Wisconsin Electric
A WISCONSIN ENERGY COMPANY

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NPL 2000-0194

April 27, 2000

Document Control Desk
U.S. NUCLEAR REGULATORY COMMISSION
Mail Station P1-137
Washington, DC 20555

Ladies/Gentlemen:

DOCKETS 50-266 & 50-301
EMERGENCY PLAN IMPLEMENTING PROCEDURE REVISIONS
POINT BEACH NUCLEAR PLANT, UNITS 1 & 2

Enclosed are copies of revised procedures to the Point Beach Nuclear Plant Emergency Plan Implementing Procedures. The revised procedures dated March 31, 2000, should be filed in your copy of the manual in accordance with the attached instructions.

Sincerely,

A. J. Cayia
Manager,
Site Services & Assessment

tat

Enclosures

cc: NRC Resident Inspector (w/o/e)

A045 1/1

The following changes have been made to the EMERGENCY PLAN IMPLEMENTING PROCEDURES Manual. Please remove the previous revision(s) and replace them ***IMMEDIATELY*** with the current revision(s) that are attached.

1. EPIP Index, Revision 65.
2. EPIP 7.3.2, Post-Accident Isokinetic Stack Sampling System, Revision 6
3. EPIP 7.3.7, Estimating Radioiodine Air Concentrations, Revision 4.

INDEX

PROCEDURE NUMBER	PROCEDURE TITLE	REVISION NUMBER		EFFECTIVE DATE	PERIODIC REVIEW DATE
EPIP 1.1	Course of Actions	35	C	01/26/00	11/30/99
EPIP 1.2	Emergency Classification	33	R	11/30/99	11/30/99
EPIP 1.3	Dose Assessment and Protective Action Recommendations	26	R	02/18/00	11/30/99
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EPIP 4.1	Technical Support Center (TSC) Activation and Evacuation	29	R	11/30/99	11/30/99
EPIP 4.2	Operations Support Center (OSC) Activation and Evacuation	14	R	11/30/99	11/30/99
EPIP 4.3	Emergency Operations Facility (EOF) Activation and Evacuation	22	R	11/30/99	11/30/99
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EPIP 11.2	Medical Emergency	12	R	11/30/99	11/30/99

NAMES AND TELEPHONE NUMBERS DELETED

(T - Temporary Change)

C = Continuous Use
R = Reference Use
I = Information Use

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EPIP 12.2	Recovery Implementation	12	R	11/30/99	11/30/99

(T - Temporary Change)

C = Continuous Use
R = Reference Use
I = Information Use

EPIP 7.3.2

POST-ACCIDENT ISOKINETIC STACK SAMPLING SYSTEM

Wisconsin Electric Power Company

DOCUMENT TYPE: Technical

CLASSIFICATION: NNSR

REVISION: 6

EFFECTIVE DATE: March 31, 2000

APPROVAL AUTHORITY: Department Manager

PROCEDURE OWNER (title): Group Head

OWNER GROUP: Emergency Preparedness

Verified Current Copy: _____ _____ _____
Signature Date Time

List pages used for Partial Performance

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Controlling Work Document Numbers

_____ _____
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NAMES AND TELEPHONE NUMBERS DELETED

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1.0 PURPOSE

This procedure provides guidance for the use of the isokinetic stack sampling system in obtaining plant exhaust system samples and in transferring the samples safely to an analysis area. The system is used to obtain air particulate and iodine samples of the Auxiliary Building and Drumming Area exhaust stacks during an accident condition. This procedure does **NOT** cover sample analysis.

2.0 PREREQUISITES

2.1 Responsibilities

2.1.1 The Duty and Call Radiation Protection Supervisor (Rad/Chem Coordinator if TSC is activated) is responsible for the oversight of the isokinetic stack sampling and determining if additional sampling is required.

2.1.2 The Radiation Protection Leader is responsible for the implementation of radiological monitoring controls for personnel involved with the sampling process and activity quantification with the TSO QAD program.

2.1.3 The Chemistry Leader is responsible for providing chemistry support as required.

2.2 Equipment

2.2.1 Auxiliary Building vent stack sampler located on El. 26′ in the stairwell adjacent to the Unit 1 elevator.

2.2.2 Drumming Area vent stack sampler located inside the double doors to the drum preparation room.

2.2.3 Lead Pig

2.2.4 Sample Cart

2.2.5 TSO QAD Program

3.0 PRECAUTIONS AND LIMITATIONS

3.1 During the performance of sampling activities personnel may be subjected to radiological hazards including high radiation, contamination, and airborne radioactivity.

3.2 Personnel shall wear prescribed protective clothing, dosimetry, and use protective equipment as required to prevent contamination, radioactive material uptake, and unplanned exposure.

CAUTION

The accumulation of particulate and noble gases inside the lead pig for greater than one-half hour could raise radiation levels high enough to have personnel exceed 10 CFR 20 exposure limits.

3.3 Do **NOT** let the isokinetic sampling system run longer than one-half hour (Ref. EPIP 10.3) during a design basis accident involving extensive core damage and release of primary coolant to the atmosphere. Under other accident conditions, avoid letting the system run without evaluation for more than three hours without replacing the sample holders or the lead pig.

3.4 Sampling teams shall be aware of the exposure authorized for the specific job assignment and shall **NOT** exceed the authorized exposure.

3.5 Sampling teams shall carry survey instruments and continuously monitor dose rates.

3.6 Follow standard Radiation Protection procedures when handling radioactive material.

4.0 INITIAL CONDITIONS

An emergency event requiring isokinetic stack sampling to determine the extent of plant damage and/or airborne concentrations.

5.0 PROCEDURE

CAUTION

Each lead pig contains approximately 230 pounds of lead. Use the installed lifting devices to move the shield pigs.

NOTE: Masking of radioiodine peaks may occur if the radioiodine filter media is contaminated by radioactive particulates, external contamination, or radioactive noble gases.

5.1 Change Out the Filter or Lead Pig

NOTE: Ensure that the rotameter float goes upscale once pump is started. If float stays on the bottom, the pump could be running backwards.

5.1.1 With pump running, close the isolation valve on the inlet side of the lead pig.

5.1.2 Uncouple the quick disconnect on the inlet side of the lead pig.

5.1.3 Run pump for a minimum of one minute to purge noble gases.

5.1.4 Turn the pump off.

5.1.5 Uncouple the exhaust side of the lead pig.

5.1.6 **IF** the lead pig contact radiation readings are greater than 1 mR/hr above background,
THEN remove the pig assembly and place it on the sample cart.

5.1.7 **IF** the lead pig assembly is removed,
THEN seal the outlet tubes with tape or other appropriate means.

5.1.8 **IF** the lead pig contact readings are below 1 mR/hr above background,
THEN the lead pig may be disassembled and the filter media removed for counting and new media installed.

5.1.9 **IF** the filter media is removed,
THEN place it in a plastic bag for transport.

5.2 Sample Transport Routes

5.2.1 Auxiliary Building Vent Stack Sampler

Proceed through the door in the stairwell, and turn right past the elevator. Go through the security doors and into the chemistry lab.

5.2.2 Drumming Area Vent Sampler

Go out through the double security door to the outside walkway, proceed south, and then east around the façade. When approaching the Service Building, enter the personnel access door and go through the maintenance shop to the chemistry lab.

5.3 Determine Isotopic Content of Sample

NOTE: Due to the potential high radiation levels associated with the filters in the pig, do NOT remove them from the lead pig or vent them as required for other samples prior to counting.

5.3.1 Remove the small plug on top of the lead pig and aim the opening toward the MCA.

5.3.2 Use distance and/or shielding to lower the count rate on the MCA to an acceptable level. Chemistry will determine an isotopic mixture by percent of total.

CAUTION

The lead pig should be opened using special precautions as determined by Radiation Protection.

5.3.3 Discard filters per Radiation Protection direction.

5.4 Determine Release Rate from Stack

5.4.1 Obtain contact rad level on lead pig (mR/hm)

5.4.2 Perform filter activity quantification by the QAD program on TSO.

5.4.3 Notify Radiation Protection personnel immediately with the percent isotopic analysis and determine whether the sampler should be set up for another sample.

5.4.4 Combine the total activity with percent isotopic analysis from chemistry, total activity on filters and stack flow rates to determine isotopic release rates.

5.5 Collecting Another Sample

IF another sample is required,
THEN install another pig with piping filters in the sample line
AND, after sample has run for the desired amount of time, repeat Step 5.1 through Step 5.4.

5.6 Post-Analysis Sample Storage

5.6.1 Store the filters in the designated high level shielded storage container in the Auxiliary Building (outside of the gas decay tank room).

5.6.2 **IF** the filters remain inside the lead pig,
THEN the lead pig can be stored in a designated source room outside the designated shielded area.

6.0 REFERENCES

HPIP 3.56, Airborne Radiation Monitoring Using the Isokinetic Stack Sampling System

EPIP10.3, Post-Accident Containment Hydrogen Reduction

7.0 BASES

None

EPIP 7.3.7

ESTIMATING RADIOIODINE AIR CONCENTRATIONS

Wisconsin Electric Power Company

DOCUMENT TYPE: Technical

CLASSIFICATION: NNSR

REVISION: 4

EFFECTIVE DATE: March 31, 2000

APPROVAL AUTHORITY: Department Manager

PROCEDURE OWNER (title): Group Head

OWNER GROUP: Emergency Preparedness

Verified Current Copy: _____ _____ _____
Signature Date Time

List pages used for Partial Performance

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Controlling Work Document Numbers

_____ _____
_____ _____
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NAMES AND
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1.0 PURPOSE

This procedure provides a method to estimate radioiodine air concentrations when charcoal air sample cartridge dose rates exceed the multichannel analyzer (MCA) counting capability. It uses a set of tables to estimate radioiodine concentrations from contact dose rates.

2.0 PREREQUISITES

2.1 Responsibilities

Radiation Protection Supervision (Offsite Radiation Protection Coordinator and/or Radiation Protection Leader) is responsible for:

2.1.1 Estimation of radioiodine air concentrations.

2.1.2 Implementation of radiological monitoring controls.

2.1.3 Ensuring Dose/Par Coordinator or Rad/Chem Coordinator is informed of results.

2.2 Equipment

Emergency Preparedness Radiation Protection Equipment maintained in OSRPF and/or OSC.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Personnel shall wear prescribed protective clothing, dosimetry devices, and other protection equipment when performing sample analyses.

3.2 Improper handling of radioactive material can result in personnel contamination, radioactive material uptake, unplanned personnel exposure, and cross-contamination of samples.

3.3 An air particulate filter will have been placed in front of the charcoal filter to collect particulate matter and prevent charcoal filter contamination by particulates.

3.4 The total DAC-hours/hour determined by this procedure is for iodine nuclides only.

4.0 INITIAL CONDITIONS

4.1 The contact dose rate reading (after purging, if charcoal filter) on the air sample cartridge is greater than 1 mR/hr or the spectroscopy amplifier dead time is greater than 20%.

4.2 The iodine air sampling cartridge contains activity which exceeds the counting capability of the MCA.

5.0 PROCEDURE

5.1 Purging Charcoal Filter

NOTE: IF a silver zeolite cartridge was used for the sample, THEN no purging is necessary.

IF a charcoal cartridge was used,
THEN purge the cartridge with non-radioactive air to remove radioactive noble gases that may have accumulated in the filter. Purging may be accomplished utilizing the following:

NOTE: Purging should be accomplished inside a chemistry laboratory hood or in an open area away from personnel.

5.1.1 IF service air is utilized to perform the purge,
THEN verify that the plant service air is not contaminated.

5.1.2 IF an air sampler is utilized to perform the purge,
THEN place the filter in another sampler and operate it in an area outside the known radioactive airborne area. Use a clean particulate filter to prevent contamination from particulates.

5.1.3 Purge until the contact reading on filter stablizes over 5 minutes.

5.2 Determining Contact Dose Rate

NOTE: The contact dose rate is defined as the dose rate observed when the inlet side of the cartridge is placed in contact with the beta shield of the survey meter in the closed window position. The contact dose rate may be measured through a plastic bag.

5.2.1 Measure the iodine air sampling cartridge contact dose rate with a Survey Meter (i.e., Eberline RO-2, Bicron RSO-5, or equivalent).

5.2.2 Record the contact dose rate on Worksheet 1 and on the plastic bag the cartridge is in.

5.3 Determining Radioiodine Air Concentrations

NOTE: The user may need to interpolate to get the desired numbers from the tables.

5.3.1 Determine the appropriate table to be used by selecting the table matching:

a. The type of iodine air sampling cartridge used, and

b. The flow rate used during the air sampling.

5.3.2 Record the conversion factors from the appropriate table on Worksheet 1.

5.3.3 Calculate the radioiodine air concentrations by multiplying the conversion factors by the contact dose rate.

5.4 Determining DAC-Hours

5.4.1 Calculate the DAC-hours/hour for each nuclide listed by dividing the radioiodine air concentration by the corresponding DAC conversion factor.

5.4.2 Sum the DAC-hours/hour for all listed radioiodine nuclides.

5.4.3 Sign/Print the "Complete by" and "Date" sections of Worksheet 1.

5.4.4 Forward the results to the Dose/PAR Coordinator.

6.0 REFERENCES

6.1 Correspondence, NEM-89-510, Contact Dose Rate to Air Concentration Conversion Factors for I-130, I-132, I-133, I-134 and I-135, 8/7/89

6.2 Calculation 1999-0113, Air Cartridge Contact Dose Rate to Air Concentration Conversion Factors for Radioiodines

7.0 BASES

B-1 10 CFR 20, Standards for Protection Against Radiation

TABLE 1
CARTRIDGE - CHARCOAL - FLOW RATE - 100 LPM
AIR CARTRIDGE CONTACT DOSE RATE TO AIR CONCENTRATION
CONVERSION FACTORS

Time Post-Accident (Hours)	**Conversion Factor (μCi/cc per mR/h contact total)**				
	I-131	**I-132**	**I-133**	**I-134**	**I-135**
0	1.52E-07	2.19E-07	3.12E-07	3.43E-07	2.91E-07
0.5	1.83E-07	2.26E-07	3.68E-07	2.77E-07	3.32E-07
1	2.14-E-07	2.28E-07	4.25E-07	2.19E-07	3.69E-07
1.5	2.46E-07	2.26E-07	4.81E-07	1.70E-07	4.04E-07
2	2.78E-07	2.20E-07	5.36E-07	1.30E-07	4.34E-07
4	4.02E-07	1.75E-07	7.30E-07	3.88E-08	5.12E-07
6	5.18E-07	1.24E-07	8.87E-07	1.04E-08	5.39E-07
8	6.31E-07	8.35E-08	1.02E-06	2.62E-09	5.36E-07
10	7.42E-07	5.42E-08	1.13E-06	6.38E10	5.15E-07
12	8.53E-07	3.43E-08	1.22E-06	1.52E-10	4.83E-07
18	1.18E-06	7.93E-09	1.41E-06	1.86E-12	3.63E-07
24	1.49E-06	1.68E-09	1.49E-06	2.10E-14	2.50E-07
30	1.78E-06	3.37E-10	1.49E-06	2.23E-16	1.63E-07
36	2.05E-06	6.48E-11	1.44E-06	2.28E-18	1.02E-07
48	2.49E-06	2.21E-12	1.22E-06	2.19E-22	3.68E-08
72	3.11E-06	2.18E-15	7.48E-07	1.72E-30	4.05E-09
96	3.49E-06	1.92E-18	4.11E-07	1.20E-38	4.00E-10
168	3.88E-06	1.04E-27	5.37E-08	3.28E-63	3.03E-13

TABLE 2
CARTRIDGE - CHARCOAL - FLOW RATE - 30 LPM
AIR CARTRIDGE CONTACT DOSE RATE TO AIR CONCENTRATION
CONVERSION FACTORS

Time Post-Accident (Hours)	**Conversion Factor (μCi/cc per mR/h contact total)**				
	I-131	**I-132**	**I-133**	**I-134**	**I-135**
0	1.48E-07	2.13E-07	3.03E-07	3.34E-07	2.83E-07
0.5	1.78E-07	2.19E-07	3.58E-07	2.70E-07	3.23E-07
1	2.08E-07	2.21E-07	4.13E-07	2.13E-07	3.59E-07
1.5	2.39E-07	2.19E-07	4.68E-07	1.65E-07	3.93E-07
2	2.70E-07	2.14E-07	5.21E-07	1.26E-07	4.22E-07
4	3.91E-07	1.70E-07	7.10E-07	3.78E-08	4.98E-07
6	5.04E-07	1.21E-07	8.63E-07	1.01E-08	5.25E-07
8	6.14E-07	8.13E-08	9.90E-07	2.55E-09	5.22E-07
10	7.22E-07	5.27E-08	1.10E-06	6.21E-10	5.01E-07
12	8.29E-07	3.34E-08	1.19E-06	1.48E-10	4.70E-07
18	1.14E-06	7.72E-09	1.37E-06	1.81E-12	3.53E-07
24	1.45E-06	1.64E-09	1.45E-06	2.04E-14	2.44E-07
30	1.73E-06	3.28E-10	1.45E-06	2.17E-16	1.59E-07
36	1.99E-06	6.30E-11	1.40E-06	2.22E-18	9.92E-08
48	2.42E-06	2.15E-12	1.19E-06	2.13E-22	3.58E-08
72	3.03E-06	2.12E-15	7.28E-07	1.67E-30	3.94E-09
96	3.39E-06	1.87E-18	4.00E-07	1.17E-38	3.89E-10
168	3.77E-06	1.02E-27	5.23E-08	3.19E-63	2.94E-13

TABLE 3
CARTRIDGE - SILVER ZEOLITE - FLOW RATE - 100 LPM
AIR CARTRIDGE CONTACT DOSE RATE TO AIR CONCENTRATION
CONVERSION FACTORS

Time Post-Accident (Hours)	**Conversion Factor (μCi/cc per mR/h contact total)**				
	I-131	**I-132**	**I-133**	**I-134**	**I-135**
0	1.64E-07	2.36E-07	3.36E-07	3.70E-07	3.14E-07
0.5	1.97E-07	2.43E-07	3.97E-07	2.99E-07	3.57E-07
1	2.31E-07	2.45E-07	4.58E-07	2.36E-07	3.98E-07
1.5	2.65E-07	2.43E-07	5.19E-07	1.83E-07	4.35E-07
2	3.00E-07	2.37E-07	5.78E-07	1.40E-07	4.67E-07
4	4.33E-07	1.89E-07	7.87E-07	4.19E-08	5.52E-07
6	5.59E-07	1.34E-07	9.56E-07	1.12E-08	5.81E-07
8	6.80E-07	9.00E-08	1.10E-06	2.82E-09	5.78E-07
10	8.00E-07	5.84E-08	1.22E-06	6.88E-10	5.55E-07
12	9.19E-07	3.70E-08	1.32E-06	1.64E-10	5.21E-07
18	1.27E-06	8.55E-09	1.52E-06	2.01E-12	3.92E-07
24	1.61E-06	1.81E-09	1.61E-06	2.26E-14	2.70E-07
30	1.92E-06	3.63E-10	1.61E-06	2.41E-16	1.76E-07
36	2.21E-06	6.99E-11	1.55E-06	2.46E-18	1.10E-07
48	2.68E-06	2.39E-12	1.32E-06	2.37E-22	3.97E-08
72	3.35E-06	2.35E-15	8.07E-07	1.85E-30	4.36E-09
96	3.76E-06	2.07E-18	4.43E-07	1.30E-38	4.31E-10
168	4.18E-06	1.13E-27	5.79E-08	3.53E-63	3.26E-13

TABLE 4
CARTRIDGE - SILVER ZEOLITE - FLOW RATE - 30 LPM
AIR CARTRIDGE CONTACT DOSE RATE TO AIR CONCENTRATION
CONVERSION FACTORS

Time Post-Accident (Hours)	**Conversion Factor (μCi/cc per mR/h contact total)**				
	I-131	**I-132**	**I-133**	**I-134**	**I-135**
0	1.49E-07	2.14E-07	3.06E-07	3.37E-07	2.86E-07
0.5	1.79E-07	2.21E-07	3.61E-07	2.72E-07	3.25E-07
1	2.10E-07	2.23E-07	4.17E-07	2.15E-07	3.62E-07
1.5	2.41E-07	2.21E-07	4.72E-07	1.67E-07	3.96E-07
2	2.73E-07	2.15E-07	5.25E-07	1.27E-07	4.25E-07
4	3.94E-07	1.72E-07	7.16E-07	3.81E-08	5.02E-07
6	5.08E-07	1.22E-08	8.70E-07	1.02E-08	5.29E-07
8	6.19E-07	8.19E-08	9.98E-07	2.57E-09	5.26E-07
10	7.28E-07	5.31E-08	1.11E-06	6.26E-10	5.05E-07
12	8.36E-07	3.36E-08	1.20E-06	1.49E-10	4.74E-07
18	1.15E-06	7.78E-09	1.38E-06	1.83E-12	3.56E-07
24	1.46E-06	1.65E-09	1.46E-06	2.06E-14	2.46E-07
30	1.75E-06	3.30E-10	1.46E-06	2.19E-16	1.60E-07
36	2.01E-06	6.35E-11	1.41E-06	2.24E-18	1.00E-07
48	2.44E-06	2.17E-12	1.20E-06	2.15E-22	3.61E-08
72	3.05E-06	2.14E-15	7.34E-07	1.68E-30	3.97E-09
96	3.42E-06	1.89E-18	4.03E-07	1.18E-38	3.92E-10
168	3.80E-06	1.02E-27	5.27E-08	3.21E-63	2.97E-13

WORKSHEET 1
IODINE AIR CONCENTRATIONS AND DAC-HOURS/HOUR ESTIMATIONS

Time of shutdown _____

Time air sampling initiated _____

Time contact dose rate determined _____

Time elapsed between shutdown and start of air sampling _____ hours

Sample Volume _____ CC

Iodine air sampling media used: Charcoal Silver Zeolite
(Circle one)

Was charcoal cartridge purged? Yes No
(Circle one)

Contact dose rate (after purging, if charcoal filter) _____ mrem/hr

Nuclide	Air Concentration Conversion Factor from Tables 1-4 (μCi/cc per mR/h)		Contact Dose Rate (mR/h)		DAC* (μCi/cc)		DAC-hours/hour
I-131	_____	×	_____	÷	2E-8	=	_____
I-132	_____	×	_____	÷	3E-6	=	_____
I-133	_____	×	_____	÷	1E-7	=	_____
I-134	_____	×	_____	÷	2E-5	=	_____
I-135	_____	×	_____	÷	7E-7	=	_____
					Total		_____ DAC-hours/hour

* 10 CFR 20, Appendix B, Table B-1

Completed By: _____ Date: _____ Time: _____

FORWARD THE RESULTS TO THE DOSE/PAR COORDINATOR