORDS

6.1 ATTACHMENTS

None

6.2 RECORDS

None

7.0 SPECIAL REVIEWS

None