Mfst Num: 2004 - 0294 Date : 04/20/04
FROM : Bruce Loesch/Mary Gadient Loc : Prairie Island
TO : SCHOEN, BETH A
Copy Num: 515 Holder : US NRC DOC CONTROL DESK
SUBJECT : Revisions to CONTROLLED DOCUMENTS

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Procedure #	Rev	Title
Revisions:		
F3-14.1	12	ONSITE RADIOLOGICAL MONITORING
F3-9	20	EMERGENCY EVACUATION
F3-4	30	RESPONSIBILITIES DURING AN ALERT, SITE AR OR GENERAL EMERGENCY
F3-16	18	RESPONSIBILITIES OF THE RADIATION SURVEY DURING A RADIOACTIVE LIQUID RELEASE

UPDATING INSTRUCTIONS

Place this material in your Prairie Island Controlled Manual or File. Remove revised or cancelled material and recycle it. Sign and date this letter in the space provided below within ten working days and return to Bruce Loesch or Mary Gadient, Prairie Island Nuclear Plant, 1717 Wakonade Drive E., Welch, MN 55089.
Contact Bruce Loesch (ext 4664) or Mary Gadient (ext 4478) if you have any questions.

Received the material stated above and complied with the updating instructions

_____ Date _____

A045

PRAIRIE ISLAND NUCLEAR GENERATING PLANT	Title: Emergency Plan Implementing Procedures TOC Effective Date : 04/20/04 NOTE: This set may contain a partial distribution of this Document Type. Please refer to the CHAMPS Module for specific Copy Holder Contents.
Approved By: Mary Gadient BPA Designee	

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REFERENCE USE

- *Procedure segments may be performed from memory.*
- *Use the procedure to verify segments are complete.*
- *Mark off steps within segment before continuing.*
- *Procedure should be available at the work location.*

O.C. REVIEW DATE:	OWNER:	EFFECTIVE DATE
041504 SC	M. Werner	4-20-04

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1.0 PURPOSE

The purpose of this instruction is to delineate the responsibilities of various emergency organization personnel and onsite organizations required to respond to an Alert, a Site Area Emergency, or a General Emergency.

2.0 APPLICABILITY

This instruction **SHALL** apply to all plant personnel.

3.0 PRECAUTIONS

3.1 All personnel should stay clear of any areas as announced over the public address system.

3.2 All personnel should refrain from using the public address system or telephone system during an emergency.

3.3 When the evacuation alarm is heard, evacuate your work area while listening to specific instructions on the plant's public address system. If you cannot hear or understand the instructions, continue to leave the immediate area until you learn of the evacuation instructions.

3.4 Anyone working in a contaminated area when the evacuation alarm sounds should remove as much protective clothing as time permits, especially gloves, booties or rubbers. If wearing a double suit, removal of outside clothing would only be necessary. Proceed to the designated assembly area. If unable to remove all protective clothing, inform personnel in charge at the assembly area of your condition.

NOTE:	**When the evacuation alarm sounds during a DRILL, remove ALL protective clothing prior to evacuating.**

3.5 When exiting the Protective Area via the Guardhouse, proceed through the portal monitor quickly and step through without stopping. All I.D. cards (badges) should be collected and checked out by the Security Force, so an early printout of all personnel within the Protected Area can be obtained.

3.6 Everyone should remain at assembly area for monitoring and accountability checks until released by the Emergency Director or directed for reassignment for duty within the plant. Follow instructions from the Assembly Point Coordinator. When departing the site property, obey all instructions from traffic control personnel.

3.7 All entries into the Auxiliary Building should be controlled through the OSC. Aux Building entries made for purposes of equipment operation, search and rescue, damage control, etc., should be accompanied by a Radiation Protection Specialist, or other qualified individual.

3.8 In the case of a credible security event, personnel may be asked to take cover for immediate personal protection or TSC and OSC staff may be directed to report to alternate locations different from the TSC and OSC (e.g., Plant Manager's Conference Room or EOF). See F3-31 for more security event guidance.

4.0 RESPONSIBILITIES

4.1 Overall Onsite Responsibility - Emergency Director

4.2 In Charge, Control Room - Shift Manager

Technical Support Center - TSC Coordinator

Operational Support Center - OSC Coordinator

Assembly Point - Assembly Point Coordinator

4.3 Assistance, Control Room - Shift Supervisors
- Control Room Operators

TSC
- Operations Committee
- Shift Emergency Communicator
- Radiological Emergency Coordinator
- Engineering support as needed (i.e., systems experts)

OSC
- Extra Operators
- Rad Survey Teams
- Maintenance Supervisors
- I&C Supv & Coordinators
- Chief Station Electrician and Alternates
- Additional Support as needed

5.0 DISCUSSION

A graded scale of response is provided for the different classes of emergencies, each requiring a specific response by emergency organization personnel for the protection of the public health and safety.

5.1 Alert

5.1.1 Definition

The Alert Conditions are events which are in progress or have occurred which involve actual or potential substantial degradation of the level of safety of the plant.

Some releases of radioactive material to offsite areas are probable. Hence, there is some necessity for emergency planning and response by offsite agencies. Any radioactive release will be limited to a small fraction of the EPA Protective Action Guideline exposure levels.

5.1.2 Purpose of Alert Class

The purpose of the Alert Emergency classification is to (1) assure that emergency personnel are readily available to respond if the situation becomes more serious or to perform confirmatory radiation monitoring, if required; (2) provide offsite authorities current status information.

5.1.3 Plant Actions and Responsibilities

A. Promptly inform State and/or local authorities of Alert status and reason for Alert as soon as discovered.

B. Augment resources by activating onsite Technical Support Center, onsite Operational Support Center and Near-Site Emergency Operations Facility (EOF).

C. Assess and respond to the Alert condition.

D. Dispatch onsite or offsite survey teams and associated communications (if needed).

E. Provide periodic plant status updates to offsite authorities.

F. Provide periodic meteorological assessments to offsite authorities, and if any releases are occurring, dose estimates for actual releases.

G. Close out by verbal summary to offsite authorities and assess need for recovery.

or

H. Escalate to a more severe class.

5.1.4 State and/or Local Offsite Authority Actions

A. Provide fire or security assistance, if required.

B. Augment resources by activating Emergency Operating Centers and Emergency Alert System to standby status.

C. Alert to standby status key emergency personnel including monitoring teams and associated communications.

D. Provide confirmatory offsite radiation monitoring and ingestion pathway dose projections if actual releases substantially exceed technical specification limits.

E. Maintain alert status until verbal close-out.

or

F. Escalate to a more severe class.

5.2 Site Area Emergency

5.2.1 Definition

The Site Area Emergency describes events which are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Significant offsite releases are likely to occur or are occurring, but where a core melt situation is not expected although severe fuel damage may have occurred.

Any radioactive releases are not expected to exceed the EPA Protective Action Guideline exposure levels except near the site boundary.

5.2.2 Purpose of Site Area Emergency Class

The purpose of the Site Area Emergency classification is to:

A. Assure that response centers are manned.

B. Assure that monitoring teams are dispatched (if needed).

C. Assure that personnel required for evacuation of Near-Site areas are at duty stations if the situation becomes more serious.

D. Provide current information for and consultation with offsite authorities.

E. Provide updates for the public through offsite authorities.

5.2.3 Plant Actions and Responsibilities

A. Promptly inform State and/or local offsite authorities of Site Area Emergency status and reason for emergency as soon as discovered.

B. Augment resources by activating onsite Technical Support Center, onsite Operational Support Center and the Near-Site Emergency Operations Facility (EOF).

C. Assess and respond to the Site Area Emergency.

D. If radiological or environmental conditions permit, evacuate onsite, nonessential personnel.

E. Dispatch onsite and offsite survey teams and associated communications (if needed).

F. Provide a dedicated individual for plant status updates to offsite authorities.

G. Make senior technical and management staff onsite available for consultation with NRC and State on a periodic basis.

H. Provide meteorological and dose estimates to offsite authorities for actual releases via a dedicated individual.

I. Provide release and dose projections based on available plant condition information and foreseeable contingencies.

J. Close out or terminate emergency class by contacting offsite authorities and assess need for recovery.

or

K. Escalate to General Emergency class.

5.2.4 State and/or Local Offsite Authority Actions

A. Provide any assistance requested.

B. If protective actions are desirable, activate the Public Alert & Notification System.

C. Provide public within at least 10 miles, periodic updates on emergency status.

D. Augment resources by activating Emergency Operating Centers.

E. Dispatch key emergency personnel including monitoring teams and associated communications.

F. Alert to standby status other emergency personnel (e.g., those needed for evacuation) and dispatch personnel to Near-Site duty stations.

G. Provide offsite monitoring results to licensee and others and jointly assess them.

H. Continuously assess information from licensee and offsite monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources.

I. Recommend placing milk animals within 2 miles on stored feed and assess need to extend distance.

J. Provide press briefings, perhaps with licensee.

K. Maintain Site Area Emergency status until close-out.

or

L. Escalate to General Emergency class.

5.3 General Emergency

5.3.1 Definition

The General Emergency describes events in progress or which have occurred which involve actual or imminent substantial core degradation or melting with the potential for loss of containment .

Radioactive releases can be reasonably expected to exceed the EPA Protective Action Guideline exposure levels offsite for more than the immediate site area. Hence, protective actions may have to be taken for protection of the general public.

5.3.2 Purpose of General Emergency Class

The purpose of the General Emergency classification is to:

A. Initiate predetermined protective actions for the public.

B. Provide continuous assessment of information from licensee and offsite measurements.

C. Initiate additional measures as indicated by actual or potential releases.

D. Provide current information for the public and consultation with offsite authorities.

E. Provide updates for the public through offsite authorities.

5.3.3 Plant Actions and Responsibilities

A. Promptly inform state and local offsite authorities of General Emergency status and reason for emergency as soon as discovered.

B. Augment resources by activating onsite Technical Support Center, onsite Operational Support Center and Near-Site Emergency Operations Facility (EOF).

C. Assess and respond to General Emergency.

D. If radiological or environmental conditions permit, evacuate onsite, nonessential personnel.

E. Dispatch onsite and offsite survey teams and associated communications.

F. Provide a dedicated individual for plant status updates to offsite authorities.

G. Make senior technical and management staff onsite available for consultation with NRC and State on a periodic basis.

H. Provide meteorological and dose estimates to offsite authorities for actual releases via a dedicated individual.

I. Provide release and dose projections based on available plant condition information and foreseeable contingencies.

J. Implement the Severe Accident Management process as necessary.

K. Close out or terminate emergency class by briefing offsite authorities and transition to recovery.

5.3.4 State and/or Local Offsite Authority Actions

A. Provide any assistance requested.

B. Activate immediate public notification of emergency status and provide public periodic updates.

C. Recommend evacuation for 2 mile radius and 5 miles downwind and assess need to extend distances.

D. Augment resources by activating Near-Site EOC and any other primary response centers.

E. Dispatch key emergency personnel including monitoring teams and associated communications.

F. Dispatch other emergency personnel to duty stations within 5 mile radius and alert all others to standby status.

G. Provide offsite monitoring results to licensee and others and jointly assess these.

H. Continuously assess information from licensee and offsite monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources.

I. Recommend placing milk animals within 10 miles on stored feed and assess need to extend distance.

J. Provide press briefings, perhaps with licensee.

K. Maintain General Emergency status until close-out or termination of emergency class.

6.0 PREREQUISITES

An Alert, Site Area, or General Emergency has been or will be declared.

7.0 PROCEDURE

7.1 Shift Supervisor of Affected Unit

7.1.1 Proceed to the Control Room (if not already there).

NOTE:	**The Shift Supervisor of the affected unit SHALL remain in the Control Room at all times during accident conditions until properly relieved.**

7.1.2 Implement the appropriate Emergency Operating Procedures (EOPs) and Severe Accident Management Guidelines (SAMGs), as needed, and respond to the emergency condition with the objective of returning the plant to a normal safe condition (Mode 5, Cold Shutdown, if necessary).

NOTE:	**The Shift Manager and SEC will be summoned to the Control Room per the EOPs.**

7.1.3 Direct activities of the Control Room Operators.

7.1.4 Coordinate, with the Emergency Director, all plant operations which may impact on radioactive releases.

7.2 Shift Supervisor of Unaffected Unit

7.2.1 Proceed to the Control Room (if not already there).

7.2.2 Direct operations on the unaffected unit.

7.2.3 Assist the Shift Manager, as necessary.

7.3 Shift Manager

NOTE:	**In the case of a credible security event, if you are unable to safely go to the Control Room, consider directing the emergency response from another safe location (e.g., SM Office, CAS or Plant Manager's Conference Room). An informational copy of the SM/SS Emergency Director Checklist (PINGP 1125) is located in the back of F3-4, located in the SM Office, Plant Manager's Conference Room, EOF and New Admin Reference Library.**

NOTE:	**The initial E-Plan response to the event should be made by the Shift Manager. However, in order to adequately maintain oversight of the operational aspects of the event, it may be necessary for the Shift Manager to delegate specific E-Plan duties to the unaffected unit SS during the initial response while still maintaining the ED position.**

7.3.1 Report to the Control Room immediately upon notification.

7.3.2 Assess the emergency condition, event evaluation, and safety aspects of the plant.

NOTE:	**It is recommended that the Shift Manager stands at the Reactor Operator's desk to hear key communications, use an ERCS terminal for monitoring CSFSTs (Critical Safety Function Status Trees), and solicit or answer questions of the SS.**

7.3.3 Temporarily assume the position of Emergency Director until relieved by the oncoming Designated Emergency Director using PINGP 1125, Shift Manager/Shift Supervisor Emergency Director Checklist, for specific guidance on emergency plan duties.

7.3.4 If the Severe Accident Management process is initiated and the TSC is functioning, the Shift Manager should report to the TSC and become a member of the Severe Accident Management Team.

7.4 Designated Emergency Director (Plant Manager or ED Designee)

NOTE: **In the case of a credible security event, if you are unable to safely go to the Control Room or TSC, consider directing the emergency response from another safe location (e.g., Plant Manager's Conference Room or EOF). An information copy of PINGP 571, Emergency Director Checklist is located in the back of F3-4, located in the Plant Manager's Conference Room, EOF and New Admin Reference Library. See F3-31 for more security event guidance.**

7.4.1 The Emergency Director (Plant Manager or designee) should report to Control Room and assume the role of Emergency Director from the Shift Manager/Shift Supervisor.

7.4.2 Use PINGP 571, TSC Emergency Director Checklist.

7.5 Operations Group

7.5.1 Operations Manager or Designee

A. Report to the Technical Support Center to perform the role of the Operations Group Leader.

B. Assist in the activation of onsite emergency centers and organization by ensuring adequate Operations staffing in Control Room and OSC.

C. Ensure the OSC Operations Advisor is staffed by an Operations Support Pool personnel.

D. Assess the operational aspects of the emergency.

E. Periodically review the status and implementation of the EOPs and/or Abnormal Operations procedures with the TSC Staff.

F. If the Severe Accident Management process is initiated, staff the Severe Accident Evaluation Team Leader position.

7.5.2 Control Room Personnel

A. Assist the Shift Supervisor as requested.

B. Utilize applicable Operations Manual procedures to respond to the Emergency Condition as appropriate, with the objective of returning the plant to a normal safe status (Mode 5, Cold Shutdown, if necessary).

C. Announce the location and nature of the Emergency over the public address system. See PINGP 1125 for example of announcement.

D. When an evacuation is declared, sound the evacuation alarm and direct all nonessential personnel to evacuate to the designated assembly point. Direct all personnel to remain clear of the affected area (if applicable). See F3-9, Emergency Evacuation or PINGP 1125 for example of announcement.

E. Continuously monitor the Control Room instrumentation, radiation monitors, or any other developments which could be indicative of further system degradation. Inform the Shift Supervisor immediately of any changes in plant status.

F. Implement Severe Accident Management strategies as directed by the TSC.

7.5.3 Auxiliary Building and BOP Operators

A. Aux and BOP Operators should report to their duty station when the emergency is declared.

B. Aux and BOP Operators will continue to take direction from the Control Room during the emergency.

C. Aux Operators **SHALL** ensure that they have appropriate dosimetry and a dose rate indicating device for all further required operations in the Auxiliary Building.

D. Aux & BOP Operators should give consideration to terminating all nonessential plant operations (e.g., shutdown resin sluicing).

E. When a Plant Evacuation is declared, the Aux & BOP Operators should periodically call the OSC (for exposure control purposes) and inform the OSC of outplant operational activities.

F. If the Auxiliary Building general rad levels exceed 100 mR/hr or upon recommendations from the Emergency Director or Radiation Protection Group, the Aux Operators **SHALL** evacuate to the OSC. For exposure control purposes, all further Auxiliary Building entries **SHALL** be controlled through the OSC.

G. Perform the necessary onsite and in-plant radiation surveys as requested by the Shift Supervisor.

7.5.4 Relief Shift, Training Operators, and Operations Support Pool

A. Relief Shift and Training Operators should proceed to the Operational Support Center and report to the OSC Personnel Board Keeper for Accountability and for further instructions to support Operations.

B. An available Shift Supervisor should staff the OSC Coordinator position.

C. Operations Support Pool should provide assistance to the OSC Coordinator in an advisory capacity by staffing the OSC Operations Advisor position. PINGP 1095, OSC Operations Advisor Checklist, should be used as a guide.

D. Operations Support Pool should assist the OSC in tracking work groups, outplant operational activities, and updating the emergency work status board.

7.6 Shift Emergency Communicator

7.6.1 Report to the Control Room immediately upon notification unless directed otherwise by Shift Manager/Emergency Director.

7.6.2 Complete PINGP 577, Notification Report Form, and have it reviewed and approved by the Emergency Director.

NOTE:	**State and local authorities SHALL be notified within 15 minutes of the declaration of the emergency classification.**

7.6.3 Complete the required notification of state and local authorities, and site personnel in accordance with F3-5, Emergency Notifications.

7.6.4 Notify applicable offsite authorities if conditions escalate to a more severe emergency class in accordance with F3-5, Emergency Notifications.

NOTE:	If the EOF has been activated, notifications of offsite agencies for an escalation or termination will be completed by EOF personnel.

7.6.5 When the emergency classification has been terminated, close-out the emergency classification, by notifying the state, local, and site personnel in accordance with F3-5, Emergency Notification.

7.7 Technical Support Coordinator

7.7.1 The Technical Support Center Coordinator **SHALL** be responsible for the general activation, operation and coordination of activities in the Technical Support Center (TSC).

7.7.2 The TSC Coordinator should report to the TSC and assume the role as TSC Coordinator. Use PINGP 573, Technical Support Center Coordinator Checklist.

7.8 Operational Support Coordinator

7.8.1 The Operational Support Center Coordinator **SHALL** be responsible for the general activation, operation, and coordination of activities in the Operational Support Center (OSC).

7.8.2 The OSC Coordinator should report to the OSC and assume the role as OSC Coordinator. Use PINGP 574, Operational Support Center Coordinator Checklist.

7.9 Assembly Point Coordinator

7.9.1 The Assembly Point Coordinator **SHALL** be responsible for the general operation of the assembly area.

7.9.2 The Assembly Point Coordinator should report to the Assembly Point and assume the role of Assembly Point Coordinator. Use PINGP 911, Assembly Point Coordinator Checklist and F3-9, Emergency Evacuation.

7.10 Radiological Emergency Coordinator

7.10.1 The Radiological Emergency Coordinator (REC) **SHALL** be responsible for accident assessment, onsite and offsite.

7.10.2 The REC should report to the Technical Support Center and assume responsibility for the Radiological Emergency Coordinator position. Use PINGP 572, Radiological Emergency Coordinator Checklist.

7.11 Radiation Protection and Chemistry Groups

7.11.1 The Shift Chemist **SHALL** provide assistance (e.g., sampling, chemistry, radio-chemistry, surveys, or dose assessment) as requested by the Emergency Director.

7.11.2 The Radiation Survey Teams should be dispatched to initiate offsite surveys as directed per F3-15 and/or F3-16.

7.11.3 All other radiation survey group members should report to the plant site for further instructions. The radiation survey group members reporting to the plant site should:

A. Proceed to the Operational Support Center and wait for further instructions, unless otherwise directed by the Emergency Director or Radiological Emergency Coordinator.

B. Supervise any checks for personnel contamination and direct decontamination at the assembly point.

C. Provide radiation protection coverage for:

1. Damage control and repair teams
2. First aid
3. Search and Rescue Teams
4. Reentry Teams

D. Perform emergency sampling (air and liquid), chemistry, radio-chemistry, surveys, etc., as directed by the Emergency Director or the Radiological Emergency Coordinator.

7.11.4 One individual should assume OSC Radiation Protection Coordinator. Use PINGP 1245, OSC Radiation Protection Coordinator Checklist.

7.12 Security Group

7.12.1 The Security Manager, or designee, should report to the Technical Support Center (TSC). The Security Manager should:

A. Ensure FFD breath analysis testing is set up and performed as required for off-hours emergency call-in.

B. Consider suspending selected plant access controls to expedite the staffing of the emergency centers during an emergency. See SIP 5.2, Security Response to Site Emergencies.

C. Assume responsibility for personnel accountability following a plant evacuation and continuing accountability throughout the duration of the emergency. See Procedure F3-10.

D. Coordinate security control throughout the duration of the emergency situation. See Procedure F3-29.

E. Evaluate aspects concerning attempted acts of sabotage.

7.12.2 The Security Force

A. The Security First or Second Lieutenant or designee **SHALL** perform the responsibilities of the Shift Emergency Communicator (SEC).

B. All other plant security force should continue with normal duties unless otherwise notified.

C. During off-normal work hours and when requested by the Shift Emergency Communicator (SEC), a designated Security Force Member will control the telephone switchboard in the TSC. See Procedure F3-5.1.

D. When the evacuation alarm sounds, all Security Officers, with the exception of Roving Patrol and the SAS Operator, evacuate to the Guardhouse for further instructions.

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NOTE:	The SAS Operator should evacuate when directed by the Emergency Director.

E. Assist with the evacuation of personnel to the designated assembly point in accordance with F3-29, "Emergency Security Procedures" and F3-9, Emergency Evacuation.

NOTE:	1. It should be necessary for personnel to exit quickly thru the portal monitor and turnstile. Collect all I.D.'s and process badges so an Employee Onsite List of personnel inside Protected Area can be obtained. 2. To speed evacuation from the Protected Area, it may be beneficial to open the vehicle gates and allow personnel to exit there. 3. The Security Force SHALL ensure that all personnel onsite, within the Protected Area, have heard the evacuation alarm.

F. Perform a check of all areas immediately surrounding the Protected Area so that all personnel are notified of the evacuation in progress.

NOTE:	The owner Controlled Area will be checked when directed by the Emergency Director.

G. Control access to Protected Area per instructions from the Emergency Director.

H. Be prepared to obtain a printout for an accountability check in accordance with F3-10, Personnel Accountability.

I. Assist the Radiation Protection Group in establishing a secondary access control point when directed by the Emergency Director.

J. Station a Security Force Member, with dosimetry, at the plant entrance, if conditions permit, to control access to the plant site.

7.13 Logistics Group

The Logistics Support Group includes the Business Support Group (Administrative Services and Document Control), the Plant Services Group and Materials Management (Warehouse).

7.13.1 The Logistics Group Leader designee should report to the TSC and utilize PINGP 1188, TSC Logistics Checklist.

7.13.2 The Business Support Group, and Materials Management Group should:

A. Continue with normal duties unless directed otherwise.

NOTE:

1. **During off hours emergency activation, designated Warehouse personnel should report to the Operations Support Center (OSC) to provide support in retrieving emergency parts.**
2. **During normal hours emergency activation, designated Warehouse personnel should continue with normal duties until a Plant Evacuation occurs, at which time they should report to the OSC.**

B. Immediately vacate any emergency operating center (Control Room, OSC, or TSC) when an emergency is declared.

C. Remain clear of any areas, as announced over the public address system.

D. When requested by the Shift Emergency Communicator (SEC), the office staff should transfer control of the telephone switchboard to the TSC.

NOTE:

The switchboard operator should report to the TSC to control the switchboard from the TSC until relieved by an alternate communicator. See F3-5.1.

E. When the evacuation alarm sounds, proceed to the designated assembly point.

F. Follow instructions from the Assembly Point Coordinator for either reentry into the plant or departure from the site property.

7.13.3 The Nuclear Plant Service Attendants should:

A. Report to the Operational Support Center to receive specific instructions from the OSC Coordinator.

B. Provide Offsite Survey Team Drivers and/or Sample Couriers for Offsite Radiation Survey Teams.

C. Provide assistance for monitoring and decontamination at the assembly point as requested.

D. Provide general support of emergency response and recovery actions, as requested.

7.14 Maintenance Group

The Maintenance Group consists of all Maintenance personnel, plant Electricians, and I&C personnel.

7.14.1 The Maintenance Supervisors (Mechanical, Electrical and I&C), and designated Lead Electricians, Lead Machinists, Lead Riggers and I&C Specialists should report to the OSC to provide support for:

A. Repair and corrective actions for mechanical, electrical systems, and Instrument and control systems, and;

B. Search and rescue efforts.

7.14.2 All other Maintenance personnel, Electricians and I&C Specialists should:

A. Continue with normal duties unless directed otherwise.

B. Immediately vacate any emergency operating center (Control Room, OSC, or TSC) when an emergency is declared unless directed otherwise.

C. Remain clear of any areas, as announced over the public address system.

D. When the evacuation alarm sounds, proceed to the designated assembly point unless directed to staff the OSC.

E. Follow instructions from the Assembly Point Coordinator for either reentry into the plant or departure from the site property.

7.15 Engineering Group

7.15.1 The Engineering Group consists of Systems, Programs, Design and Projects Engineering. All Superintendents, lead Engineers, and system experts (as requested by their supervisor) should report to the Technical Support Center (TSC). The Engineering Group should:

A. Provide technical & engineering support for plant systems.

B. Provide technical & engineering support for operating radioactive waste systems.

C. Provide technical & engineering support on core parameter analysis.

D. Provide plant parameter trending and analysis utilizing the Emergency Response Computer System (ERCS).

E. Identify adverse trends and attempt to predict significant events that could adversely affect the plant or accident mitigation efforts.

F. Perform critical evaluations of "cause and effects" on failing equipment.

G. Update TSC staff of systems' status and key equipment problems or availability.

H. Provide technical support for emergency repairs and corrective action on electrical and mechanical systems.

I. Evaluate alternate systems, components or methods that may be used to restore needed capabilities or accomplish accident mitigation.

J. Develop and propose alternate electrical or fluid flow paths that would restore key functions that were lost.

K. If the Severe Accident Management process is initiated, monitor the Severe Challenge Status Trees (SCSTs) with the aid of the ERCS.

7.15.2 All other engineers (unless specifically requested to remain in the TSC) should:

A. Continue with normal duties unless directed otherwise.

B. Immediately vacate any emergency operating center (Control Room, OSC, or TSC) when an emergency is declared unless directed otherwise.

C. Remain clear of any areas, as announced over the public address system.

D. When the evacuation alarm sounds, proceed to the designated assembly point unless directed to staff the TSC.

E. Follow instructions from the Assembly Point Coordinator for either reentry into the plant or departure from the site property.

7.16 Severe Accident Management Group

The Decision Maker and Evaluation Team of the Severe Accident Management (SAM) Group should report to the TSC.

7.16.1 The SAM Group Decision Maker **SHALL**:

A. Consult with the SAM Evaluation Team.

B. Authorize implementation of appropriate Severe Accident Management strategies as they are developed and evaluated.

7.16.2 The SAM Evaluation Team **SHALL**:

A. Evaluate the Diagnostics Flow Charts and Severe Challenge Status Trees.

B. Implement the use of the Severe Accident Guidelines and Severe Challenge Guidelines.

C. Recommend for authorization the implementation of Severe Accident Strategies to the SAM Group Decision Maker (Emergency Director).

D. See PINGP 1237, SAM Evaluation Team Leader Checklist, for guidance.

7.16.3 The SAM Implementors who are site emergency response individuals **SHALL** implement the strategies as directed by the SAM Decision Maker.

7.17 Contract, Temporary Personnel and Visitors

7.17.1 Continue with normal duties unless directed otherwise.

7.17.2 Immediately vacate any emergency operating center (Control Room, OSC, or TSC) when an emergency is declared.

7.17.3 Remain clear of any areas, as announced over the public address system.

7.17.4 When the evacuation alarm sounds, proceed to the designated assembly point.

7.17.5 Follow instructions from the Assembly Point Coordinator for either reentry into the plant or departure from the site property.

F3	EMERGENCY EVACUATION	NUMBER: F3-9
		REV: 20

REFERENCE USE

- ***Procedure segments may be performed from memory.***
- ***Use the procedure to verify segments are complete.***
- ***Mark off steps within segment before continuing.***
- ***Procedure should be available at the work location.***

O.C. REVIEW DATE:	OWNER:	EFFECTIVE DATE
041604SC	M. Werner	4-20-04

1.0 PURPOSE

This procedure provides instructions for implementing an emergency evacuation of affected areas within the plant buildings or areas within the site boundaries.

2.0 APPLICABILITY

This instruction **SHALL** apply to all plant personnel who are involved with evacuations caused by radiological hazards, fire, toxic gas, security threat, etc. This procedure does not apply to the evacuation of the general public located in affected areas beyond the site boundary.

3.0 PRECAUTIONS

3.1 The Emergency Director (ED) should consider radiation shine from the containments as well as other hazards when determining the habitability requirements of the assembly areas and evacuation routes.

3.2 When the evacuation alarm is heard, evacuate your work area while listening to specific evacuation instructions on the plant's Public Address (PA) system. If you cannot hear or understand the instructions, continue to leave the immediate area until you learn of the evacuation instructions.

3.3 When personnel are working inside Containment or the Shield Bldg, the Access Lead Radiation Protection Specialist (RPS) should establish communications with Containment Lead RPS and keep them informed of PA announcements (cannot understand PA due to echo).

4.0 RESPONSIBILITIES

4.1 The Emergency Director/Shift Manager (ED/SM) is responsible for ensuring that an appropriate evacuation (local, plant, or site) or an Early Dismissal is implemented when radiological or other conditions warrant such action.

4.2 The Radiological Emergency Coordinator (REC) is responsible to advise the ED/SM on choosing an appropriate Assembly Point and need for evacuation.

4.3 The Control Room is responsible to sound the evacuation alarm and make the appropriate announcement over the plant's public address system.

4.4 The Assembly Point Coordinator is responsible to coordinate the activities at the designated assembly area.

4.5 All plant personnel are responsible to follow the directions given over the plant's public address system and by the Assembly Point Coordinator.

4.6 The Security Team is responsible to assist in the personnel accountability process and plant access control.

4.7 The Technical Support Center (TSC) Coordinator is responsible for assisting work group leaders in determining nonessential personnel and reporting to ED when determination essential personnel is complete.

4.8 TSC work group leaders are responsible in determining essential and nonessential personnel.

5.0 DISCUSSION - See Attachment 1

6.0 PREREQUISITES

6.1 It has been determined that a personnel hazard exists or may exist; such as; radiological contamination, high radiological dose rates, fire, toxic gas, security threat, etc.,

OR

6.2 A Site Area or General Emergency has been declared.

7.0 PROCEDURE

7.1 Early Dismissal

An Early Dismissal may be warranted during an Alert classification if it is determined that the emergency may escalate to a higher level or may involve a hazardous release.

An Early Dismissal of personnel should proceed as follows:

NOTE:	**No Early Dismissal of personnel is necessary if it is known that the Alert classification will be closed out in a short time (a few hours).**

7.1.1 The REC should recommend to the ED the need for Early Dismissal of nonessential personnel based on whether the event has or may involve a hazardous release or escalate to a higher classification.

7.1.2 The ED should direct the TSC Coordinator to assist work group leaders in dismissing nonessential personnel.

7.1.3 The TSC group leaders are to determine which personnel are NOT needed for short term emergency support.

7.1.4 TSC Coordinator reports to ED with the TSC Group Leaders recommendation.

NOTE:	**Personnel accountability is NOT necessary for Early Dismissal of nonessential personnel.**

7.1.5 Once the Early Dismissal personnel have been identified, the TSC Group Leaders should direct the selected work group supervisors to instruct their selected individuals to leave the plant site and go home.

7.2 Local Evacuation

NOTE:	A Plant Evacuation should be conducted if a large employee/worker population is affected.

7.2.1 IF during normal work hours OR an Outage AND the hazard is NOT in the RCA, THEN initiate Plant Evacuation (Step 7.3).

7.2.2 A Local Evacuation of a specific area of the plant may be necessary because of local hazards. A Local Evacuation may proceed as follows:

CAUTION:	FOR SEVERE THUNDERSTORM, HIGH WINDS, OR TORNADO WARNINGS, FOLLOW AB-2, TORNADO/SEVERE THUNDERSTORM/HIGH WINDS, PROCEDURE UNTIL RADIATION PROTECTION GROUP DETERMINES DIFFERENTLY.

A. **DETERMINE** assembly points using the table below as general guidance.

<table>
<tr><th>LOCAL EVACUATION FROM THESE AREAS</th><th>NORMAL WORK HOURS AND OUTAGE ASSEMBLY AREA FOR ACCOUNTABILITY</th><th>OFF HOURS NON-OUTAGE ASSEMBLY AREA FOR ACCOUNTABILITY</th></tr>
<tr><td>Containment
Spent Fuel Pool</td><td>735′ Basketball Court</td><td>735′ Basketball Court</td></tr>
<tr><td>Aux Bldg</td><td>Access Control HP Office</td><td rowspan="2">Operational Support Center (OSC)

or

Security Building (Guardhouse)</td></tr>
<tr><td>Old Admin
Turb Bldg
New Admin
NPD
SBO
Office Trailers
Contractor Fab Shop
Warehouse #1
Contractor Trailers</td><td>Initiate Plant Evacuation</td></tr>
</table>

B. **SOUND** the EVACUATION ALARM.

C. **ANNOUNCE** the following over the plant page.

"ATTENTION ALL PLANT PERSONNEL. THERE IS A _____ (hazard)

OCCURING IN _____ (specify affected area)**. ALL PERSONNEL SHOULD EVACUATE**

THE _____ (specify affected area) **USING THE NEAREST SAFE EXIT AND**

ASSEMBLE AT THE _____ (assembly area)**".**

D. **REPEAT** the announcement.

E. **DIRECT** security (4318) to conduct Personnel Accountability using F3-10 as guidance.

7.2.3 Employees evacuating a particular area should exit via nearest "safe" exit and proceed to (designated area), as announced by PA, to aid in determining accountability.

7.2.4 The Radiation Protection Group (RPG) should:

A. IF tornado, severe thunderstorm OR high wind warning exists, THEN **notify** ED if any life threatening radiological conditions exist.

B. **Assume** control of entry into the area for exposure control purposes.

C. **Complete** surveys in the area and when conditions are returned to normal, complete surveys again.

D. **Recommend** to the ED/SM that the area be returned to normal use or relax access control to that area.

7.2.5 Work Group Leaders or Supervisors should complete Accountability for their personnel.

7.2.6 Security or Senior Work Group Leader should contact CAS when Accountability has been completed.

7.2.7 When Accountability is satisfied, security should inform ED/SM.

7.2.8 When the affected area has been released for normal use, the ED/SM should announce over the P.A., that the affected area is now returned to normal use.

7.3 Plant Evacuation

A Plant Evacuation may occur anytime and **SHALL** occur whenever a Site Area, or General Emergency is declared unless other constraints or circumstances make it impractical.

- IF the emergency is already being closed out AND there is no threat to personnel safety, THEN a Plant Evacuation is NOT necessary.

- IF both onsite Assembly Points are uninhabitable, THEN a Site Evacuation should be initiated.

CAUTION:	**FOR SEVERE THUNDERSTORM, HIGH WINDS, OR TORNADO WARNINGS, FOLLOW AB-2, TORNADO/SEVERE THUNDERSTORM/HIGH WINDS, PROCEDURE UNTIL RADIATION PROTECTION GROUP DETERMINES DIFFERENTLY.**

All nonessential plant personnel **SHALL evacuate** to a designated onsite assembly area for accountability and monitoring, while emergency response personnel **proceed** to their respective emergency operating centers.

7.3.1 The Emergency Director should **ensure** the following is performed during a Plant Evacuation:

NOTE:	**During off-normal working hours when few non-shift personnel are present, the Shift Manager/Emergency Director may choose the Operations Lounge as an assembly area, if appropriate.**

CAUTION:	**CONSIDER RADIATION SHINE FROM THE CONTAINMENTS AS WELL AS NATURAL HAZARDS WHEN DETERMINING HABITABILITY REQUIREMENTS OF THE ASSEMBLY AREAS AND EVACUATION ROUTES.**

A. **Determine** the wind direction and possible habitability problems at the onsite assembly areas. **Choose** either the **North Warehouse** or the **Receiving Warehouse.**

- May use North Warehouse if wind is from:
  236° to 360° or
  0° to 123°

- May use Receiving Warehouse if wind is from:
  123° to 360° or
  0° to 34°

B. IF conditions are acceptable, THEN **inform** the Control Room Operator of the designated Assembly Point and **direct** the Operator to sound the plant evacuation alarm per Step 7.3.2.

C. **Implement** F3-10, "Personnel Accountability." Personnel evacuation accountability should be completed within 30 minutes of declaration.

D. **Evacuate** the Auxiliary Building Operators to the OSC if:

1. General area radiation levels exceed 100 mR/hr, OR

2. Recommended by the Rad Protection Group or the REC.

E. **Direct** security to verify personnel that normally work outside the plant's Protected Area evacuate to the designated assembly area.

F. IF the completion of the accountability check results in missing persons, THEN **direct** a search of the plant buildings in accordance with F3-11, "Search and Rescue" and F3-12, "Emergency Exposure Control."

G. WHEN plant conditions have stabilized, THEN **direct** reentry into selected areas of the plant in accordance with F3-25, "Reentry."

H. **Consider** dismissing personnel from the assembly area when:

- Accountability has been completed.
- It has been determined which work groups or individuals may be dismissed from the site.
- 24 hour staffing plans have been determined.
- Employee Hot Line has been established and the employee's have been notified of the phone number.

7.3.2 The Control Room Operator should **perform** the following during a Plant Evacuation:

A. **Sound** the evacuation alarm.

NOTE:	During drills, the message should begin and end with "THIS IS A DRILL."

B. **Announce** the following over the plant page:

"ATTENTION ALL PLANT PERSONNEL. A PLANT EVACUATION HAS BEEN DECLARED. ALL EMERGENCY ORGANIZATION PERSONNEL REPORT TO AND REMAIN AT YOUR EMERGENCY DUTY STATIONS. ALL OTHER PERSONNEL SHALL EVACUATE TO THE (specify assembly point)."

C. **Repeat** announcement.

7.3.3 The REC should **perform** the following during a Plant Evacuation:

A. IF tornado, severe thunderstorm OR high wind warning exists, THEN **notify** ED if any life threatening radiological conditions exist.

B. **Designate** an Assembly Point Coordinator to control operations at the designated assembly area.

C. **Assist** the ED/SM in selecting an Assembly Point.

- May use North Warehouse if wind if from:
  236° to 360° or
  0° to 123°
- May use Receiving Warehouse if wind is from:
  123° to 360° or
  0° to 34°

D. **Monitor** the habitability of the Auxiliary Building and **recommend** to the ED/SM an evacuation of the Auxiliary Building Operators to the OSC if the general area radiation levels exceed 100 mR/hr.

E. Periodically **update** Assembly Point Coordinator with status of emergency.

7.3.4 The Assembly Point Coordinator should perform the following during a Plant Evacuation (may initiate at time of Emergency Center staffing):

A. **Contact** the REC and **request** the location of the designated Assembly Point.

B. WHEN directed by the REC, THEN **proceed** to the designated onsite assembly area with the appropriate keys (keys are in Security Building) and **set up** the Assembly Point as shown in the Assembly Point floor plans, Figure 2 or Figure 3.

C. **Supervise** any required monitoring or decontamination at the Assembly Point in accordance with F3-14.1, "Onsite Radiological Monitoring," and F3-19, "Personnel and Equipment Monitoring and Decontamination." **Give** priority to personnel who evacuated directly out of the Radiological Controlled Area.

D. IF contamination is highly likely AND personnel have been dismissed from the Assembly Point, THEN **monitor** all vehicles departing the site in accordance with F3-19. Monitoring and/or decontamination should be performed onsite or at the PI Academy of Learning (Training Center), whichever is most practical.

E. **Assist** in identifying personnel missed during accountability.

F. Routinely **determine** if airborne activity is present by taking a skyward frisker reading outside the building and **compare** to a reading with the frisker probe covered with a credit card or several layers of plastic. IF there is a decrease in count rate with the probe shielded (credit card covering), THEN airborne activity is present. **Inform** the REC AND **request** RP assistance for conducting airborne monitoring.

G. WHEN directed by ED or REC to dismiss personnel, THEN **notify** personnel:

- Who is to return to OSC or TSC.
- What the Employee Hot Line number is.

7.3.5 OSC Coordinator should:

A. **Direct** OSC supervisory staff to account for assigned essential personnel NOT evacuating.

B. **Comply** with EPIP F3-10, Personnel Accountability when the accountability report is delivered by security.

7.3.6 Emergency Organization Supervisors should:

A. **Verify** the physical location and status of their essential personnel NOT evacuating plant.

B. **Comply** with EPIP F3-10, Personnel Accountability when the OSC Coordinator commences the accountability process.

7.3.7 Emergency Organization Support Personnel should **contact** your emergency organization supervisor and **provide** your location and physical status.

7.3.8 Personnel evacuating the plant should **perform** the following during a Plant Evacuation.

A. WHEN the evacuation alarm is heard, THEN **evacuate** your work area while listening to specific evacuation instructions on the plant's public address system.

B. IF you cannot hear OR understand the instructions, THEN **continue** to leave the immediate area until you learn of the evacuation instructions.

C. IF working in a contaminated area, THEN **remove** as much protective clothing as time permits, especially gloves, booties or rubbers.

D. IF wearing a double suit, THEN **removal** of outside clothing would only be necessary.

E. IF unable to remove all protective clothing, THEN **inform** personnel in charge at the assembly area of your condition.

NOTE:	**During a DRILL, remove ALL protective clothing prior to evacuating.**

F. **Evacuate** via Security Building or as designated by the Security Team.

G. **Give** your badge to the Security Team member as you exit the Protected Area.

H. WHEN the North Warehouse is the designated assembly area, THEN all personnel **enter** the East Door or as directed by the Assembly Point Coordinator.

I. WHEN the Receiving Warehouse is the designated assembly area, THEN all personnel **enter** the North Door or as directed by the Assembly Point Coordinator.

7.3.9 Security Officers should **perform** the following during a plant evacuation:

A. **Assist** in personnel traffic control and perform accountability activities according to F3-10, "Personnel Accountability."

B. **Verify** personnel have evacuated all of the buildings outside the plant's Protected Area.

7.3.10 The TSC Coordinator should perform the following:

A. **Ensure** EOF Coordinator has established the Employee Hot Line.

B. **Coordinate** with Group Leaders in establishing 24 hour coverage.

C. **Coordinate** when personnel should return to relieve the shift.

7.4 Site Evacuation

A Site Evacuation of nonessential personnel should be required when a Plant Evacuation is justified, but the onsite assembly areas are NOT habitable. Personnel should be directed to evacuate to the parking lot and then using personal cars or plant vehicles, proceed to the offsite assembly area.

NOTE:	**Monitoring of personnel and equipment prior to departure from plant site is NOT necessary because of possible offsite contamination**

7.4.1 The Emergency Director should **perform** the following during a Site Evacuation:

A. **Designate** the Prairie Island Academy of Learning (Training Center) as the offsite assembly area, if possible.

NOTE:

1. **In the extreme rare case that the PI Academy of Learning (Training Center) is NOT usable as an offsite assembly area, reassess, with input from the Radiological Emergency Coordinator, and Site Evacuation Instructions, Figure 1.**
2. **A caravan may be led to the Red Wing Service Center or to either the Goodhue or Dakota County Emergency Worker Monitoring & Decon Centers for monitoring and decon. Appropriate notifications to the county sheriffs' departments should be made.**
3. **The evacuees may be sent directly to their homes without monitoring, if appropriate.**
4. **If the general public has been evacuated, evacuees may be sent directly to the state's public reception center for monitoring & decon.**

B. **Notify** the Emergency Manager (EM) of the Site Evacuation and **request** EOF support. The EOF will be responsible for assisting the Assembly Point Coordinator.

C. **Inform** the Control Room Operator of the offsite assembly point and **direct** the Operator to sound the evacuation alarm.

D. **Implement** F3-10, "Personnel Accountability." Personnel accountability should be completed within 30 minutes of declaration.

E. **Evacuate** the Auxiliary Building Operators to the OSC if:

1. General area radiation levels exceed 100 mR/hr, OR

2. Recommended by the Rad Protection Group or the REC.

F. **Ensure** that the Security Force has warned all personnel within the Owner Controlled Area, including all trailers, warehouse and construction sites.

G. IF the completion of the accountability check results in missing persons, THEN **direct** a search of the plant buildings in accordance with F3-11, "Search and Rescue" and F3-12, "Emergency Exposure Control."

H. WHEN plant conditions have stabilized, THEN **direct** a reentry into selected areas of the plant in accordance with F3-25, "Reentry."

I. **Consider** dismissing personnel at the assembly area when accountability has been completed.

- Key personnel may be requested to return into the plant to augment the TSC or OSC staff.
- Return of personnel to the plant will have to be coordinated with Security and Rad Protection Group.

7.4.2 The Control Room Operator should **perform** the following during a site evacuation:

A. **Sound** the evacuation alarm.

NOTE:	**During drills, the message should begin and end with "THIS IS A DRILL."**

B. **Announce** the following over the plant page.

"ATTENTION ALL PLANT PERSONNEL. PERSONNEL WITHOUT EMERGENCY ASSIGNMENTS SHALL EVACUATE THE PLANT SITE IMMEDIATELY. GET YOUR CAR KEYS AND EVACUATE TO THE PARKING LOT. USE YOUR CAR OR PLANT VEHICLE AND PROCEED TO THE (specify assembly point). ALL EMERGENCY PERSONNEL SHOULD REMAIN AT YOUR EMERGENCY OPERATING CENTERS"

C. **Repeat** the announcement.

7.4.3 The Radiological Emergency Coordinator should **perform** the following during a Site Evacuation:

A. **Assist** the ED in selecting an offsite assembly area. In most cases the Prairie Island Academy of Learning (Training Center) should be used. **See** the note after 7.4.1.A for possible alternatives.

B. **Direct** an Assembly Point Coordinator to report to the offsite assembly area.

C. **Monitor** the habitability of the Auxiliary Building.

D. IF Auxiliary Building general average dose rates exceed 100 mrem/hr, THEN **recommend** to ED an evacuation of the Auxiliary Building Operators to OSC.

E. **Consider** establishing a secondary access control point in accordance with F3-21, "Establishment of a Secondary Access Control Point."

7.4.4 The Assembly Point Coordinator should **perform** the following during a Site Evacuation:

A. WHEN directed by the REC, THEN **proceed** to the offsite assembly point (Training Center) and **set up** the assembly area.

B. **Supervise** any required monitoring or decontamination at the Assembly Point in accordance with F3-14.1, "Onsite Radiological Monitoring," and F3-19, "Personnel and Equipment Monitoring and Decontamination." **Give** priority to personnel who evacuated directly out of the Radiological Controlled Area.

C. IF contamination is highly likely AND personnel have been released, THEN **monitor** all vehicles departing from the site in accordance with F3-19 or **perform** monitoring and decontamination at a location further from the PI Academy of Learning (Training Center).

7.4.5 Personnel evacuating the plant site should **perform** the following during a Site Evacuation:

A. WHEN the evacuation alarm is heard, THEN **evacuate** your work area while listening to specific evacuation instructions on the plant's public address system.

B. IF you cannot hear or understand the instructions, THEN **continue** to leave the immediate area until you learn of the evacuation instructions.

C. IF working in a contaminated area, THEN **remove** as much protective clothing as time permits, especially gloves, booties or rubbers.

D. IF wearing a double suit, THEN **removal** of outside clothing would only be necessary.

E. IF unable to remove all protective clothing, THEN **inform** personnel in charge at the assembly area of your condition.

NOTE: **When an evacuation alarm sounds during a DRILL, remove ALL protective clothing prior to evacuating.**

F. **Retrieve** your personal car keys, if appropriate.

G. **Evacuate** via Security Building (Guardhouse) or as designated by the Security Force.

H. **Give** your badge to the Security Force member as you exit the Protected Area.

I. **Proceed** to your car or to the Assembly Point via other means.

J. IF the Prairie Island Academy of Learning (Training Center) is the offsite assembly area, THEN all personnel **proceed** to the PI Academy of Learning (Training Center)'s parking lot and **enter** the Southwest Door or as directed by the Assembly Point Coordinator.

K. IF the PI Academy of Learning (Training Center) cannot be used, THEN **assemble** in an evacuation caravan on the plant access road and follow the Assembly Point Coordinator to an offsite assembly area.

7.4.6 Security Officers should **perform** the following during a Site Evacuation:

A. **Assist** in personnel traffic control and **perform** accountability activities according to F3-10, "Personnel Accountability."

B. **Direct** all personnel within owner controlled area to proceed to offsite assembly area.

Figure 1 Site Evacuation Instructions

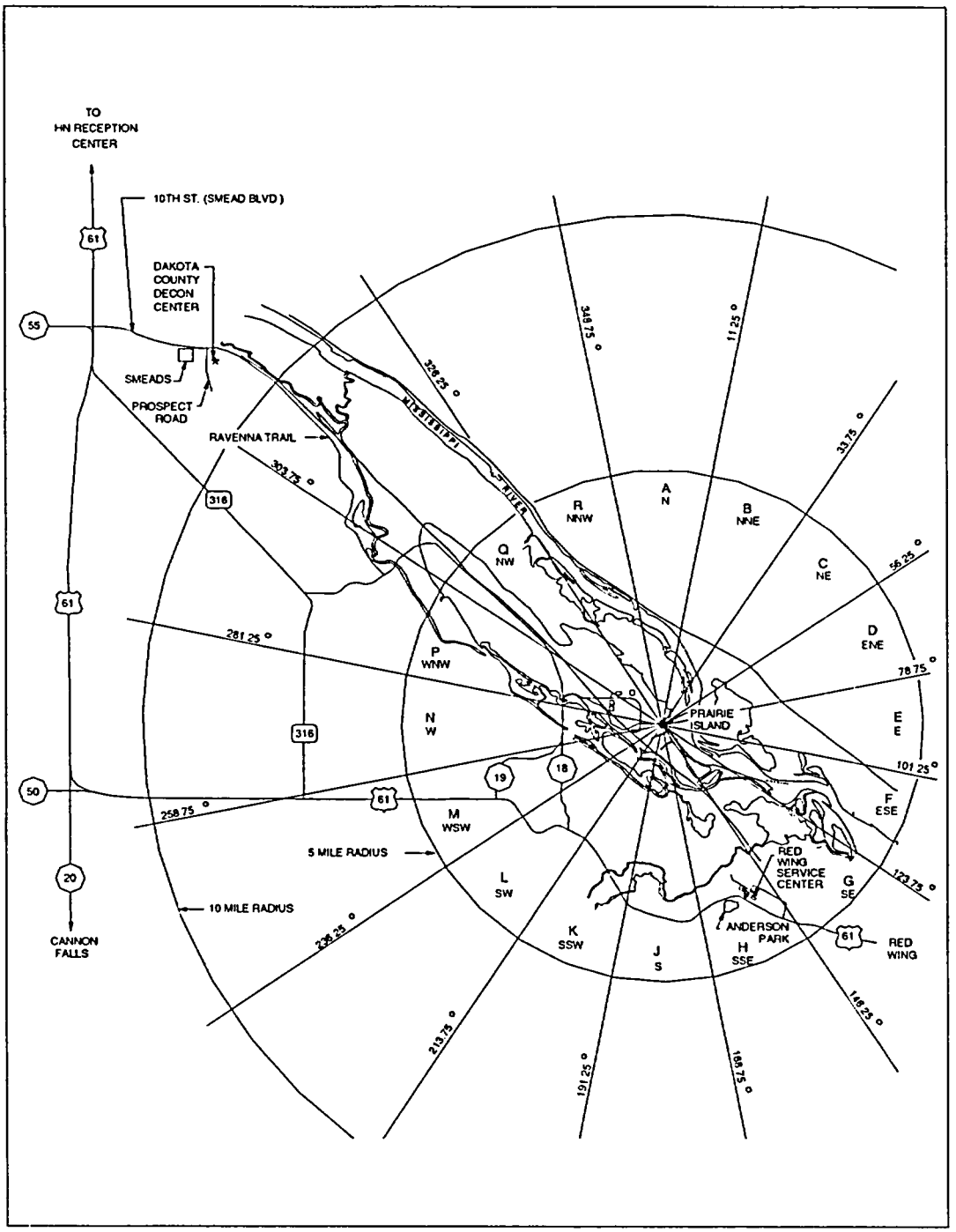


Figure 1 Site Evacuation Instructions Evacuation Routes

To near-site EOF

1. Exit Plant Parking Lot
2. Turn left on Wakonade Dr.
3. Proceed to PI Academy of Learning (Training Center)
4. Use Southwest Entrance

To Red Wing Service Center

1. Exit Plant Parking Lot
2. Take the Plant Road to Wakonade Dr.
3. Left on Wakonade Dr. to County 18
4. Left on Country 18 to Hwy 61
5. Left on Hwy 61 Cannon River Road in Red Wing
6. Turn left on Cannon River Road to Pepin Street
7. Turn left on Pepin Street to Red Wing Service Center on the right.

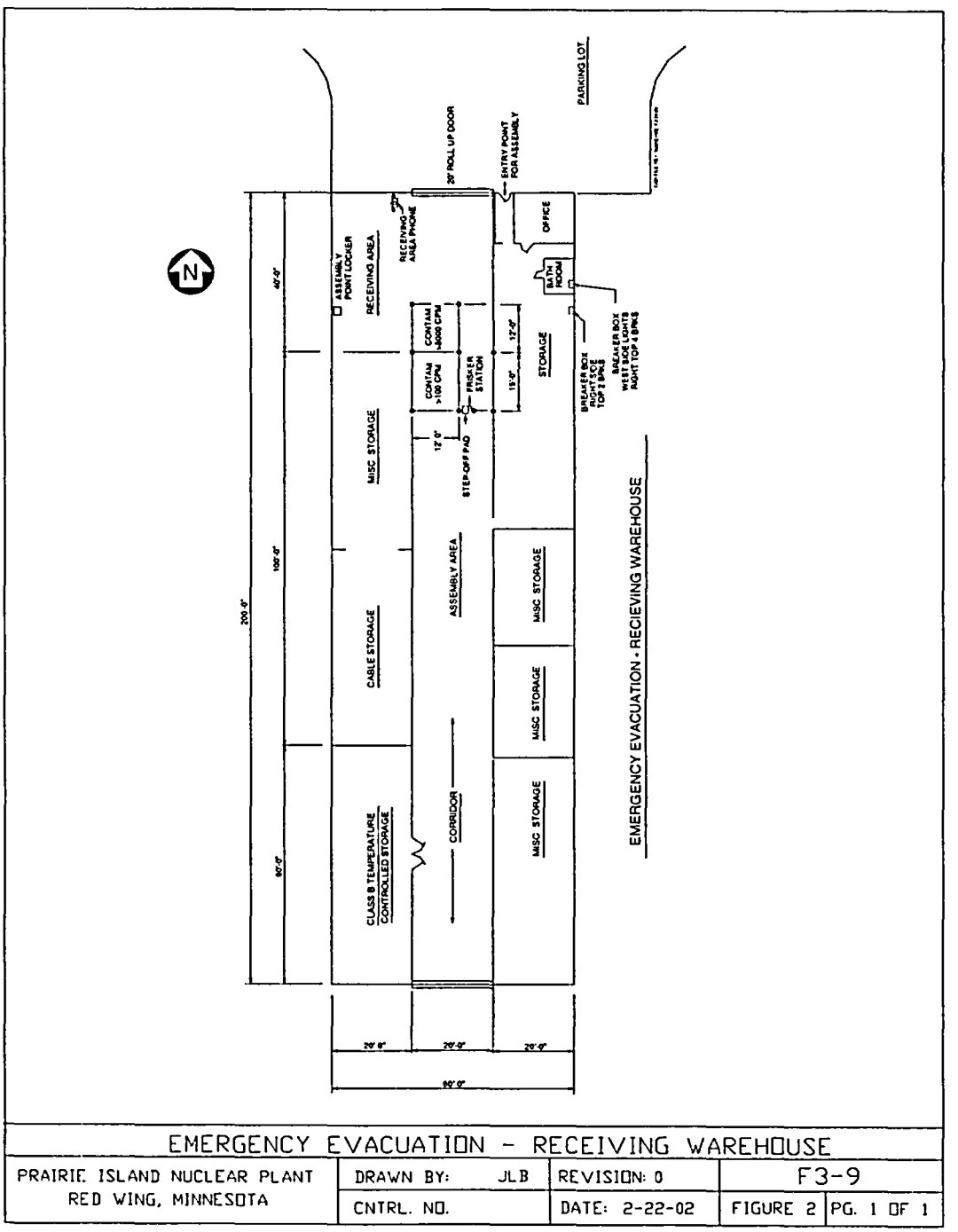
To Hastings Public Works Building using Ravenna Trail

1. Exit Plant Parking Lot
2. Take the Plant Road to Wakonade Drive
3. Left on Wakonade Dr. to County 18
4. Right on Country 18
5. Right on Ravenna Trail to 10th Street / Smead Blvd. [Road Changes Names]
6. 10th Street / Smead Blvd to Progress Drive
7. Left on Progress Drive to Hastings Public Works Building on the right.

To Hastings Public Works Building using Hwy 316

1. Exit Plant Parking Lot
2. Take the Plant Road to Wakonade Dr.
3. Left on Wakonade Dr. to Country 18
4. Right on County 18 to 200th Street [Road Changes Names]
5. 200th Street to Hwy 316
6. Right on Hwy 316 to Hwy 61
7. Right on Hwy 61 to 10th Street
8. 10th Street / Smead Blvd. To Progressive Drive
9. Right on Progress Drive to Hastings Public Works Building on the right.

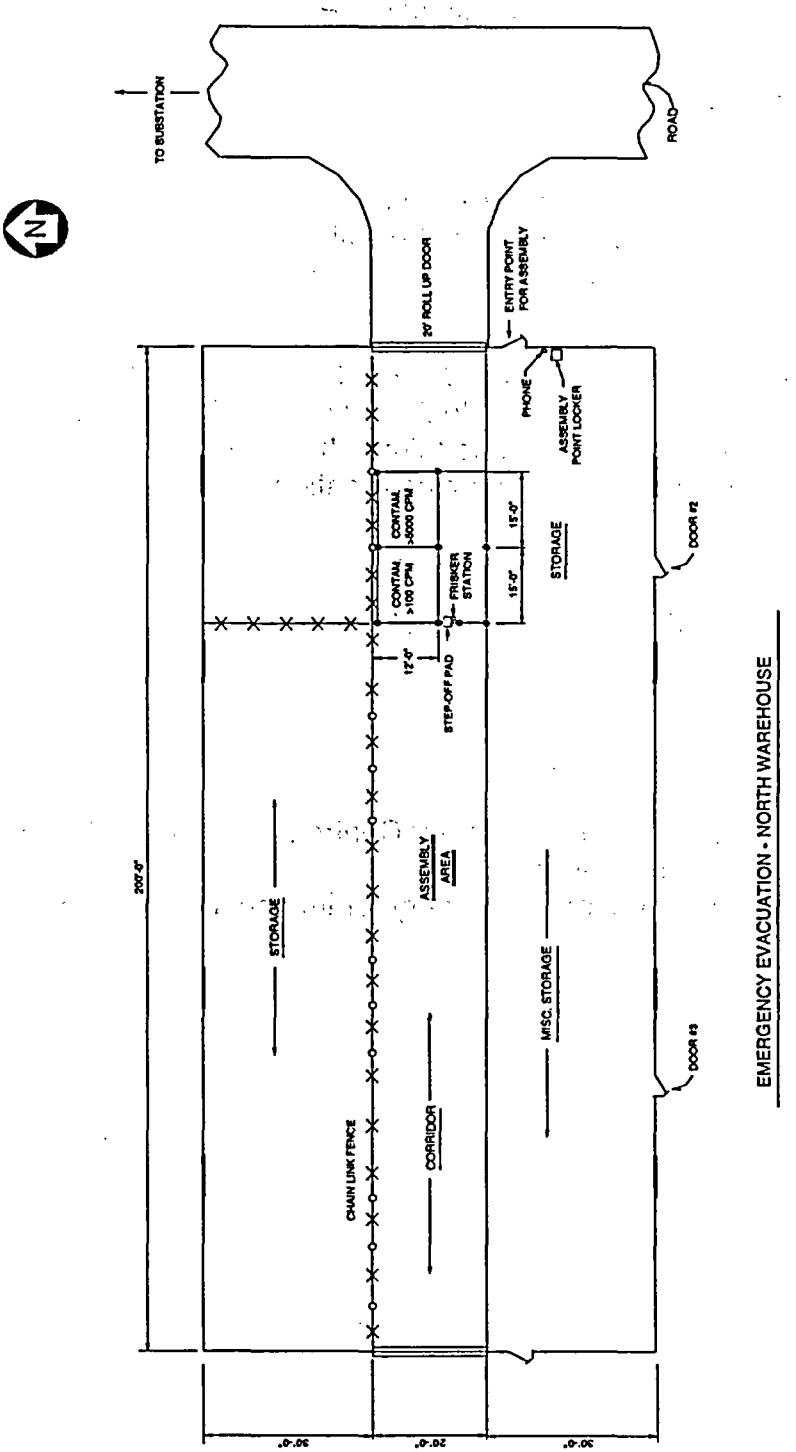
Figure 2 Receiving Warehouse



EMERGENCY EVACUATION - RECEIVING WAREHOUSE

PRAIRIE ISLAND NUCLEAR PLANT RED WING, MINNESOTA	DRAWN BY: JLB	REVISION: 0	F3-9
	CNTRL. NO.	DATE: 2-22-02	FIGURE 2 PG. 1 OF 1

Figure 3 North Warehouse



Attachment 1 Discussion

The Emergency Director has four (4) options in removing personnel from an area or the plant determined by the type of emergency condition and/or magnitude of a release. The options are Early Dismissal, Local Evacuation, Plant Evacuation, or Site Evacuation.

1. Early Dismissal

This is directing designated groups of nonessential personnel to leave the plant site and return to their homes. This may be initiated during an Alert classification when it is determined that conditions may escalate such that a Plant Evacuation may occur.

When an Alert is declared, the REC should initiate early dismissal assessment and advise the Emergency Director. No Early Dismissal is necessary if it is known that the Alert will be closed out in a short time. If the Alert termination time is unknown or the plant may escalate to a higher classification, then an Early Dismissal should be considered.

Examples of Early Dismissal personnel are:

Visitors
Vendors & Consultants
Student Interns
Selected Admin Staff, Document Control, Information Systems personnel
Selected QC Specialists
Selected personnel not necessary for immediate emergency support

Attachment 1 Discussion

2. Local Evacuation

This is an evacuation of a specific area of a plant building to a safe area within the plant. This may be done at any emergency level to protect plant personnel from a localized hazard.

If a large employee/worker population is affected (i.e., Turbine Bldg or New Admin Bldg), a Plant Evacuation should be considered, to facilitate accountability in a timely manner.

During OFF HOURS with the fewer personnel on site it is better to get everyone in one location that would make accountability easier.

- The OSC is probably the best location. Personnel will show up on the list as being there and they are available to assist.

- The Security Building (Guardhouse) should be the next choice. Personnel will be logged off site and will NOT show up on the list. The drawback is they need to get back on site to assist.

Attachment 1 Discussion

3. Plant Evacuation

This is an evacuation of plant buildings inside the Protected Area to a designated Assembly Point outside the Protected Area (**North Warehouse or Receiving Warehouse**). Personnel already outside the Protected Area should be asked to evacuate to the designated Assembly Point.

A Plant Evacuation **MAY** be initiated at an Alert classification and **SHALL** be initiated at the Site Area or General Emergency classification unless there are other constraints or circumstances that make a Plant Evacuation impractical, such as:

A. If the Site Area or General Emergency is already being closed out, then no Plant Evacuation is necessary.

B. If both onsite assembly points are uninhabitable, then a Site Evacuation should be warranted.

C. If there are high winds or tornado, then an evacuation may not be feasible.

Once plant accountability is completed, personnel at the assembly point should be sorted out according to those who go home, go to the OSC, or go to the TSC.

If the event was a contaminating event, personnel and cars should be monitored and decontaminated onsite or at the Academy of Learning (Training Center), whichever is most practical. If contamination exists beyond the site boundary or at the Training Center, personnel may use the Xcel Red Wing Service Center or the county's Emergency Worker Monitoring and Decon Centers.

Attachment 1 Discussion

4. Site Evacuation

This is an evacuation of all plant buildings onsite (inside & outside the Protected Area) to the Academy of Learning (Training Center). This should be initiated when a Plant Evacuation is justified, but the onsite assembly areas are not habitable.

Once plant accountability is completed, personnel at the Assembly Point should be sorted out according to those who go home, go to the OSC, or go to the TSC.

If the event was a contaminating event, personnel and cars should be monitored and decontaminated, as necessary and practical. If contamination exists beyond the site boundary and at the Academy of Learning (Training Center), personnel may use the Red Wing Service Center or the county's Emergency Worker Monitoring and Decon Centers.

If the emergency resulted in evacuation of the general public, plant evacuees may be directed to the public reception center for monitoring and decontamination, as appropriate.

F3	ONSITE RADIOLOGICAL MONITORING	NUMBER: F3-14.1
		REV: 12

REFERENCE USE

- *Procedure segments may be performed from memory.*
- *Use the procedure to verify segments are complete.*
- *Mark off steps within segment before continuing.*
- *Procedure should be available at the work location.*

O.C. REVIEW DATE:	OWNER:	EFFECTIVE DATE
04/20/04 SC	M. Werner	4-20-04

F3	ONSITE RADIOLOGICAL MONITORING	NUMBER: F3-14.1
		REV: 12

1.0 PURPOSE

The purpose of this instruction is to delineate the responsibilities of the onsite Radiation Survey Team in radiation exposure control (inplant and out of plant), contamination control, respiratory protection control, and food and water control.

2.0 APPLICABILITY

This instruction **SHALL** apply to all Prairie Island Radiation Protection Specialists.

3.0 PRECAUTIONS

3.1 Minimize personnel exposure by waiting in lower dose rate areas.

3.2 If survey equipment should fail, all personnel **SHALL** return to a safe area.

3.3 Periodically check dosimeters. If above your allowable limit or off scale, return to a safe area, and notify the Radiological Emergency Coordinator.

4.0 RESPONSIBILITIES

4.1 The Radiological Emergency Coordinator has the overall responsibility for ensuring the Radiation Protection Group is conducting onsite radiological monitoring and to brief the Emergency Director concerning onsite Radiological conditions.

4.2 The Radiation Survey Team Members have the responsibility to conduct onsite radiological monitoring in accordance with this procedure and to report radiological conditions to the REC.

5.0 DISCUSSION

The Radiation Survey Team will be available onsite within 30 minutes after notification that an emergency has been declared to augment the shift Radiation Protection Specialist. The Radiological Emergency Coordinator (REC) will direct the onsite response actions of the Radiation Survey Team. Additional Radiation Protection personnel will assume onsite responsibilities when they are relieved of offsite sampling responsibilities by sister plant personnel.

6.0 PREREQUISITES

An Alert, Site Area, or General Emergency has been declared.

7.0 PROCEDURE

The Emergency Director **SHALL** direct the Radiological Emergency Coordinator (REC) to assume responsibility for onsite radiological controls in the following areas:

7.1 Radiation Exposure Control

7.1.1 Upon activation of the onsite emergency organization, the onsite Radiation Survey Team **SHALL** perform radiation surveys (Beta and Gamma) in various onsite areas of the plant (inplant and out of plant) on a routine basis or a job specific basis ensuring that no unexpected radiation levels are encountered by emergency response personnel.

NOTES:

1. **Calculated radiation levels following a design basis accident are contained in F3-25, "Reentry".**
2. **Two (2) doserate meters should be used if radiation levels are expected to be greater than 10 REM/hr.**

7.1.2 The Radiation Survey Team **SHALL** perform Beta-Gamma radiation surveys (inplant and out of plant) as follows:

A. Energize instrument, observing proper precautions for cold weather (Table 2) when conducting out of plant surveys.

B. Allow the instruments to stabilize and complete meter checks for the instrument.

C. Turn the instrument to the highest range and scale down until a reading is observed.

NOTE:

General Area surveys conducted with meter approximately at waist level. Contact surveys of floors, valves, piping, etc. with meter adjacent to object, but not touching object.

D. Open the probe window and scan the area for a Beta-Gamma reading. This is the "Window Open" reading.

E. Close the probe window and scan the area for a Gamma reading. This is the "Window Closed" reading.

F. Calculate the Gamma and Beta dose readings as follows:

Gamma (mRem/hr) = Window Closed Reading

Beta (mRem/hr) = CF times (window open reading - window closed reading)

Where CF = Beta correction factor for instrument. If none is available, use five (5).

NOTE:	**The Beta dose rate is reported in mREM/hr assuming a quality factor of 1.**

7.1.3 Record survey results (Beta-Gamma) on survey maps and report results to REC. Use the normal inplant survey maps or PINGP Forms 603, 604, or 605 to record results.

NOTE:	**(1) β radiation levels indicate high level contamination or airborne activity.** **(2) β readings greater than 100 mREM/hr requires SCBA or respirator with GMR-I canister.** **(3) Use a RO-20 or equivalent while performing surveys onsite but out-of-plant. A β plus γ reading indicates the plume has been encountered. A γ with no β indicates the plume is elevated or dispersed. DO NOT linger in the plume longer than necessary. Refer to Table 3 for Survey Team Radiation Protection Guidelines.**

7.1.4 IF beta radiation is detected in occupied area; for example, at the Assembly Point, THEN conduct air sampling and contamination surveys as directed by the REC.

7.1.5 The REC **SHALL** review all survey results and advise the Emergency Director of significant radiation levels.

7.1.6 Survey results **SHALL** be reviewed prior to any entry into any areas of high radiation.

7.1.7 The REC **SHALL** control all radiation exposure in accordance with F3-12 "Emergency Exposure Control".

7.1.8 The Radiation Survey Team should post all areas of high radiation and implement any further controls restricting entry to the area.

7.1.9 The Radiation Protection Group **SHALL** specify the dosimetry necessary for entry into high radiation areas of the plant and write RWP's for entry.

7.2 Contamination Control

7.2.1 The Radiation Survey Team **SHALL** perform Beta-Gamma Contamination Surveys in various areas of the plant on a routine basis or a job specific basis ensuring that contamination is controlled within the limits of Table 1.

7.2.2 The Radiation Survey Team **SHALL** perform surveys for loose surface Contamination (Beta-Gamma) via smear samples on the suspected area. The smear samples **SHALL** be counted using the various equipment available.

7.2.3 Survey results **SHALL** be recorded on floor plans and routed to the REC for review.

7.2.4 The Radiation Survey Team should post all areas exceeding the limits of Table 1 and implement any controls required to restrict entry into the area.

7.2.5 Survey results **SHALL** be reviewed prior to any entry into an area of high contamination.

7.2.6 If activated, the Secondary Access Control Point RPS should specify all protective clothing requirements for entry into highly contaminated areas of the plant as directed by OSC.

7.2.7 If activated, the Secondary Access Control Point RPS **SHALL** ensure that all personnel are properly monitored prior to departure into an uncontrolled area of the plant. See F3-19 "Personnel and Equipment Monitoring and Decontamination" for requirements.

7.2.8 All equipment and vehicles exiting the controlled area of the plant **SHALL** be surveyed by the Radiation Survey Team for loose and fixed surface contamination as determined by the REC. See F3-19, "Personnel and Equipment Monitoring and Decontamination" for requirements.

7.2.9 Any necessary decontamination **SHALL** be performed in accordance with F3-19, "Personnel and Equipment Monitoring and Decontamination".

7.3 Airborne Activity Sampling

7.3.1 Obtain particulate and iodine air samples and determine radioactivity levels.

7.3.2 Estimated airborne gas activity.

NOTE:	**Based on empirical data [high containment gas activity 1982-1984], a (w/o - w/c) reading of 30 mREM/hr indicates a gas concentration of about 1E-3 µCi/cc Xe-133 Dose Equivalent. Therefore, to estimate gas activity, multiply (w/o - w/c) mR/hr times (3E-5 µCi/cc Xe-133 DE/mREM/hr) to obtain the gas concentration (µCi/cc Xe-133 DE).**

A. Obtain "window open" and "window closed" readings in area.

B. To obtain estimated gas activity, use

$$(\text{w/o - w/c})\ \text{mREM/hr} \times 3\text{E-}5\ \frac{\mu\text{Ci/cc Xe-133 DE}}{\text{mREM/hr}} = \text{Gas Activity}\ (\mu\text{Ci/cc Xe-133 DE})$$

7.3.3 Obtain gas grab sample in areas of detectable beta.

7.3.4 Report results to REC.

7.4 Respiratory Protection Program

During an emergency situation, it may become necessary to expose personnel to airborne activity levels in excess of established limits resulting in some internal exposure. Communication difficulties, large numbers of people and possible large areas of high airborne activity may negate the use of respiratory protection equipment. In addition, personnel may be exposed to airborne activity from an unexpected source. The Radiological Emergency Coordinator **SHALL** institute a whole body count/bioassy program for all personnel suspected as having been exposed to airborne activity significantly above 1 DAC. This may or may not be coordinated with a Thyro-block distribution program.

7.4.1 The Radiation Survey Team should collect routine and/or job specific airborne samples (particulate, iodine, and gas) to determine respiratory equipment requirements. Airborne samples should be analyzed using equipment at Access Control, Count Room, or EOF Count Room.

7.4.2 If the Access Control, Count Room and EOF Count Room are not available, the airborne samples should be collected and analyzed in accordance with F3-14.2, "Operations Emergency Surveys" or F3-15, "Responsibilities of Survey Teams During Airborne Releases".

NOTE:	**In case of station blackout, the OSC locker contains a battery powered air sampler.**

7.4.3 If activated, the Secondary Access Control Point RPS should specify the respiratory protection requirements for entry into any area of high airborne activity as directed by OSC.

NOTE:	**It may be such that a respirator would cause additional work time resulting in a higher whole body dose. It may be beneficial not to wear a respirator, thereby accepting a higher internal dose with a lower whole body dose. In coordination with this, Thyroid-blocking agents could be used as a dose reduction method.**

7.4.4 The REC **SHALL** implement a whole body counting program for personnel who have or may have exceeded 40 DAC hours in a week or 260 in a quarter.

NOTE:	If the Prairie Island whole body counter is not available, the REC SHALL make arrangements for a mobile whole body counter or direct the use of Monticello facilities.

7.4.5 The REC should evaluate whole body count results and determine if any further evaluation is necessary such as urinalysis and/or fecal analysis.

7.4.6 All whole body count results **SHALL** be filed for future evaluation in cases where other follow-up actions are required.

NOTE:	Whole body count results exceeding 25% of an ALI require the calculation of the resultant whole body exposure which SHALL be added to the individual's exposure history.

7.5 Food and Water Control

The Radiological Emergency Coordinator **SHALL** control the use of all food and water onsite, following a plant evacuation when large areas of the plant site could possibly be contaminated to significant levels.

7.5.1 Food

A. Following a plant evacuation, the Radiation Survey Team should restrict entry into food storage and preparation areas of the plant. These areas (lunchrooms, records room, etc.) should be posted as such.

B. The Radiation Survey Team should perform contamination surveys in these areas and ensure that the areas are free of detectable contamination, defined as:

1. < 100 dpm/100cm^2 Beta-Gamma

2. < 10 dpm/100cm^2 alpha

C. Additionally, some random items of food should be analyzed for low level contamination using the Gamma Spectrometer system.

D. The REC should review the survey results and take the following appropriate action:

1. release the food for use

2. dispose of the foods as radioactive waste

3. restrict entry into food storage areas until the area has been deconned to acceptable levels

4. adopt emergency contamination guidelines in Table 1, if necessary.

7.5.2 Water

A. The REC should control the use of all water supplies used for human consumption.

B. The Radiation Survey Team should periodically sample and analyze, using Gamma Spectrometer system, the Potable Water system for radioactive contamination. Report sample results to the REC.

C. In addition, the Radiation Survey Team should control the use of all drinking utensils and coffee pots.

D. The REC should evaluate the plant conditions and sample results and release the potable water system for unrestricted use when it is deemed safe.

Table 1 Contamination Limits

	NORMAL GUIDELINES	EMERGENCY GUIDELINES
REMOVABLE, LOOSE SURFACE DPM/100 cm^2		
$\beta\gamma$	100 DPM/100 cm^2	5000 DPM/100 cm^2
α	10 DPM/100 cm^2	500 DPM/100 cm^2
FIXED	100 CPM	500 CPM
NOTE: 100,000 DPM/100 cm^2 $\beta\gamma$ requires respiratory protection		

Based on Manual of Protective Action Guides and Protective Actions for Nuclear Accidents, EPA 400-R-92-001, May 1992, Table 7-7 Frisker response: 1mR/hr ≈ 5000 CPM Cs 137.

Table 2 Cold Weather Operation

(1) $\beta\gamma$ Portable survey instruments are located in all Emergency Centers and at both Assembly Points.

(2) α Portable survey instrument is located in the Hot cell Emergency Locker.

(3) If outside temperature is greater than 32°F (0°C), instrument use is unlimited.

(4) If outside temperature is between 32°F (0°C) and 0°F (-18°C), no instrument should be used for more than 5 minutes.

(5) If outside temperature is between 0°F (-18°C) and -20°F (-28°C), no instrument should be used for more than 2 minutes.

(6) If the outside temperature is below -20°F (-28°C), no instrument should be used unless special batteries (alkaline or Ni-CD) are in the instrument and this would increase the temperature range to -40°F (-40°C). The instrument should only be used for very short times (less than 30 seconds).

(7) The instrument should completely warm up between periods of cold weather use. Instrument warm-up may be indoors or in a heated vehicle and should take 2-5 minutes.

Table 3 Survey Team Radiation Protection Guidelines

I. Respiratory Protection

1. Radiation Survey Team members **SHALL** don respirators with GMR-I canisters, or SCBA, if

   Measured dose rates are more than 100 mREM/hr β.

2. Respiratory equipment may be removed, if

   Measured dose rates are less than 100 mREM/hr β, or as directed by the REC or RPSS.

II. Plume Dose Rates

1. Survey Teams should periodically read their personal dosimeters as determined by observed dose rates.

2. Survey Teams should not linger in areas greater than 100 mREM/hr.

3. Survey Teams should not proceed to areas greater than 1 REM/hr unless directed by the Radiological Emergency Coordinator, or the Radiation Protection Support Supervisor.

4. Survey Teams **SHALL NOT** proceed to areas exceeding 10 REM/hr.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16 REV: 18

REFERENCE USE

- *Procedure segments may be performed from memory.*
- *Use the procedure to verify segments are complete.*
- *Mark off steps within segment before continuing.*
- *Procedure should be available at the work location.*

O.C. REVIEW DATE:	OWNER:	EFFECTIVE DATE
041604SC	M. Werner	4-20-04

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

1.0 PURPOSE

This procedure describes the responsibilities of the Radiation Survey Teams during a liquid radioactive release to the environment.

2.0 APPLICABILITY

This Instruction **SHALL** apply to all members of the Prairie Island Radiation Protection Group.

3.0 PRECAUTIONS AND SPECIAL CONSIDERATIONS

3.1 Each team **SHALL** obtain information pertaining to the magnitude of the liquid release, either from the Control Room Operator, the Radiological Emergency Coordinator (REC), or the Radiation Protection Support Supervisor (RPSS).

3.2 Depending on magnitude of the Radioactive Liquid Release, the spray/mist from the cooling towers could be radioactively contaminated. Radiation Survey team members should take appropriate precautions and monitor themselves for possible contamination.

3.3 Report all liquid sample results to the REC or RPSS, in whole numbers, (i.e., with no decimal places) microcuries per milliliter.

3.4 Preface each communication with the title or name of the receiving party and then your title or name. For example: "Prairie Island TSC; Survey Team No. 1 . . . ."

After the communication is complete, request the receiving party to repeat the message, if numerical data was relayed.

End message transmission with an appropriate termination phrase. For example: "Survey Team No. 1, out."

During drills, always include the words, "THIS IS A DRILL," with each transmission.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

3.5 The normal means of transportation for survey teams during any emergency is plant vehicles. Extreme environmental conditions (blocked roads, snow, bridges out, etc.) may preclude the use of these vehicles. The following alternate transportation is available.

NOTE:	This does not prohibit the use of personal vehicles in cases where plant vehicles are not available in sufficient numbers.

3.5.1 **Power Boats -** Sheriff's Department, plant environmental monitoring team, Red Wing Police.

3.5.2 **Four Wheel Drive Vehicle** - at Prairie Island

3.5.3 **Helicopter -** Available during suitable weather conditions from charter services in Minneapolis and St. Paul. Arrangements to be made via the Emergency organization at the EOF.

3.6 The normal means of communication for survey teams is the portable radios. The normal telephone system serves as a backup communication system. Telephone numbers in the TSC for the Radiological Emergency Coordinator (REC) are:

(651) 388-1121	Local Plant
(800) 216-1986	Long Distance Plant
x4350	REC
x4334	F.T. Com.
(715) 839-0382	REC (Wisconsin)
(612) 330-7690	REC (Twin Cities)

Telephone numbers at the EOF are:

Prairie Island EOF	**Contact**	**Monticello EOF**
(651) 388-1121, Ext. 4502	Field Team Comm	(763) 295-1504
(651) 388-1165, Ext. 5244	RPSS	(763) 295-1503
(651) 388-1121, Ext. 4500	EOF Coordinator	(763) 295-1502
(651) 388-1121, Ext. 4505	EOF Count Room	(763) 295-1435

3.7 The REC, or RPSS, may determine that samples should be obtained at the Eisenhower Bridge and the Wisconsin channel. The REC, or RPSS, **SHALL** assign available individuals to obtain these samples.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

NOTE:	1. If river sampling is hindered due to ice, contact the REC, or RPSS, for further instructions. 2. Traffic control assistance on the Eisenhower Bridge should be obtained from the Red Wing Police.

3.8 The estimated main channel average river velocity is 0.75 mph, therefore:

A. time to reach Lock & Dam No. 3 is 2 hours.

B. time to reach Eisenhower Bridge is 9 hours.

3.9 Check meter batteries by switching to BATTERY CHECK position. Replace if necessary.

3.10 Meters checks **SHALL** be completed prior to use.

3.11 Observe the cold weather operation restrictions (Attachment C).

3.12 All samples **SHALL** be labeled properly with the required information and saved for further analysis.

4.0 RESPONSIBILITIES

4.1 The REC and the RPSS have the responsibility to determine sample priorities and to direct the Radiation Survey teams sampling.

4.2 The Radiation Survey teams have the responsibility to conduct sampling during a radioactive liquid release in accordance with this procedure.

4.3 The Radiation Team communicator has the responsibility to maintain communications between the Radiation Survey Teams and the REC in the TSC or the RPSS in the EOF.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

5.0 DISCUSSION

There are three radiation survey teams. Two (2) teams perform offsite surveys and another team provides onsite coverage. Each offsite Survey Team as a minimum requires one (1) Survey Team Member. A second Survey Team Member is desirable. Another person maybe assigned as a driver. All team members report to the Operation Support Center (OSC) for assignment by the Radiological Emergency Coordinator (REC). Other personnel can be used to assist Survey Team Members. The Survey Team Member has the responsibility to ensure proper survey and sampling technique and to perform field calculations.

In the event of an offsite liquid release, the Radiological Emergency Coordinator (REC) may request support for offsite surveys from Monticello. When the Monticello Field Teams arrive at the Prairie Island Near-Site EOF, they will be provided Prairie Island radios if necessary and they will accept the responsibility for offsite surveys and sampling. This allows the Prairie Island personnel to augment the Onsite Radiological Survey Team. All offsite surveys will continue under the direction of the EM at the Prairie Island Near-Site EOF, with the Offsite Survey Teams reporting their activities to the RPSS.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

6.0 EQUIPMENT AND PERSONNEL REQUIRED

NOTE:	1. Personnel listed as Team I or Team II may respond as either team to ensure staffing of the Field Survey Teams is satisfied expeditiously. 2. Rad Protection Supervisors SHALL report to the OSC and assume on-site responsibilities as directed by the Radiological Emergency Coordinator (REC).

6.1 Team Members

Personnel trained in performing surveys.

6.2 Team Equipment Required

6.2.1 Field Teams 1 & 2 (Offsite Survey Teams)

A. Vehicle (plant or personal)

B. Offsite sample kit (Attachment A)

6.2.2 Onsite Radiological Monitoring Team

A. Normal counting room equipment, if available

B. E.O.F. counting room equipment

C. All available onsite radiation protection equipment

7.0 PREREQUISITES

An NUE, Alert, Site Area, or General Emergency has been declared for Prairie Island Nuclear Plant, or anytime Radiation Protection Group deems necessary.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16 REV: 18

8.0 PROCEDURE

8.1 All members of Radiation Survey Teams should assemble in the Operational Support Center, unless directed by the Emergency Director or the Radiological Emergency Coordinator (REC):

8.2 Field Teams 1 & 2 (Offsite Survey Teams)

8.2.1 **Obtain** the necessary information from the Control Room Operator or TSC personnel regarding the type and amount of release, etc.

8.2.2 **Designate** two (2) members for Team 1 and two (2) members for Team 2 (if available) to perform offsite surveys.

NOTE:	**Any available plant personnel may be designated as the driver for a single team member.**

8.2.3 **Obtain** a plant vehicle or personal vehicle.

8.2.4 **Obtain** the necessary equipment (Attachment A), from the NPD Office Building equipment locker or EOF.

8.2.5 **Obtain** TLD's and dosimeters for each Team member.

NOTE:	**Survey Team Members should keep their personal TLD's if departing from the plant site.**

8.2.6 **Ensure** dosimeter is < 25% of scale and **record** readings on the dosimeter signout sheet.

8.2.7 IF vehicle with installed radio is NOT available, THEN **obtain** a portable radio, and magnetic antenna from EOF Receiving Area.

8.2.8 **Test** the operation of the radios (on channel 13, Rad Team 1) and meter check all meters prior to departing. **Refer** to Attachment C, if cold weather is a consideration.

8.2.9 **Perform** offsite surveys as directed by REC or RPSS.

A. Team 1 will **proceed** to the Lock & Dam No. 3 and **obtain** a one liter sample every 15 minutes from the downstream side of roller gate area or as directed by the REC or RPSS. **Refer** to Attachment B for sampling instructions.

B. Team 2 will **proceed** to the Discharge Canal, at the Cooling Tower Discharge gates and Recycle gates, and **obtain** one liter samples from the Discharge Canal and Recycle Canal every 15 minutes or as directed by the REC, or RPSS. Liquid samples may be requested near the Discharge Canal outlet to the river at the Cooling Tower Sluice gates. **Refer** to Attachment B for sampling instructions.

NOTE:	**If river sampling is hindered due to ice, contact the Radiological Emergency Coordinator, or RPSS, for further instructions.**

NOTE:	**On PINGP 647 columns that do NOT apply may be N/A, a down arrow (↓) may be used to repeat data.**

8.2.10 **Document** all survey data on PINGP 1225, Emergency Sample Label, and on PINGP 647, Field Team Communicator Emergency Sample Results Log, or PINGP 598, Emergency Center Narrative Log.

8.2.11 **Report** results to the REC or the RPSS, via the portable radio or telephone.

8.2.12 **Label** bottles correctly for further analysis and storage at the plant site.

8.2.13 One team member **SHALL** continue the sampling schedule while the other member transports the samples to the location designated by REC or RPSS for pickup by Sample Courier. Additional bottles may also be obtained at this location.

8.2.14 Continue sampling as directed by the REC or RPSS.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

NOTE	Any available plant personnel may be designated as the driver for a single team member.

8.3 Onsite Radiological Monitoring Team

8.3.1 **Perform** all operations requested by the Emergency Director (ED) or REC.

8.3.2 **Control** radiation exposure onsite (internal and external).

8.3.3 **Analyze** samples obtained by the onsite and offsite survey teams, using the Count Room facilities and/or the E.O.F. count room facilities.

8.3.4 **Store** all samples for future analysis.

8.3.5 **Perform** onsite surveys as requested by the Emergency Director and/or REC per F3-14.1, Onsite Radiological Monitoring.

8.3.6 **Perform** required personnel monitoring at the emergency operating centers and **supervise** any necessary personnel decontamination per F3-19, Personnel and Equipment Monitoring and Decontamination.

8.3.7 One member may be designated as a runner to pickup all samples at the designated locations from Team No. 1 and Team No. 2. Nuclear Plant Service Attendants may be used as sample couriers.

8.3.8 **Assist** plant operations in minimizing and controlling the release.

8.3.9 All results **SHALL** be reported to the REC or ED via the available communication system.

8.4 Radiation Field Team Communicator

8.4.1 **Report** to the Technical Support Center when the emergency is declared, and **utilize** PINGP 1156, TSC Field Team Communicator Checklist.

8.4.2 **Obtain** current plant status, release information and meteorological data.

8.4.3 **Establish** communications with the Survey Teams, using the TSC Console in the REC area.

A. **Identify** team as PI Team No. 1, etc.

B. **Obtain** team member names.

C. IF radio communication NOT possible, THEN survey teams will utilize telephone system.

D. **Update** teams with present plant status, release information, met data, etc.

NOTE:	1. **When communicating with the survey teams, preface each communication with the title or name of the receiving party.** 2. **During drills, always include the words, "THIS IS A DRILL", with each transmission.**

8.4.4 **Dispatch** Survey Team No. 1 to Lock and Dam No. 3 and Survey Team No. 2 to the Discharge Canal or as directed by the REC or ED. (See Step 8.2.9.A and Step 8.2.9.B). **Refer** to PI Survey Team Liquid Sample map for assistance.

8.4.5 **Log** pertinent information and Survey Team Results on the REC Log, PINGP 598, Emergency Center Narrative Log, or PINGP 647, Field Team Communicator Emergency Sample Results Log.

NOTE:	**If numerical results are communicated, repeat results for verification from survey teams.**

8.4.6 **Instruct** the Survey Teams to return samples to the Plant or EOF Count Room for analysis, or dispatch a sample courier.

8.4.7 **Compare** offsite monitoring results for consistency. **Re-monitor** areas of concern, as required.

8.4.8 **Update** the Field Survey Teams periodically with:

A. Emergency Classification

B. Plant status

C. Release information

D. Meteorological data

8.4.9 IF radiation exposure to personnel exists, THEN **direct** the Survey Teams periodically to read their dosimeters, and log results.

8.4.10 **Instruct** the Prairie Island Survey Teams to report to the OSC for onsite assignments, when the RPSS and the Monticello Survey Teams assume responsibility for offsite surveys.

Attachment A Offsite Survey Team Equipment Package

1.0 Each offsite survey team should be equipped with a kit of the following:

- Dose rate instrument RO-2 or equivalent
- Count rate instrument RM-14 or equivalent
- 2" GM pancake probe
- Battery powered air sampler
- Personnel self-reading dosimeters (Low Range)
- Personnel self-reading dosimeters (High Range)
- TLD's (if individuals have a normally assigned TLD, they should wear those assigned)
- Plastic Sample Bags
- Garbage bags
- Paper towels
- Masking tape
- Silver zeolite adsorbers
- GMR-I canisters
- Full Face respirators
- Gas Sample Chambers
- Filter assembly (gas sampler)
- Suction bulb (gas sampler)
- Filter paper (gas sampler)
- One liter poly bottles
- Four inch air sampler filter papers

Attachment A Offsite Survey Team Equipment Package

- Survey sample labels
- IF NOT using vehicles with a radio installed, THEN pick up spare radio in EOF or get radio from Monti.
- Portable Radio Antenna Adapter (Connects antenna directly to hand held portable radio in event of radio booster unit failure)
- Flashlight
- D-Cell batteries
- Potassium Iodine tablets (Thyroid Blocking Agent)
- Orange Safety Vests
- Tweezers
- Anti-C Clothing
- Life Jackets
- Compass
- Clipboard
- Pens
- Pad of paper (8-1/2" X 11" minimum size)
- Road map of State of Minnesota
- Road map of State of Wisconsin
- Umbrella
- Watch or clock
- Calculator
- Foul weather (rain) gear

Attachment A Offsite Survey Team Equipment Package

- Line (100 feet)
- Weighted poly bottle holder
- Snow Scoop
- Surgeon gloves

2.0 The Procedures Binder contains:

- Ground Deposition Sample Results Log Forms
- Plume Search Survey Log Forms
- Copy of F3-15, "Responsibilities of the Radiation Survey Teams During a Radioactive Airborne Release"
- Copy of F3-16, "Responsibilities of the Radiation Survey Teams During a Radioactive Liquid Release"
- Copy of F3-22, "Prairie Island Radiation Protection Group Response to a Monticello Emergency"
- Narrative Log

3.0 Prairie Island and Monticello Emergency Plan Map Sets

4.0 Aluminum Form clipboard/holder:

- Field Team Air Sample Results Forms

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
		REV: 18

Attachment B Liquid Sampling

1.0 Precautions

1.1. Always collect full one liter bottles.

1.2. For samples at the outfall or point of discharge, assume that the bottle, weighted sampler and rope could possibly be slightly contaminated. Surgeons gloves should be worn at this sample point and bottles be placed in a plastic bag.

1.3. Observe cold weather operation instructions (Attachment C).

1.4. Estimation of gross liquid activity **SHALL** be made with probe in position shown on applicable activity curve table.

1.5. All meter readings **SHALL** be corrected count rates (subtract background).

2.0 Procedure

2.1. **Obtain** a one liter poly sample bottle of liquid from the desired sample location.

NOTE:	**Place poly bottle in sample rig in such a position that it will not float out.**

2.2. **Throw** the weighted sampler into an area of water which will supply a representative sample.

2.3. **Collect** a FULL one liter sample of liquid.

2.4. **Withdraw** the weighted sampler and cap the sample bottle.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
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Attachment B Liquid Sampling

NOTE:	Observe precautions as sampler may be contaminated.

2.5. **Label** bottle properly.

2.6. **Place** labeled bottle in plastic bag.

2.7. **Estimate** the gross liquid activity by the following methods:

2.7.1 Using RM-14 or equivalent with 2"GM Pancake Probe - **position** the probe at midpoint on the one liter sample bottle as shown on Table on Figure 1.

2.7.2 Using the corrected count rate obtained on the instrument, **estimate** gross activity in µCi/ml Figure 1.

2.8. **Record** results on PINGP 1225, Emergency Sample Label, and on PINGP 647, Field Team Communicator Emergency Sample Results Log, or PINGP 598,Emergency Center Narrative Log.

2.9. **Report** the results to the REC or the RPSS.

2.10. **Save** all samples for further analysis.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
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Attachment C Cold Weather Operation

1. IF outside temperature is greater than 32°F (0°C), THEN instrument use is unlimited.

2. IF outside temperature is between 32°F (0°C) AND 0°F (-18°C), THEN no instrument should be used for more than 5 minutes.

3. IF outside temperature is between 0°F (-18°C) AND -20°F (-28°C), THEN no instrument should be used for more than 2 minutes.

4. IF the outside temperature is below -20°F (-28°C), THEN no instrument should be used unless special batteries (alkaline or Ni-CD) are in instrument and this would increase the temperature range to -40°F(-40°C). The instrument should only be used for very short times (less than 30 seconds).

5. The instrument should completely warm up between periods of cold weather use. Instrument warm-up may be indoors or in a heated vehicle and should take 2 - 5 minutes.

F3	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	NUMBER: F3- 16
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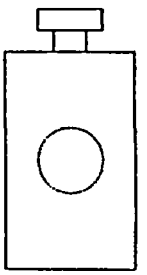
Figure 1
Gross Liquid Activity Table Using RM-14 or Equivalent With HP-210 Probe



CCPM	uCi/ml
100	1.E-04
120	2.E-04
140	2.E-04
160	2.E-04
180	2.E-04
200	3.E-04
220	3.E-04
240	3.E-04
260	3.E-04
280	3.E-04
300	4.E-04
350	4.E-04
400	5.E-04
450	5.E-04
500	6.E-04

CCPM	uCi/ml
600	7.E-04
700	8.E-04
800	8.E-04
900	9.E-04
1000	1.E-03
1200	1.E-03
1400	1.E-03
1600	2.E-03
1800	2.E-03
2000	2.E-03
2200	2.E-03
2400	2.E-03
2600	2.E-03
2800	3.E-03

CCPM	uCi/ml
3000	3.E-03
3500	3.E-03
4000	3.E-03
4500	4.E-03
5000	4.E-03
6000	5.E-03
7000	5.E-03
8000	6.E-03
9000	7.E-03
10000	7.E-03