



Nuclear Management Company, LLC
Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241

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August 16, 2000

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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 July 26, 2000, should be filed in your copy of the manual in accordance with the attached instructions.

Sincerely,

A handwritten signature in black ink, appearing to read "A. J. Cayia", is written over the typed name and title.

A. J. Cayia
Manager,
Site Services & Assessment

tat

Enclosures

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

Telephone: (920) 755-6000
Fax: (920) 755-7533

A045

July 26, 2000

The following changes have been made to the **(INSERT MANUAL NAME)** Manual. Please remove the previous revision(s) and replace them **IMMEDIATELY** with the current revision(s) that are attached.

1. EPIP Index, Revision 68.
2. EPIP 4.3, Emergency Operations Facility (EOF) Activation and Evacuation, Revision 23.
3. EPIP 5.1, Personnel Emergency Dose Authorization, Revision 13.
4. EPIP 5.2, Radioiodine Blocking and Thyroid Dose Accounting, Revision 12.
5. EPIP 6.1, Assembly and Accountability, Release and Evacuation of Personnel, Revision 18.
6. EPIP 7.3.1, Offsite Radiation Sampling and Survey, Revision 21.
7. EPIP 10.1, Emergency Reentry, Revision 20.

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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.....	27	R	06/27/00	11/30/99
EPIP 2.1	Notifications - ERO, State & Counties, and NRC.....	19	R	02/18/00	11/30/99
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.....	23	R	07/26/00	11/30/99
EPIP 4.7	Offsite Radiation Protection Facility (OSRPF) Activation and Evacuation.....	0	R	11/30/99	11/30/99
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EPIP 5.2	Radioiodine Blocking and Thyroid Dose Accounting.....	12	R	07/26/00	11/30/99
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EPIP 8.4.1	Post-Accident Sampling and Analysis of Potentially High Activity Reactor Coolant.....	14	C	05/19/00	10/28/98
EPIP 8.4.2	Post-Accident Sampling of Containment Atmosphere.....	9	C	05/19/00	10/28/98
EPIP 8.4.3	Emergency Containment Sump "A" Sampling.....	6		05/19/00	10/28/98
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EPIP 11.2	Medical Emergency.....	13	R	06/27/00	11/30/99

NAMES AND
TELEPHONE NUMBERS
DELETED

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

(T - Temporary Change)

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EPIP 12.1	Emergency Event De-Escalation, Termination, or Recovery Operations	7	R	11/30/99	11/30/99
EPIP 12.2	Recovery Implementation.....	12	R	11/30/99	11/30/99

(T - Temporary Change)

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EPIP 4.3

EMERGENCY OPERATIONS FACILITY (EOF) ACTIVATION AND EVACUATION



*Wisconsin
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Power Company*

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EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

1.0 PURPOSE

This procedure provides instructions for the activation of the Emergency Operations Facility (EOF). The EOF is activated upon declaration of an ALERT, or higher classification, or at any other time deemed necessary by the Duty Shift Superintendent (DSS). Activation of the EOF does not require the declaration of an emergency. Attachment A, Emergency Operations Facility Layout, describes the facility layout.

This procedure also describes the method by which the EOF and Offsite Radiation Protection Facility (OSRPF) is evacuated and responsibilities transferred.

2.0 PREREQUISITES

2.1 Responsibilities

2.1.1 Emergency Director:

- a. Directs the overall management of the emergency response and recovery operations.
- b. Upon activation of the EOF, assumes a formal turnover from the DSS for non-delegable responsibilities, including:
 - Classification/Re-classification of emergencies
 - Protective Action Recommendations
 - Notification of Federal, State, and County authorities
 - Authorizing the use of potassium iodide
 - Authorizing emergency radiation dose extensions
- c. Decision to evacuate the EOF and OSRPF and relocate to alternate areas.

2.1.2 EOF Manager:

- a. EOF activation prior to the arrival of the Emergency Director.
- b. Commands and controls the EOF emergency response activities.

EMERGENCY OPERATIONS FACILITY (EOF)
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- 2.1.3 Dose/PAR Coordinator:
- a. Directs the Offsite Radiation Protection Facility Coordinator to activate the EOF emergency ventilation system per Attachment B, Operation of the EOF Emergency Ventilation System & Annunciator Panel.
 - b. Activates the Wisconsin Electric Dose Assessment Program - WEDAP per EPIP 1.3, Dose Assessment and Protective Action Recommendations.
 - c. Initiates the activation of the Iodine and Noble Gas (ING) Monitors per Attachment D, Activation of the Iodine and Noble Gas (ING) Radiation Monitors.
 - d. Directs offsite dose assessment. Develops Protective Action Recommendations (PARs) based on dose for the Emergency Director's approval.
- 2.1.4 Plant Status Monitor:
- a. Activates Plant Process Computer System (PPCS) workstation per Attachment E, Plant Process Computer System (PPCS).
 - b. Supports event monitoring by serving as the resource for plant and environmental data. Maintains plant status boards.
- 2.1.5 TSC/CR Communicator - Maintains continuous communications between the CR, TSC and EOF. Assists with event classification.
- 2.1.6 Dose/PAR Monitor - Supports radiological response by serving as resource for offsite assessment of radiological conditions and assists with development of Protective Action Recommendations (PARs) based on dose. Maintains rad/met status boards.
- 2.1.7 HPN/SRC Communicator - Communicates information to NRC and State of Wisconsin Department of Health and Family Services - State Radiological Coordinator.
- 2.1.8 State/County Communicator - Communicates information to State and County agencies.
- 2.1.9 State Liaison - Ensures that the State of Wisconsin has adequate information to implement offsite emergency plans. Reports to the State Emergency Operations Center.

EMERGENCY OPERATIONS FACILITY (EOF)
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- 2.1.10 County Liaison - Ensures that Kewaunee County and Manitowoc County has adequate information to implement offsite emergency plans. Reports to the County Emergency Operation Centers.
- 2.1.11 Resource Coordinator - Obtains resources needed for emergency response.
- 2.1.12 Offsite Assembly Area Coordinator - Assists the Security Coordinator in controlling site ingress/egress, including release and/or evacuation of personnel to offsite assembly areas.
- 2.1.13 JPIC Communicator - Communicates information about onsite activities to the JPIC for development of news releases.
- 2.1.14 Corporate Communicator - Maintains communications with Wisconsin Electric Corporate officials and supporting agencies.
- 2.1.15 Administrative Support Leader - Provides clerical and administrative support to emergency organization.

2.2 Equipment

- 2.2.1 EOF inventory per EPMP 1.3, Routine Inventory of TSC, EOF, AEOF, JPIC and OSC Emergency Preparedness Supplies.
- 2.2.2 PPCS Workstations
- 2.2.3 WEDAP Workstation
- 2.2.4 Communications equipment per EPMP 2.1, Testing of Communications Equipment.

3.0 PRECAUTIONS AND LIMITATIONS

Evacuation of the EOF shall include the coordination of the evacuation for the OSRPF.

EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

4.0 INITIAL CONDITIONS

4.1 This procedure shall be implemented upon declaration of an ALERT or higher classification or at the discretion of the Duty Shift Superintendent to provide the Control Room support with offsite interfaces.

4.2 Evacuation of the EOF and OSRPF will be considered when any of the following conditions exist.

4.2.1 Radiation levels surrounding the EOF/OSRPF are:

a. Whole body (TEDE) 500 mrem/hr (measured or calculated)

b. Thyroid (CDE) 3000 mrem/hr (calculated)

NOTE: Higher dose rates can be tolerated for short periods of time if projections do NOT exceed the limits below.

4.2.2 Emergency response personnel radiation doses in the EOF/OSRPF are exceeding or are projected to exceed the following for the duration of the event:

a. Whole body (TEDE) 5 rem (calculated)

b. Thyroid (CDE) 25 rem (calculated)

4.2.3 Other emergency conditions exist (i.e., fire, toxic or flammable gases, or loss of power).

EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

5.0 PROCEDURE

5.1 Activation

5.1.1 The EOF Manager shall ensure the completion of the EOF Position Instruction Manual 4.2, EOF Manager.

NOTE: The facility may be activated earlier based upon the EOF Manager's discretion if determined there is an understanding of the events in progress and adequate staffing resources in place to respond to the emergency.

5.1.2 Minimum staff positions are:

- a. Emergency Director
- b. EOF Manager
- c. Dose/PAR Coordinator
- d. State/Counties Communicator
- e. TSC/CR Communicator
- f. OSRPF Coordinator
- g. Resource Coordinator
- h. JPIC Communicator

5.1.3 The EOF emergency ventilation system, iodine and noble gas (ING) radiation monitors, and PPCS equipment shall be activated per the attachments to this procedure.

5.1.4 Each ERO position shall activate and assume their area of responsibility and function within the EOF using their Position Instruction Manual.

EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

5.2 Evacuation

- 5.2.1 The EOF and OSRPF will be evacuated under the direction of the EOF Manager.
- 5.2.2 The key to an orderly evacuation is good communications, formal turnover with personnel assuming EOF and OSRPF responsibilities, and documentation of actions and notifications.
- 5.2.3 Minimize the number of vehicles used to transport people and equipment to other facilities.
- a. The Alternate Offsite Radiation Protection Facility is the KNPP Site Boundary Facility (SBF) located about one mile west of KNPP on Kewaunee County Nuclear Road per Attachment F, WPS - KNPP Site Boundary Facility.
- b. The Alternate EOF (AEOF) is located in the Wisconsin Public Service corporate office at 700 North Adams Street, Green Bay, WI in Room D2-3 (per Attachment G, AEOF - Green Bay). Data from the PPCS is obtained per Attachment H, Activation of the Remote EOF Datalink System (REDS) - Windows NT.
- 5.2.4 Transfer responsibility for all communications to the TSC until the AEOF is activated. Some communicators may temporarily relocate to that facility prior to activation of the AEOF.
- 5.2.5 Transfer responsibility for the OSRPF oversight and offsite dose assessments for protective action recommendations to the TSC.
- 5.2.6 Ensure all personnel are accounted for after reaching the relocation area(s).
- 5.2.7 Activate the AEOF by each ERO position reassuming their area of responsibility and function using their Position Instruction Manual.
- 5.2.8 Develop an immediate plan for reentry of the EOF/OSRPF area, if possible.

6.0 REFERENCES

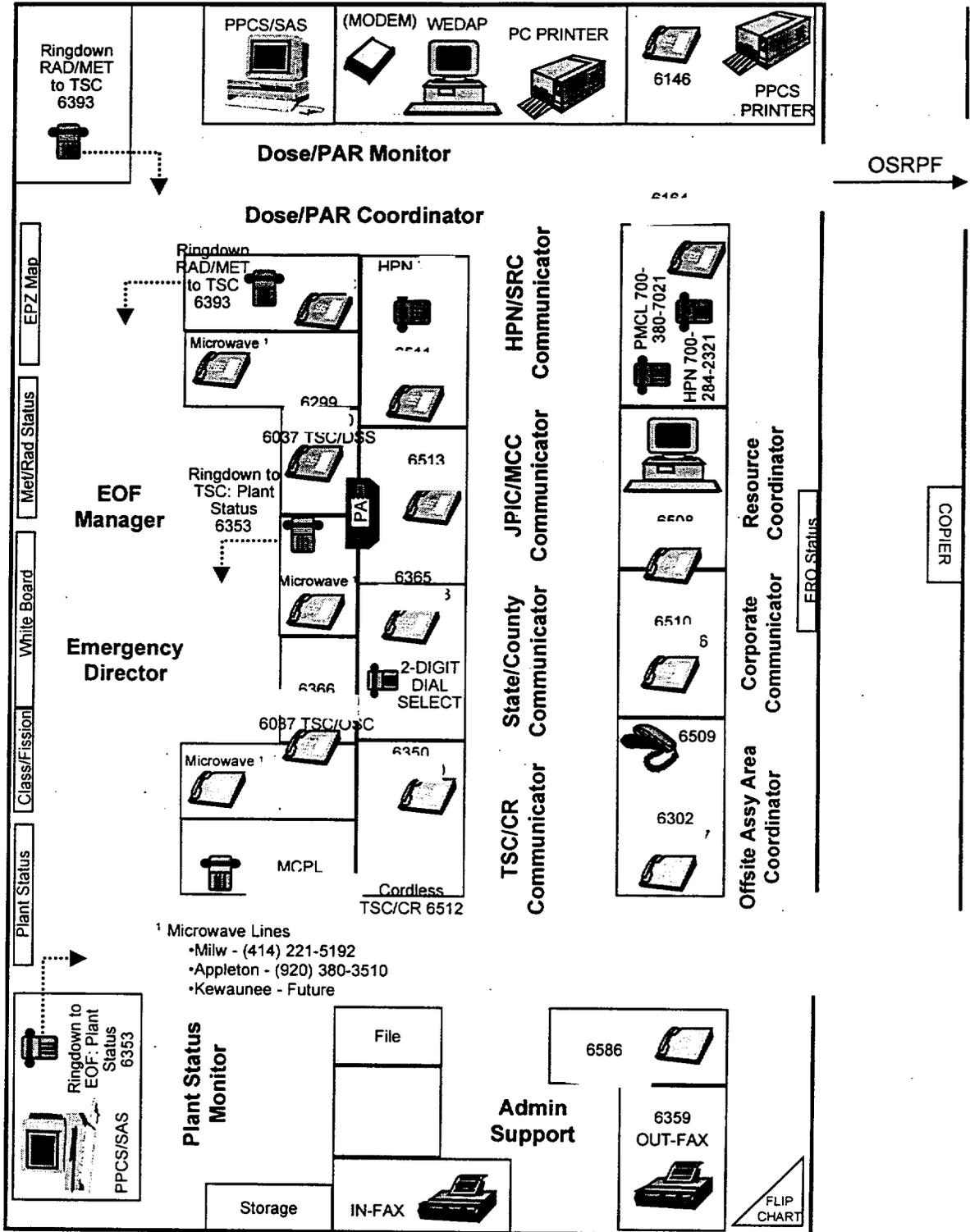
- 6.1 Point Beach Nuclear Plant Emergency Plan
- 6.2 EPIP 1.3, Dose Assessment and Protective Action Recommendations
- 6.3 EPIP 4.7, Offsite Radiation Protection Facility (OSRPF) Activation and Evacuation

EMERGENCY OPERATIONS FACILITY (EOF)
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- 6.4 EPMP 1.3, Routine Inventory of TSC, EOF, AEOF, JPIC and OSC Emergency Preparedness Supplies
 - 6.5 EPMP 2.1, Testing of Communications Equipment
 - 6.6 PIM EOF 4.1, Emergency Director
 - 6.7 PIM EOF 4.2, EOF Manager
 - 6.8 PIM EOF 4.3, Administrative Support Leader
 - 6.9 PIM EOF 4.4, Resource Coordinator
 - 6.10 PIM EOF 4.5, Dose/PAR Coordinator
 - 6.11 PIM EOF 4.6, Dose/PAR Monitor
 - 6.12 PIM EOF 4.7, HPN/SRC Communicator
 - 6.13 PIM EOF 4.8, Corporate Communicator
 - 6.14 PIM EOF 4.9, JPIC Communicator
 - 6.15 PIM EOF 4.10, State/County Communicator
 - 6.16 PIM EOF 4.11, State Liaison
 - 6.17 PIM EOF 4.12, County Liaison
 - 6.18 PIM EOF 4.13, Offsite Assembly Area Coordinator
 - 6.19 PIM EOF 4.14, TSC/CR Communicator
 - 6.20 PIM EOF 4.15, Plant Status Monitor
- 7.0 BASES
- B-1 10 CFR 50.47(b), Emergency Plans
 - B-2 10 CFR 50.47, Appendix E. IV, Content of Emergency Plans
 - B-3 NUREG 0654, Criteria for Preparation and Evaluation of Radiological Response Plans and Preparedness in Support of Nuclear Power Plants
 - B-4 NUREG-0737, Clarification of TMI Action Plan Requirements

EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

ATTACHMENT A
EMERGENCY OPERATIONS FACILITY LAYOUT



ATTACHMENT B
OPERATION OF THE EOF EMERGENCY VENTILATION SYSTEM & ANNUNCIATOR PANEL
Page 1 of 2

NOTE: Contact the Control Room prior to implementing this procedure to advise them of the RMS alarm they will be receiving.

1.0 DESCRIPTION - EMERGENCY VENTILATION SYSTEM

The EOF's emergency ventilation system has a normal and emergency operation mode. Under all modes of operation, fresh air is taken in from the vent on the south end of the west side of the building. Under normal conditions the air is filtered by roughing and electrostatic filters. In the emergency mode, a minimum amount of outside air is taken into the building and incoming air is routed through an additional high efficiency particulate filter.

2.0 EMERGENCY OPERATION OF THE EMERGENCY VENTILATION SYSTEM

2.1 The control panel for the SBCC ventilation system (M1) is located in the mechanical equipment room. Access to the mechanical equipment room is through the men's restroom and locker area.

2.2 To shift from the normal to the emergency mode, manually place the switch S3 on panel M1 to the "Emergency" position.

3.0 EMERGENCY OPERATIONS POWER SUPPLY

Electrical power to the Site Boundary Control Center, and therefore the EOF, is provided by Wisconsin Public Service Corporation (WPSC) via a distribution feeder. In case of loss of electrical power, call WPSC. The telephone number for WPSC can be found in the Emergency Telephone Directory.

4.0 DESCRIPTION - EOF ANNUNCIATOR PANEL

4.1 The EOF's annunciator panel monitors eight parameters in the Site Boundary Control Center building. The control room may receive a common alarm upon annunciation of some of the eight alarms.

4.1.1 Holding tank high level - alarms on high level, holding tank must be pumped by a contractor.

4.1.2 Dosing tank high level - alarms on high level.

4.1.3 Fire detector - annunciates upon detection of a fire.

4.1.4 Emergency mode - annunciates when building HVAC system is switched to the emergency mode.

ATTACHMENT B
OPERATION OF THE EOF EMERGENCY VENTILATION SYSTEM & ANNUNCIATOR PANEL
Page 2 of 2

- 4.1.5 Building temperature low - annunciates upon exceeding the setpoint for the building temperature. This usually indicates a heating system failure.
- 4.1.6 Pump failure - annunciates whenever a pump associated with control panel M1, does not start on demand, after a 30-second time delay.
- 4.1.7 Air filter plugged - annunciates when the electrostatic air filter is plugged and the differential pressure across the filter exceeds the setpoint.
- 4.1.8 Compressed air low pressure - annunciates when the air pressure in the supply header to the Johnson Controls control system falls below the setpoint.
- 4.2 Response to annunciator panel alarms.
 - 4.2.1 Be prepared to respond to the Control Room questions regarding the cause of the alarm.
 - 4.2.2 Take actions and/or call for the assistance as required.

EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

ATTACHMENT C
DELETED - MOVED TO EPIP 1.3

ATTACHMENT D
ACTIVATION OF THE IODINE AND NOBLE GAS (ING) RADIATION MONITORS
Page 1 of 2

Coordinate with the Offsite Radiation Protection Coordinator:

1.0 ACTIVATION

- 1.1 Install a new charcoal filter in the Iodine and Noble Gas Monitor.
- 1.2 Start the iodine and noble gas sample pump in the heating and ventilation room adjacent to the men's lavatory.
- 1.3 Record the initial sample flow rate and start time.

Flow Rate _____ Start Time _____

2.0 INTERPRETATION OF RMS READOUTS

- 2.1 The concentration of noble gas is determined by multiplying the observed count rate on the readout labeled "RE-242" by the calibration constant posted adjacent to the meter. The resulting units are $\mu\text{Ci/cc}$ Xe-133 dose equivalents.
- 2.2 The iodine activity on the charcoal cartridge is obtained by multiplying the observed count rate on the readout labeled "RE-241" by the calibration constant posted adjacent to the meter. The resulting units are μCi - I-131 dose equivalents.

ATTACHMENT D
ACTIVATION OF THE IODINE AND NOBLE GAS (ING) RADIATION MONITORS
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- 2.3 To convert the iodine activity into a concentration, calculate the volume of air that passed through the filter. The concentration of iodine is approximately the activity on the filter (μCi) divided by the total volume (cm^3) for sampling periods less than 12 hours, this assumes no short-lived isotopes are present.

NOTE: For longer sampling periods and when short-lived iodine isotopes are expected to be present, the following formula may be used to calculate the iodine concentration:

$$C = \frac{(\lambda A e^{\lambda t}) t_s}{F p (1 - e^{-\lambda t_s})}$$

Where:		Units
C	= concentration in air	$\mu\text{Ci}/\text{cc}$
F	= sample volume	cc
λ	= decay constant, $0.693 T^{1/2}$	min^{-1}
A	= total activity on filter	μCi
t	= elapsed time from sample stop to count start	min
t_s	= total sample time	min
p	= filter collection efficiency	

Any changes to the alarm setpoints shall be made in accordance with the Radiation Monitoring System Alarm Setpoint & Response Book (RMSASRB) kept in the Control Room.

ATTACHMENT E
PLANT PROCESS COMPUTER SYSTEM (PPCS)
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1.0 PPCS START UP

- 1.1 If the monitor is not on, then turn on the monitor.
- 1.2 Adjust the brightness control on the monitor, as necessary.
- 1.3 If the affected Unit is not selected on the PPCS logon screen, enter the correct unit number and press the *START* key.

NOTE: Only one user may be logged on for each password. Logging on with a password used by the other Monitor will cause their terminal to be logged off the system.

NOTE: You must be logged off to change the Unit selected.

NOTE: PPCS emergency plan passwords enable read only and print functions.

- 1.4 Log onto the PPCS at emergency response facility in which you are located. Do not enter a space between the letters and number.
 - 1.4.1 **IF** you are located in the Technical Support Center,
THEN
 - Enter TSC1 or TSC2
 - Press *START*
 - 1.4.2 **IF** you are located in the Emergency Operations Facility,
THEN
 - Enter EOF1 or EOF2
 - Press *START*

2.0 PPCS DATA RETRIEVAL - SCREEN SEARCH

- 2.1 The *DIRECTORY* key will provide a display of all the screens available to the PPCS user.
- 2.2 Keyboard Use
 - 2.2.1 Functional area keys take the user directly to the screen selected.
 - 2.2.2 Other keyboard entries require pressing the *START* key to enter the data.
 - 2.2.3 Pressing the *DELETE* key will delete the last character entered.

ATTACHMENT E
PLANT PROCESS COMPUTER SYSTEM (PPCS)
Page 2 of 5

- 2.3 Seven system function keys located on the left side of the keyboard may be used to select data screens. These functional areas are:
- 2.3.1 *CORE* - Reactor core information
 - 2.3.2 *PRIMARY* - Reactor coolant system information
 - 2.3.3 *SEC* - Turbine and feedwater information
 - 2.3.4 *VC&RHX* - volume control and residual heat removal information
 - 2.3.5 *CONT* - Containment, release and meteorological information
 - 2.3.6 *BOP* - Balance of Plant, miscellaneous systems
 - 2.3.7 *RMS* - Radiation monitoring system information

2.4 Retrieval of plant status data

NOTE: Plant status information is unit dependent. Ensure the correct information is being displayed for the affected unit.

- 2.4.1 The key functional areas for the Plant Status Monitor to reference during emergency response are:
- a. *CONTAINMENT* (page 250),
 - b. *CORE* (page 210), and
 - c. *PLANT STATUS* (page 353).

ATTACHMENT E
PLANT PROCESS COMPUTER SYSTEM (PPCS)
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2.4.2 Plant Status Board information retrieval, via sector:

- a. Press the *CONT*
- b. Press *SECTOR 3*, and then
- c. Press *START*.

or

2.4.3 Plant Status Board information retrieval, via page number:

- a. Press *PAGE*
- b. Enter 353 and then
- c. Press *START*.

NOTE: RMS data is not unit dependent and is valid for cases when either Unit 1 or 2 has been selected during logon.

2.4.4 Retrieval of RMS data

- a. The key functional area for the Dose/PAR Monitor to reference during emergency response is the RMS Grid (page 104).
- b. To read monitor readings directly from the screen
 1. Press *SECTOR*.
 2. Select and enter the appropriate sector number in which the monitor is located.
 3. Press *START*.
- c. To display RMS monitor trends; return to page 104, then:
 1. Press *SECTOR*,
 2. Enter 7,
 3. Press *START*.

ATTACHMENT E
PLANT PROCESS COMPUTER SYSTEM (PPCS)
Page 4 of 5

4. Select the RMS monitor for trend viewing.

NOTE: If the monitor is common to both Unit 1 and 2, make no numerical entry between the R and the E; just RE and the number.

- (a) Enter the monitor number in the format of RXEYYY
(b) Press *START*.

*where: X is the unit number (1 or 2)
and YYY is the monitor number*

5. Select the time increment for the trend

- (a) Press 1, *START* (1 minute increments).
(b) Press 2, *START* (10 minute increments).
(c) Press 3, *START* (1 hour increments).
(d) Press 4, *START* (1 day increments).

d. Meteorology Data should be taken from the "Plant Releases" (page 351).

- 2.5 The "Poke" function may be used to identify component names and numbers from the various screens.

NOTE: Only components or numerical values that are displayed in a color can be "poked" for information.

2.5.1 To view component information, move the cursor to the icon or data value and press the *POKE* key.

2.5.2 Component or numerical data information will be displayed at the bottom of the screen.

ATTACHMENT E
PLANT PROCESS COMPUTER SYSTEM (PPCS)
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3.0 PPCS DATA RETRIEVAL - HARD COPY

NOTE: Emergency plan forms are selected for printing from the dialogue screen.

3.1 Press *DIALOGUE*.

3.2 Enter 5.

3.3 Press *START*.

3.4 Select the form you wish to print

NOTE: There are portions of form EPIP 2.1, Attachment E, that require written input. Be sure to complete these entries prior to dissemination.

3.4.1 EPIP 2.1, Attachment E, Status Report on Plant Systems and Controls for Affected Unit, enter 1, or

3.4.2 PIM EOF 4.6/TSC 2.8, Attachment B, Release Path Monitors, enter 2, or

3.4.3 PIM EOF 4.6/TSC 2.8, Attachment C, Area Monitors, enter 3, or

3.4.4 PIM EOF 4.6/TSC 2.8, Attachment D, Process Monitors, enter 4.

3.5 Press *START*.

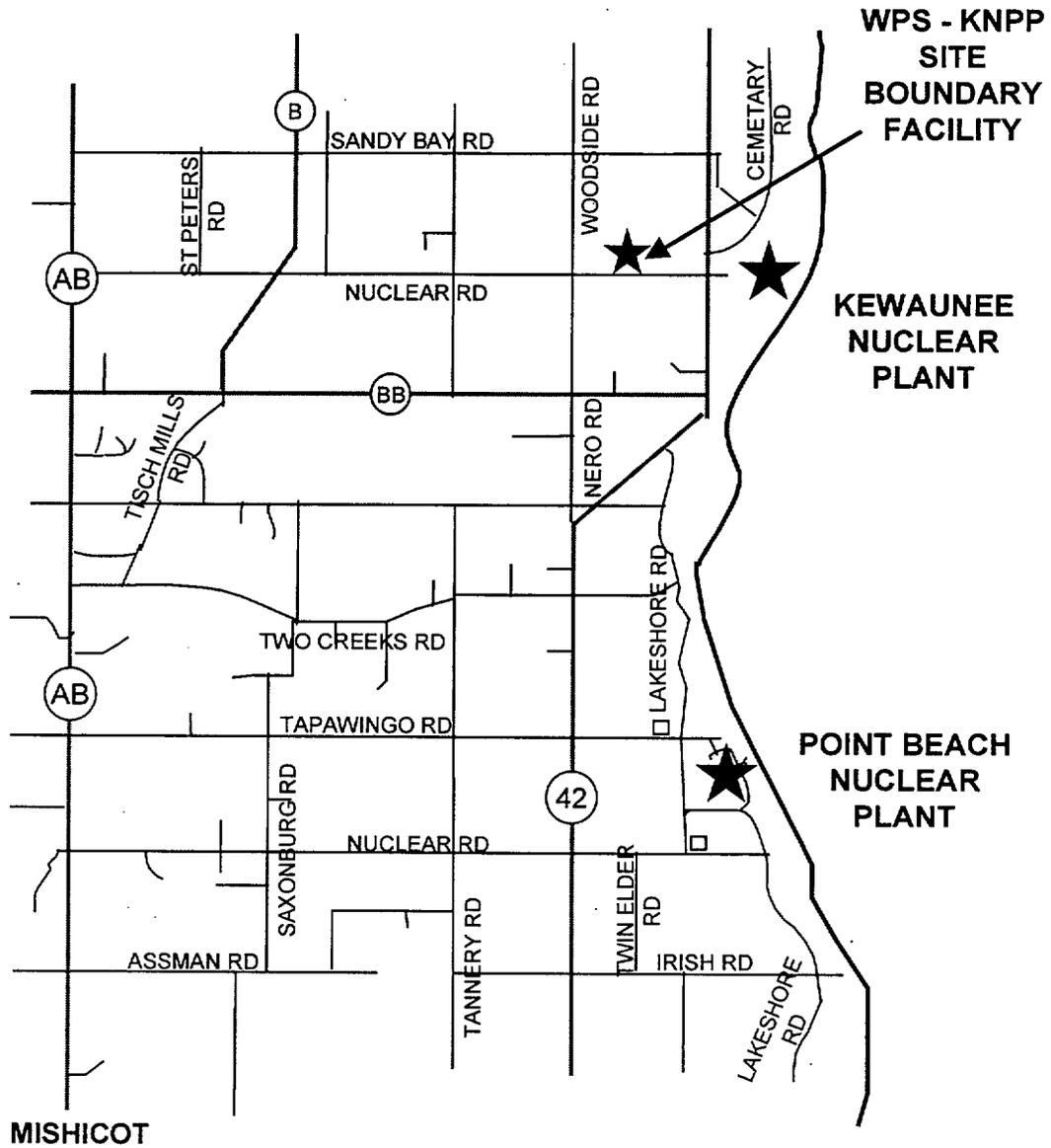
4.0 PPCS LOGOFF

4.1 Select the security screen, page 190.

4.2 Logoff by pressing the *STOP* key.

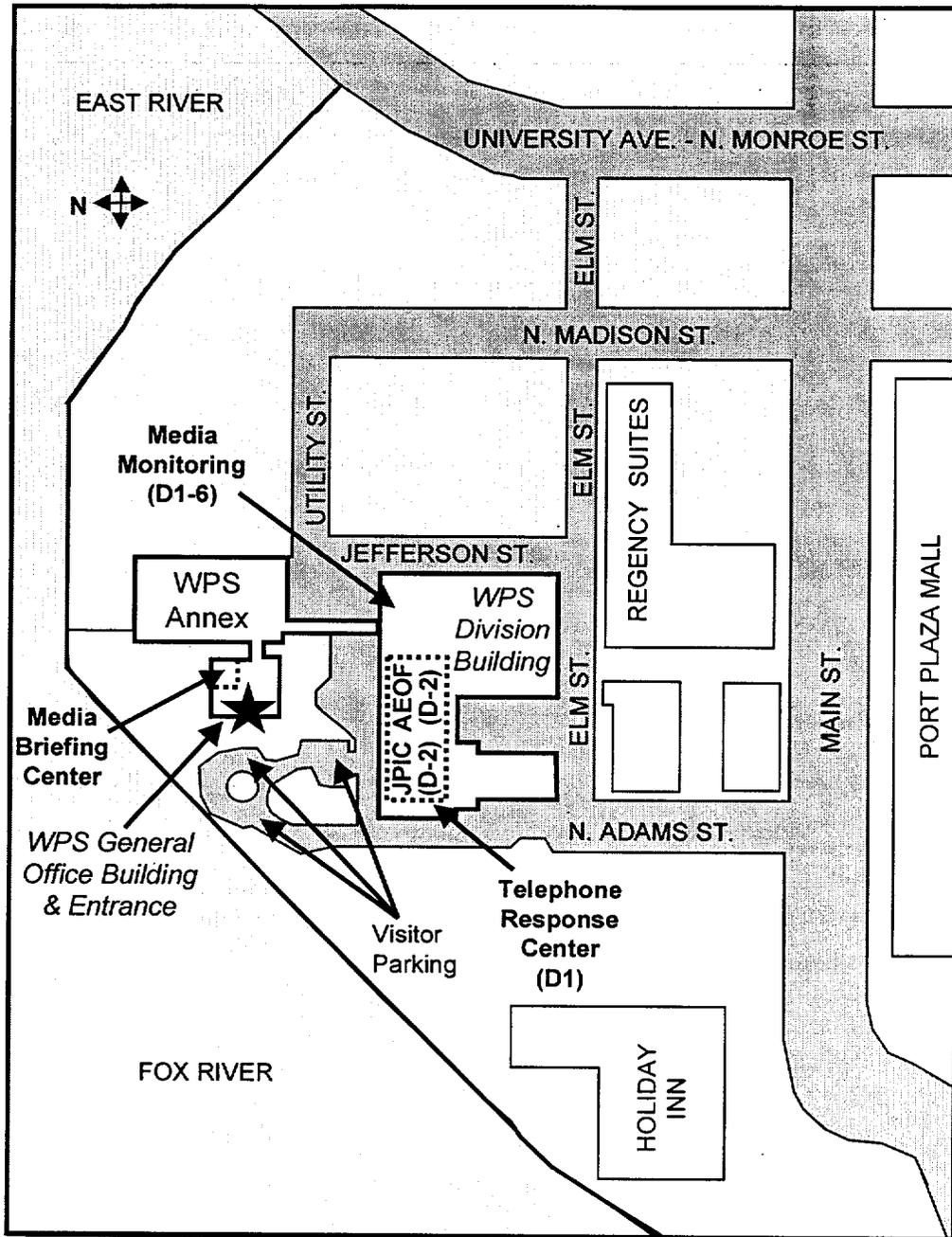
EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

ATTACHMENT F
WPS - KNPP SITE BOUNDARY FACILITY



EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

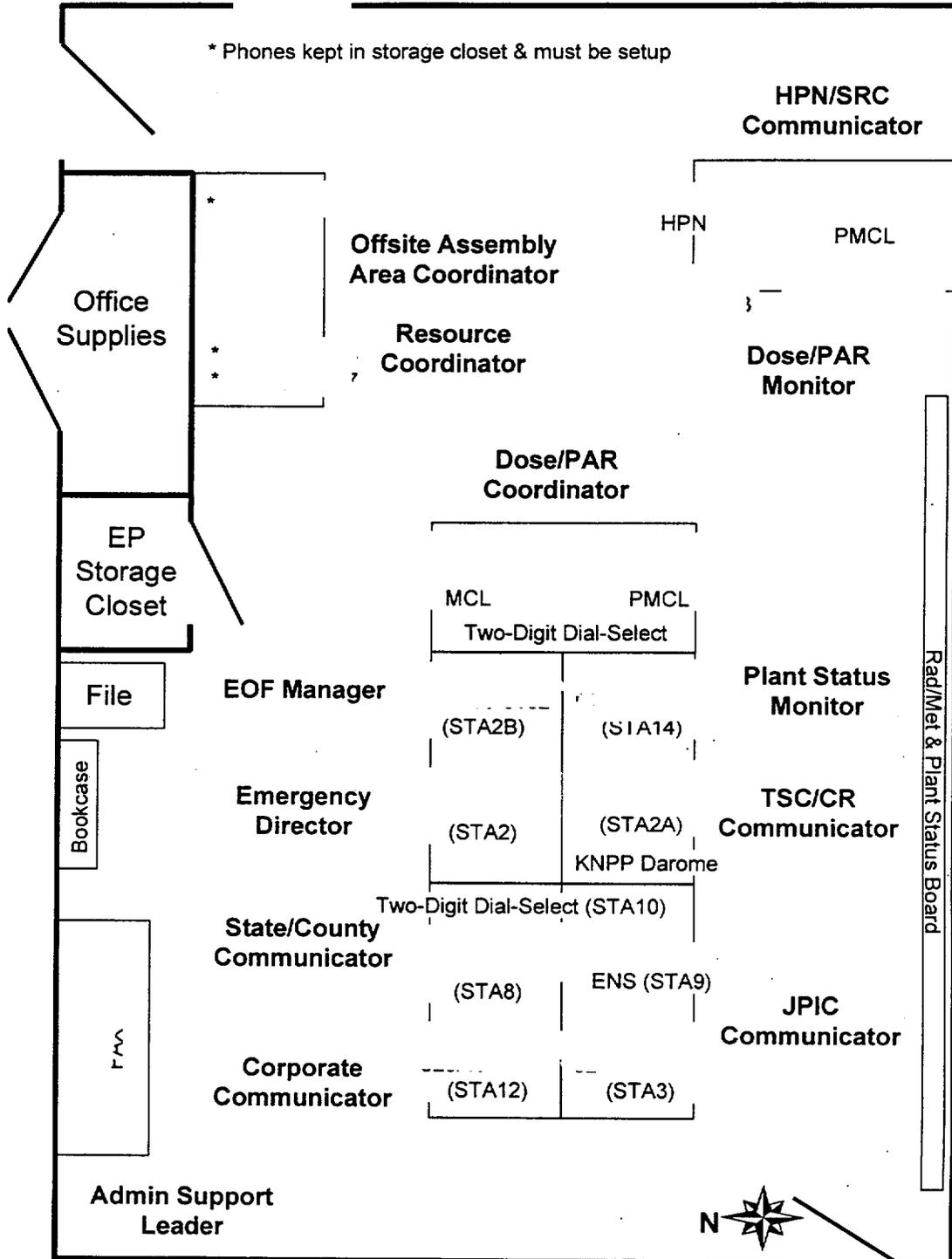
ATTACHMENT G
ALTERNATE EMERGENCY OPERATIONS FACILITY (AEOF)
700 NORTH ADAMS STREET, GREEN BAY
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Take I-43 north to Green Bay - Exit 187 Webster Avenue. Go south to University Avenue. Take University Avenue west across the East River to the next intersection, Elm Street. Take Elm Street west to N. Adams Street

EMERGENCY OPERATIONS FACILITY (EOF)
ACTIVATION AND EVACUATION

ATTACHMENT G
ALTERNATE EMERGENCY OPERATIONS FACILITY (AEOF)
700 NORTH ADAMS STREET, GREEN BAY
Page 2 of 2



ATTACHMENT H
ACTIVATION OF THE REMOTE EOF DATALINK SYSTEM (REDS) - WINDOWS NT
Page 1 of 3

CAUTION

Periodically verify REDS data is identical to PPCS data displayed at the TSC.

- 1.0 Startup designated computer with a User ID that has Telnet Session Software available. These PCs running Windows NT have had fixed TCP/IP addresses assigned and authorized for access to the "B" PPCS and to the Simulator. This must be done from one of the following workstations.

<u>TCP/IP Address</u>	<u>Location</u>	<u>PC No.</u>
156.76.83.146	PBNP EOF - Resources Coordinator	PC #19844
156.76.80.182	PBNP - Computer Room Above Control Room	PC #16694
156.76.80.178	PBNP - NES - Cube 98	PC #18888
156.76.139.207	PBNP - TSC	PC #17684

- 2.0 Click on "Start" in the lower left corner of the screen.
- 3.0 Click on the "Run" icon.
- 4.0 Type "Telnet" in the box and select "OK".
- 5.0 A Telnet window will appear, from which you can then select the appropriate data source. You can select these from the list that shows when you select the "Connect" pull-down menu or by selecting the "Remote System" option and then entering the TCP/IP address, per the below sources, as the Host Name and selecting "Connect".
- 5.1 FOR DRILLS/EXERCISES ONLY FROM THE SIMULATOR: Select or in the Remote System box, enter TCP/IP address "**156.76.14.31**".
- 5.2 FOR REAL-TIME INFORMATION FROM THE "B" (PREFERRED) PPCS: Select or in the Remote System box, enter TCP/IP address "**156.76.14.36**".
- 5.3 FOR REAL-TIME INFORMATION FROM THE "A" (ALTERNATE) PPCS: Select or in the Remote System box, enter TCP/IP address "**156.76.14.35**".

ATTACHMENT H
ACTIVATION OF THE REMOTE EOF DATALINK SYSTEM (REDS) - WINDOWS NT
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- 6.0 You will get an "OS/32 Terminal Monitor 08.02.3 WP108240" message and then a "*" prompt. If this did not happen, contact the PBNP Reactor Engineering, PBNP Information Resources, or PBNP Simulator for assistance (listed in order of preference).
- 7.0 At the "*" prompt, TYPE IN ALL CAPS, with the single space, exactly as shown: "S REDS,135,REDS" and press the <ENTER> key.
- 8.0 Note: If a second REDS session is needed, start at Step 1.0 above but in this step use: "S REDS2,135,REDS".
- 9.0 It may take some time for the system connections to be made and then a series of messages will appear. You will then receive a "GIVE UNIT=" prompt.
- 10.0 Respond with the number for the PBNP unit for which you desire data to be displayed: Type "1" and <CR> for Unit 1 or "2" and <CR> for Unit 2 [or "0" and <CR> to quit].
- 11.0 Typing "H" and <CR> will display the help screen with a list of the available screens and the screen selection codes. Simply type the "screen code" and a <CR> to call up the desired screen.

NOTE: If an update or new screen is not requested periodically, the PPCS will time-out REDS and terminate the session after one-half hour of inactivity.

- 12.0 Typing "U" and <CR> or just <CR> will update the current screen.
- 13.0 Screen printing can be done from the active Telnet window:
 - 13.1 Select "Start Logging" from the "Terminal" pull-down menu. This opens an "Open log file" window to allow you to enter **telnet.log** as the File name. Then select "Open" to start the **telnet.log** to capture all of the text (screens) which are viewed until the log is stopped.
 - 13.2 Using the REDS screen selection codes, select whichever screen(s) it is desired to be printed.
 - 13.3 After the screens you wish to print have been selected and viewed, you need to stop the **telnet.log**. Select "Stop Logging" from the "Terminal" pull-down menu.

ATTACHMENT H
ACTIVATION OF THE REMOTE EOF DATALINK SYSTEM (REDS) - WINDOWS NT
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13.4 The file **telnet.log** must then be selected and printed.

NOTE: The printout will be routed to the login user's default Windows printer. Any network printer can be selected through the "Page Setup" from the "File" pull-down menu just prior to printing.

Start the **telnet.log** print as follows:

13.4.1 Click on "Start" in the lower left portion of the screen.

13.4.2 Select the "Documents" icon and move the cursor to the right (arrow) and a list of current documents will appear.

13.4.3 Select the **telnet.log** created in Step 13.1 above. This will open a Notepad session with the contents of the **telnet.log** displayed.

13.4.4 Select "Print" from the "File" pull-down menu and it will print.

13.4.5 Selecting the "File" pull-down menu in the Notepad session and "Exit" will return you to the active Telnet window of REDS to continue.

NOTE: To change units, you must stop the program and repeat the process of REDS login starting at Step 5.0. Select the other unit in Step 9.0.

14.0 Typing "Q" and <CR> will stop the program and quit REDS.

15.0 After quitting REDS using the "Q" command, you will get a "Connection to host lost" message window. Click on "OK" to return to the Telnet window.

16.0 At this point you can either reinitiate a REDS session or closeout the Telnet session. To close the Telnet window and session, click on the "Connect" pull-down menu and select "Exit".

17.0 If no other LAN Functions are needed, logoff the PC. Select "Cntrl + Alt + Del," then "Logoff," and "OK". **Turn off the power to the monitor ONLY.**

EPIP 5.1

PERSONNEL EMERGENCY DOSE AUTHORIZATION



*Wisconsin
Electric
Power Company*

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1.0 PURPOSE

This procedure establishes personnel dose guidelines and responsibilities for exposure control in the event activation of the Point Beach Nuclear Plant Emergency Plan makes it necessary to deviate from normal operating procedures.

2.0 PREREQUISITES

2.1 Responsibilities

- 2.1.1 The Rad/Chem Coordinator or Dose/PAR Coordinator shall recommend the need to extend personnel dose limits.
- 2.1.2 The Emergency Director shall approve the dose extensions.
- 2.1.3 The Radiation Protection Leader or a designee shall brief the employee of the hazards associated with the dose extension.
- 2.1.4 The employee must voluntarily accept the dose extension after being briefed on the hazards.

2.2 Equipment

- 2.2.1 Thermoluminescent dosimeters (TLDs)
- 2.2.2 Self-reading dosimeters (SRDs)
- 2.2.3 Electronic personnel dosimeters (EPDs)

2.3 Definitions

- 2.3.1 Individual - as defined in 10 CFR 20.1003, any human being.
- 2.3.2 Adult - an individual 18 or more years of age.
- 2.3.3 Minor - an individual less than 18 years of age.
- 2.3.4 Employee - an individual employed to work at PBNP who is subject to occupational radiation exposure.
- 2.3.5 Dose - a generic term for the dose equivalents stated in 10 CFR 20.1003.
- 2.3.6 Exposure - being exposed to ionizing radiation or to radioactive material.

PERSONNEL EMERGENCY DOSE AUTHORIZATION

- 2.3.7 Personnel Exposure Monitoring Device - A device that indicates the amount of external radiation dose received.
- a. Self-reading Dosimeter (SRD) - A device which is read directly by an individual to provide an estimate of exposure.
 - b. Thermoluminescent Dosimeter (TLD) - A device which records the amount of dose received; read by an offsite vendor.
 - c. Electronic Personnel Dosimeter (EPD) - An electronic device which is read directly by an individual to provide an estimate of exposure and which will alarm at pre-determined setpoints.
- 2.3.8 External dose - that portion of the dose equivalent received from radiation sources outside the body.
- a. Whole body - as applied to external exposure, head trunk (including male gonads), arms above the elbow, or legs above the knee.
 - b. Deep-dose equivalent, H_d - the external whole body dose equivalent at a tissue depth of 1 cm (1000 mg/cm²).
 - c. Eye dose equivalent - the external exposure of the lens of the eye; the dose equivalent at a tissue depth of 0.3 cm (300 mg/cm²).
 - d. Shallow-dose equivalent, H_s - the external exposure of the skin or an extremity at a tissue depth of 0.007 cm (7 mg/cm²) averaged over an area of 1 square centimeter.
 - e. Extremity - hand, elbow, arm below elbow, foot, knee, or leg below the knee.
- 2.3.9 Internal dose - the portion of the dose equivalent received from radioactive material taken into the body.
- 2.3.10 Committed Effective Dose Equivalent (CEDE) - the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.
- 2.3.11 Total Effective Dose Equivalent (TEDE) - the sum of the deep-dose equivalent (for external exposures) and the committed effective dose equivalent (for internal exposures).
- 2.3.12 Planned Special Exposure (PSE) - an infrequent exposure to radiation separate from and in addition to the annual dose limits.

PERSONNEL EMERGENCY DOSE AUTHORIZATION

3.0 PRECAUTIONS AND LIMITATIONS

3.1 During a plant emergency condition, personnel will be allowed to receive up to 4 rem, TEDE, unless authorized exposures as listed below have been approved by the Emergency Director.

Personnel Emergency Dose Guidelines			
Activity	TEDE (rem)	Lens of Eye (rem)	Any Other Organ (Including Skin & Extremities) (rem)
All ⁽¹⁾	5	15	50
Protecting Valuable Property ⁽¹⁾	10	30	100
Life-Saving or Protection of Large Populations ⁽¹⁾	25	75	250
Life-Saving or Protection of Large Populations ⁽¹⁾	> 25	> 75	> 250

Reference Table 2-2, EPA-400-R-92-001

⁽¹⁾ Only on a voluntary basis per NRC Regulatory Guide 8.29.

3.2 Emergency situations that involve immediate measures required to save human lives or equipment important to safety are **NOT** considered Planned Special Exposures (PSEs). However, all exposures received during accident and emergency situations must be determined and subtracted from the 25 rem allowed for lifetime PSEs. [see 10 CFR 20.1206(e)]

3.3 All personnel performing emergency evaluation or recovery activities where the potential exists for exposure to ionizing radiation will be provided with personnel monitoring devices consisting of thermoluminescent dosimeters (TLD) and self-reading dosimeters (SRD).

4.0 INITIAL CONDITIONS

Emergency workers require dose authorizations if expected dose in excess of:

4.1 Maximum PBNP yearly administrative level (4 rem), or

4.2 Excess of the limits in 10 CFR 20.1201 (5 rem).

PERSONNEL EMERGENCY DOSE AUTHORIZATION

5.0 PROCEDURE

5.1 Emergency Response Personnel

- 5.1.1 Ensure your EPD is operating or your SRD is set to zero upon receipt and be aware of Radiation Protection expectations.
- 5.1.2 Verify that correct TLD was issued to you upon receipt.
- 5.1.3 Ensure that exposures authorized under this procedure are **NOT** exceeded and that all EPD and/or SRD rezeros are documented for entry into the individual exposure accounting records.
- 5.1.4 Ensure you are briefed on the hazards of accepting a higher radiation dose.

5.2 Determination of Need to Exceed Personnel Occupational Limits

- 5.2.1 The Rad/Chem Coordinator and/or Dose/PAR Coordinator shall ensure an evaluation of the published Personnel Radiation Exposure Reports is completed. Complete copies are maintained at the following locations:
 - a. Radiation Protection Station
 - b. Operations Support Center
 - c. Radiation Protection Records Office (south service building)
 - d. Offsite Radiation Protection Facility
- 5.2.2 **IF** emergency workers expected dose is in excess of the maximum PBNP yearly administrative level (4 rem) or the limits in 10 CFR 20.1201 (5 rem), **THEN** Attachment B, Emergency Plan Dose Authorization, shall be used to document the authorization.
- 5.2.3 The Rad/Chem Coordinator or Dose/PAR Coordinator shall ensure personnel have been made fully aware of:
 - a. Risks involved per Attachment A, Health Effects, including the dose at which acute effects of radiation may be experienced and the numerical estimates of the risk of delayed effects.
 - b. Life-saving dose limits shall **NOT** be used for recovery of bodies. Personnel exposure for this activity should be limited to 5 Rem.
- 5.2.4 Determine all exposures received during accident and emergency situations and subtract from the 25 rem allowed for lifetime PSEs. [Ref 10 CFR 20.1206(e)]

PERSONNEL EMERGENCY DOSE AUTHORIZATION

5.3 Medical Evaluations

- 5.3.1 Personnel who have received external whole body exposures in excess of 4 rem shall be removed from normal work activities in radiologically controlled areas. Although it is extremely unlikely that there will be any detectable health effects, the Emergency Director may refer the exposed person to a physician.
- 5.3.2 Personnel who have received external whole body exposures of 25 rem or greater shall be removed from emergency duty and referred to a physician for medical evaluation.
- 5.3.3 The company Medical Services Division shall be informed of any employee referred to a physician for medical evaluation.

6.0 REFERENCES

- 6.1 Point Beach Nuclear Plant Emergency Plan
- 6.2 NP 4.2.14, Administrative Dose Levels/Dose Level Extension Procedure
- 6.3 NP 4.2.18, Planned Special Exposure

7.0 BASES

- B-1 10 CFR 20, Standards for Protection Against Radiation
- B-2 NUREG 0654, Criteria for Preparation and Evaluation of Radiological Response Plans and Preparedness in Support of Nuclear Power Plants
- B-3 NUREG-0737, Clarification of TMI Action Plan Requirements
- B-4 EPA, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, EPA-400-R-92-001, May 1992
- B-5 Regulatory Guide 8.29, Instruction Concerning Risks from Occupational Exposure, Revision 1, February 1996

PERSONNEL EMERGENCY DOSE AUTHORIZATION

ATTACHMENT A
HEALTH AFFECTS

TABLE 1

WHOLE BODY ABSORBED DOSES RECEIVED WITHIN A FEW HOURS¹

Whole Body Absorbed Dose (rad)	Early Fatalities ² (percent)	Whole Body Absorbed Dose (rad)	Radiation Sickness ³ (percent affected)
140	5	50	2
200	15	100	15
300	50	150	50
400	85	200	85
460	95	250	98

- NOTES:**
- 1. Risks will be lower for protracted exposure periods.**
 - 2. Supportive medical treatment may increase the dose at which the frequency of early fatalities occur by approximately 50 percent.**
 - 3. Radiation sickness may include: vomiting, diarrhea, etc., which may be forewarning symptoms of more serious health effects associated with large doses of radiation.**

TABLE 2

APPROXIMATE CANCER RISK TO AVERAGE INDIVIDUALS FROM
A 25 REM DOSE EQUIVALENT DELIVERED PROMPTLY

Age At Exposure (years)	Appropriate Risk of Premature Death (deaths per 1000 persons exposed)	Average Years of Life Lost if Premature Death Occurs (years)
20 to 30	9.1	24
30 to 40	7.2	19
40 to 50	5.3	15
50 to 60	3.5	11

PERSONNEL EMERGENCY DOSE AUTHORIZATION

ATTACHMENT B
EMERGENCY PLAN DOSE AUTHORIZATION

1.0 Employee Information:

Name _____ SSN ____ / ____ / ____

Company or WE Work Group _____

2.0 Task Requiring Dose Extension Authorization:

3.0 Authorization and Approvals

Check one:

3.1 Authorization to receive up to the dose limits (TEDE) in 10 CFR 20.1201 (5 rem).

3.2 Authorization to receive dose in excess of the limits in 10 CFR 20.1201 (> 5 rem).

3.3 I have been briefed on the hazards associated with radiation exposure and I voluntarily accept extension of my dose limit as that specified above.

Employee Signature Date/Time

Radiation Protection Leader or Designee Signature Date/Time

3.4 Recommendation

Rad/Chem Coord. OR Dose/PAR Coord. Signature Date/Time

3.5 Approval

Emergency Director Signature Date/Time

Route copy to Radiation Protection Records.
Retain original with documentation from event and return to Emergency Preparedness.

EPIP 5.2

RADIOIODINE BLOCKING AND THYROID DOSE ACCOUNTING



*Wisconsin
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RADIOIODINE BLOCKING AND THYROID DOSE
ACCOUNTING

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RADIOIODINE BLOCKING AND THYROID DOSE
ACCOUNTING

1.0 PURPOSE

This procedure provides a method for quickly estimating the dose rate to the thyroid following a known or predicted exposure to radioactive iodine. It also provides guidelines to assist in determining when to issue potassium iodide. Potassium iodide (KI) is a stable iodine which will saturate the thyroid gland, preventing unnecessary thyroid gland exposure from radioiodine.

2.0 PREREQUISITES

2.1 Responsibilities

- 2.1.1 The Rad/Chem Coordinator or Dose/PAR Coordinator shall recommend the need to issue KI and designate personnel to complete the administration.
- 2.1.2 The Emergency Director shall approve the use of KI, documenting the approval on Attachment B, Airborne Radioiodine Dose Accountability and Potassium Iodide Distribution.
- 2.1.3 Company Medical Services personnel will determine who may be administered KI.
- 2.1.4 Company Medical Services personnel, or a designated physician, will determine the need for KI on a continued basis (after an initial dose of one tablet).

2.2 Equipment

Bottles of 130 mg KI tablets

3.0 PRECAUTIONS AND LIMITATIONS

- 3.1 To be most effective, KI must be taken within 1 to 2 hours after exposure to radioiodine, with maximum effectiveness when taken immediately prior to exposure.
- 3.2 **IF** KI is administered more than 4 hours after an acute ingestion or inhalation of radioiodine,
THEN its effectiveness as a thyroid blocking agent is less than 50 percent.
- 3.3 A copy of the pharmaceutical company instructions, Potassium Iodide Tablets Patient Package Insert, for the use of KI tablets is reproduced as Attachment A. This attachment is furnished for information only.
- 3.4 KI should **NOT** be taken by persons allergic to iodine.

RADIOIODINE BLOCKING AND THYROID DOSE
ACCOUNTING

- 3.5 KI should only be taken by individuals on the approved list, and on a voluntary basis.
- 3.6 Distribution of KI to non-WE and Security personnel will be the responsibility of the organizations to which these personnel belong.

4.0 INITIAL CONDITIONS

- 4.1 An emergency occurs where the projected dose to the thyroid is likely to exceed 25 rem.
- 4.2 IF the projected dose to the thyroid is NOT likely to exceed 25 rem, THEN the issuance of KI to approved personnel is determined based upon the event.

5.0 PROCEDURE

5.1 Dose Accountability For Exposures To Airborne Radioiodine and Thyroid Dose Calculations

It is imperative that accurate exposure times and radioiodine concentrations encountered be maintained for each individual's exposure to airborne radioiodine. The dose to the thyroid from airborne radioiodine may be estimated as follows, completing Attachment B, Airborne Radioiodine Dose Accountability and Potassium Iodide Distribution.

5.1.1 Inhaled Dose Conversion Factors, rads/ μ Ci:

I-131	1.480 rads/ μ Ci
I-132	0.054 rads/ μ Ci
I-133	0.400 rads/ μ Ci
I-134	0.025 rads/ μ Ci
I-135	0.124 rads/ μ Ci

5.1.2 Breathing Rates

- a. Assume 1.25E06 cc/hour (= 3.47E-04 m³/sec.) for short exposure times or exposures while working.
- b. Assume 8.35E05 cc/hour (= 2.32E-04 m³/sec.) for long exposure times (in excess of a single day).

RADIOIODINE BLOCKING AND THYROID DOSE
ACCOUNTING

- 5.1.3 **IF** the concentration of each iodine isotope is **NOT** known, **THEN** use the dose conversion factor for I-131 listed in Step 5.1.1 and illustrated in the Step 5.1.5 example.
- 5.1.4 The total amount of radioiodine inhaled in μCi is estimated by multiplying the average airborne concentration in $\mu\text{Ci}/\text{cc}$ by the breathing rate in cc/hour by the total time of exposure in hours. The thyroid dose in rads is then calculated by multiplying the total amount in μCi by the dose conversion factors ($\text{rads}/\mu\text{Ci}$) from Step 5.1.1.
- 5.1.5 Example:
- Gross Iodine = $5.4\text{E}-07 \mu\text{Ci}/\text{cc}$ in air
- Breathing Rate = $1.25\text{E}06 \text{cc}/\text{hour}$
- Expected Exposure Time = 1 hour
- Inhaled Dose Conversion Factor (I-131) = $1.48 \text{rads}/\mu\text{Ci}$
- Calculation:
- $$(5.4\text{E}-07 \mu\text{Ci}/\text{cc}) (1.25\text{E}06 \text{cc}/\text{hour}) (1.48 \text{rads}/\mu\text{Ci}) (1 \text{hour})$$
- $$= 0.999 \text{rads Thyroid Dose}$$

5.2 Administration

- 5.2.1 Single dose 130 mg tablets of KI and rosters of WE and security personnel approved to use KI as a blocking agent are maintained in the following locations: (Reference Emergency Telephone Directory)
- Operations Support Center
 - Offsite Radiation Protection Facility
 - Control Room
- 5.2.2 **IF** the following conditions are met, **THEN** KI should be distributed to approved personnel for self administration.
- The projected dose to the thyroid is likely to exceed 25 rem,
- OR**
- The projected dose to the thyroid is **NOT** likely to exceed 25 rem; however, based upon the event it is recommended by the Rad/Chem Coordinator or Dose/PAR Coordinator,
- AND**
- The Emergency Director has approved the distribution of KI.

RADIOIODINE BLOCKING AND THYROID DOSE
ACCOUNTING

- 5.2.3 Contact the Security Shift Commander for approval to issue KI to security personnel.
- 5.2.4 List the people who are **NOT** approved to take KI, or who refuse KI, on Attachment C, Record of Known Allergy To or Voluntary Refusal to Take Potassium Iodide.
- 5.2.5 Verify the shelf life of KI tablets is current as indicated on the pharmaceutical container prior to issuing.
- 5.2.6 Prior to issue to each individual:
 - a. Furnish a copy of Attachment A, Potassium Iodide Tablets Patient Package Insert, for informational purposes.
 - b. Ask each person if they are allergic to iodine. **DO NOT** issue KI if the answer is **YES**. Log their name on Attachment C, Record of Known Allergy To or Voluntary Refusal to Take Potassium Iodide.
 - c. Ask if they are accepting the KI on a voluntary basis for self administration. **DO NOT** issue KI if their answer is **NO**. Log their name on Attachment C, Record of Known Allergy To or Voluntary Refusal to Take Potassium Iodide.
- 5.2.7 Personnel listed on Attachment C, Record of Known Allergy To or Voluntary Refusal to Take Potassium Iodide, require alternate protective measures be provided and/or their emergency response duties reassigned.

6.0 REFERENCES

- 6.1 Letter Wisconsin Electric medical department, dated November 6, 1980, and Attachment 1, Protection Against Radioactive Iodines.
- 6.2 Memo NPM 91-0273, Potassium Iodide - Issuance Dose Level, dated February 7, 1991.

7.0 BASES

- B-1 NRC Information Notice No. 88-15: Availability of U.S. Food and Drug Administration (FDA)-Approved Potassium Iodide for Use in Emergencies Involving Radioactive Iodine, April 18, 1988.
- B-2 NUREG-1210, Public Protective Actions - Predetermined Criteria and Initial Actions, Volume 4, Pilot Program: NRC Severe Reactor Accident Incident Response Training Manual, February 1987.

ATTACHMENT A
POTASSIUM IODIDE TABLETS PATIENT PACKAGE INSERT

Note: This attachment is furnished for information only.

Patient Package Insert For

THYRO-BLOCK®
TABLETS
(POTASSIUM IODIDE TABLETS, USP)
(pronounced *poe-TASS-e-um EYE-oh-dyed*)
(abbreviated: KI)

TAKE POTASSIUM IODIDE ONLY WHEN PUBLIC HEALTH OFFICIALS TELL YOU. IN A RADIATION EMERGENCY, RADIOACTIVE IODINE COULD BE RELEASED INTO THE AIR. POTASSIUM IODIDE (A FORM OF IODINE) CAN HELP PROTECT YOU.

IF YOU ARE TOLD TO TAKE THIS MEDICINE, TAKE IT ONE TIME EVERY 24 HOURS. DO NOT TAKE IT MORE OFTEN. MORE WILL NOT HELP YOU AND MAY INCREASE THE RISK OF SIDE EFFECTS. DO NOT TAKE THIS DRUG IF YOU KNOW YOU ARE ALLERGIC TO IODIDE. (SEE SIDE EFFECTS BELOW.)

INDICATIONS

THYROID BLOCKING IN A RADIATION EMERGENCY ONLY.

DIRECTIONS FOR USE

Use only as directed by State or local public health authorities in the event of a radiation emergency.

DOSE

Tablets: **ADULTS AND CHILDREN 1 YEAR OF AGE OR OLDER:** One (1) tablet once a day. Crush for small children.
BABIES UNDER 1 YEAR OF AGE: One-half (1/2) tablet once a day. Crush first.

Take for 10 days unless directed otherwise by State or local public health authorities.

Store at controlled room temperature between 15° and 30°C (59° to 86°F). Keep container tightly closed and protect from light.

WARNING

Potassium iodide should not be used by people allergic to iodide. Keep out of the reach of children. In case of overdose or allergic reaction, contact a physician or the public health authority.

DESCRIPTION

Each white, round, scored, monogrammed THYRO-BLOCK® TABLET contains 130 mg of potassium iodide. Other ingredients: magnesium stearate, microcrystalline cellulose, silica gel, and sodium thiosulfate.

HOW POTASSIUM IODIDE WORKS

Certain forms of iodine help your thyroid gland work right. Most people get the iodine they need from foods, like iodized salt or fish. The thyroid can "store" or hold only a certain amount of iodine.

In a radiation emergency, radioactive iodine may be released in the air. This material may be breathed or swallowed. It may enter the thyroid gland and damage it. The damage would probably not show itself for years. Children are most likely to have thyroid damage.

If you take potassium iodide, it will fill up your thyroid gland. This reduces the chance that harmful radioactive iodine will enter the thyroid gland.

WHO SHOULD NOT TAKE POTASSIUM IODIDE

The only people who should not take potassium iodide are people who know they are allergic to iodide. You may take potassium iodide even if you are taking medicines for a thyroid problem (for example, a thyroid hormone or antithyroid drug). Pregnant and nursing women and babies and children may also take this drug.

HOW AND WHEN TO TAKE POTASSIUM IODIDE

Potassium iodide should be taken as soon as possible after public health officials tell you. You should take one dose every 24 hours. More will not help you because the thyroid can "hold" only limited amounts of iodine. Larger doses will increase the risk of side effects. You will probably be told not to take the drug for more than 10 days.

SIDE EFFECTS

Usually, side effects of potassium iodide happen when people take higher doses for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told. Side effects are unlikely because of the low dose and the short time you will be taking the drug.

Possible side effects include skin rashes, swelling of the salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).

A few people have an allergic reaction with more serious symptoms. These could be fever and joint pains, or swelling of parts of the face and body and at times severe shortness of breath requiring immediate medical attention.

Taking iodide may rarely cause overactivity of the thyroid gland, underactivity of the thyroid gland, or enlargement of the thyroid gland (goiter).

WHAT TO DO IF SIDE EFFECTS OCCUR

If the side effects are severe or if you have an allergic reaction, stop taking potassium iodide. Then, if possible, call a doctor or public health authority for instructions.

HOW SUPPLIED

THYRO-BLOCK® TABLETS (Potassium Iodide Tablets, USP) are white, round tablets, one side scored, other side debossed 472 WALLACE, each containing 130 mg potassium iodide. Available in bottles of 14 tablets (NDC 0037-0472-20).

WALLACE LABORATORIES
Division of
CARTER-WALLACE, INC.
Cranbury, New Jersey 08512

IN-0472-03

Rev. 5/94

EPIP 6.1

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND EVACUATION OF PERSONNEL



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Power Company*

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ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
EVACUATION OF PERSONNEL

1.0 PURPOSE

This procedure describes protective actions to be taken for personnel within the protected area and exclusion areas. These actions include assembly, accountability, release, and evacuation. These actions may be performed on a limited plant or a full-site basis (protected and exclusion areas).

- 1.1 Assembly will consist of an orderly gathering of people into designated assembly areas within or outside the Protected Area, but on PBNP property. An assembly will be conducted at a Site Emergency or higher classification, or under any circumstance deemed necessary by the Duty Shift Superintendent (DSS), or TSC Manager.
- 1.2 Accountability is the gathering of the names of people assembled and maintaining control of their movement.
- 1.3 Release of personnel is the orderly dismissal of personnel not immediately needed for response when no radiological conditions prohibit an unmonitored release from the site.
- 1.4 Evacuation is the process implemented where radiological or other hazards require additional actions, such as radiological monitoring and relocation of assembly areas, in conjunction with the release of personnel.

An early release of visitors, contractors, and non-essential plant and company personnel from the site eliminates the need, in most cases, for burdensome radiological screening of persons and vehicles associated with an evacuation.

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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2.0 PREREQUISITES

2.1 Responsibilities

- 2.1.1 This procedure is the responsibility of the Duty Shift Superintendent (DSS) until assumed by the TSC Manager.
- 2.1.2 The DSS may assign this procedure to an operating supervisor, typically from the unaffected unit.
- 2.1.3 Upon activation of the emergency response facilities, this procedure is the responsibility of the TSC Manager, who shall designate tasks to the:
 - a. Operations Coordinator for the notifications to personnel within the protected and exclusion areas.
 - b. Security Coordinator for oversight of accountability and coordinating the release or evacuation of non-essential personnel from assembly areas with the Rad/Chem Coordinator and Offsite Radiation Protection Coordinator.
 - c. Rad/Chem Coordinator and Offsite Radiation Protection Coordinator to ensure the radiological monitoring of personnel and vehicles is conducted prior to leaving the site property, if required.

2.2 Equipment

- 2.2.1 Fisherman's Alarm
- 2.2.2 Gai-Tronics
- 2.2.3 Point Beach Automated Notification System
- 2.2.4 Point Beach PBX Telephone System
- 2.2.5 Public Address system in the Nuclear Engineering Support Building

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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2.3 Onsite Assembly Areas (Within Owner-Controlled Area)

LOCATION	PERSONNEL ASSEMBLED
NSB Cafeteria*	Plant Personnel-Workstations in PA (Mtn/Ops Office & North)
Admin Bldg – El 26’*	Plant Personnel-Workstations in PA (South of Mtn/Ops Office)
Warehouse #4	Plant Personnel-Workstations outside PA (North end) Other company personnel, Contractors, Visitors
Nuclear Eng. Bldg Cafeteria	Plant Personnel-Workstations outside PA (South end) Other company personnel, Contractors, Visitors
Training Bldg North Foyer	Plant Personnel-Workstations outside PA (South end) Other company personnel, Contractors, Visitors
RP Station*	Chemistry inside RCA & all RP
Control Room*	Onshift Operations Personnel
Technical Support Center*	Assigned ERO Personnel
Emergency Operations Facility	Assigned ERO Personnel
Operations Support Center*	Chemistry outside RCA, Assigned ERO Personnel, Operations Relief/Training Crews
CAS*	Security Personnel
Other temporary assembly areas may be assigned to accommodate unusual situations (i.e., construction)	Personnel affected by these temporary assembly areas will be directly notified in the announcements for assembly

*Assembly areas with card readers

2.4 Offsite Assembly Areas (Outside Owner-Controlled Area)

PROBABLE ONSITE ASSEMBLY AREAS NEEDING RELOCATION	ALTERNATE LOCATIONS
Admin Building El. 26’ NSB Cafeteria NES Building Cafeteria Training Building North Foyer Warehouse #4	Two Creeks Town Hall Two Rivers National Guard Armory
Emergency Operations Facility (EOF) Offsite Radiation Protection Facility (OSRPF)	Alternate EOF TSC (partial EOF positions) KNPP Site Boundary Facility (OSRPF Only)
Technical Support Center (TSC) Operations Support Center (OSC)	Admin Bldg El. 26’ Control Room or Computer Room Above NSB Cafeteria Site Boundary Control Center

3.0 PRECAUTIONS AND LIMITATIONS

- 3.1 Radiological conditions may make it necessary to use alternate routes and/or assembly areas.
- 3.2 **IF** personnel cannot access their designated assembly areas, **THEN** personnel should report to the nearest assembly area.
- 3.3 Unless otherwise directed by the announcement, personnel exiting the controlled area should:
 - 3.3.1 Remove protective clothing.
 - 3.3.2 Frisk at the RCA checkpoint.
 - 3.3.3 Retain dosimetry.
 - 3.3.4 Report to assigned assembly area.
- 3.4 Accountability of personnel in the protected area shall be accomplished within 30 minutes of the evacuation alarm for a full-site assembly.
- 3.5 Protracted emergencies must consider 24-hour staffing, neither retaining or releasing too many persons from any particular group.
- 3.6 Emergency response facilities shall reference the appropriate EIPs for activation and evacuation of each specific facility.

4.0 INITIAL CONDITIONS

- 4.1 A limited plant evacuation shall be considered under any of the following conditions:
 - 4.1.1 Area radiation monitor high-level alarm in excess of 100 mR/hr.
 - 4.1.2 Airborne radioactive concentrations in excess of the derived air concentrations (DACs) specified in Appendix B to 10 CFR 20.
 - 4.1.3 Valid containment alarm is necessary.
 - 4.1.4 Excessive radioactive surface contamination levels due to a major spill of radioactive materials.
 - 4.1.5 Other emergency conditions that may endanger human life or health (i.e., fire, flooding, toxic gases, etc.).

-
- 4.2 A full-site assembly and accountability shall be conducted under any of the following conditions:
- 4.2.1 A Site Emergency or higher classification has been declared.
 - 4.2.2 Radiation levels in general areas of the protected area exceed 100 mR/hr.
 - 4.2.3 Airborne activity in general areas of the protected area exceed derived air concentration and exposures are expected to exceed 40 DAC hours (equivalent to approximately 100 mR).
 - 4.2.4 Other emergency conditions in general areas of the protected area that may endanger human life or health (i.e., fire, flooding, toxic gases, etc.).
 - 4.2.5 The DSS or TSC Manager has determined that assembly and accountability of all personnel is desired.
- 4.3 A full-site assembly and accountability shall be completed prior to the release or evacuation of non-essential personnel from the site.
- 4.4 An evacuation of non-essential personnel to offsite assembly areas shall be considered under any of the following conditions:
- 4.4.1 Gross activity outside the protected is greater than 5.3×10^{-7} $\mu\text{Ci/cc}$. (This would result in a two-hour dose to the thyroid of 2 rem assuming the predominate isotope is I-131.)
 - 4.4.2 Projected doses in assembly areas are approaching or exceed the following:
 - a. Whole body gamma 1.5 rem
 - b. Thyroid 5 rem
 - c. Beta skin dose 3 rem
 - 4.4.3 Radiation levels in the exclusion areas outside the protected area are in excess of 10 mrem/hr whole body.
 - 4.4.4 Other emergency conditions that may endanger human life or health (i.e., fire, flooding, toxic gases, etc.).

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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5.0 PROCEDURE

5.1 Limited Plant Evacuation

NOTE: **IF a security event, THEN contact Security to discuss the consequences of conducting a limited plant evacuation and the appropriate actions to implement.**

- 5.1.1 Remove and complete Attachment A, Announcement of Protective Action.
- 5.1.2 Sound the plant evacuation alarm (and fire alarm, if appropriate).
- 5.1.3 Read the completed Attachment A, Announcement of Protective Action, over the Gai-tronics.
- 5.1.4 Repeat Step 5.1.2 and 5.1.3.
- 5.1.5 Contact the Radiation Protection Supervisor/Technologists to implement the appropriate Radiation Protection practices.

NOTE: **Unrestricted reentry to a(n) evacuated area(s) can be restored when it has been determined by the DSS and Radiation Protection Supervision that there is no longer a hazard to personnel.**

- 5.1.6 Evaluate the conditions and initiate actions to:
 - a. isolate affected area(s).
 - b. allow reentry to evacuated area(s).
- 5.1.7 **IF the hazard continues to increase in severity, THEN consider the implementation of Step 5.2, Full-Site Assembly and Accountability.**
- 5.1.8 Return this procedure section and completed Attachment A, Announcement of Protective Action, to Emergency Preparedness or to the TSC Manager.

Performed By:	
_____	_____ / _____
Performer (Print and Sign)	Date / Time

5.2 Full-Site Assembly and Accountability

5.2.1 Notification of Personnel (Operations Coordinator if TSC Activated)

NOTE 1: IF a security event, THEN contact Security to discuss the consequences of conducting an assembly and the appropriate actions to implement.

NOTE 2: When the TSC is activated, the responsibility for assembly, accountability, release, and evacuation of personnel is transferred from the DSS to the TSC Manager.

- a. Remove and complete Attachment A, Announcement of Protective Action, for personnel in the protected and exclusion areas.
- b. Contact CAS and direct Security to implement sections of their security plan, including:
 - Activate accountability readers
 - Notify the Duty Shift Superintendent when accountability in the protected area is achieved OR if personnel remain unaccounted for.
- c. Sound the fisherman's alarm.
- d. Sound the plant evacuation alarm (and fire alarm, if appropriate) to initiate assembly and accountability of personnel within the protected area.
- e. Read the completed Attachment A, Announcement of Protective Action, over the Gai-tronics.
- f. Repeat Steps 5.2.1.d and 5.2.1.e.
- g. Remove and complete Attachment B, Notification of Personnel Outside the Protected Area
OR contact the Security Shift Commander and instruct to complete Attachment B ONLY if the Control Room personnel are unable to support this task due to critical events in progress.

5.2.2 Accountability (Security Coordinator if TSC is Activated)

NOTE 1: IF accountability of the protected area personnel is not complete within 30 minutes of an evacuation alarm, THEN make preparations to implement EPIP 10.1, Emergency Reentry.

NOTE 2: Teams dispatched from the Control Room shall be tracked by the DSS or a designee until relieved by the OSC.

- a. Monitor accountability with Security and implement Attachment D, Accountability Announcement, if personnel remain unaccounted for AND/OR when accountability within the protected area has been achieved.

NOTE: In the absence of a designated Assembly Area Leader, anyone reporting may fulfill these duties.

- b. Assembly Area Leaders at each assembly area shall:

- Ensure personnel arriving are entering safely and quickly, remaining quiet during the assembly.
- Request assistance in the assembly area from other personnel as needed.
- Direct personnel arriving to sign-in on Attachment E, Assembly Area Accountability Sign-In, (excluding the CR, TSC, OSC, EOF, OSRPF, and RP Station unless the accountability readers are inoperable).
- Direct all personnel to complete Attachment F, Event Involvement Summary, (excluding the CR, TSC, OSC, EOF, OSRPF, and RP Station).

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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- Update Attachment E, Assembly Area Accountability Sign-In, as personnel arrive at, or depart from, the assembly area. Personnel shall only leave the assembly area if
 - (a) a valid request is received from an emergency response facility to assist in the event.
 - (b) specific directions are received from the TSC Manager, or designee, to conduct a release of personnel from site.
 - Maintain accountability if personnel are relocated to a different assembly area.
 - Provide information from completed Attachment E, Assembly Area Accountability Sign-In, to CAS, as requested.
 - Contact Security Coordinator in the TSC at ext. _____ only if critical concerns arise.
- c. Return this procedure section and any completed Attachments to Emergency Preparedness or to the TSC Manager.

Performed By:	
_____	/
Performer (Print and Sign)	Date / Time

5.3 Release of Non-Essential Personnel from Site (Security Coordinator and Rad/Chem Coordinator if TSC is Activated)

NOTE: Step 5.2 shall be completed prior to this section.

- 5.3.1 **IF** the Rad/Chem Coordinator and Offsite Radiation Protection Coordinator determine radiological monitoring of personnel and vehicles is required prior to leaving the site property,
THEN exit this section and go to Step 5.4.
- 5.3.2 Determine immediate staffing needs and near-term shift schedule for:
- a. Technical Support Center (by TSC Manager)
 - b. Operations Support Center (by Reentry Team Coordinator)
 - c. Control Room (by Duty Shift Superintendent)
 - d. Emergency Operations Facility (by EOF Manager)
 - e. Offsite Radiation Protection Facility (by Offsite RP Coordinator)
- 5.3.3 Evaluate releasing personnel in groups to minimize congestion.
- 5.3.4 Complete Attachment G, Personnel "Release-From-Site" Briefing Checklist, providing the process to follow upon dismissal, as time permits
- 5.3.5 Complete Attachment H, Emergency Event Information Sheet, evaluating implications that may occur from that data being distributed, as time permits.
- 5.3.6 Complete Attachment I, Evacuation Routes, if personnel should avoid certain areas upon release, as required.
- 5.3.7 Prior to the release of personnel from site, the Security Coordinator should coordinate their release with the:
- a. Offsite Assembly Area Coordinator for organizing the release with Offsite Radiation Protection Coordinator and SBCC Security.
 - b. Security to collect all dosimetry prior to release from assembly areas and/or site boundaries.
 - c. EOF Manager to alert Manitowoc and Kewaunee County Emergency Managements for traffic control.

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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- 5.3.8 Personnel being released from the site should:
- a. Exit via their usual gatehouse (unless otherwise instructed).
 - b. Follow instructions of Security and/or RP in regards to badges and dosimetry.
 - c. Proceed to their homes (or to their reception area if home has been evacuated) and remain available.
- 5.3.9 Distribute copies of the completed Attachment G, H, and I to each Assembly Area Leader for communication and/or distribution to assembled personnel.
- 5.3.10 Return this procedure section and completed Attachments G, H, and I to Emergency Preparedness or to the TSC Manager. Exit this procedure.

Performed By:	
_____	_____ / _____
Performer (Print and Sign)	Date / Time

5.4 Evacuation of Non-Essential Personnel to Offsite Assembly Areas (Security Coordinator and Rad/Chem Coordinator if TSC is Activated)

NOTE: IF the Two Creeks Town Hall and/or Two Rivers National Guard Armory are to be used for personnel assembly, THEN verify Security has contacted those agencies to make the facility available for an assembly area prior to the evacuation of personnel.

- 5.4.1 Determine immediate staffing needs and near-term shift schedule for:
- a. Technical Support Center (by TSC Manager)
 - b. Operations Support Center (by Reentry Team Coordinator)
 - c. Control Room (by Duty Shift Superintendent)
 - d. Emergency Operations Facility (by EOF Manager)
 - e. Offsite Radiation Protection Facility (by Offsite RP Coordinator)
- 5.4.2 Evaluate evacuating personnel in groups and car pools to minimize congestion.
- 5.4.3 Complete Attachment G, Personnel "Release-From-Site" Briefing Checklist, providing the process to follow upon dismissal, as time permits.
- 5.4.4 Complete Attachment H, Emergency Event Information Sheet, evaluating implications that may occur from that data being distributed, as time permits.
- 5.4.5 Complete Attachment I, Evacuation Routes, to determine specific routes that should be taken to offsite assembly areas, forwarding to the Assembly Area Leaders.
- 5.4.6 Prior to the evacuation of personnel from site, the Security Coordinator should coordinate their release with the:
- a. Rad/Chem Coordinator and/or Offsite Radiation Protection Coordinator to establish radiological monitoring of personnel and vehicles, per Step 5.4.9 prior to leaving the site property.
 - Establish a monitoring and/or decontamination station for personnel and vehicles at one or more of the following locations:
 - (a) Site Boundary Control Center
 - (b) Two Creeks Town Hall

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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(c) Two Rivers National Guard Armory

(d) Along the evacuation route, if appropriate

- **IF** extensive contamination of vehicles is encountered, **THEN** impound non-essential vehicles within posted area for later decontamination. Coordinate decontamination efforts of essential vehicles with:

(a) Kewaunee Nuclear Power Plant,

(b) Wisconsin Public Service Corporation in Two Rivers,

(c) Manitowoc County Emergency Management at Roncalli High School.

b. EOF Manager to alert Manitowoc and Kewaunee County Emergency Managements for traffic control.

c. Offsite Assembly Area Coordinator for organizing the release with Offsite Radiation Protection Coordinator and SBCC Security.

d. Instruct Security to establish a check point at each offsite assembly area.

5.4.7 Personnel being evacuated from the site should:

a. Exit via their usual gatehouse (unless otherwise instructed).

b. Follow instructions of Security and/or RP in regard to badges and dosimetry.

c. Proceed to the designated offsite assembly area(s).

d. Upon release from the assembly area, return to their homes (or a reception area if their home has been evacuated) and remain available.

5.4.8 Distribute copies of the completed Attachment G, H, and I to each Assembly Area Leader for communication and/or distribution to assembled personnel.

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5.4.9 Guidelines For Vehicle Surveys

- a. A representative smear survey and frisk are required prior to release of vehicles if an airborne release of radioactive materials has occurred or is suspected.
- b. Smears should be taken of vehicle surfaces and tires, including tread.
 - A direct $\beta\gamma$ frisk may be taken of a representative portion of the vehicle surface only if the ambient count rate is < 200 cpm.
 - $\beta\gamma$ smears and frisk results of vehicles with beta/gamma contamination > 100 cpm/100cm² above background should be decontaminated prior to release.
- c. Return this procedure section and completed Attachment G, H, and I to Emergency Preparedness or to the TSC Manager.

Performed By:	
_____	/
Performer (Print and Sign)	Date / Time

ASSEMBLY AND ACCOUNTABILITY, RELEASE AND
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5.5 Reentering the Site

5.5.1 **IF** public protective measures have been implemented,
THEN verify access to the plant site has been pre-arranged between the Security Coordinator, Manitowoc and Kewaunee County Sheriff's Department, and the Manitowoc and Kewaunee County Emergency Operations Centers (EOCs).

5.5.2 Notify Security to allow Emergency Response Organization and NRC personnel with picture IDs onsite. Personnel without IDs shall be assessed on a case-by-case basis with the Offsite Assembly Area Coordinator.

6.0 REFERENCES

6.1 EP 5.0, Organizational Control of Emergencies

6.2 EP 6.0, Emergency Measures

6.3 PBSRP 1.6.1, Plant Emergency Evacuation Response

7.0 BASES

B-1 NUREG 0654, Criteria for Preparation and Evaluation of Radiological Response Plans and Preparedness in Support of Nuclear Power Plants

B-2 10 CFR 50.47(b), Emergency Plans

B-3 10 CFR 50.47, Appendix E. IV, Content of Emergency Plans

ATTACHMENT A
ANNOUNCEMENT OF PROTECTIVE ACTION

"ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. CONDITIONS AT THE PLANT
WARRANT A:

- LIMITED PLANT EVACUATION OF THE FOLLOWING AREAS:

ALL PERSONNEL IN THESE AREA(S) REPORT TO THE:

- (In RCA) RP STATION
 (Outside RCA) NORTH SERVICE BUILDING CAFETERIA
 (Other) _____

AND AWAIT FURTHER INSTRUCTIONS."

- FULL SITE ASSEMBLY AND ACCOUNTABILITY

ALL ERO PERSONNEL REPORT TO YOUR ASSIGNED EMERGENCY RESPONSE
FACILITY AND PERFORM ACCOUNTABILITY.

ALL REMAINING PERSONNEL REPORT TO:

- YOUR ASSIGNED ASSEMBLY AREA
- NORTH SERVICE BUILDING CAFETERIA
 - ADMIN BUILDING EL 26' OFFICE AREA
 - ENGINEERING BUILDING CAFETERIA
 - TRAINING BUILDING NORTH FOYER
 - WAREHOUSE #4
 - (OTHER) _____
 - TWO CREEKS TOWN HALL
 - TWO RIVERS NATIONAL GUARD ARMORY

AND PERFORM ACCOUNTABILITY.

EXIT THROUGH

- YOUR NORMAL GATEHOUSE
- THE NORTH GATEHOUSE
 - THE SOUTH GATEHOUSE

(IF filled in, THEN announce:) AVOID THE FOLLOWING AREA(S) WHEN ASSEMBLING:

THE PLANT CONDITIONS REQUIRING THIS ACTION ARE (classification/condition)

REPEAT ALARM AND ANNOUNCEMENT

Return the completed form to Emergency Preparedness or TSC Manager.

ATTACHMENT B
NOTIFICATION OF PERSONNEL OUTSIDE THE PROTECTED AREA

1.0 PBNP AUTOMATED NOTIFICATION SYSTEM

**NOTE: IF PBNP Automated Notification System is unavailable,
THEN go to Step 2.0.**

- 1.1 From any on-site telephone, dial ext. _____ to access the PBNP Automated Notification System and follow the voice prompt instructions.
- 1.2 When prompted, enter the scenario activation password "111222333" using the keypad on the telephone.
- 1.3 When prompted, enter the 3-digit SCENARIO number "700."
- 1.4 When prompted to record a message, communicate the protective actions to take per Attachment A, Announcement of Protective Action.
- 1.5 When the Point Beach Automated Notification System says, "The scenario is building," press the "#" key, listen to "good-bye," and then hang up.
- 1.6 IF Step 1.0 was successful,
THEN return to procedure Step 5.2.2
OR go to next step if NOT successful.

Completed By _____ Date/Time _____

2.0 PBX BROADCAST SYSTEM

- 2.1 Notification of Personnel Outside Protected Area on South Side of Plant
From a touch-tone phone, dial
 - 2.1.1 _____ to access voice system
 - 2.1.2 **5623#** when prompted for mailbox
 - 2.1.3 **5623#** when prompted for password
 - 2.1.4 **75** to compose message
 - 2.1.5 **8003#** and **8004##** when prompted
 - 2.1.6 **5** when prompted

ATTACHMENT B
NOTIFICATION OF PERSONNEL OUTSIDE THE PROTECTED AREA

- 2.1.7 Read the protective actions to take per Attachment A, Announcement of Protective Action, and press # when done recording.
- 2.1.8 79 to send message
- 2.1.9 83 to exit PBX Broadcast System.
- 2.2 Notification of Personnel Outside Protected Area on North Side of Plant
 - From a touch-tone phone, dial
 - 2.2.1 to access voice system
 - 2.2.2 5152# when prompted for mailbox
 - 2.2.3 5152# when prompted for password
 - 2.2.4 75 to compose message
 - 2.2.5 8003## when prompted
 - 2.2.6 5 when prompted
 - 2.2.7 Read the protective actions to take per Attachment A, Announcement of Protective Action, and press # when done recording.
 - 2.2.8 79 to send message
 - 2.2.9 83 to exit PBX Broadcast System.
- 2.3 Return to procedure Step 5.2.2.

Completed By _____ Date/Time _____

Return the completed form to Emergency Preparedness or TSC Manager

ATTACHMENT C
EVACUATION OF THE POINT BEACH ENERGY CENTER

NOTE: This attachment is to be completed by the Supervisor - Point Beach Energy Center or a designee upon direction from the Duty Shift Superintendent.

- 1.0 Instruct all Energy Center staff to gather the general public from the Energy Center and surrounding nature trails, providing them with the following directions:
 - 1.1 ALERT or SITE EMERGENCY - Direct all people to leave the PBNP property immediately.
 - 1.2 GENERAL EMERGENCY - Direct all people to:
 - 1.2.1 Drive to the SBCC,
 - 1.2.2 Remain in their vehicles, and
 - 1.2.3 Follow directions of Security or Radiation Protection personnel.
- 2.0 Record the number of people affected and confirm their departure: ____ / ____
- 3.0 Secure the building.
- 4.0 Inform Security that the Energy Center has been evacuated and ask them to assume responsibility for the area.
- 5.0 Report to the NES Building Cafeteria and await further instructions.

Completed By: _____

Date/Time _____ / _____

Return the completed form to Emergency Preparedness or TSC Manager.

ATTACHMENT D
ACCOUNTABILITY ANNOUNCEMENT

This announcement is to be made by the Duty Shift Superintendent or a designee, upon completion of the accountability process.

- IF** all persons are accounted for,
THEN make the following announcement over the Gai-tronics system:

**"ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL.
INITIAL ACCOUNTABILITY HAS BEEN COMPLETED AND ALL PERSONS
ARE ACCOUNTED FOR. MAINTAIN ACCOUNTABILITY THROUGHOUT
THE EMERGENCY. REMAIN IN YOUR ASSEMBLY AREAS FOR FURTHER
INSTRUCTIONS."**

Repeat the announcement.

- IF** some persons remain unaccounted for,
THEN make the following announcement over the plant Gai-tronics system:

**"ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL.
INITIAL ACCOUNTABILITY HAS BEEN COMPLETED AND THE
FOLLOWING PERSONS REMAIN UNACCOUNTED FOR:**

**IF YOU HAVE ANY INFORMATION REGARDING THE WHEREABOUTS
OF THESE INDIVIDUALS, PROVIDE THAT INFORMATION TO:**

- C.A.S.
- Other _____."

Repeat the announcement.

Return the completed form to Emergency Preparedness or TSC Manager.

ATTACHMENT F
EVENT INVOLVEMENT SUMMARY

Name: _____ Event Date: _____
Home Telephone: _____ Report Date: _____
Address: _____ Report Time: _____

INSTRUCTIONS: To assist in reconstructing the event, describe any knowledge of, or involvement with, the emergency event and/or event response.

(Use the back of this page if necessary.)

Complete the following portion only if your home is within the 10-mile EPZ.

In response to this event, you **MAY** soon be released from the plant site. In the event your home has been or will be evacuated where would you stay?

_____ With family or friends outside of EPZ.

Family Name: _____ Telephone: _____

_____ At the public shelters.

_____ Unknown. If necessary, I'll call the plant when I've made arrangements.

Return the completed form to the Assembly Area Leader prior to release.

ATTACHMENT G
PERSONNEL "RELEASE-FROM-SITE" BRIEFING CHECKLIST

1.0 TSC MANAGER OR DESIGNEE

1.1 Procedures for departure (i.e., dosimetry, Protective clothing, radiation monitoring, etc.)

1.2 Logistics for departure (i.e., Where to go, Transportation, Accountability, etc.)

1.3 Process to return to site (i.e., Reachability, Transportation, Security Issues, etc.)

1.4 Offsite Protective Actions Implemented or Pending by State and Counties:

Completed By	Date/Time	Approved By	Date/Time
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2.0 ASSEMBLY AREA LEADERS

2.1 Ensure all personnel have signed in on Attachment E, Assembly Area Accountability Sign-In, and turned in Attachment F, Event Involvement Summary.

2.2 Review the approved Attachment H, Emergency Event Information Sheet, with personnel and provide them with a copy, if available. Stress the portion relative to media information.

2.3 If offsite protective actions have been implemented or are impending by the State and Counties, discuss

2.3.1 Reception Center in Manitowoc County is Roncalli High School.

2.3.2 Reception Center in Kewaunee County is Algoma High School.

2.3.3 Red Cross workers at county reception centers will help workers locate their families if they were evacuated.

Communicated By	Assembly Area	Date/Time
-----------------	---------------	-----------

Return the completed form to Emergency Preparedness or TSC Manager.

ATTACHMENT H
EMERGENCY EVENT INFORMATION SHEET

1.0 BASIC ACCIDENT INFORMATION

- 1.1 Affected Unit: Unit 1 Unit 2 Common
1.2 Reactor Shutdown: Yes No
1.3 Event Description:

1.4 Major Equipment Problems:

- 1.5 Radiological release to the environment? Yes No

2.0 EMERGENCY EVENT INFORMATION

- 2.1 Event classification:
 Unusual Event Alert Site Emergency General Emergency
2.2 Offsite Protective Actions Implemented by Local Authorities:
 None
 Evacuate *or* Shelter
 0-2 mile radius 0-5 mile radius
 2-5 miles downwind 5-10 miles downwind
2.3 Injured Personnel: Yes No Family Contacted: Yes No
Status:

3.0 NUMBERS TO CALL FOR ADDITIONAL INFORMATION

NOTE: Please do not ask for a specific individual. This will tie up the system due to the potential volume of calls. State your name and message and where you can be reached, if necessary.

- 3.1 Employees: Resource Coordinator Other _____
(i.e., Return to work during event and protective actions, offsite lodging if home evacuated)
3.2 Contractors: Resource Coordinator Other _____
(i.e., Return to work during event and associated protective actions)
3.3 Media Information - If contacted by media representatives for information about the emergency event, DO NOT CONSENT to interviews; instead, direct them to obtain official information from the JPIC in Green Bay.

_____	_____	_____	_____
Completed By	Date/Time	Approved By	Date/Time
_____	_____	_____	_____
Communicated By	Assembly Area		Date/Time

Return the completed form to Emergency Preparedness or TSC Manager.

EPIP 7.3.1

OFFSITE RADIATION SAMPLING AND SURVEY



*Wisconsin
Electric
Power Company*

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1.0 PURPOSE

This procedure provides instructions for obtaining particulate, iodine, and noble gas samples and for performing direct plume and ground deposition surveys. These are used to assess radiological conditions outside the Protected Area due to a release of radioactive material.

This procedure also provides instructions for obtaining environmental samples such as soil, vegetation, water, or snow.

2.0 PREREQUISITES

2.1 Responsibilities

- 2.1.1 The Offsite Radiation Protection Coordinator directs the offsite radiological assessment activities of the OSRPF in support of the EOF.
- 2.1.2 The Field Team Leader coordinates the activities of the Field Monitoring Teams.
- 2.1.3 The Radiation Protection Technologist, as part of the Field Monitoring Team, implements the sampling portions of this procedure when assigned.

2.2 Equipment

- 2.2.1 OSRPF inventory (EPMP-1.1b)
- 2.2.2 EP vehicles
- 2.2.3 EP vehicle kits (EPMP-1.1b)

3.0 PRECAUTIONS AND LIMITATIONS

- 3.1 Personnel may be subjected to radiological hazards including high radiation, contamination or airborne radioactivity.
- 3.2 Field Monitoring Teams shall use survey instruments, wear protective clothing, and use protective equipment as appropriate to maintain dose ALARA.
- 3.3 Field Monitoring Teams shall wear appropriate dosimetry, and shall not exceed the maximum authorized exposure.

4.0 INITIAL CONDITIONS

There has been a release of radioactive material, it is probable that a release may occur, or the Duty Shift Superintendent, Dose/PAR Coordinator, or Rad/Chem Coordinator requests offsite sampling or survey.

5.0 PROCEDURE

5.1 General Directions for Offsite Radiation Monitoring

- 5.1.1 Each survey team shall have a minimum of two persons.
- 5.1.2 One person shall be a trained RP or have been trained in offsite sampling and survey techniques.
- 5.1.3 The Field Monitoring Teams (FMTs) shall be briefed on current conditions and expectations prior to departure. Information such as the following shall be included in the briefing:
 - a. Plant status/condition
 - b. Release information
 - c. Meteorological information
 - d. Communications expectations
 - means, frequency, content, repeat back
 - e. Use of protective clothing
 - f. Authorized exposure
 - g. Availability, criteria, and use of Potassium Iodine (KI)
- 5.1.4 FMTs are directed by the FMT Leader. Typically they are assigned to downwind locations using pre-designated X, Y coordinates or road intersections from the 11" x 17" radiological monitoring maps.

OFFSITE RADIATION SAMPLING AND SURVEY

- 5.1.5 FMT Leader should attempt to position FMTs downwind prior to a release. Stationing teams at 1 mile and 2 miles center line downwind is recommended.
- a. If wind direction is unstable, or other indications make plume location uncertain, one of the teams may be directed to 'search' for a plume by zig-zagging a suspected area.
 - b. For plumes released to Lake Michigan, but which could make landfall, locations of possible landfall shall be monitored.
- 5.1.6 FMTs shall remain within the 10 mile EPZ. Significant radiological impacts at or near the edge of the EPZ shall be reported to the State authorities by the Dose/PAR Coordinator in the EOF.
- 5.1.7 The primary duty of the FMTs is to locate and track the plume, and to make INITIAL, gross measurements to enable evaluation of the impact. More detailed analysis may be performed using the samples obtained.

5.2 Pre-departure Actions

- 5.2.1 Perform communications checks with the Offsite Radiation Protection Facility (OSRPF) prior to departure.
- 5.2.2 Receive briefing from the FMT Leader, OSRP Coordinator, or designee prior to departure.
- 5.2.3 Don protective clothing and dosimetry as directed.
- 5.2.4 Assemble air sample holders, filters, cartridges, etc., prior to departure.
- 5.2.5 Perform operational checks on survey instruments and leave 'ON' while traveling to designated locations.
- 5.2.6 Fuel and start the portable generator prior to departure.

OFFSITE RADIATION SAMPLING AND SURVEY

5.3 Direct Radiation Monitoring

CAUTION

If dose rates of 1 rem/hr are encountered, stop and immediately notify the OSRPF.

5.3.1 Once a plume is located, the FMT Leader shall direct one team to traverse the plume (travel across the plume at a right angle to wind direction) to locate the centerline. Team should return to the location of the highest readings (centerline) and perform a 'set' of readings recording on Attachment B.

NOTE 1: A high BETA:GAMMA ratio at 3 feet indicates the presence of the plume at ground level (an air sample may be warranted).

NOTE 2: A high BETA:GAMMA ratio at 3 inches indicates ground deposition (environmental sampling may be warranted).

NOTE 3: No large BETA:GAMMA ratio indicates the plume may be overhead, weak, or you are not in the plume.

5.3.2 Relay results to the OSRPF.

5.3.3 Perform additional sampling as directed by the OSRPF, or exit the plume.

a. See Section 5.4 for Air Sampling.

b. See Section 5.5 for Environmental Sampling.

5.3.4 Notify OSRPF when outside the plume.

5.3.5 The FMT Leader shall direct the FMTs to continually monitor the location of the plume and/or obtain samples from the plume. This will likely require 'leap-frogging' the teams (e.g., 1 and 2 miles, then 3 and 5 miles, then 7 and 10 miles).

5.3.6 Deliver samples as directed.

OFFSITE RADIATION SAMPLING AND SURVEY

5.4 Air Sampling

- 5.4.1 Assemble filters, cartridges, etc., for sampling desired.
- 5.4.2 Particulate filter must be upstream of silver zeolite or charcoal cartridges. An 'X' should be marked on the INLET side of the particulate filter.
- 5.4.3 Recommended minimum sample size for each sample by type is:

Particulate	1 E 6 cc (35.3 cubic feet)
Radioiodines	1 E 6 cc (35.3 cubic feet)
Noble Gases	1,075 cc (one polybottle)

- 5.4.4 Set up generator and air sampler at designated location.
- 5.4.5 Draw desired volume for particulate and/or radioiodine samples.
- 5.4.6 Obtain a 1-liter noble gas sample by emptying a water-filled polybottle in the plume, then tightly cap.
- 5.4.7 Record collection data (flow, times, volume, etc.) on Attachment F.
- 5.4.8 Secure equipment and exit the plume.
- 5.4.9 Obtain sample contact readings in a low background area and record on Attachment F.
- 5.4.10 Attach the completed Attachment F to each sample as indicated:
 - a. AP - Attach to Form PBF-4022
 - b. Iodine - Attach to Form PBF-4002
 - c. Noble Gas - Attach to Form PBF-4022
- 5.4.11 Relay contact readings to the OSRPF.
- 5.4.12 Deliver samples as directed.
- 5.4.13 Upon completion of noble gas sample analysis, the true beta-gamma skin dose rate may be calculated using Attachment E.

5.5 Environmental Sampling

NOTE: Use standard RP practices to avoid cross-contamination.

5.5.1 Smears

- a. Sample site should be unsheltered, undisturbed and a hard surface.
- b. Smear approximately 100 cm², place smear in polybag, and label.
- c. Complete Attachment C and attach to or place in polybag(s) with smear(s).
- d. Deliver samples as directed.

5.5.2 Vegetation

- a. Only vegetation exposed to probable deposition is desired for the sample. Sample site should be unsheltered and undisturbed (for example an open field not a road).
- b. Collect 100 cm² of vegetation. Place in polybag and label.
- c. Complete Attachment D and attach to or place in polybag with sample.
- d. Deliver samples as directed.

5.5.3 Soil

- a. Only the very top layer of soil is desired for the sample. Sample site should be unsheltered and undisturbed (for example an open field not a road).
- b. Collect top 1/4" or less of soil from an area of approximately 100 cm², place in polybag, and label.
- c. Complete Attachment D and attach to or place in polybag with sample.
- d. Deliver samples as directed.

OFFSITE RADIATION SAMPLING AND SURVEY

5.5.4 Snow

- a. Only the very top layer of snow is desired for the sample. Sample site should be unsheltered and undisturbed (for example an open field not near a road).
- b. Collect snow approximately 1/4" or less from approximately 100 cm², place in polybag, and label.
- c. Place first polybag inside another polybag (double bag).
- d. Complete Attachment D and attach to or place in outer polybag.
- e. Deliver samples as directed.

5.5.5 Water

- a. Only surface water is desired for the sample. Sample should be from 'quiet' waters, not running sources (for example a puddle, livestock tank, not a creek).
- b. Collect water by slowly submerging (with a gloved hand) a polybottle in the water and attempting to 'skim' surface water into the bottle.
- c. Place polybottle into a polybag and label.
- d. Complete Attachment D and attach to or place in outer polybag.
- e. Deliver samples as directed.

6.0 REFERENCES

- 6.1 EPIP 7.3.7, Estimating Radioiodine Air Concentrations
- 6.2 EPMP 1.1, Routine Check, Maintenance, Calibration and Inventory Schedule for Radiation Protection Emergency Preparedness Equipment
- 6.3 EPMP-1.1b, Radiation Protection - Specialized Emergency Preparedness Quarterly Checklist
- 6.4 Health Physics Implementing Procedures (HPIPs)
- 6.5 Form PBF-4002, Iodine Activity Concentrations
- 6.6 Form PBF-4022, Airborne Radioactivity Survey

7.0 BASES

- B-1 NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

ATTACHMENT A
DELETED - USE PBF-4022

OFFSITE RADIATION SAMPLING AND SURVEY

ATTACHMENT C
SMEAR SURVEYS

Survey Location (Geographical or X,Y Coordinates): _____

Team Identifier: _____ Date/Time: _____ / _____

Team Member (RP): _____ Team Member (Driver): _____

Smear Survey Calculations By: _____

Smear #	MDA (cpm)	Gross (cpm)	Bkgd (cpm)	Net (cpm)	Eff. (%)	dpm/100cm ²	Smear #	MDA (cpm)	Gross (cpm)	Bkgd (cpm)	Net (cpm)	Eff. (%)	dpm/100cm ²
1.							10.						
2.							11.						
3.							12.						
4.							13.						
5.							14.						
6.							15.						
7.							16.						
8.							17.						
9.							18.						

Reviewed by: _____ Date: _____

Route this completed form to Emergency Preparedness after termination of event.

OFFSITE RADIATION SAMPLING AND SURVEY

ATTACHMENT D
VEGETATION, GROUND SCRAPINGS, SNOW, MISCELLANEOUS SAMPLES

Survey Location (Geographical or X,Y Coordinates): _____

Team Identifier: _____ Date/Time: _____ / _____

Team Member (RP): _____ Team Member (Driver): _____

ISOTOPIC ANALYSIS BY: _____ Date/Time _____ / _____ Spectrum Index No.: _____

Sample #	Sample Desc.	Isotope	Activity (μCi/per area sampled)	% Total Activity	Sample #	Sample Desc.	Isotope	Activity (μCi/per area sampled)	% Total Activity
1.					10.				
2.					11.				
3.					12.				
4.					13.				
5.					14.				
6.					15.				
7.					16.				
8.					17.				
9.					18.				

Reviewed by: _____ Date: _____

Route this completed form to Emergency Preparedness after termination of event.

OFFSITE RADIATION SAMPLING AND SURVEY

ATTACHMENT E
DOSE FACTOR CALCULATIONS FOR SPECIFIC NOBLE GAS ANALYSIS RESULTS
REM/HOUR PER $\mu\text{Ci/cc}^{(5)}$

(A) Isotope	(B) β -Skin ⁽¹⁾	(C) γ -Skin ⁽²⁾	(D) Total-Skin ⁽³⁾	(E) Sample Activity $\mu\text{Ci/cc}$	(F) Total Skin Dose rem/hr (D x E)	(G) γ -Whole Body ⁽⁴⁾	(H) Gamma Whole Body rem/hr (E x G)
Kr-83m	Negligible	2.45	2.45			0.00863	
Kr-85m	167.0	156.00	323.0			134.0	
Kr-85	153.0	2.18	155.0			1.84	
Kr-87	1110.0	782.0	1892.0			676.0	
Kr-88	271.0	1926.0	2197.0			1678.0	
Kr-89	1153.0	2192.0	3345.0			1895.0	
Kr-90	832.0	2065.0	2897.0			1781.0	
Xe-131m	54.3	19.8	74.1			10.4	
Xe-133m	114.0	41.4	155.4			28.7	
Xe-133	34.9	44.7	79.6			33.6	
Xe-135m	81.2	426.0	507.0			356.0	
Xe-135	212.0	243.0	455.0			207.0	
Xe-137	1393.0	191.0	1584.0			162.0	
Xe-138	471.0	1167.0	1638.0			1008.0	
Ar-41	307.0	1178.0	1485.0			1009.0	
Total						Total	

- (1) Beta dose to skin takes credit for absorption in outer dead layer of skin, 7 mg/cm.
- (2) Gamma dose to skin is calculated from gamma dose to air by multiplying by 1.11, the average tissue/air energy absorption coefficient.
- (3) Total skin dose factor is the sum of (B) and (C).
- (4) Gamma dose to the whole body takes credit for absorption in the first 5 cm of tissue.
- (5) Derived from Table B-2, Regulatory Guide 1.109.

Calculated By: _____ Date/Time: ____ / ____ / ____ Reviewed By: _____ Date/Time: ____ / ____

OFFSITE RADIATION SAMPLING AND SURVEY

ATTACHMENT F
OFFSITE AIRBORNE SAMPLE IDENTIFICATION

Check One: AP Iodine Noble Gas

Instrument Type: _____ Serial #: _____

Survey Location (Geographical or X,Y Coordinates): _____

Team Identifier: _____ Date: _____

Team Member (RP): _____ Team Member (Driver): _____

AP/Iodine

Start time: _____

Stop time: _____

Total sample time: _____ min.

Flow Rate: _____ lpm

Flow C.F. _____

Volume _____

Noble Gas

Sample time: _____

Volume: _____ cc

(1075 cc in 1 L gas sample)

Sample Dose Rates

AP _____ mrem/hr

Iodine _____ mrem/hr

Noble Gas _____ mrem/hr

AP Attach to Form PBF-4022
Iodine Attach to Form PBF-4002
Noble Gas Attach to Form PBF-4022

EPIP 10.1

EMERGENCY REENTRY



*Wisconsin
Electric
Power Company*

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EMERGENCY REENTRY

1.0 PURPOSE

This procedure provides the guidance and requirements necessary to conduct emergency reentry operations. These operations can include reentry for radiological surveys, repairs, operational functions, fire, medical emergencies, or search and rescue.

The guidance in this procedure includes directions for the proper radiological protection and monitoring of personnel involved.

2.0 PREREQUISITES

2.1 Responsibilities

2.1.1 Prior to the activation of the Operations Support Center (OSC), the Duty Shift Superintendent (DSS), or a designee, is responsible for

- a. Dispatch of reentry teams
- b. On-Shift Radiation Protection Technologists (RPTs)
- c. On-Shift Radiochemical Technicians (RCTs)
- d. Non-PBNP Wisconsin Electric or contractor teams that may be conducting repairs outside the protected area
- e. Medical emergencies in the PBNP owner controlled area

2.1.2 The TSC Manager is responsible for the prioritization of reentry teams, coordinated with the OSC Coordinator, Reentry Team Coordinator, and DSS.

2.1.3 The Reentry Team Coordinator, under the direction of the OSC Coordinator, is responsible for the oversight of all OSC Leaders, reentry teams and recovery operations (Attachment A, Reentry Team Management).

2.2 Equipment

2.2.1 FM radio base station and portable radios (EPMP 2.1).

2.2.2 Radiation Protection equipment (PIM OSC 3.2, Attachment A).

2.2.3 OSC Radiation Protection Inventory (EPMP 1.1).

2.2.4 Chemistry equipment (PIM OSC 3.6, Attachment A).

EMERGENCY REENTRY

- 2.2.5 OSC emergency preparedness inventory (EPMP 1.3).
 - a. First aid kits, burn kits, trauma kits, and stretchers
 - b. OSC tools
- 2.2.6 Other equipment deemed appropriate for the specific event.

3.0 PRECAUTIONS AND LIMITATIONS

- 3.1 Radiological controls, as specified in HP 3.2, Radiological Posting and Labeling Requirements, are to be maintained during all reentry operations, if circumstances allow.
- 3.2 Radiation Protection practices must be adhered to in accordance with Radiation Protection Procedure NP 4.2.19, General Rules for Work in a Radiologically Controlled Area, if circumstances allow.
- 3.3 Personnel shall wear radiological protection equipment as prescribed in NP 4.2.27, Personnel Exposure Monitoring Device Minimum Requirements and General Use and NP 4.2.22, Requirements for Use of Protective Clothing; shall be used for guidance.
- 3.4 The use of self-contained respiratory protection equipment should be considered for on-shift RPTs and Operations personnel having a necessity to enter any area where a spill or other discharge of reactor coolant has caused, or has the potential for causing, an increase in airborne activity.
- 3.5 During the performance of radiation surveys, personnel may be subjected to radiological hazards, including high radiation areas, contaminated areas, and airborne radioactivity areas.
- 3.6 Improper handling of radioactive material can result in personnel contamination, radioactive material uptake, or unplanned personnel exposure.
- 3.7 When processing fire brigade teams, follow established fire brigade response policies.
- 3.8 Personnel should exercise the principles of time, distance, and shielding to minimize radiation exposure.

EMERGENCY REENTRY

4.0 INITIAL CONDITIONS

- 4.1 Assembly and accountability of personnel has been completed and/or persons are known to be missing or in need of help - Search and Rescue.
- 4.2 Emergency response requires reentry to support plant repair and/or recovery, radiological release termination, or damage assessment.
- 4.3 Fire or potential fire.

5.0 PROCEDURE

5.1 Initial Control Room Response

- 5.1.1 The DSS shall dispatch all necessary reentry teams and maintain accountability of all on-shift personnel prior to the activation of the OSC.
- 5.1.2 Prior to allowing entries into and/or work to continue in the RCA, the DSS and RPT shall review the radiation monitoring system area and process monitors to determine area radiation levels and possible high airborne activity that could affect personnel exposure. Possible abnormal conditions may be indicated by:
 - a. Increased count rates above the alarm setpoints on the Auxiliary Building vent stack monitor (RE-214).
 - b. Any continuous air sampler(s) exceeding the alarm setpoint(s) and/or indicating a rising trend.
 - c. Local area monitors above alarm setpoints.
- 5.1.3 Direct personnel working within the radiation control area (RCA) to periodically check the count rate on the following continuous air samplers for indications of increasing Auxiliary Building airborne activity:
 - a. C59 panel area
 - b. Spent fuel pool
 - c. Outside the charging pump cubicles
 - d. Outside the CVCS holdup tank

EMERGENCY REENTRY

- 5.1.4 **IF** on-shift RPTs, RCTs, or Operations personnel need to enter an area where there is a known or suspected spill, leak, or release of radioactive material or airborne activity,
THEN consult with the on-shift RPT and consider the following:
- a. Self-contained respiratory protection equipment.
 - b. Dosimetry, appropriate protective clothing, and survey instruments for continuous exposure monitoring.
 - c. Implementing radiation surveys of affected area(s) to determine the scope of the radiation and contamination problem.
 - d. Radiation protection postings of the affected area(s), if required.
 - e. Decontamination operations, if necessary.
- 5.1.5 Direct all entries and/or exits of personnel from the RCA to be by way of the checkpoint unless an alternate route is appropriate.
- 5.1.6 If appropriate, direct RCTs to report to TSC Count Room and begin activation of that area using PIM OSC 3.6, OSC Chemistry Leader.

5.2 Reentry Team Deployment

NOTE: All teams should be dispatched promptly. A 15 minute goal has been established, commensurate with urgency of the task and available resources.

NOTE: Reentry teams for life saving, fire fighting, release termination, and search and rescue shall have the highest priority and be dispatched immediately, completing Attachment B, Reentry Team Dispatch, after dispatch.

NOTE: Teams shall consist of a minimum of two people, both qualified in first aid/CPR if a medical emergency.

5.2.1 **IF** a medical emergency,
THEN also implement EPIP 11.2.

5.2.2 The routine procedure for development of work orders **WILL NOT** be used during emergencies. An unforeseen Work Order (WO) shall be used to document and control repair work per Step 5.4.

EMERGENCY REENTRY

- 5.2.3 The routine procedure for development of tagouts **WILL NOT** be used during emergencies. An emergency Tagout shall be used per Step 5.5.
- 5.2.4 The Reentry Team Coordinator shall assign team priorities consistent with the priorities of the TSC.
- 5.2.5 **IF** radiological conditions are present or suspected, **THEN** the Reentry Team Coordinator shall notify the Radiation Protection Leader.
- 5.2.6 When a reentry team is required, the Reentry Team Coordinator shall assign an OSC Leader per the task required. The OSC Leader shall prepare and deploy the reentry team, completing Attachment B, Reentry Team Dispatch.
- a. **IF** radiological conditions are present, **THEN** the OSC Leader shall coordinate the reentry team dispatch with the Radiation Protection Leader. The Radiation Protection Leader shall prepare and brief reentry teams, completing Attachment B, in lieu of an RWP.
- Obtain and issue HRA keys.
 - Ensure appropriate dosimetry, survey and respiratory equipment, and protective clothing is issued.
 - Review dose records and the likely need to extend dose limits (reference EPIP 5.1 prior to dispatch if the potential exists to exceed PBNP administrative or 10 CFR 20 requirements).
 - Review the likely need for issuance of KI (reference EPIP 5.2 prior to dispatch if potential exists to approach or exceed 25 rem).
- b. Assign a team identifier which reflects the team's function.
- c. Determine and record the job scope and appropriate tagouts for the task.
- d. Obtain DSS approval for tagouts.
- e. Determine the appropriate repair parts and tools for the task.
- f. Issue and test the FM portable radios or other communication devices, as appropriate.
- g. Select and assign personnel to the team evaluating team member qualifications for the (i.e., SCBA, First Aid, CPR) reentry per ETD 01.

EMERGENCY REENTRY

- h. Assign a team lead to be responsible for communications, keys, dose checks, and the need for reliefs.
- i. Determine the appropriate personal protection equipment necessary for the task.
- j. Evaluate the safety precautions that should be adhered to.
- k. Conduct a short, concise job brief consisting of:
 - Scope of task, location, hazards, and stay times.
 - Expected or suspected elevated or adverse in-plant radiological conditions
 - Appropriate ALARA concepts, stay times, low dose and backout areas.
 - Reminder to maintain visual or vocal contact with other team members.
 - Relevant information from other reentry teams.
 - Use plant maps available in the OSC to illustrate routes, low dose areas, and backout areas.
 - During reentry task, monitor progress and be observant of unexpected conditions.

5.2.7 After team deployment, the OSC Leader shall:

- a. Inform the OSC Communicator of the team deployment.
- b. Inform the OSC Technical Monitor of the team deployment.
- c. Form a standby team to be used for reliefs and/or search and rescue if necessary.
- d. Monitor reentry team dispatched for work in progress, unexpected conditions, and safety concerns.
- e. Complete Attachment B, Reentry Team Dispatch, to track reentry team dispatch.

EMERGENCY REENTRY

5.3 Reentry Teams Debriefing

- 5.3.1 Complete the appropriate sections of Attachment C, Reentry Team Debrief.
- a. Log exposure of each team member and obtain their initials.
 - b. Anyone >4 rem, >25 rem or suspected >10,000 DAC-hours (ref. EPIP 5.1 if answer is yes).
 - c. Status of task team was assigned to and related comments.
 - d. General observations regarding damage, water spills, leaks, route problems, etc.
 - e. Status of team members physical condition.
 - f. Disposition of team members.
 - g. Update OSC status boards and plant maps with current conditions.
- 5.3.2 Advise Reentry Team Coordinator of reentry team task status and comments for use in future reentry team assignments.

5.4 Work Order Control

- 5.4.1 Tasks desired by the TSC or Control Room will be defined as clearly and briefly as possible. All personnel required will be used to define and clarify the tasks (i.e., TSC Engineers, respective OSC Leaders per task requirements, etc.)
- 5.4.2 Obtain an Unforeseen Work Order number from the Unforeseen Work Order log (located in the OSC file cabinet) and record on Attachment B, Reentry Team Dispatch. This form "becomes" the work order for emergencies.
- 5.4.3 Record the reentry task on Attachment B, in the "job scope" block. Attach additional sheets as necessary.
- 5.4.4 Ensure any required Tagout is defined (Reference Step 5.5).
- 5.4.5 At the termination of the event, ensure all paperwork is collected for reconstruction of work completed, actions taken, etc.

EMERGENCY REENTRY

5.5 Tagouts

- 5.5.1 Determine the required boundaries to be tagged to perform the task. Ensure all sources (water, air, steam, and electricity) are addressed. All personnel required will be used to define and clarify the tasks (i.e., TSC Engineers, respective OSC Leaders per task requirements, etc.).

CAUTION

If tags must be hung in a required order, ensure this is clearly indicated on both the tagout and the tags.

- 5.5.2 Obtain a tagging number from the PBF-1906d, Danger Tag Protected Worker log and record on Attachment B, Reentry Team Dispatch. This log may have been brought to the TSC by the TSC Manager. Attachment B "becomes" the tagout for emergencies.
- 5.5.3 Record the Tagout description on Attachment B. Attach additional sheets as necessary.
- 5.5.4 Obtain verbal approval from the Control Room DSS. This may require faxing more complex tagouts or may be accomplished by verbal coordination for a few valves or breakers.
- 5.5.5 Record the DSS initials and time per the verbal approval on Attachment B.

NOTE: The purpose of danger tags is to protect workers and allow emergency work.

- 5.5.6 Complete the Danger Tags, at a minimum each tag shall include:
- a. Tagging number or Team ID
 - b. Exact component description
 - c. Desired position and/or state
- 5.5.7 Review the Danger Tag(s) with the person(s) who will be responsible for hanging the tag(s).

EMERGENCY REENTRY

NOTE: Operating Permit Tags WILL NOT be used under emergency conditions. Instructions below will take precedence.

- 5.5.8 **IF** it becomes necessary to remove a tag (and change component status) temporarily (for example, to check pump rotation), **THEN** the Reentry Team Coordinator is responsible to ensure ALL personnel are protected.
- 5.5.9 Obtain verbal approval to remove the tag (and change component status) from the Control Room DSS.
- 5.5.10 Make a Gai-tronics announcement warning personnel of the impending status change.
- 5.5.11 Contact **each** team in the plant directly and warn them of the impending status change.
- 5.5.12 Ensure **immediate** means are available to contact the person lifting the tag (i.e., radio).
- 5.5.13 Brief person lifting tags on expected results and actions to take if the results are **NOT** obtained.
- 5.5.14 Monitor for unexpected conditions as tag is lifted.

6.0 REFERENCES

- 6.1 EPIP 4.2, Operations Support Center (OSC) Activation and Evacuation
- 6.2 EPIP 5.1, Personnel Emergency Dose Authorization
- 6.3 EPIP 5.2, Radioiodine Blocking and Thyroid Dose Accounting
- 6.4 EPIP 11.2, Medical Emergency
- 6.5 EPMP 1.1, Routine Check, Maintenance, Calibration and Inventory Schedule for Radiation Protection Emergency Preparedness Equipment
- 6.6 EPMP 1.3, Routine Inventory of TSC, EOF, AEOF, JPIC and OSC Emergency Preparedness Supplies
- 6.7 EPMP 2.1, Testing of Communications Equipment
- 6.8 ETD 01, Emergency Response Organization (ERO) Call List
- 6.9 HP 3.2, Radiological Labeling, Posting, and Barricading Requirements

EMERGENCY REENTRY

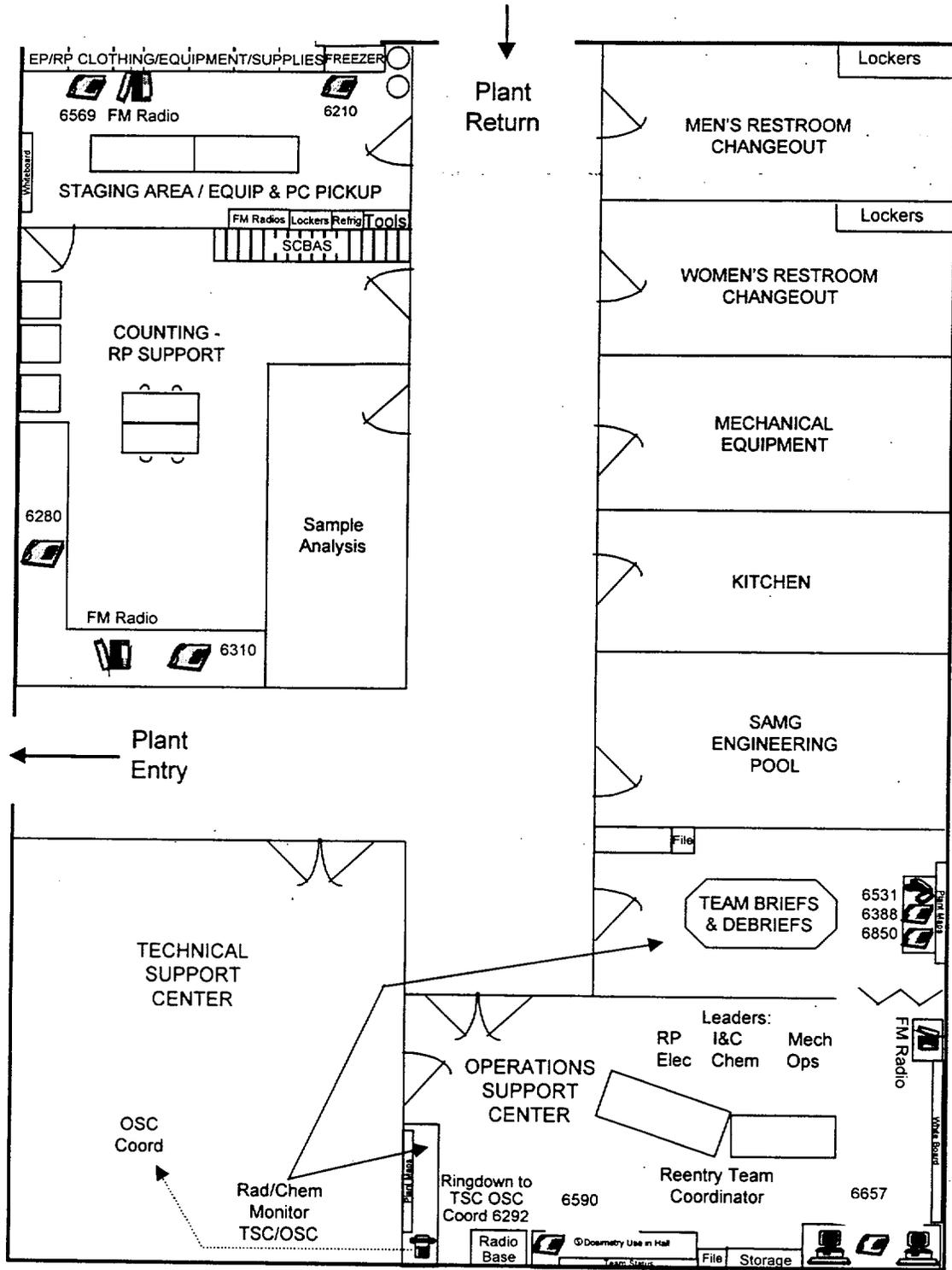
- 6.10 HP 4.7, Emergency Response with Respiratory Equipment
- 6.11 NP 1.6.4, Verbal Communication Procedure
- 6.12 NP 4.2.19, General Rules for Work in a Radiologically Controlled Area
- 6.13 NP 4.2.22, Requirements for Use of Protective Clothing
- 6.14 NP 4.2.32, Respiratory Protection Program
- 6.15 NP 4.2.27, Personnel Exposure Monitoring Device Minimum Requirements and General Use
- 6.16 PBF-1906d, Danger Tag Protected Worker Log
- 6.17 PIM OSC 3.2, Radiation Protection Leader
- 6.18 PIM OSC 3.6, Chemistry Leader

7.0 BASES

- B-1 10 CFR 50.47(b), Emergency Plans
- B-2 10 CFR 50.47, Appendix E.IV, Content of Emergency Plans

EMERGENCY REENTRY

ATTACHMENT A
REENTRY TEAM MANAGEMENT



EMERGENCY REENTRY

ATTACHMENT B
REENTRY TEAM DISPATCH

NOTE 1: This attachment is used in lieu of an Radiation Work Permit, Maintenance Work Order, and Tagout.

NOTE 2: Teams shall consist of a minimum of two people. Each team member's qualifications required for this reentry task are current.

<p>JOB BRIEF-OSC Leader _____ Date/Time ____/____/____</p> <p style="text-align: center;">(Signature)</p> <p>Team ID _____ Team Lead _____</p> <p>Communications Equip _____ <input type="checkbox"/> w/OSC <input type="checkbox"/> w/CR</p> <p>Keys _____ Dose Checks _____</p> <p>Need for Reliefs _____ Other _____</p> <p>Job Scope & WO # _____</p> <p>_____</p> <p>_____</p> <p>Tagout #s & Desc _____</p> <p>_____</p> <p style="text-align: right;">DSS Approval ____/____/____</p> <p>Parts/Tools _____</p> <p>_____</p> <p>Procedures/Drawings _____</p> <p>Safety Precautions/PPE _____</p> <p>_____</p> <p><input type="checkbox"/> Visual or vocal contact with team member</p> <p><input type="checkbox"/> Maps and information from other teams</p> <p><input type="checkbox"/> Changing conditions (e.g., flooding, steam, damages)</p> <p><input type="checkbox"/> In-plant routes, Low dose areas, Back-out Areas</p> <p>After Team Deployment:</p> <p><input type="checkbox"/> Inform OSC Communicator & Tech Monitor of team deployment</p> <p><input type="checkbox"/> Form standby team (for reliefs and/or search and rescue-optional)</p>	<p>RP BRIEF-RP Leader _____ Date/Time ____/____/____</p> <p style="text-align: center;">(Signature)</p> <p>Keys (HRA) _____ Stay Times _____</p> <p>Protective Clothing _____</p> <p>In-Plant Radiological Conditions _____</p> <p>_____</p> <p>Survey Instruments _____</p> <p>Respiratory Protection _____</p> <p>_____</p> <p><input type="checkbox"/> Electronic Personnel Dosimeter <input type="checkbox"/> SRD/Range _____</p> <p><input type="checkbox"/> Extremity Dosimetry <input type="checkbox"/> Other _____</p> <p><input type="checkbox"/> Time keeping/High Dose Tasks _____</p> <p><input type="checkbox"/> SCBAs Donned - Estimated empty time _____</p> <p>_____</p> <p><input type="checkbox"/> >4 rem or >10 CFR 20 Limits (per EPIP 5.1 prior to dispatch)</p> <p><input type="checkbox"/> Issue KI >25 rem Thyroid (per EPIP 5.2 prior to dispatch)</p> <p>_____</p> <p>Review dose records and assign dose limits (<25 rem Whole body)</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:15%;"></th> <th style="width:15%;">Dose Alarm</th> <th style="width:15%;">Dose Rate Alarm</th> <th style="width:15%;">Allowable</th> <th style="width:15%;">Received</th> </tr> <tr> <th>Members</th> <th>(mrem)</th> <th>(mrem/hr)</th> <th>Dose (rem)</th> <th>Dose (rem)</th> </tr> </thead> <tbody> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> <tr><td>_____</td><td>_____</td><td>_____</td><td>_____</td><td>_____</td></tr> </tbody> </table>		Dose Alarm	Dose Rate Alarm	Allowable	Received	Members	(mrem)	(mrem/hr)	Dose (rem)	Dose (rem)	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____	_____
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Time Deployed: _____
 Expected Return Time: _____
 Actual Return Time: _____

Distribution Upon Dispatch:
 Original in OSC
 Copy to Team Lead and TSC

Distribution Upon Return:
 Original to TSC

EMERGENCY REENTRY

ATTACHMENT C
REENTRY TEAM DEBRIEF

Team ID _____
Time/Time Deployed _____/_____

Task _____
Time Returned _____

Exposure

Initials							
Dose (rem)							

Anyone > 25 rem or suspected > 10,000 DAC-hours? If yes, remove from emergency duty and notify the Emergency Director for referral to a physician for medical evaluation (EPIP 5.1).

NO YES

(Name)

Anyone > 4 rem? If yes, consult Emergency Director for potential referral to physician (EPIP 5.1)

NO YES

(Name)

Task Status/Comments

General Observations

Damage

Water/Spills/Leaks

Radiological Concerns

Route Problems

Other

Team Members Physical Status

Team Members Standby Status

- Standby - OSC E, El. 8', El. 26', or as conditions or space allow
- Released to go home
- Other _____

Update OSC status boards and plant maps.

Respective OSC Leader Review _____ Time/Date _____/_____/_____

Reentry Team Coordinator Review _____ Time/Date _____/_____/_____

Route to the Rad/Chem Coordinator and OSC Coordinator when completed