NMC
Committed to Nuclear Excellence

Mano K. Nazar
Site Vice President
Prairie Island Nuclear Generating Plant
Nuclear Management Company, LLC
1717 Wakonade Dr. East • Welch MN 55089

December 19, 2002 10 CFR 50.4

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

PRAIRIE ISLAND NUCLEAR GENERATING PLANT
Docket Nos. 50-282 License Nos. DPR-42
50-306 DPR-60

Prairie Island Emergency Plan Implementing Procedures

Furnished with this letter are the recent changes to the Prairie Island Nuclear Generating Plant Emergency Plan Implementing Procedures F3 and the EOF Emergency Plan Implementing Procedures F8. This submittal includes the following documents:

INDEXES:
Emergency Plan Implementing Procedures TOC
EOF Emergency Plan Implementing Procedures TOC

REVISIONS:

F3-5	Emergency Notifications	Rev. 21
F3-8	Recommendations for Offsite Protective Actions	Rev. 20
F3-8.1	Recommendations for Offsite Protective Actions for the On Shift Emergency Director / Shift Manager	Rev. 13
F3-9	Emergency Evacuation	Rev. 18
F8-1	Emergency Operations Facility Organization	Rev. 7

DELETIONS:
None

TEMPORARY CHANGE DELETIONS:
None

INSTRUCTIONS:
Please post changes in your copies of the Prairie Island Nuclear Generating Plant Emergency Plan Implementing Procedures (F3 & F8). Procedures, which have been superseded or deleted, should be destroyed. Please sign and return the acknowledgment of this update to Bruce Loesch, Prairie Island Nuclear Generating Plant, 1717 Wakonade Drive East, Welch, MN 55089.

A045

As per 10 CFR 50.4, two copies have also been provided to the Regional III Office and one to the NRC Resident Inspector. If you have any questions, please contact Mel Agen at 651-388-1121 Extension 4240.

Mano K. Nazar
Site Vice President
Prairie Island Nuclear Generating Plant

c: USNRC – Steve Orth, Region III (2 copies)
NRC Resident Inspector (w/o attachment)

Mfst Num: 2002 - 0957 Date : 11/25/02
FROM : Bruce Loesch/Mary Gadient Loc : Prairie Island
TO : UNDERWOOD, BETTY J
Copy Num: 515 Holder : US NRC DOC CONTROL DESK
SUBJECT : Revisions to CONTROLLED DOCUMENTS
****

Procedure #	Rev	Title

Revisions:
==========

F3-9	18	EMERGENCY EVACUATION
F3-8	20	RECOMMENDATIONS FOR OFFSITE PROTECTIVE AC
F3-5	21	EMERGENCY NOTIFICATIONS
F3-8.1	13	RECOMMENDATIONS FOR OFFSITE PROTECTIVE AC THE ON SHIFT EMERGENCY DIRECTOR /SHIFT MA

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 _____

PRAIRIE ISLAND NUCLEAR GENERATING PLANT	Title: Emergency Plan Implementing Procedures TOC Effective Date : 11/25/02
Approved By: Joyce Christy /BZ BPS Supt	

Document #	Title	Rev
F3-1	ONSITE EMERGENCY ORGANIZATION	19
F3-2	CLASSIFICATIONS OF EMERGENCIES	30
F3-3	RESPONSIBILITIES DURING A NOTIFICATION OF UNUSUAL EVENT	18
F3-4	RESPONSIBILITIES DURING AN ALERT, SITE AREA, OR GENERAL EMERGENCY	28
F3-5	EMERGENCY NOTIFICATIONS	21
F3-5.1	SWITCHBOARD OPERATOR DUTIES	8
F3-5.2	RESPONSE TO FALSE SIREN ACTIVATION	9
F3-5.3	RESPONSE TO RAILROAD GRADE CROSSING BLOCKAGE	8
F3-6	ACTIVATION & OPERATION OF TECHNICAL SUPPORT CENTER	16
F3-7	ACTIVATION & OPERATION OF OPERATIONAL SUPPORT CENTER (OSC)	15
F3-8	RECOMMENDATIONS FOR OFFSITE PROTECTIVE ACTIONS	20
F3-8.1	RECOMMENDATIONS FOR OFFSITE PROTECTIVE ACTIONS FOR THE ON SHIFT EMERGENCY DIRECTOR /SHIFT MANAGER	13
F3-9	EMERGENCY EVACUATION	18
F3-10	PERSONNEL ACCOUNTABILITY	19
F3-11	SEARCH & RESCUE	8
F3-12	EMERGENCY EXPOSURE CONTROL	14
F3-13	OFFSITE DOSE CALCULATION	15
F3-13.3	MANUAL DOSE CALCULATIONS	11
F3-13.4	MIDAS METEOROLOGICAL DATA DISPLAY	7
F3-13.5	ALTERNATE METEOROLOGICAL DATA	5

Document #	Title	Rev
F3-13.6	WEATHER FORECASTING INFORMATION	11
F3-14.1	ONSITE RADIOLOGICAL MONITORING	11
F3-14.2	OPERATIONS EMERGENCY SURVEYS	9
F3-15	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE AIRBORNE RELEASE	22
F3-16	RESPONSIBILITIES OF THE RADIATION SURVEY TEAMS DURING A RADIOACTIVE LIQUID RELEASE	17
F3-17	CORE DAMAGE ASSESSMENT	9
F3-18	THYROID IODINE BLOCKING AGENT (POTASSIUM IODIDE)	10
F3-19	PERSONNEL & EQUIPMENT MONITORING & DECONTAMINATION	7
F3-20	DETERMINATION OF RADIOACTIVE RELEASE CONCENTRATIONS	17
F3-20.1	DETERMINATION OF STEAM LINE DOSE RATES	9
F3-20.2	DETERMINATION OF SHIELD BUILDING VENT STACK DOSE RATES	9
F3-21	ESTABLISHMENT OF A SECONDARY ACCESS CONTROL POINT	10
F3-22	PRAIRIE ISLAND RADIATION PROTECTION GROUP RESPONSE TO A MONTICELLO EMERGENCY	16
F3-23	EMERGENCY SAMPLING	18
F3-23.1	EMERGENCY HOTCELL PROCEDURE	12
F3-24	RECORD KEEPING DURING AN EMERGENCY	7
F3-25	REENTRY	8
F3-26.1	OPERATION OF THE ERCS DISPLAY	7
F3-26.2	RADIATION MONITOR DATA ON ERCS	7
F3-26.3	ERDS - NRC DATA LINK	1
F3-29	EMERGENCY SECURITY PROCEDURES	18
F3-30	TRANSITION TO RECOVERY	6

Document #	Title	Rev
F3-31	RESPONSE TO SECURITY RELATED THREATS	6
F3-32	REVIEW OF EMERGENCY PREPAREDNESS DURING OR AFTER NATURAL DISASTER EVENTS	2

F3	EMERGENCY EVACUATION	NUMBER: F3-9 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
11/18/02 SC	M. Werner	11-25-02

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.

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, PROCEDURE UNTIL RADIATION PROTECTION GROUP DETERMINES DIFFERENTLY.**

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

LOCAL EVACUATION FROM THESE AREAS	NORMAL WORK HOURS AND OUTAGE ASSEMBLY AREA FOR ACCOUNTABILITY	OFF HOURS NON-OUTAGE ASSEMBLY AREA FOR ACCOUNTABILITY
Containment Spent Fuel Pool	735' Basketball Court	735' Basketball Court
Aux Bldg	Access Control HP Office	Operational Support Center (OSC) or Security Building (Guardhouse)
Old Admin Turb Bldg New Admin NPD SBO Office Trailers Contractor Fab Shop Warehouse #1 Contractor Trailers	Initiate Plant Evacuation	

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) 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, 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 **SHALL** be completed within 30 minutes after the evacuation alarm is sounded.

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. 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 outs 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.

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 and 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

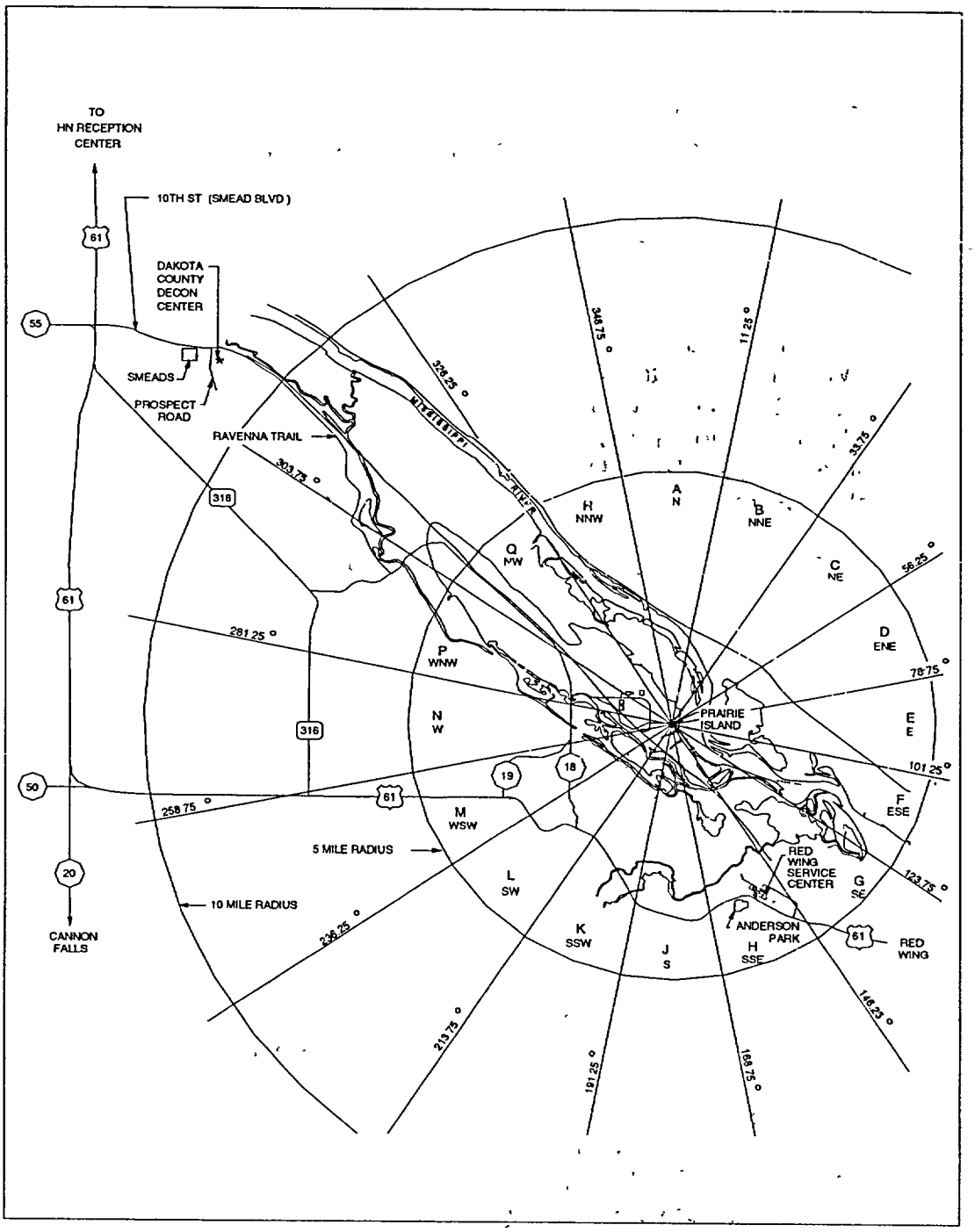


Figure 1, Site Evacuation Instructions
Evacuation Routes

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.

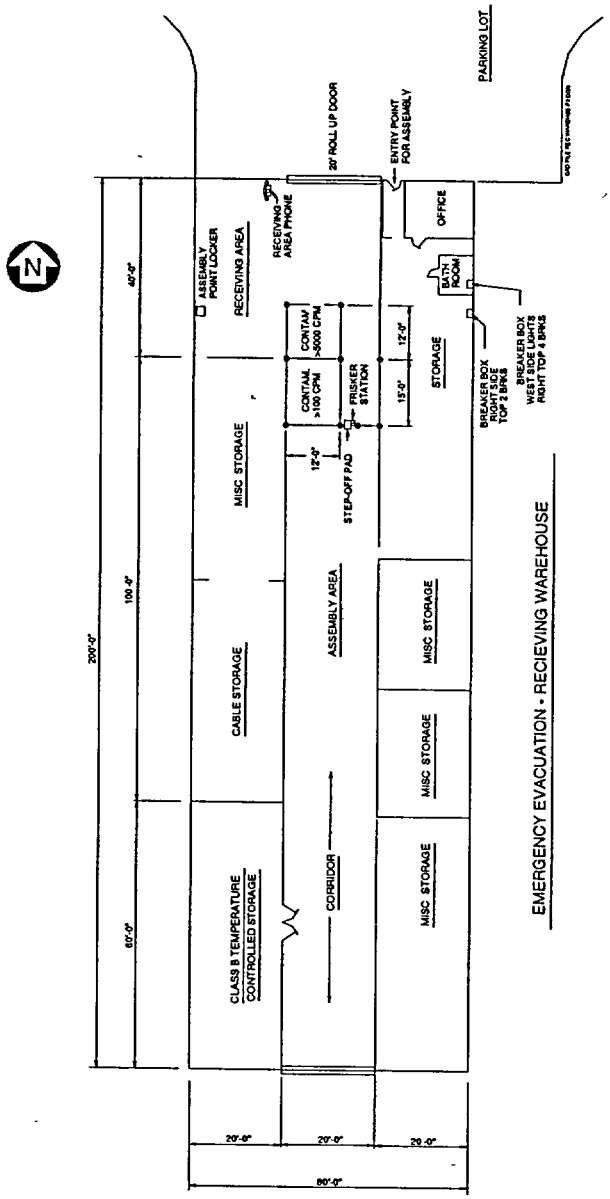
To Hastings Public Works Building using Ravenna Trail

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



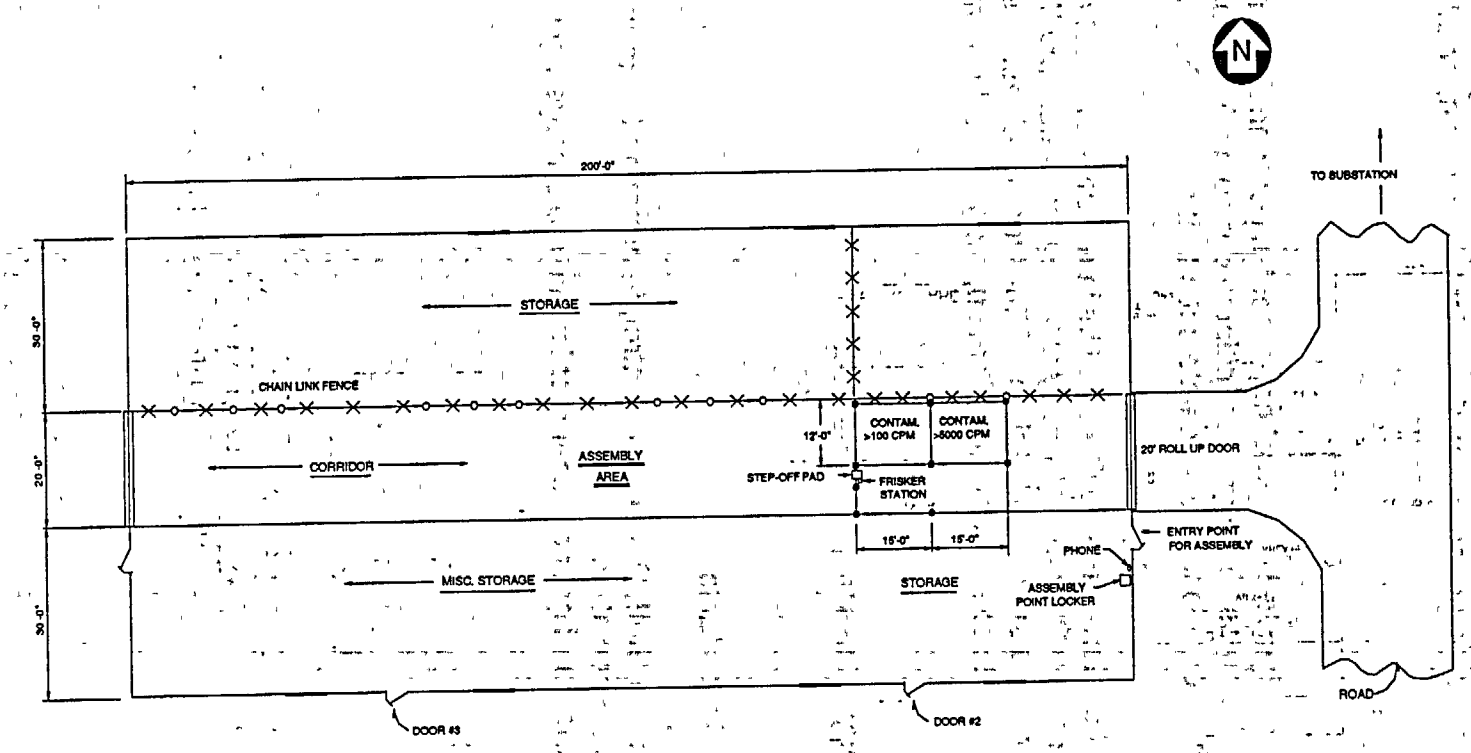
EMERGENCY EVACUATION - RECEIVING WAREHOUSE				
PRAIRIE ISLAND NUCLEAR PLANT RED WING, MINNESOTA	DRAWN BY JLB	REVISION 0	F3-9	
	CNTRL NO	DATE 2-22-02	FIGURE 2	PG 1 OF 1

F3

EMERGENCY EVACUATION

NUMBER: F3-9
REV: 18

Figure 3 North Warehouse



EMERGENCY EVACUATION - 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 log 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	RECOMMENDATIONS FOR OFFSITE PROTECTIVE ACTIONS	NUMBER: F3-8
		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
11/22/02 SC	M. Werner	11-25-02

TABLE OF CONTENTS

Section	Title	Page
1.0	PURPOSE	3
2.0	APPLICABILITY	3
3.0	PRECAUTIONS	3
4.0	RESPONSIBILITIES	4
5.0	DISCUSSION	4
6.0	PREREQUISITES	4
7.0	PROCEDURE	5
7.1	Protective Action Recommendations for Liquid Releases	5
7.2	Protective Action Recommendations During a Site Area Emergency	7
7.3	Protective Action Recommendation For A General Emergency	8
7.4	Protective Action Recommendations Based On Offsite Dose Projections	9

LIST OF FIGURES

Figure 1 Criteria for Determining Protective Actions During a Liquid Release 12

Figure 2 Recycle Canal Activity 13

Figure 3 General Emergency Protective Actions Recommendations 14

Figure 4 Summary of Protective Action Guidelines (PAGs) 15

Figure 5 Containment Dose Rate Versus Time 16

Figure 6 Evacuation Time Estimate Summary 17

Figure 7 Permanent Resident Population Estimates 18

LIST OF ATTACHMENTS

Attachment 1 General Discussion of PARS 19

Attachment 2 Definitions Related to PARS 24

1.0 PURPOSE

The purpose of this procedure is to provide guidance for formulating offsite Protective Action Recommendations (PARs) for the general public during the early and intermediate phases of a radiological emergency.

2.0 APPLICABILITY

This instruction **SHALL** apply to Radiological Emergency Coordinators (REC), non-shift Emergency Directors (ED), Radiation Protection Support Supervisors (RPSS) and Emergency Managers (EM).

3.0 PRECAUTIONS

3.1 Declaration of a General Emergency requires immediate initial Protective Action Recommendations (PARs) to offsite agencies. Under these circumstances, NO dose projections are required for formulating the initial offsite protective action recommendation.

3.2 Implementation of protective actions for offsite areas is the responsibility of the State of Minnesota and the State of Wisconsin. If it is determined, by the ED, that, immediate protective actions are required, and the State EOC's are not activated, the ED **SHALL** authorize such recommendations to be made directly to the offsite authorities. Once the State EOC's are activated, all protective action recommendations **SHALL** be made to the State EOC's.

3.3 It is the responsibility of the county and state agencies and the National Weather Service to notify members of the Prairie Island Indian Community of approved protective actions. Protective action notification is accomplished by the activation of the Public Alert and Notification System (PANS).

3.4 Offsite protective actions for the ingestion exposure pathway (ingestion of contaminated food and water) will be determined and implemented by the appropriate offsite authorities during the intermediate phase of an emergency.

4.0 RESPONSIBILITIES

4.1 The ED is responsible to implement this procedure and has the non-delegatable authority to authorize offsite protective action recommendations until activation of the EOF.

4.2 Upon activation of the EOF, the EM **SHALL** assume the non-delegatable authority and responsibility of offsite protective action recommendations.

4.3 The REC, once activated, **SHALL** be responsible to promulgate protective action recommendations and **SHALL** channel all such recommendations through the ED for approval. The REC **SHALL** continue to formulate protective action recommendations until relieved of that responsibility by the RPSS.

5.0 DISCUSSION

5.1 General Discussion of PARs - See Attachment 1.

5.2 Definitions Related to PARs - See Attachment 2.

6.0 PREREQUISITES

6.1 A General Emergency has been or will be declared.

6.2 A Site Area Emergency has been or will be declared and there is an actual or potential airborne radioactive release that meets or exceeds the PAGs.

6.3 An Alert or Site Area Emergency has been or will be declared and there is an actual or potential liquid radioactive release that meets or exceeds the PAGs.

7.0 PROCEDURE

7.1 Protective Action Recommendations for Liquid Releases

7.1.1 The REC **SHALL:**

A. **Determine** the source of the liquid release.

B. **Estimate** the activity released and expected duration of the release, if known.

NOTES:

1. **The probability of a radioactive liquid release to the river via the discharge canal that would meet the established preventative or protective action level is extremely small. Based on a maximum blowdown to the river of 1360 cfs, minimum river flow of 7000 cfs, the discharge canal activity concentration would have to exceed 0.01 µCi/ml (assuming all Na-24) to approach the preventative action level swimmer dose rate.**
2. **No withdrawal of river water for city water supply occurs for at least 300 miles downstream.**
3. **Minor withdrawals of river water for irrigation purposes does occur, the nearest being 53 miles downstream.**
4. **The estimated main channel average river velocity is 0.75 mph, therefore from sluice gates:**
   a. **Time to reach Lock & Dam #3 is about 80 minutes.**
   b. **Time to reach Eisenhower Bridge is 7 hours.**

C. **Assess** the river's main channel activity by running a liquid dose projection program "LI" on MIDAS or performing a manual liquid dose calculation. **See** RPIP 6310, Liquid Dose Calculations, for liquid dose projection calculation directions.

D. IF appropriate, THEN **initiate** the PINGP 585, Protective Action Recommendation Checklist. **Refer** to Figure 1 for guidance.

E. **Initiate** a 3-way conference call with the Minnesota Program & Assessment Center (PAC) Planning Leader and the Wisconsin State Radiological Coordinator to discuss possible Protective Action Recommendations.

F. **Forward** PINGP 585 and **discuss** the Recommended Protective Actions with the ED.

7.1.2 Prior to or simultaneously with the transmittal of Protective Action Recommendations, the ED should **ensure** that a 3-way conference call with the Minnesota PAC Planning Leader, the Wisconsin Radiological Coordinator, and the REC has occurred or is occurring reviewing the basis for the PARs.

7.1.3 The ED **SHALL authorize** the Protective Action Recommendation, PINGP 577 and **direct** the SEC to notify state and local authorities using PINGP 577.

7.1.4 **Consider** possible onsite measures to stop or minimize the liquid release, for example:

A. IF activity/release is in the recirc canal, THEN **consider** terminating use of the cooling towers to prevent activity from becoming airborne. (**Refer** to Figure 2).

B. IF activity/release is in the discharge canal piping (15,000 gal capacity), THEN **stop** all pipe flushing or other releases through the discharge pipe. **Consider** pumping the contaminated liquid back into the plant for processing.

C. IF activity/release is in the discharge canal, THEN **consider** closing down on the sluice gates to attempt to contain the activity in the recirc canal and/or minimize the activity being released to the river.

7.1.5 **Continue** assessment and **update** the protective action recommendation, as appropriate.

7.1.6 Verification should be made with the state authorities, regarding actual Protective Actions being implemented and the affected populace.

7.2 Protective Action Recommendations During a Site Area Emergency

7.2.1 NO offsite PARs for the general public are warranted during a Site Area Emergency unless the offsite dose projections exceed the Protective Action Guides listed in Figure 4.

7.2.2 Nearsite Special Population Precautionary PARs

A. Precautionary recommendations may be warranted for the nearsite special population (Treasure Island (TI) Casino) under certain conditions.

- IF the Site Area Emergency is based on any of the following EAL #'s: 2C, 4D, 4E, 5C, 7C, 7D, 8E, or 16C, THEN a recommendation of SHUTDOWN OF CASINO AND DISMISSAL OF CASINO PATRONS should be completed.

B. After the declaration of a Site Area Emergency, the RPSS (or REC if EOF is not activated) should follow action of PINGP 585.

7.2.3 Consideration should be given to Protective Action Recommendations for the general public during serious flooding conditions.

A. A recommendation to relocate people in areas with restricted egress due to flooding within a ten (10) mile radius of the plant should be made at the Site Area Emergency level if it is clear we are not to de-escalate from the SAE in less than 2 hours. This is to ensure that should the event escalate to a General Emergency, people are already relocated from areas where additional evacuation time would be required.

B. Each county sheriff's department is aware of those areas in which there are restrictions to normal evacuation routes.

7.3 Protective Action Recommendation For A General Emergency

NOTES:

1. **DO NOT DELAY Protective Action Recommendations during GENERAL EMERGENCY conditions. No dose projections are required.**
2. **If the 10 meter wind speed <5mph, all sectors should be designated.**
3. **If the 10 meter wind speed ≥5mph, the 10 meter and 60 meter sensors should be used to best describe wind direction and speed for the river valley and bluffs, respectively.**
4. **If the 22 meter met tower is used for wind direction, all sectors should be designated.**

7.3.1 **Refer** to Figure 3, GENERAL EMERGENCY PROTECTIVE ACTION GUIDELINES, for immediate Protective Action Recommendations.

7.3.2 The REC **SHALL document** the Protective Action Recommendations and reclassification to a General Emergency on the PINGP 577.

7.3.3 The REC **SHALL forward** PINGP 577 and **discuss** the Protective Action Recommendations with the Emergency Director.

NOTE:

Prior to activation of the State EOC's, Protective Action Recommendations SHALL be issued to state, tribal, and local authorities.

7.3.4 Prior to or simultaneously with the transmittal of Protective Action Recommendations, the ED should **ensure** that a 3-way conference call with the Minnesota PAC Planning Leader, the Wisconsin Radiological Coordinator, and the REC has occurred or is occurring reviewing the basis for the Protective Action Recommendations.

7.3.5 The ED **SHALL authorize** PINGP 577, and **direct** the SEC to notify state and local authorities using PINGP 577.

7.3.6 **Continue** with assessment of dose projection results and meteorological conditions. **Update** the Protective Action Recommendations, as necessary.

7.3.7 **Verify** with state authorities, actual Protective Actions being implemented and the affected populace.

7.4 Protective Action Recommendations Based On Offsite Dose Projections

7.4.1 IF there is an actual release or potential for release, THEN **obtain** the offsite dose projection data utilizing F3-13, Offsite Dose Calculations.

NOTES:

1. **If the 10 meter wind speed <5mph, all sectors should be designated.**
2. **If the 10 meter wind speed ≥5mph, the 10 meter and 60 meter sensors should be used to best describe wind direction and speed for the river valley and bluffs, respectively.**
3. **If the 22 meter met tower is used for wind direction, all sectors should be designated.**
4. **Weather forecast information may be obtained by calling the National Weather Service by telephone. (See F3-13.6, "Weather Forecasting Information", for instructions).**

7.4.2 Using current meteorological data, **determine** the plume direction and wind speed.

NOTE:

A potential release of the airborne activity in containment (for LOCA type accidents) may be estimated by converting the R48/R49 Containment Radiation Monitor readings (R/Hr) to containment activity concentrations (μCi/cc Xe133 Equivalent) by using Figure 5, "Containment Dose Rate Versus Time."

7.4.3 Based on plant conditions, **estimate** the duration of the release (applies to releases in progress or potential releases).

7.4.4 Using the data obtained above, **estimate** the projected doses to the offsite population.

7.4.5 **Determine** the appropriate Protective Action Recommendation by comparing the projected offsite doses with the Protective Action Guides listed in Figure 4.

7.4.6 The REC **SHALL document** all Protective Action Recommendations on the PINGP 577.

7.4.7 The REC **SHALL forward** and **discuss** the Recommended Protective Actions with the ED.

NOTE:	**Prior to activation of the State EOC's, Protective Action Recommendations SHALL be issued to state and local authorities.**

7.4.8 Prior to or simultaneously with the transmittal of Protective Action Recommendations, the ED should **ensure** that a 3-way conference call with the Minnesota PAC Planning Leader, the Wisconsin Radiological Coordinator, and the REC has occurred or is occurring reviewing the basis for the Protective Action Recommendations.

7.4.9 The ED **SHALL authorize** the Protective Action Recommendation and **direct** the SEC to fax PINGP 577 to state and local authorities, as appropriate.

7.4.10 IF dose projection results or meteorological conditions change significantly, THEN **re-evaluate** the recommended protective action and, if necessary, **update** the recommendation.

Significant meteorological changes would be:

A. Wind direction change that would cause a different geopolitical sub area to be affected.

- In this situation all previous sectors and geopolitical areas are included with new affected sectors and geopolitical areas.
- IF the wind direction change does not require a new geopolitical area to be added the evacuated area, THEN a new PAR is not necessary. The wind shift information should be communicated in the next follow-up message to the offsite authorities.

B. Wind speed decrease to below 5 mph that would cause a new PAR to be established for 360° around the plant.

C. Wind speed or stability class change that would cause new dose projection to establish an affected area beyond a current PAR area, for example greater than 5 miles or greater that 10 miles out.

7.4.11 IF radiation survey results confirm calculated dose projections that exceed EPA 400 PAGs (1000 mrem TEDE or 5000 mrem Adult Thyroid CDE) in areas beyond 10 miles, THEN PINGP must **recommend** evacuation of the general public beyond 10 miles in those areas with the help of the offsite authorities. This will be an ad hoc formulation of an offsite protective action with collaborative assistance from MN and WI accident assessment staff. Attachment 1 further describes PARs beyond 10 miles.

7.4.12 **Verify** with state authorities, actual Protective Actions being implemented and the affected populace.

7.4.13 For more information, **consider** reviewing:

A. Figure 6, Evacuation Time Estimate Summary

B. Figure 7, Permanent Resident Population Estimates

C. Attachment 1 - General Discussion of PARs

Figure 1 Criteria for Determining Protective Actions During a Liquid Release

PROJECTED DOSE RATE (mrem/hour)	PROJECTED DOSE (mrem)	ACTION LEVEL
< 30	< 250	No action necessary
> 30	> 250	Implement preventative protective actions
> 125	> 1000	Implement emergency protective actions

NOTE:

1. **All projected dose rate action levels are based on an 8-hour release duration.**
2. **Swimmers receive the highest projected dose rate and total dose.**
3. **Use of the projected swimmers dose rate during the winter months leads to conservative PARs. Use discretion in this situation.**

RECOMMENDED PREVENTIVE PROTECTIVE ACTIONS

1. Restrict Intake of Drinking Water, and Foodstuffs Obtained from River
2. Restrict Swimming and Boating on River
3. Restrict Access to River
4. Restrict Use of River for Irrigation and Industry

RECOMMENDED EMERGENCY PROTECTIVE ACTIONS

1. Condemn Affected Foodstuffs (milk or meat from animals consuming contaminated water or foodstuffs)
2. Prevent Access to River
3. Condemn Use of River for Irrigation and Industry
4. Substitute Uncontaminated Water and Foodstuffs for Contaminated Water and Foodstuffs
5. Condemn Water Usage from River

Figure 2 Recycle Canal Activity

RECYCLE CANAL ACTIVITY – I^{131}
YIELDING 10 MR/HR AT SITE BOUNDARY
DUE TO ENTRAINMENT IN
COOLING TOWER PLUME

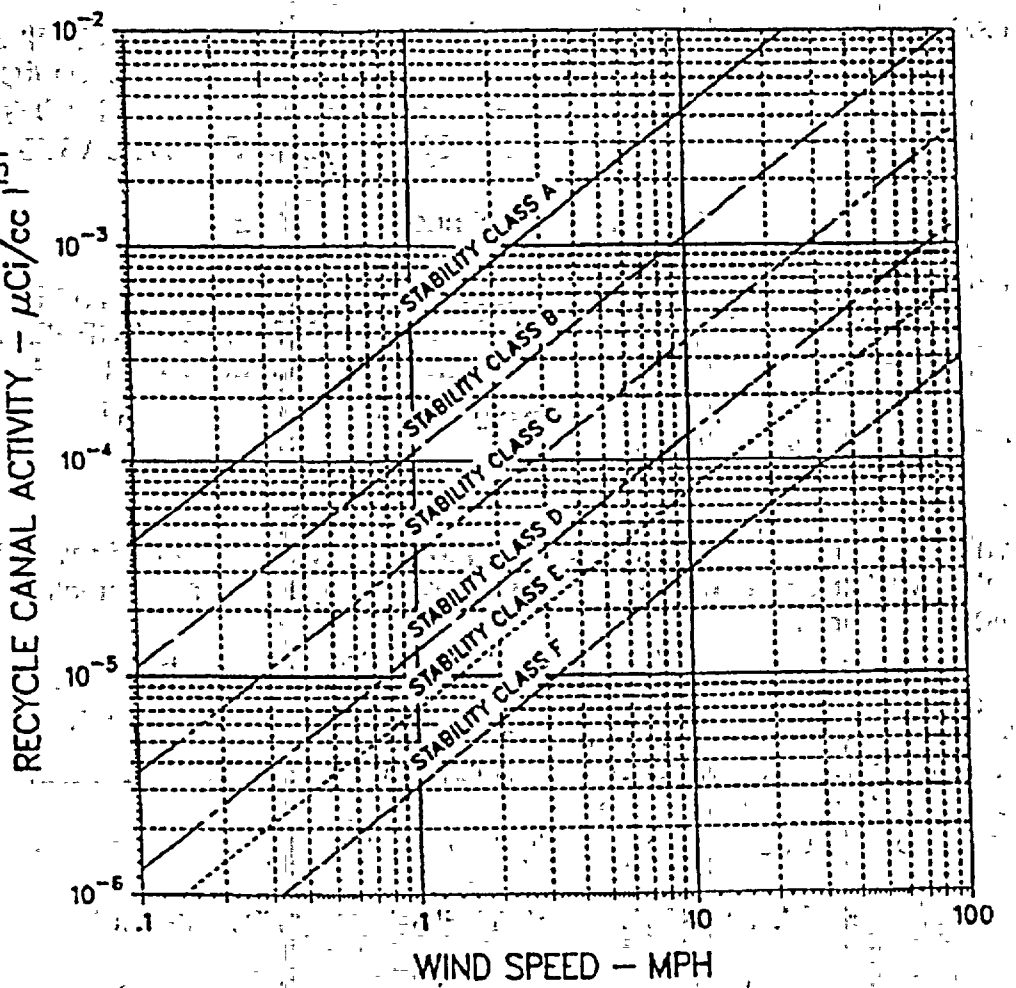


Figure 3 General Emergency Protective Actions Recommendations

The following situations require urgent actions by offsite officials. Conditions are based on Control Room indications with no dose projections required. The following protective action recommendations in this table should be conducted at the same time the General Emergency notifications are conducted.

Prerequisite: Plant Staff Detects **GENERAL EMERGENCY**

1. If wind is ≥ 5 mph:
   (1) RECOMMEND EVACUATE A 2 MILE RADIUS AND 5 MILES DOWNWIND AND ADVISE REMAINDER OF PLUME EPZ TO GO INDOORS TO MONITOR EAS BROADCASTS.
   (2) Continue with Step 2.

   If wind is < 5 mph:
   (1) RECOMMEND EVACUATE A 5 MILE RADIUS AND ADVISE REMAINDER OF PLUME EPZ TO GO INDOORS TO MONITOR EAS BROADCASTS.
   (2) Continue with Step 2.

2. Continue with dose assessment throughout the emergency and revise initial Protective Action Recommendations in accordance with the protective action guidelines, Figure 4.

NOTE:	**Based on NRC Response Technical Manual, RTM-93, Vol. 1, Rev. 3.**

Figure 4 Summary of Protective Action Guidelines (PAGs)

PAGs for Early Phase Projected Doses

Offsite Projected Doses (mrem)	Recommended Protective Actions	Comments
TEDE < 1000 Thyroid CDE < 5000	No recommended protective actions	The states of MN and WI may choose to implement sheltering or precautionary evacuation for the general public at their discretion.
TEDE ≥ 1000 Thyroid CDE ≥ 5000	Evacuation of general public	Evacuation should be recommended in absence of local constraints. MN and WI may choose to shelter if evacuation were not immediately possible due to offsite constraints (severe weather, competing disasters or local traffic constraints).

Notes:
1. TEDE = Total Effective Dose Equivalent, Thyroid CDE = Thyroid Committed Dose Equivalent
2. Based on EPA 400-R-92-001, May 1992
3. The Skin CDE PAG for evacuation of the general public is 50,000 mrem
4. Offsite projected doses include exposure from radioactive plume (external & internal) and 4 day exposure to ground contamination.

PAGs for Emergency Workers

TEDE Dose Limit (mrem)	Activity	Condition
5,000	All	Lower dose not practicable
10,000	Protecting valuable property	Lower dose not practicable
25,000	Life saving or protection of large populations	Lower dose not practicable
>25,000	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

Notes:
1. Based on EPA 400-R-92-001, May 1992
2. These are doses to nonpregnant adults from external exposure and intake during an emergency.
3. Workers should limit dose to the lens of the eye to 3 times the listed values and doses to extremities and any other organ to 10 times the doses listed above.

Figure 5 Containment Dose Rate Versus Time

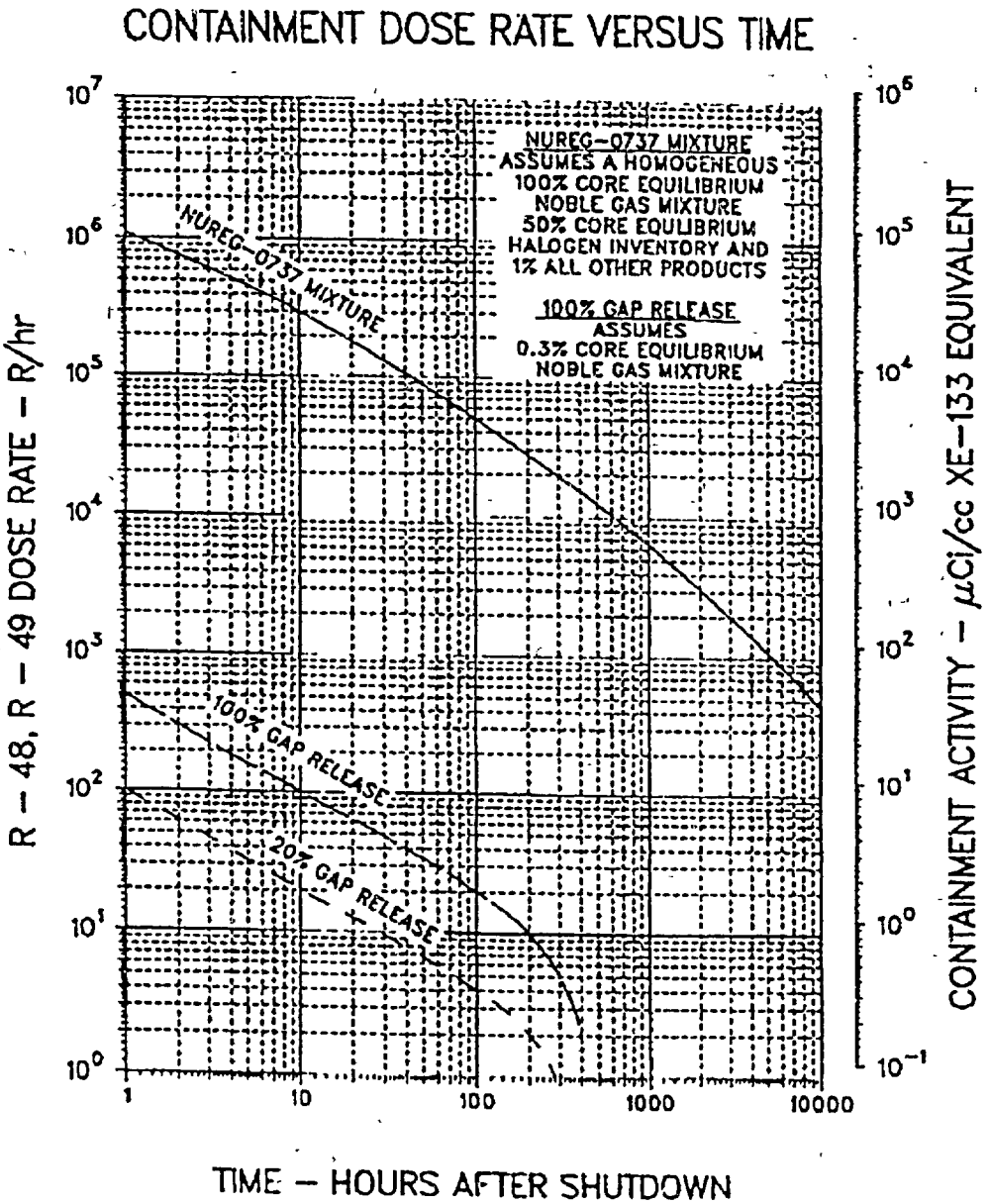


Figure 6 Evacuation Time Estimate Summary

Case	Wind Direction (degrees from)	Evacuation Area Ring Downwind	Subareas	Evacuation Time (hours:minutes)* Winter Day Fair	Winter Day ** Adverse	Winter Night Fair	Winter Night ** Adverse	Summer Weekend Fair	Summer Weekend *** Adverse
1		2-mile	2	2:20	2:25	2:20	2:25	3:00	3:30
2	348.75-11.25	2-mile & 5 mile	2, 5S, 5W	3:10	4:00	2:45	2:55	3:10	3:50
3		2-mile &10-mile	2, 5S, 5W, 10SE, 10SW	4:35	5:40	3:30	4:30	3:30	4:05
4	11.25-33.75	2-mile & 5 mile	2, 5S, 5W	3:10	4:00	2:45	2:55	3:10	3.50
5		2-mile &10-mile	2, 5S, 5W, 10SE, 10SW, 10W	4:35	5:40	3:30	4:30	3:30	4:05
6	33.75-56.25	2-mile & 5 mile	2, 5S, 5W	3:10	4:00	2:45	2:55	3:10	3:50
7		2-mile &10-mile	2, 5S, 5W, 10SE, 10SW, 10W	4:35	5:40	3:30	4:30	3:30	4:05
8	56 25-78.75	2-mile & 5 mile	2, 5S, 5W	3:10	4:00	2:45	2:55	3:10	3.50
9		2-mile &10-mile	2, 5S, 5W, 10SW, 10W	3:10	4:00	3.00	3:10	3:20	4:00
10	78.75-101.25	2-mile & 5 mile	2, 5W	2:45	2:50	2:45	2:55	3:10	3:50
11		2-mile &10-mile	2, 5W, 10SW, 10W	3:00	3:05	3.00	3:10	3:20	4:00
12	101.25-123.75	2-mile & 5 mile	2, 5W, 5N	2:45	2.50	2:45	2:55	3:10	3:50
13		2-mile &10-mile	2, 5W, 5N, 10W, 10NW	2:50	3:00	2:50	3.00	3:15	3:50
14	123.75-146.25	2-mile & 5 mile	2, 5W, 5N	2:45	2:50	2:45	2:55	3:10	3:50
15		2-mile &10-mile	2, 5W, 5N, 10W, 10NW, 10N	2.50	3.00	2.50	3 00	3:15	3:50
16	146.25-168.75	2-mile & 5 mile	2, 5W, 5N	2:45	2.50	2:45	2.55	3:10	3.50
17		2-mile &10-mile	2, 5W, 5N, 10W, 10NW, 10N, 10NE	2:50	3:00	2:50	3:00	3:15	3.50
18	168.75-191.25	2-mile & 5 mile	2, 5W, 5N, 5E	2:45	2:50	2:45	2:55	3:10	3.50
19		2-mile &10-mile	2, 5W, 5N, 5E, 10W, 10NW, 10N, 10NE	2:50	3:00	2.50	3.00	3:15	3:50
20	191.25-213.75	2-mile & 5 mile	2, 5N, 5E	2:40	2:40	2:40	2:40	3.00	3:35
21		2-mile &10-mile	2, 5N, 5E, 10NW, 10N, 10NE, 10E	2.50	3:00	2:50	3:00	3.00	3:35
22	213.75-236.25	2-mile & 5 mile	2, 5N, 5E	2:40	2.40	2:40	2:40	3:00	3:35
23		2-mile &10-mile	2, 5N, 5E, 10NW, 10N, 10NE, 10E	2:50	3 00	2.50	3:00	3:00	3:35
24	236.25-258.75	2-mile & 5 mile	2, 5N, 5E	2:40	2:40	2:40	2:40	3 00	3:35
25		2-mile &10-mile	2, 5N, 5E, 10N, 10NE, 10E	2:50	3:00	2.50	3 00	3.00	3:35
26	258.75-281.25	2-mile & 5 mile	2, 5N, 5E, 5S	3.10	4:00	2:45	2:50	3.10	3:45
27		2-mile &10-mile	2, 5N, 5E, 5S, 10NE, 10E, 10SE	4:35	5 40	3:30	4:30	3:30	4.05
28	281.25-303.75	2-mile & 5 mile	2, 5N, 5E, 5S	3:10	4:00	2:45	2:50	3:10	3:45
29		2-mile &10-mile	2, 5N, 5E, 5S, 10E, 10SE	4:35	5:40	3:30	4:30	3:30	4:05
30	303.75-326 25	2-mile & 5 mile	2, 5E, 5S	3:10	4.00	2:45	2:50	3:10	3:45
31		2-mile &10-mile	2, 5E, 5S, 10E, 10SE	4:35	5:40	3 30	4:30	3:30	4:05
32	326 25-348.75	2-mile & 5 mile	2, 5E, 5S	3:10	4:00	2:45	2.50	3.10	3:45
33		2-mile &10-mile	2, 5E, 5S, 10E, 10SE, 10SW	4:35	5:40	3:30	4:30	3.30	4:05
34		5-mile	5N, 5E, 5S, 5W	3:10	4 00	2:45	2:55	3:10	3:50
35		10-mile	Full EPZ	4:35	5:40	3:30	4:30	3:30	4.05

NOTE: In order to estimate the evacuation time for partial EPZ cases not included above, determine the combination of cases which cover but do not extend beyond the area in question (they may overlap). The longest time for any of the individual evacuation areas is the evacuation time.

* All residents, transients and special facilities within the Analysis Area would be evacuated Evacuation time estimates include times associated with notification, preparation and mobilization events, as well as travel time out of the EPZ.

** Snowstorms adverse weather, represented by a reduction in roadway capacities and travel speeds of 30%.

*** Rainstorm adverse weather, represented by a reduction in roadway capacities and travel speeds of 20%.

Taken from "Evacuation Time Estimates for the Plume Exposure Pathway Emergency Planning Zone, Praire Island Nuclear Power Plant, dated December 1997, and prepared by: Earth Tech.

Figure 7. Permanent Resident Population Estimates*

SUBAREA	MINNESOTA	WISCONSIN
2	310	110
5E	--	850
5N	--	480
5W	720	--
5S	3160	--
10E	--	1880
10NE	--	1380
10N	--	450
10NW	--	1200
10W	2900	--
10SW	780	--
10SE	13,550	--
TOTALS	21,420	6,350

NOTE: **The Treasure Island Casino business can add 2,000 to 10,000 additional people depending on time of year and day to subarea 2.**

* Based on "Evaluation Time Estimates for the Plume Exposure Pathway Emergency Planning Zone, Prairie Island Nuclear Power Plant, dated December 1997, and prepared by Earth Tech.

Attachment 1 General Discussion of PARS

A. No Protective Actions

1. The recommendation for no protective actions is appropriate when the event is NOT a General Emergency and projected doses are less than 1000 mrem TEDE or 5000 mrem Thyroid CDE.

2. It should be noted that Wisconsin, Minnesota or Tribal officials may decide to initiate protective actions for the general public at lower offsite projected doses than stated above. In these cases, the RPSS and/or REC should ensure that the offsite officials have all the pertinent information such as actual release information, dose projection comparisons with offsite radiation field measurements and prognosis of future plant conditions.

B. Activating PANS

Activation of the PANS (Public Alert & Notification System) is automatically done when offsite agencies issue a protective action which requires action on the part of the general public within the 10 mile EPZ.

C. Sheltering

1. Sheltering is a protective action which involves members of the general public taking cover in a building that can be made relatively air tight. Generally, any building suitable for winter habitation, with windows and doors closed and ventilation turned off, would provide reasonably good protection for about two hours; but would be ineffective after that period due to natural ventilation of the structure.

2. Sheltering may be an appropriate protective action when an evacuation is indicated, but local constraints, such as severe weather, poor road conditions, competing disasters, etc., dictate that directing the public to seek shelter is a more feasible and effective protective measure than evacuation. These factors can best be determined by the offsite agencies.

Attachment 1 General Discussion of PARS

3. In general, sheltering is preferred to evacuation only if it provides equal or greater protection when considering exposure during and after plume passage.

4. The states or tribe may choose to implement sheltering at their discretion.

D. Evacuation

1. Evacuation is the movement of the public out of an area in order to reduce or eliminate radiation exposure. Timely evacuation of the public is the most effective protective action.

2. NRC indicates that immediate evacuation of the general public is justified based on Control Room indications resulting in a declared General Emergency.

3. EPA 400 indicates that evacuation of the general public will usually be justified when the projected dose to an individual is greater or equal to 1000 mrem TEDE (or 5000 mrem Adult Thyroid CDE). At these dose levels, the risk avoided due to the radiation exposure is usually much greater than the risk from evacuation itself.

4. Using the initial General Emergency criteria or projected dose criteria stated above, Prairie Island NGP should recommend evacuation to the states of WI and MN. In turn, they will independently assess and implement protection actions based on our recommendation, their independent assessment, and current offsite evacuation constraints.

5. The states or tribe may choose to implement sheltering or precautionary evacuation for the general public at their discretion.

E. Secondary Evacuation or Relocation

1. Based on EPA 400 PAGs, Prairie Island NGP should recommend relocation of the general public from affected areas not previously evacuated when the projected dose is greater or equal to 2000 mrem TEDE from exposure and intake during the first year.

2. This projected dose includes doses from external radiation and inhalation of resuspended materials.

Attachment 1 General Discussion of PARS

F. Return

The decision to return segments of the public from previously evacuated areas will be determined by appropriate offsite agencies. Various cautions and dose reduction techniques will be assessed and, if necessary, communicated to the people upon their return.

G. Designation of the Protective Action Area

The designation of the protective action area will depend on the nature and extent of the incident and existing meteorological conditions. The area will be described by designating a keyhole area and geopolitical subareas.

1. Keyhole Area

   The keyhole area should resemble a keyhole consisting of a 360° area surrounding the plant out to a distance of two (2) or five (5) miles and continuing in the downwind direction which should include two (2) sectors on either side of the downwind sector, out to a distance determined by the PAGs.

2. Geopolitical Subareas

   Geopolitical subareas are subareas of the 10 mile EPZ defined by predetermined and/or political boundaries. A table for determining the affected geopolitical subareas is shown in PINGP 577.

H. Protective Action Recommendation Beyond 10 miles

IF radiation survey results confirm calculated dose projections that exceed EPA 400 PAGs (1000 mrem TEDE or 5000 mrem Adult Thyroid CDE) in areas beyond 10 miles, THEN PINGP must recommend evacuation of the general public beyond 10 miles in those areas with the help of the offsite authorities. This will be an ad hoc formulation of an offsite protective action with collaborative assistance from MN and WI accident assessment staff.

Offsite dose projection calculations and radiation surveys are used to determine if additional offsite areas warrant protective actions such as evacuation. These dose projections and radiation survey results are compared to the EPA 400 PAGs (Protective Action Guides). If calculated dose projections result in exceeding the EPA 400 guidance beyond 10 miles, it must not be ignored. IF these dose projections are confirmed by actual radiation survey results, THEN offsite protective action recommendations beyond 10 miles must be provided to the offsite authorities.

PINGP will take the time to first verify the dose projections by comparing the calculated dose projections to actual radiation survey results. It is realized that the does projection model has various degrees of inaccuracies when determining offsite dose projections. The inaccuracies become greater as the radioactive plume distance from the plant increases. Valley terrain and wind direction greatly affect the actual behaviors of plume particles and gas mixtures. Radiation surveys should be conducted along the plume boundaries & centerline and then compared to the calculated dose projection data. IF radiation survey results confirm dose projections in the 2 to 8 mile areas, THEN the dose projections may be considered to be accurate in the 8 to 15 mile areas.

Attachment 1 General Discussion of PARS

Exposure Pathways, Incident Phases, and Protective Actions

POTENTIAL EXPOSURE PATHWAYS AND INCIDENT PHASES		PROTECTIVE ACTIONS
1. External radiation from facility		Sheltering Evacuation Control of access
2. External radiation from plume	EARLY	Sheltering Evacuation Control of access
3. Inhalation of activity in plume		Sheltering Administration of stable iodine Evacuation Control of access
4. Contamination of skin and clothes	INTERMEDIATE	Sheltering Evacuation Decontamination of persons
5. External radiation from ground deposition of activity	LATE	Evacuation Relocation Decontamination of land and property
6. Ingestion of contaminated food and water		Food and water controls
7. Inhalation of resuspended activity		Relocation Decontamination of land and property

NOTE:

1. **Based on EPA 400-R-001, May 1992**
2. **The use of stored animal feed and uncontaminated water to limit the uptake of radionuclides by domestic animals in food chain can be applicable to any of the phases.**

Attachment 2: Definitions Related to PARS

1.0 **Affected Area** is any area where radiation emanating from a plume or deposited material from the plume can be detected using field instruments. (Also known as the footprint.)

2.0 **Affected Sectors** refer to those sectors that are in a downwind direction from the plant. If the wind speed ≥5 mph, the affected sectors are the 2 sectors on either side of the downwind sector and the downwind sector. If the wind speed < 5 mph, all sectors are affected sectors (because of meandering).

3.0 **Dose Terms**

3.1 **Dose Equivalent (REM)** refers to the product of absorbed dose (rad) and the quality factor (i.e., rads X QF = rem).

3.2 **Effective Dose Equivalent (REM)** is the sum of the products of the dose equivalent (rem) to each organ and a weighting factor, where the weighting factor is the ratio of the stochastic risk arising from an organ or tissue to the total risk when the whole body is irradiated uniformly.

3.3 **Committed Dose Equivalent** (REM) refers to the dose equivalent to organs or tissues that will be received from an intake of radioactive material by an individual during the 50–year period following the intake.

3.4 **Committed Effective Dose Equivalent (REM) (CEDE)** refers to the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to those organs or tissues.

3.5 **Deep Dose Equivalent (REM)** refers to the external whole body exposure due to external radiation from the radioactive plume or deposited radioactive material.

3.6 **Total Effective Dose Equivalent (REM) (TEDE)** refers to the sum of the deep dose equivalent and the committed effective dose equivalent (TEDE = Deep Dose Equivalent + CEDE).

3.7 **Thyroid Committed Dose Equivalent (REM) (Thyroid CDE)** refers to the committed dose equivalent to the thyroid due to internally deposited radionuclides from inhalation.

Attachment 2 Definitions Related to PARS

4.0 **Emergency Planning Zone (EPZ)** is a defined area around the Prairie Island plant to facilitate emergency planning by state and local authorities, to assure that prompt and effective actions are taken to protect the public in the event of a release of radioactive material. It is defined for:

4.1 Plume Exposure Pathway (10 mile EPZ)

The 10 mile radius around the Prairie Island plant defined for the early phase plume exposure. The principal exposure sources from this pathway are:

4.1.1 External exposure from the radioactive plume (either overhead or submergence);

4.1.2 External exposure from the radionuclides deposited on the ground by the plume; and

4.1.3 Internal exposure from the inhaled radionuclides deposited in the body.

4.2 Ingestion Exposure Pathway (50 mile EPZ)

A 50 mile radius around the Prairie Island plant where the principal exposure would be from the ingestion of contaminated water or foods such as, milk or fresh vegetables.

5.0 **Evacuation** is the urgent removal of people from an area to avoid or reduce high-level, short–term exposure, usually from the plume or from deposited activity.

6.0 **Geopolitical Subareas** are subareas of the 10 mile EPZ defined by predetermined geographic and/or political boundaries. A table for selecting the affected geopolitical subareas are shown in PINGP 577.

7.0 **Keyhole Area** is a subarea of the 10 mile EPZ defined by a 360 degree area surrounding the plant out to a distance of 2 or 5 miles and continuing in a downwind direction which should include 2 sectors on either side of the affected sector, out to a distance determined by the Protective Action Guides.

Attachment 2 Definitions Related to PARS

8.0 **Nuclear Incident Phases** relate to three time periods following the beginning of an nuclear incident.

8.1 **Early Phase** or emergency phase is the period immediately following the beginning of the incident. There may be a threat of a radiological release or an actual ongoing radiological release to the environment. Immediate decisions concerning protective actions are required and usually based on plant conditions or offsite dose projections. This phase may last from hours to days.

8.2 **Intermediate Phase** is the period beginning after the source and releases have been brought under control. Based on environmental measurements, additional protective actions may be made. This phase may overlap the early and late phase and may last from weeks to many months.

8.3 **Late Phase** is the period beginning when offsite recovery action designed to reduce radiation levels in the environment to acceptable levels for unrestricted use are commenced. This period may extend from months to years.

9.0 **Projected Dose** refers to the future dose calculated for a specified time period on the basis of estimated or measured initial concentration of radionuclides or exposure rates and in the absence or protective actions.

9.1 **Plume Projected Dose** refers to future calculated doses from plume submersion, plume shine, plume inhalation and 4 days of ground deposition exposure.

9.2 **Relocation Projected Dose** refers to future calculated doses from one year of exposure to ground deposition groundshine and inhalation of resuspended material, but excluding internal dose from consuming contaminated foodstuffs.

9.3 **Ingestion Pathway Projected Dose** is the projected CEDE (ICRP-30) from consuming contaminated foodstuffs.

10.0 **Protective Actions** refers to an action taken to avoid or reduce radiation dose to members of the public.

11.0 **Protective Action Guide (PAG)** refers to a projected dose level that warrants protective actions.

Attachment 2 Definitions Related to PARS

12.0 **Public Alert and Notification System (PANS)** is used to alert the public within the 10 mile Emergency Planning Zone of an emergency Condition at Prairie Island. Once alerted, the public should then turn to local commercial broadcast messages for specific protective action instructions. The PANS consists of the following:

12.1 Fixed Sirens for 100% coverage throughout the 5 mile zone and in population centers in the 5-10 mile zone.

12.2 Emergency vehicles with sirens and public address in the 5-10 mile areas not covered by fixed sirens.

12.3 National Oceanic and Atmospheric Administration (NOAA) activated tone alert radios in institutional, educational, and commercial facilities.

12.4 The Emergency Alert System (EAS) which has access to television and radio stations within the area.

13.0 **Return** refers to people permanently reoccupying their normal residence within a previously evacuated area.

14.0 **Reentry** refers to temporary entry into an evacuated area under controlled conditions.

15.0 **Relocation** refers to removal or continued exclusion of people from contaminated areas to avoid chronic radiation exposure.

16.0 **Sheltering** refers to the use of a structure for radiation protection from an airborne plume and/or deposited radioactive material.

F3	EMERGENCY NOTIFICATIONS	NUMBER: F3-5 REV: 21

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
11/22/02 SC	M. Werner	11-25-02

1.0 PURPOSE

This instruction delineates the notification procedures to be used during emergency conditions, defines the various emergency communications systems available at the plant (primary and backup), and provides the necessary operating instructions for their proper use.

2.0 APPLICABILITY

This instruction **SHALL** apply to all Shift Managers, Radiological Emergency Coordinators, Shift Supervisors, Emergency Directors and Shift Emergency Communicators.

3.0 PRECAUTIONS

3.1 Always speak in a clear, distinct voice.

3.2 Make messages as short and concise as possible.

3.3 Always have the information repeated if it was not completely understood. Numerical data should always be repeated to verify accuracy.

3.4 If the event causes initiation of the Prairie Island NGP Emergency Plan, the NRC notification via the Emergency Notification System (ENS) **SHALL NOT** be conducted by the duty SEC. Rather, the SS or SM **SHALL** ensure the notification is completed by other qualified personnel.

4.0 RESPONSIBILITIES

4.1 The Emergency Directors and Radiological Emergency Coordinators have the responsibility to ensure that emergency notification forms PINGP 577, Emergency Notification Report Form and PINGP 582, Emergency Notification Follow-up Message, are completed with accurate information.

4.2 The Shift Emergency Communicators have the responsibility to conduct all emergency notifications in accordance with this procedure.

5.0 PREREQUISITES

Prairie Island Nuclear Generating Plant has declared an Emergency classification.

6.0 PROCEDURE

6.1 The Shift Emergency Communicator (SEC) **SHALL:**

6.1.1 Report to the Control Room.

6.1.2 Complete PINGP 577.

6.1.3 After the Shift Manager or Emergency Director has reviewed and approved PINGP 577, report to the Communications Area of the Technical Support Center.

6.1.4 Initiate and complete the notifications of state, local, and plant personnel as listed on the Emergency Notification Call Lists, as follows:

A. For a Notification of Unusual Event, use PINGP 579, Emergency Notification Call List For a Notification of Unusual Event.

B. For an Alert, Site Area, or General Emergency, use PINGP 580, Emergency Notification Call List For An Alert, Site Area, or General Emergency.

6.1.5 Request local offsite support as deemed necessary. Coordinate these notifications with the Control Room. (Refer to the Nuclear Emergency Preparedness Telephone Directory for local support telephone numbers.)

6.1.6 If the emergency has been reclassified, complete PINGP 577, and complete the notifications of offsite authorities as follows:

CAUTION:	ON RAPIDLY ESCALATING EVENTS, COMPLETE THE CALL IN PROGRESS AND IMMEDIATELY INITIATE A NEW CALL LIST FOR THE HIGHER EMERGENCY CLASSIFICATION. INFORM ALL PARTIES OF THE RAPID ESCALATION FROM PREVIOUS LOWER CLASS TO HIGHER CLASSIFICATION, IF NOT PREVIOUSLY NOTIFIED.

A. For a termination from a Notification of Unusual Event, use PINGP 579.

B. For any classification change from an Alert, Site Area or General Emergency, use PINGP 580.

6.1.7 Utilize PINGP 597, Contact Report Log, to document all communications not specifically required by other PINGP forms.

6.1.8 When the EOF becomes activated, transfer control of Offsite Notifications to the EOF, when directed by the Emergency Director.

6.2 The Radiological Emergency Coordinator (REC) **SHALL**:

6.2.1 Complete PINGP 582.

NOTE:	**This form does not need to be completed in its entirety prior to transmitting data to offsite authorities, but everything on form should be assessed.**

6.2.2 Approximately every one-half hour, update the Minnesota and Wisconsin Departments of Health with the information as recorded on PINGP 582. The REC should telecopy PINGP 582 to the two states as required.

NOTE: **When the Nearsite EOF is activated, updates to the Minnesota and Wisconsin Departments of Health will be handled by EOF personnel.**

6.2.3 When the NRC requests establishment of the Health Physics Network (HPN), staff the HPN phone and update the NRC using PINGP 1476, HPN Communicator Checklist as a guide.

NOTE: **Be prepared to provide continuous updates to the NRC, as requested over the HPN phone.**

Attachment A - Telephone Communications Network

I. SITE TELEPHONE COMMUNICATIONS

1. AT&T System 75 PBX

Normal communications are provided by an AT&T System 75 PBX. Two separate attendant consoles are used in the system. Both have identical functions and all can be operational at the same time. During normal business hours, all incoming calls are answered by the Receptionist located on the first floor of the Administration Building. During backshifts and weekends, Badge Issue Ext. 4690 at the Guardhouse is activated to answer incoming calls. The second console, located in the Technical Support Center Communications area, should be activated during Emergency Plan implementation.

The System 75 controls approximately 600 main stations and 90 extensions. It is designed with a high degree of fault detection and diagnostic capabilities. If there are certain PBX failures or power failure, all stations would normally be inoperative. However, automatic operation of transfer relays in the emergency transfer panels bridge preassigned stations directly to the trunk lines. Assigned stations are located in Control Room, Shift Supervisor's office, Operations Support Center, and Technical Support Center. Following restoration of power, the System 75 will automatically initiate recovery measures.

Terminated within the System 75 are 9 trunk lines and 24 tie lines. The trunk lines are 388-1121 through 1129, of which 388-1121 and 388-1122 are incoming only; while the remaining seven trunks have incoming and outgoing capabilities. The 24 two-way tie lines connect the System 75 PBX to the general office exchange via the NSP Communications network. The System 75 is linked to the Training Center Telephone Switch by a T-Span and the two PBX's appear as a single system internally.

Normal power for the system is provided by #34 inverter which in turn is supplied by a diesel-backed 480VAC motor control center 4A or #34 battery. An alternate source is provided from #33 inverter. An automatic transfer switch selects the energized source of power.

Attachment A Telephone Communications Network

2. Gai-Tronics Page System

Gai-Tronics paging system is also available and is used to call personnel over the plant and yard speakers as well as to issue plant wide instructions from GTC stations located throughout the plant. This system is tied to the System 75 PBX making access to the paging system possible from all telephone stations on site. Any Gai-Tronics handset station, such as those located on the control board panels, can override telephone paging in progress.

3. Sound Powered Phone System

Sound powered phones are available for use within the plant and are primarily used for Operations and Maintenance coordination. Phone jacks are located throughout the Containment, Auxiliary Building, Turbine Building and Control Room.

II. TECHNICAL SUPPORT CENTER (TSC) TELEPHONE COMMUNICATIONS

1. Autodialers

There is an autodialing telephone in the TSC Communications Area. The telephone associated with plant extension 4369 utilizes pre-programmed buttons on the right side of the set to enable one touch dialing of the programmed numbers. This set can utilize both Red Wing Central Office lines and Xcel Energy tie-lines.

2. System 75 PBX Attendant Console

Located in the Communications Area, the console once activated has complete control of all incoming communications. The console is activated by calling the Operator, either at the Guardhouse (Ext. 4690) or the Administrative Office console and asking them to activate TSC Switchboard Console in accordance with F3-5.1, Switchboard Operator Duties.

Attachment A: Telephone Communications Network

3. Stations, Extensions, and Hot Lines

Individual telephone communication from the TSC is provided for by twenty-two separate plant stations with two extensions of these stations, three General Office extensions, and three Eau Claire FX lines. Three separate dedicated circuits (auto ring down), are also available with points of connection as follows:

1) TSC - MN EOC, (REC - Minn. Assessment Center)

2) TSC - EOF, (ED to EM)

3) TSC - EOF, (REC - RPSS)

The auto ring down is initiated by picking up the receiver. Ringing ceases when one other point picks up the line.

4. Sound Powered Phone

There is one sound powered phone station in the TSC.

5. Emergency Telecommunication System

The NRC's Emergency Telecommunication System provides for reporting emergencies and other significant events to the NRC Headquarters.

The following NRC essential emergency communication functions will be provided:

1) Emergency Notification System (ENS): Initial notification by the licensee, as well as ongoing information on plant systems, status, and parameters. The ENS (Red Phone) is located in the Control Room, with extensions in the Technical Support Center (TSC) and near-site EOF.

2) Health Physics Network (HPN): Communication with the licensee on radiological conditions (in-plant and off-site) and meteorological conditions, as well as their assessment of trends and need for protective measures on-site and off-site. NRC regional office of NRC Headquarters will announce their decision to establish the HPN link over the ENS. The HPN phones are located in the TSC and EOF.

Attachment A Telephone Communications Network

3) Reactor Safety Counterpart Link (RSCL): Established initially with the base team, and then with the NRC site team representatives once they arrive at the site, to conduct internal NRC discussions on plant and equipment conditions separate from the licensee, and without interfering with the exchange of information between the licensee and NRC. This is the channel by which the NRC Operations Center supports NRC reactor safety personnel at the site. In addition, this link may also be used for discussion between the Reactor Safety Team Director and licensee plant management at the site. The RSCL phones are located in the TSC and EOF.

4) Protective Measures Counterpart Link (PMCL): Established initially with the base team, and then with the NRC site team representatives once they arrive at the site, to conduct internal NRC discussions on radiological releases and meteorological conditions, and the need for protective actions separate from the licensee and without interfering with the exchange of information between the licensee and the NRC. This is the channel by which the NRC Operations Center support NRC protective measures personnel at the site. In addition, this link may also be used for discussion between the Protective Measures Team Director and licensee plant management at the site. The PMCL phones are located in the TSC and EOF.

5) Emergency Response Data System (ERDS) Channel: This is the channel over which the raw reactor parametric data is transmitted from the site. This link is located in the plant's computer room.

6) Management Counterpart Link (MCL): Established for any internal discussions between the Executive Team Director or Executive Team members and the NRC Director of Site Operations or top level licensee management at the site. The MCL phones are located in the TSC and EOF.

7) Local Area Network (LAN) Access: Established with the base team and the NRC site team for access to any of the products or services provided on the NRC Operations Center's local area network. This includes technical projections, press releases, status reports, E-Mail, and various computerized analytical tools. The LAN access points are located in the TSC and EOF.

To place a call, on the NRC's phone the user must do the following:

1) Lift the receiver on the telephone instrument and listen for dial tone;

2) After receiving dial tone, dial the first number listed on the sticker located on the telephone instrument using all 11 digits. If the first number is busy, proceed on with the second, etc.

Attachment A Telephone Communications Network

6. National Warning System (NAWAS)

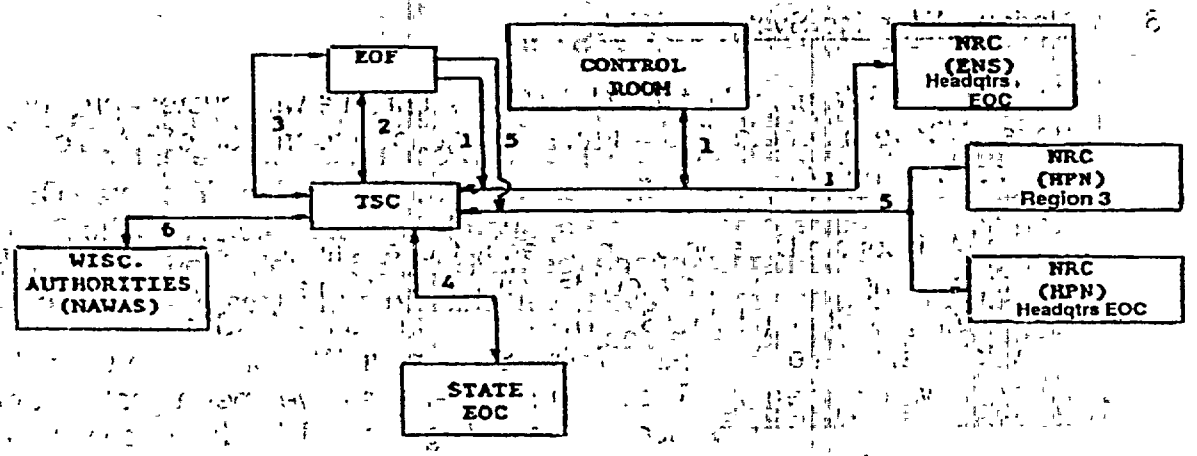
The National Warning System (NAWAS) is a private wire system provided by the Federal Government to disseminate emergency information of a National or International nature.

The Wisconsin Division of Emergency Government (DEG) is responsible for maintaining a 24-hour statewide warning system as part of the National Warning System (NAWAS). The Prairie Island NAWAS is part of the Wisconsin State National Warning System. In Wisconsin, there are three (3) state warning centers. These warning centers have operational control over all terminals serving Wisconsin (including Prairie Island). This system is so designated that only the State Warning Point can communicate with terminals outside of Wisconsin. All terminals within Wisconsin are on a "Party Line" basis, in that any terminal talking on the circuit is heard by all other terminals on the Wisconsin circuit. In Wisconsin, NAWAS terminals are located at all seven district State Patrol Headquarters radio dispatch rooms and Area Emergency Government EOC's, 26 county warning centers, the four nuclear power plants and six U.S. weather Station Offices. The State Patrol and county warning centers relay to and from the other 46 county non-NAWAS centers by radio.

The Prairie Island NAWAS talks directly to the State Warning Centers, the Weather Station Offices, and to the county sheriffs. The State Warning Centers and the county sheriffs further disseminate information to emergency organizations and personnel by other communications systems.

A state-wide emergency telephone number exists that serves as an alternate communications backup for notification to the Wisconsin Division of Emergency Government.

Summary of Prairie Island Hotline and ENS/HPN Network



Number	Name	Station
1	Emergency Notification System (ENS)	Primary means for reporting emergencies and other significant events to the NRC Headquarters EOC. The ENS phone is located in the Control Room with extensions in the TSC and EOF.
2	TSC - EOF (ED - EM)	2 point auto ring between the TSC and EOF. Either station can activate the circuit.
3	TSC - EOF (REC - RPSS)	2 point auto ring between the TSC and EOF. Either station can activate the circuit.
4	TSC - Minn State EOC	2 point ring on demand between the TSC and State EOC. Each station can activate the circuit.
5	Health Physics Network (HPN)	Phone line between the NRC Operations Center and the plant. Extensions of the HPN are located in the TSC and the EOF.
6	TSC - National Warning System (NAWAS)	Dedicated Line to Wisconsin Warning Center I, II and III, Regional Warning Center, and County Warning Center.

Attachment B Radio Communications Network

I. MOTOROLA PLANT RADIO SYSTEM

The plant radio system is an 800 MHZ trunked system, which utilizes three Central Electronics Banks (CEBs) to allow control of six different radio transmitters from any one of five remote control consoles. The three CEBs are located in the plant telephone room, guardhouse basement, and the Prairie Island Training Center telephone room. The CEBs control radio transmitters in the Aux Building and microwave tower which in turn allocate talk channels to plant portable and mobile radios.

1. Motorola Radio Console

Five radio consoles provide the heart of the radio system. They are all identical with respect to function and appearance. The consoles are located in the Control Room, TSC, EOF, CAS and SAS. All contain the same channels and have an intercom feature between the consoles.

LEDs on the consoles indicate the selected channel and the status of each channel. Separate volume control is provided for both the "selected" channel and the "unselected" channels, as well as a separate volume control on each individual channel. The green buttons are used to select a channel while the red buttons are used to transmit on the channel.

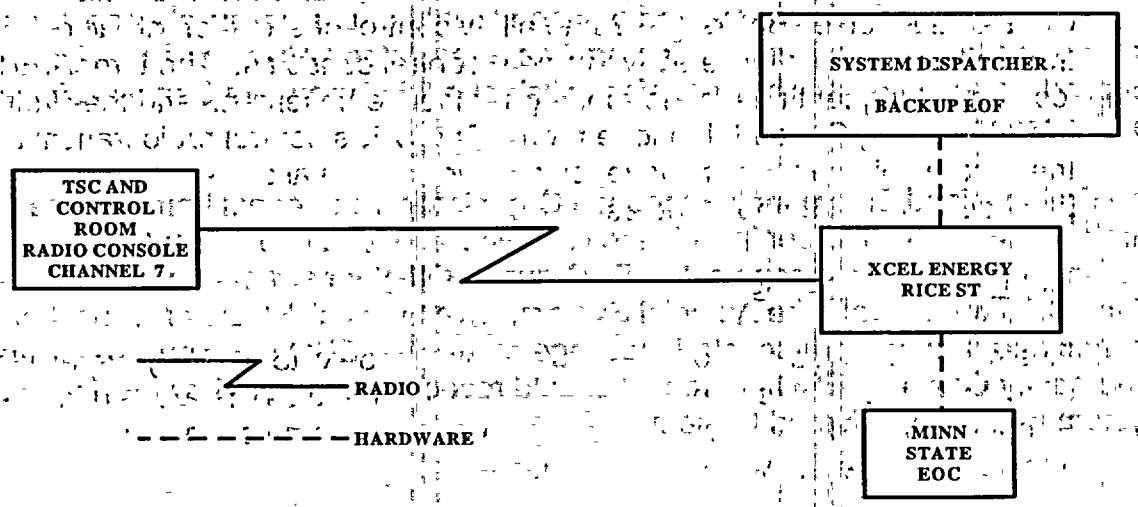
All consoles are able to monitor the selected channel as well as the unselected channels. Independent volume controls are provided for both.

2. Portable and Mobile Radios

Hand held portable radios and mobile radios installed in plant vehicles are capable of selecting any one of 16 channels. Channels are designated for specific functions such as security, operations, or radiation survey team use. Any radio can utilize any channel, and the channels are served by all of the radio transmitters on site; no dedicated radio transmitters, except for the Radiation Survey Team repeater located in the microwave building. If the radio system controller should fail, a hierarchy is established to automatically dedicate radio tranmitters to operations and security talk groups.

Attachment B: Radio Communications Network

II. XCEL ENERGY RADIO SYSTEM



1.0 PROCEDURE

1. To contact the System Operations Dispatcher:

   Select channel 7, key the microphone, and say:

   "PRAIRIE ISLAND TO SYSTEM DISPATCHER."

2. To contact the Minnesota State EOC (See Note):

   Select channel 7, key the microphone, and say:

   "PRAIRIE ISLAND TO MN EMERGENCY OPERATIONS CENTER."

NOTE:	The State EOC must first be manned and the radio phone activated by the Duty Officer.

Attachment C ERO Autodial System

The ERO Autodial System is physically located at Xcel Energy Pointe in St. Paul. The system is normally used to contact Xcel Energy's large "interruptable power" customers. The Autodial System has several dedicated "outgoing" telephone lines, with a programmable database, and can be activated from any touch-tone phone, including cellular. The Autodial System has a regulated UPS power supply, which is supplied via an automatic bus transfer switch and 2 independent Centre Point electric service feeders.

The Prairie Island Emergency Response Organization personnel home phone numbers, who to call, order in which to call, etc., is loaded into the Autodial System database and is used to contact the ERO during Off-Normal working hours. The Prairie Island SEC will activate the Autodial System, which will call ERO personnel home phones and deliver a pre-scripted message requesting ERO personnel to report to their Emergency Centers. ERO personnel should respond as directed by the Autodial System message delivered to them.

Attachment D Emergency Response Organization Callout

GENERAL

The Emergency Response Organization Callout process includes SEC activation of the Centre Pointe ERO Autodial System and the ERO Pager Network. BOTH systems will be activated by the Shift Emergency Communicator for off-hours ERO Callout. This will help ensure more personnel are notified of the Emergency Conditions at the plant and result in proper expeditious staffing of all Emergency Centers.

PAGER NETWORK ACTIVATION PROCESS

The SEC would activate the ERO Pagers. The personal pagers would be activated with the following:

333333333

in the pager display. This display means an Alert, Site Area, or General Emergency has been declared and Emergency Centers are being activated. Personnel should respond immediately to their emergency center.

ERO AUTODIAL SYSTEM ACTIVATION PROCESS

All ERO personnel for the Plant Emergency Centers, as well as the EOF, have their home phone numbers pre-loaded into the Autodial System database. The SEC will activate the Autodial System using a Touch-tone phone and will cause the Autodial System to make 2 dialing attempts to each ERO member's home phone and deliver an emergency message similar to:

"This is Prairie Island Nuclear Plant.
An Emergency Situation requires additional personnel.
Please report to your Emergency Center Immediately."
(REPEAT)

Upon receiving a phone call from the Autodial System and hearing the message to report, personnel should respond immediately to their Emergency Center.

F3	RECOMMENDATIONS FOR OFFSITE PROTECTIVE ACTIONS FOR THE ON SHIFT EMERGENCY DIRECTOR/SHIFT MANAGER	NUMBER: F3-8.1 REV: 13

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
11/22/02 SC	M. Werner	11-25-02

1.0 PURPOSE

The purpose of this procedure is to provide guidance for the interim on-shift Emergency Director in formulating immediate offsite Protective Action Recommendations (PARs) for the general public during the early phase of a radiological emergency.

2.0 APPLICABILITY

This instruction **SHALL** apply to the Shift Manager (SM) OR Shift Supervisor (SS) who has assumed the position of interim Emergency Director (ED).

3.0 PRECAUTIONS

3.1 Declaration of a General Emergency requires immediate initial Protective Action Recommendations (PARs) to offsite agencies. Under these circumstances, NO dose projections are required for formulating the initial offsite protective action recommendation.

3.2 Implementation of protective actions for offsite areas is the responsibility of the State of Minnesota and the State of Wisconsin. If it is determined, by the ED, that, immediate protective actions are required, and the State EOCs are not activated, the ED **SHALL** authorize such recommendations to be made directly to the local authorities. Once the State EOCs are activated, all protective action recommendations **SHALL** be made to the State EOCs.

3.3 It is the responsibility of the county and state agencies and the National Weather Service to notify members of the Prairie Island community of approved protective actions. Protective action notification is accomplished by the activation of the Public Alert and Notification System (PANS).

3.4 Offsite protective actions for the ingestion exposure pathway (ingestion of contaminated food and water) will be determined and implemented by the appropriate state authorities during the intermediate phase of an emergency.

4.0 RESPONSIBILITIES

The SM OR SS, acting as interim ED, is responsible to implement this procedure and has the non-delegatable authority to authorize protective action recommendations until relieved by the designated ED.

5.0 DEFINITIONS

See Attachment 1.

6.0 PREREQUISITES

6.1 A General Emergency has been or will be declared, OR

6.2 A Site Area Emergency has been or will be declared with actual or potential radioactive airborne release conditions that meets or exceeds the PAGs.

7.0 PROCEDURE

7.1 Protective Action Recommendations For A General Emergency

NOTE:	**DO NOT DELAY Protective Action Recommendations during GENERAL EMERGENCY conditions. Urgent actions are required by offsite officials. The initiated protective action recommendation need only be based on Control Room indications. No dose projections are required.**

7.1.1 **Refer** to Figure 1, GENERAL EMERGENCY INITIAL PROTECTIVE ACTION GUIDELINES for the initial Protective Action Recommendations.

7.1.2 The ED **SHALL** make recommendations for appropriate protective actions to State and local authorities by identifying the affected keyhole area and the affected geopolitical subareas on the PINGP 577, Emergency Notification Report Form.

7.1.3 **Document** all Protective Action Recommendations on PINGP 577 and in the Operations log.

7.1.4 The ED **SHALL** authorize PINGP 577, and direct the Shift Emergency Communicator (SEC) to notify State and local authorities using PINGP 577.

7.1.5 **Consider** future changes to the initial Protective Action Recommendation in case of changing wind direction or wind speeds. (A wind speed < 5 mph affects all sectors. A wind direction shift may possibly affect new sectors.)

7.1.6 IF R-50 is in valid alarm, THEN **ensure** that offsite dose assessment and review of the initial Protective Action Recommendation are conducted provided that such actions will NOT prevent the completion of any other critical actions needed to mitigate the event.

A. IF the REC is available, THEN **direct** the REC to conduct the offsite dose projections and assessment.

B. IF the REC is NOT available, THEN **direct** the Shift Chemist to perform the offsite dose projections.

C. **Compare** the plume projected dose results with the Protective Action Guides (PAGs):

- TEDE 4-Day Integrated Dose > 1000 mrem?
- Thyroid CDE 4-Day Integrated Dose > 5000 mrem?

NOTE:	**The initial General Emergency Protective Action Recommendation should be more than adequate for most severe plant accidents. Dose projection results exceeding PAGs beyond the initial evacuation area may be because of errors in meteorological or rad monitor data inputs.**

D. IF the plume projected dose exceeds the Protective Action Guides for areas which evacuation has not been recommended (which is very unlikely), THEN **re-evaluate** the validity of the dose projection results.

E. IF projections are confirmed correct, THEN **revise** the initial Protective Action Recommendation to ensure the public is evacuated from areas which exceed the PAGs using Figure 2.

F. **Utilize** PINGP 577, for any changes to the initial Protective Action Recommendation.

7.2 Protective Action Recommendations During a Site Area Emergency

7.2.1 Based on the definition of a Site Area Emergency classification, **NO** immediate offsite Protective Action Recommendations for the general public are warranted during a Site Area Emergency.

7.2.2 IF R-50 is in valid alarm, THEN **ensure** offsite dose assessment and **review** of the initial Protective Action Recommendation are conducted provided that such actions will NOT prevent the completion of any other critical actions needed to mitigate the event.

A. IF the REC is available, THEN **direct** the REC to conduct the offsite dose projections and assessment.

B. IF the REC is NOT available, THEN **direct** the Shift Chemist to perform the offsite dose projections.

C. **Compare** the plume projected dose results with the Protective Action Guides (PAGs):

- TEDE 4-Day Integrated Dose > 1000 mrem?
- Thyroid CDE 4-Day Integrated Dose > 5000 mrem?

D. IF the plume projected dose exceeds the Protective Action Guides, **re-evaluate** the emergency classification AND **reclassify** to a General Emergency if appropriate.

E. **Utilize** PINGP 577, for the reclassification and issuance of the Protective Action Recommendation.

7.2.3 Nearsite Special Population Precautionary PARs

A. Precautionary recommendations are warranted for the nearsite special population (Treasure Island Casino) under certain conditions.

B. IF any Site Area Emergency EAL 2C, 4D, 4E, 5C, 7C, 7D, 8E, or 16C is met, THEN **recommend** Casino Shutdown on PINGP 577.

7.2.4 Prairie Island Flooding Considerations

A. The REC or RPSS will conduct this evaluation of whether to issue a Protective Action Recommendation because of severe flooding in 10 mile EPZ.

B. A recommendation to relocate people in areas with restricted egress due to flooding within a ten (10) mile radius of the plant should be made at the Site Area Emergency level if it is clear we are not to de-escalate from the SAE in less than 2 hours. This is to ensure that should the event escalate to a General Emergency, people are already relocated from areas where additional evacuation time would be required.

C. Each county sheriff's department is aware of those areas in which there are restrictions to normal evacuation routes.

Figure 1 General Emergency Initial Protective Actions Recommendations

The following protective action recommendations in this table should be conducted at the same time the General Emergency notifications are conducted.

Prerequisite: Plant Staff Detects **GENERAL EMERGENCY**

IF from 22 met tower OR wind is < 5 mph, THEN:	Evacuate all sectors out to 5 miles; AND Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.
IF wind is ≥ 5 mph, THEN:	Evacuate all sectors out to 2 miles; AND The five downwind sectors out to 5 miles; AND Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.

NOTE:	Based on NRC Response Technical Manual, RTM-93, Vol. 1, Rev. 3.

Figure 2 Protective Action Guides for On Shift Interim Emergency Director

PAGS for Early Phase Projected Doses

Use the MIDAS 4-Day Integrated Dose to determine the Protective Action Recommendation base on the Protective Action Guidelines[1, 2, 3, 4] below:

Offsite Projected Doses (mrem)	Recommended Protective Actions	Comments
IF TEDE dose < 1000 mrem at Site Boundary AND Thy CDE < 5000 mrem at Site Boundary; THEN:	No protective actions recommended.	The states of MN & WI may choose to implement sheltering or precautionary evacuation for the general public at their discretion.
IF TEDE dose ≥ 1000 mrem at Site Boundary; OR Thy CDE ≥ 5000 mrem at Site Boundary; THEN:	See Next Page for specific evacuation recommendation.	Evacuation should be recommended in absence of local constraints. MN, WI or Local Tribe may choose to shelter if evacuation were not immediately possible due to offsite constraints (severe weather, competing disasters or local traffic constraints).

Figure 2 Protective Action Guides for On Shift Interim Emergency Director

PAGS for Early Phase Projected Doses (Continued)

Use the MIDAS 4-Day Integrated Dose to determine the Protective Action Recommendation base on the Protective Action Guidelines[1,2,3,4] below:

Wind Condition	Offsite Projected Doses (mrem)	Recommended Protective Actions
IF from 22 met tower OR wind is < 5 mph; THEN	See next page.	
IF wind is ≥ 5 mph AND	IF TEDE dose ≥ 1000 mrem beyond 5 miles; OR Thy CDE ≥ 5000 mrem beyond 5 miles; THEN:	Evacuate all sectors out to 5 miles; AND The five downwind sectors out to 10 miles; AND Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.
	IF TEDE dose ≥ 1000 mrem beyond 2 miles; OR Thy CDE ≥ 5000 mrem beyond 2 miles; THEN:	Evacuate all sectors out to 2 miles; AND The five downwind sectors out to 5 miles; AND Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.
	IF TEDE dose ≥ 1000 mrem at Site Boundary; OR Thy CDE ≥ 5000 mrem at Site Boundary; THEN:	Evacuate all sectors out to 2 miles; AND Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.

Figure 2 Protective Action Guides for On Shift Interim Emergency Director

PAGS for Early Phase Projected Doses (Continued)

Use the MIDAS 4-Day Integrated Dose to determine the Protective Action Recommendation base on the Protective Action Guidelines[1, 2, 3, 4] below:

Wind Condition	Offsite Projected Doses (mrem)	Recommended Protective Actions
IF from 22 met tower OR wind is < 5 mph AND	IF TEDE dose ≥ 1000 mrem beyond 5 miles; OR	Evacuate all sectors out to 10 miles; AND
	Thy CDE ≥ 5000 mrem beyond 5 miles; THEN:	Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.
	IF TEDE dose ≥ 1000 mrem beyond 2 miles; OR	Evacuate all sectors out to 5 miles; AND
	Thy CDE ≥ 5000 mrem beyond 2 miles; THEN:	Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.
	IF TEDE dose ≥ 1000 mrem at Site Boundary; OR	Evacuate all sectors out to 2 miles; AND
	Thy CDE ≥ 5000 mrem at Site Boundary; THEN:	Advise remainder of plume EPZ to monitor radio/TV broadcasts for further emergency information.

Notes:
1. TEDE = Total Effective Dose Equivalent, Thyroid CDE = Thyroid Committed Dose Equivalent
2. Based on EPA 400-R-92-001, May 1992
3. The Skin CDE PAG for evacuation of the general public is 50,000 mrem
4. Offsite projected doses include exposure from radioactive plume (external & internal) and 4 days exposure to ground contamination.

Figure 2: Protective Action Guides for On Shift Interim Emergency Director

PAGs for Emergency Workers

TEDE Dose Limit (mrem)	Activity	Condition
5,000	All	
10,000	Protecting valuable property	Lower dose not practicable
25,000	Life saving or protection of large populations	Lower dose not practicable
>25,000	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

Notes:
1. Based on EPA 400-R-92-001, May 1992
2. These are doses to nonpregnant adults from external exposure and intake during an emergency.
3. Workers should limit dose to the lens of the eye to 3 times the listed values and doses to extremities and any other organ to 10 times the doses listed above.

Attachment 1 Definitions Related to PARS

1.0 **Affected Area** is any area where radiation emanating from a plume or deposited material from the plume can be detected using field instruments. (Also known as the footprint.)

2.0 **Affected Sectors** refer to those sectors that are in a downwind direction from the plant. If the wind speed ≥5 mph, the affected sectors are the 2 sectors on either side of the downwind sector and the downwind sector. If the wind speed < 5 mph, all sectors are affected sectors (because of meandering).

3.0 **Dose Terms**

3.1 **Dose Equivalent (rem)** refers to the product of absorbed dose (rad) and the quality factor (i.e., rads X QF = rem).

3.2 **Effective Dose Equivalent (rem)** is the sum of the products of the dose equivalent (rem) to each organ and a weighting factor, where the weighting factor is the ratio of the stochastic risk arising from an organ or tissue to the total risk when the whole body is irradiated uniformly.

3.3 **Committed Dose Equivalent (rem)** refers to the dose equivalent to organs or tissues that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.

3.4 **Committed Effective Dose Equivalent (rem) (CEDE)** refers to the sum of the products of the weighting factors applicable to each of the body organs or tissues that are irradiated and the committed dose equivalent to these organs or tissues.

3.5 **Deep Dose Equivalent (rem)** refers to the external whole body exposure due to external radiation from the radioactive plume or deposited radioactive material.

3.6 **Total Effective Dose Equivalent (rem) (TEDE)** refers to the sum of the deep dose equivalent and the committed effective dose equivalent (TEDE = Deep Dose Equivalent + CEDE).

3.7 **Thyroid Committed Dose Equivalent (rem) (Thyroid CDE)** refers to the committed dose equivalent to the thyroid due to internally deposited radionuclides from inhalation.

Attachment 1 Definitions Related to PARS

4.0 **Emergency Planning Zone (EPZ)** is a defined area around the Prairie Island plant to facilitate emergency planning by state and local authorities, to assure that prompt and effective actions are taken to protect the public in the event of a release of radioactive material. It is defined for:

4.1 **Plume Exposure Pathway (10 mile EPZ)**

The 10 mile radius around the Prairie Island plant defined for the early phase plume exposure. The principal exposure sources from this pathway are:

4.1.1 External exposure from the radioactive plume (either overhead or submergence);

4.1.2 External exposure from the radionuclides deposited on the ground by the plume; and

4.1.3 Internal exposure from the inhaled radionuclides deposited in the body.

4.2 **Ingestion Exposure Pathway (50 mile EPZ)**

A 50 mile radius around the Prairie Island plant where the principal exposure would be from the ingestion of contaminated water or foods such as, milk or fresh vegetables.

5.0 **Evacuation** is the urgent removal of people from an area to avoid or reduce high-level, short-term exposure, usually from the plume or from deposited activity.

6.0 **Geopolitical Subareas** are subareas of the 10 mile EPZ defined by predetermined geographic and/or political boundaries. A table for selecting the affected geopolitical subareas are shown in PINGP 577, Emergency Notification Report Form.

7.0 **Keyhole Area** is a subarea of the 10 mile EPZ defined by a 360 degree area surrounding the plant out to a distance of 2 or 5 miles and continuing in a downwind direction which should include 2 sectors on either side of the affected sector, out to a distance determined by the Protective Action Guides.

Attachment 1 Definitions Related to PARS

8.0 **Nuclear Incident Phases** relate to three time periods following the beginning of a nuclear incident.

8.1 **Early Phase** or emergency phase is the period immediately following the beginning of the incident. There may be a threat of a radiological release or an actual ongoing radiological release to the environment. Immediate decisions concerning protective actions are required and usually based on plant conditions or offsite dose projections. This phase may last from hours to days.

8.2 **Intermediate Phase** is the period beginning after the source and releases have been brought under control. Based on environmental measurements, additional protective actions may be made. This phase may overlap the early and late phase and may last from weeks to many months.

8.3 **Late Phase** is the period beginning when offsite recovery action designed to reduce radiation levels in the environment to acceptable levels for unrestricted use are commenced. This period may extend from months to years.

9.0 **Projected Dose** refers to the future dose calculated for a specified time period on the basis of estimated or measured initial concentration of radionuclides or exposure rates and in the absence of protective actions.

9.1 **Plume Projected Dose** refers to future calculated doses from plume submersion, plume shine, plume inhalation and 4 days of ground deposition exposure.

9.2 **Relocation Projected Dose** refers to future calculated doses from one year of exposure to ground deposition groundshine and inhalation of resuspended material, but excluding internal dose from consuming contaminated foodstuffs.

9.3 **Ingestion Pathway Projected Dose** is the projected CEDE (ICRP-30) from consuming contaminated foodstuffs.

10.0 **Protective Action** refers to an action taken to avoid or reduce radiation dose to members of the public.

11.0 **Protective Action Guide (PAG)** refers to a projected dose level that warrants protective actions.

Attachment 1 Definitions Related to PARS

12.0 **Public Alert and Notification System (PANS)** is used to alert the public within the 10 mile Emergency Planning Zone of an emergency condition at Prairie Island. Once alerted, the public should then turn to local commercial broadcast messages for specific protective action instructions. The PANS consists of the following:

12.1 Fixed Sirens for 100% coverage throughout the 5 mile zone and in population centers in the 5-10 mile zone.

12.2 Emergency vehicles with sirens and public address in the 5-10 mile areas not covered by fixed sirens.

12.3 National Oceanic and Atmospheric Administration (NOAA) activated tone alert radios in institutional, educational, and commercial facilities.

12.4 The Emergency Alert System (EAS) which has access to television and radio stations within the area.

13.0 **Return** refers to people permanently reoccupying their normal residence within a previously evacuated area.

14.0 **Reentry** refers to temporary entry into an evacuated area under controlled conditions.

15.0 **Relocation** refers to removal or continued exclusion of people from contaminated areas to avoid chronic radiation exposure.

16.0 **Sheltering** refers to the use of a structure for radiation protection from an airborne plume and/or deposited radioactive material.

Mfst Num: 2002 - 0956 Date : 11/25/02
FROM : Bruce Loesch/Mary Gadient Loc : Prairie Island
TO : UNDERWOOD, BETTY J
Copy Num: 515 Holder : US NRC DOC CONTROL DESK
SUBJECT : Revisions to CONTROLLED DOCUMENTS
****

Procedure #	Rev	Title

Revisions:
==========

F8-1	7	EMERGENCY OPERATIONS FACILITY ORGANIZATIO

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 _____

PRAIRIE ISLAND NUCLEAR GENERATING PLANT	Title: EOF Emerg Plan Implementing Procedures TOC Effective Date : 11/25/02
Approved By: Joyce Mitty/BL BPS Supt	

Document #	Title	Rev
F8-1	EMERGENCY OPERATIONS FACILITY ORGANIZATION	7
F8-2	RESPONSIBILITIES DURING AN ALERT, SITE AREA OR GENERAL EMERGENCY IN THE EOF	7
F8-3	ACTIVATION & OPERATION OF THE EOF	5
F8-4	EMERGENCY SUPPORT & LOGISTICS	4
F8-5	OFFSITE DOSE ASSESSMENT & PROTECTIVE ACTION RECOMMENDATIONS	7
F8-6	RADIOLOGICAL MONITORING & CONTROL AT THE EOF	6
F8-8	OFFSITE AGENCY LIAISON ACTIVITIES	4
F8-9	EVENT TERMINATION OR TRANSITION TO RECOVERY	7
F8-10	RECORD KEEPING IN THE EOF	2
F8-11	TRANSFER TO THE BACKUP EOF	3
F8-12	EMERGENCY REMP	3

F	EMERGENCY OPERATIONS FACILITY ORGANIZATION	NUMBER: F8-1
		REV: 7

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
10/28/02 SC	M. Werner	11-25-02

F	EMERGENCY OPERATIONS FACILITY ORGANIZATION	NUMBER: F8-1
		REV: 7

TABLE OF CONTENTS

Section	Title	Page
1.0	PURPOSE	3
2.0	APPLICABILITY	3
3.0	PRECAUTIONS	3
4.0	RESPONSIBILITIES	4
4.1	Emergency Manager (EM)	4
4.2	Emergency Operations Facility Coordinator (EOF Coordinator)	5
4.3	Radiation Protection Support Supervisor (RPSS)	6
4.4	Technical Support Supervisor (TSS)	7
4.5	Recovery Manager	8
5.0	DISCUSSION	9
6.0	PREREQUISITES	10
7.0	PROCEDURE	10

LIST OF FIGURES

Figure 1 Prairie Island EOF Organization 11

F	EMERGENCY OPERATIONS FACILITY ORGANIZATION	NUMBER: F8-1
		REV: 7

1.0 PURPOSE

The purpose of this procedure is to:

1.1 Describe the Emergency Operations Facility (EOF) Emergency Response Organization (ERO).

1.2 Describe general responsibilities for key emergency organization positions.

The EOF ERO is illustrated in Figure 1. Key EOF positions are listed in the Emergency Preparedness Phone Directory with names of those individuals qualified to staff those positions. F8-2, Responsibilities During an Alert, Site Area or General Emergency in the EOF, describes detailed responsibilities and actions of the key EOF ERO positions.

2.0 APPLICABILITY

This procedure applies to all persons reporting to and operating in the EOF whenever the Emergency Response Organization (ERO) is activated. The ERO will be activated at an Alert, Site Area Emergency or General Emergency. The ERO may be activated at a Notification of Unusual Event (NUE), if necessary.

3.0 PRECAUTIONS

3.1 Prairie Island site staff **SHOULD NOT** make any information releases to members of the news media or the public. All inquiries by the news media should be directed to ERO Communications Personnel at the Joint Public Information Center (JPIC) located at the Minnesota EOC in St. Paul. Any persistent news media inquiries should immediately be reported to the Emergency Manager.

3.2 In the event that an individual is assigned to more than one ERO position, the positions that are required to implement immediate actions at the EOF should take precedence over all other positions.

3.3 All Prairie Island emergency response personnel should carry their company Picture ID for access through potentially established road blocks and access to the EOF.

4.0 RESPONSIBILITIES

4.1 Emergency Manager (EM)

4.1.1 The Emergency Manager position **SHALL** be staffed by a person named on the Emergency Manager call list. In the rare case that none of the primary Emergency Manager designees are present, an extra Emergency Director may temporarily staff this position. A call list of designated EMs are maintained in the Nuclear Emergency Preparedness Telephone Directory.

4.1.2 The general responsibilities of the Emergency Manager are:

A. Determine the extent of the offsite response;

B. Authorize reclassifications including event termination or recovery (classification escalations are formulated by TSC);

C. Authorize offsite Protective Action Recommendations (PARs are formulated by the RPSS);

D. Supervise the operation of the EOF;

E. Direct personnel to provide the necessary offsite support for the plant as requested by the Emergency Director;

F. Provide technical support as necessary;

G. Provide direction to personnel performing offsite radiation surveys and dose estimates as to the desired types of samples and sample location;

H. Direct assessment and implementation of a modified Radiological Environmental Monitoring Program as needed;

I. Direct personnel to provide the necessary logistics support for the plant and EOF operation;

J. Provide information to the utility management, as necessary, to assist in development of news releases;

K. Provide a direct interface with NRC representatives assigned to the EOF.

L. Provide information to utility management, as necessary, concerning Severe Accident Management Strategies.

4.2 Emergency Operations Facility Coordinator (EOF Coordinator)

4.2.1 The EOF Coordinator should be staffed by qualified Prairie Island site personnel assigned to the Nuclear Generation Services or Prairie Island Training Center. This position is filled from a call list maintained in the Nuclear Emergency Preparedness Telephone Directory.

4.2.2 The general responsibilities of the EOF Coordinator are:

A. Establish startup of the EOF ventilation system as necessary.

B. Coordinate activities of EOF and non-EOF personnel located in the EOF or who arrive at the EOF.

C. Assign personnel as necessary to the following positions and supervise their activities:

- EOF Coordinator Assistant
- Emergency Communicators
- Administrative Staff
- Security Coordinator

D. Maintain or designate individuals to maintain records throughout the emergency conditions.

E. Ensure communications are established between the necessary off-site emergency centers and the EOF.

F. If necessary, request assistance from ERO Communications Personnel.

G. Ensure EOF access control is established and maintained.

H. Provide periodic updates to the Emergency Manager concerning the operational status of the EOF.

I. Assist the Emergency Manager in screening in-coming phone calls to the EOF command table.

J. Implement the Fitness For Duty Program during off hours activation of the EOF.

K. Determine a 24 hour EOF shift rotation as necessary.

4.3 Radiation Protection Support Supervisor (RPSS)

4.3.1 The Radiation Protection Support Supervisor should be staffed by qualified Prairie Island site personnel assigned to the plant's Radiation Protection Group or Prairie Island Training Center. This position is filled from a call list maintained in the Nuclear Emergency Preparedness Telephone Directory.

4.3.2 The general responsibilities of the Radiation Protection Support Supervisor are:

A. Assign personnel as necessary to the following positions and supervise their activities:

- RPSS Assistant (State Liaison)
- RPSS Assistant (Field Team & Dose Assessment)
- Field Team Communicator
- Radiation Protection Status Board Keeper

B. Supervise the activities of the following personnel that have been assigned by the Radiological Emergency Coordinator:

- MIDAS Operator
- Countroom Radiation Protection Specialist
- Field Survey Teams
- Field Team Drivers for Monticello Field Survey Teams
- Sample Couriers

C. Supervise the activities of the following personnel that have been sent by the Monticello Nuclear Generating Plant.

- Field survey Teams
- EOF Radiation Protection Monitor

D. Taking responsibility for the following offsite functions from the Radiological Emergency Coordinator:

- Offsite dose assessment
- Formulating offsite protective action recommendations
- Offsite radiation surveys
- Providing offsite agency updates

E. Establish and verify radiological monitoring for the EOF as necessary.

F. Provide periodic updates to the Emergency Manager concerning the offsite survey results, dose estimates, offsite and onsite protective actions and EOF habitability.

G. Assume responsibility for the HPN communications when required and NRC radiological assessment interface.

H. Provide radiological assistance in support of a plant site evacuation.

I. Notify the REMP (Radiological Environmental Monitoring Program) Coordinator to provide the necessary assistance during a significant radiological release.

4.4 Technical Support Supervisor (TSS)

4.4.1 The Technical Support Supervisor should be staffed by qualified Prairie Island site personnel. This position is filled from a call list maintained in the Nuclear Emergency Preparedness Telephone Directory.

4.4.2 The general responsibilities of the Technical Support Supervisor are:

A. Assign personnel as necessary to the following positions and supervise their activities:

- Engineering Support Team Leader
- Classification Team Leader
- Trending Team Leader
- CR-TSC-EOF Communicator
- Technical Corporate Communicator (EOF-JPIC)
- ENS/ NRC Communicator
- EOF Narrative Log Keeper

B. Access plant data via the ERCS (Emergency Response Computer System) and established plant communication links.

C. Provide accident assessment and technical analysis during the course of the emergency.

D. Update the EOF staff and Emergency Manager of changes or potential changes in plant parameters and their potential results.

NOTE: **The TSC is the primary source of possible reclassifications; however, the Emergency Manager is responsible to authorize reclassifications.**

E. Evaluate plant conditions for possible emergency reclassifications.

F. Provide periodic updates to the Executive Spokesperson's technical support personnel at the Minnesota State Emergency Operations Center (EOC).

G. Assume responsibility for the ENS communications when required and NRC technical assessment interface.

H. Coordinate the trending of Severe Accident Management strategies, as necessary.

I. Assist the TSC in developing a short term and long term actions needed to return the plant to normal operational status.

4.5 Recovery Manager

4.5.1 The Recovery Manager should be staffed by site management personnel. This position is filled from a call list maintained in the Nuclear Emergency Preparedness Telephone Directory.

4.5.2 The general responsibilities of the Recovery Manager are:

A. Assess with the Emergency Manager and Emergency Director the extent of damage, overall plant conditions, and when Recovery is likely to be initiated.

B. Help coordinate the establishment of long and short term goals to keep the plant environs in a safe condition.

C. Establish a recovery organization made up of appropriate plant support organizations similar to plant outage organizations.

5.0 DISCUSSION

5.1 Initial Stages Of An Emergency

During the initial stages of an emergency condition, the Emergency Director has overall coordinating authority for NMC. The Emergency Director position is staffed initially by the operations Shift Manager and later relieved by the Plant Manager or another qualified member of plant management.

The Emergency Director has the authority and responsibility to immediately initiate any emergency actions including providing Protective Action Recommendations to offsite authorities responsible for implementing offsite emergency measures.

5.2 Activation of EOF And Monticello & Prairie Island Offsite Emergency Response Organizations

5.2.1 EOF Organization

During an Alert, Site Area or General Emergency, the EOF organization **SHALL** be activated. The EOF organization may be activated at an NUE, if deemed necessary by plant management. It is expected that the EOF can be staffed and ready to assume its emergency responsibilities within about one (1) hour of notification. Following activation of the EOF and when the TSC is prepared to transfer emergency responsibilities, the Emergency Manager **SHALL** assume, from the Emergency Director, responsibility for overall management of all offsite support. The Emergency Director **SHALL** retain the responsibility for onsite operations.

Some of the offsite functions transferred from the Emergency Director to the Emergency Manager are:

A. Authorization of emergency reclassifications (re-classifications are formulated by TSC).

B. Authorization of offsite Protective Action Recommendations (PARs are formulated by RPSS).

C. Direction of offsite communications.

D. Direction of offsite dose assessment.

E. Direction of offsite radiological survey teams.

5.2.2 Monticello & Prairie Island Offsite Emergency Response Organization

The Mo & PI Offsite ERO is responsible for control of the NMC & Xcel Energy offsite resources.

Their responsibilities include:

A. Provide managerial and other support to the Emergency Manager.

B. Coordinate the efforts of public affairs during the emergency.

C. Provide technical input for press releases.

D. When appropriate, designate qualified individuals who will be dispatched to the Minnesota State EOC/JPIC as the NMC Executive Spokesperson and the Technical Resource Person. The Executive Spokesperson will give direction to other licensee personnel at the EOC/JPIC.

E. Provide interface with Utility Executive Management.

F. Serve as the INPO contact for providing updated communication.

G. Work with the Emergency Director and Emergency Manager to ensure adequate NMC & Xcel Energy resources are made available for the emergency effort.

5.3 Recovery

When plant conditions stabilize and allow for transition to the Recovery phase, a Recovery Manager will be assigned. The Recovery Manager will establish an appropriate recovery or post-accident outage organization and manage the overall recovery plans as work is done to return the plant to a normal operational or shutdown status.

6.0 PREREQUISITES

An Alert, Site Area or General Emergency has been declared at Prairie Island Nuclear Generating Plant or the EOF organization has been activated.

7.0 PROCEDURE

All EOF emergency response personnel **SHALL** report to the EOF and perform their emergency duties as described in F8-2, Responsibilities During an Alert, Site Area or General Emergency, and other emergency procedures, as necessary.

F	EMERGENCY OPERATIONS FACILITY ORGANIZATION	NUMBER: F8-1
		REV: 7

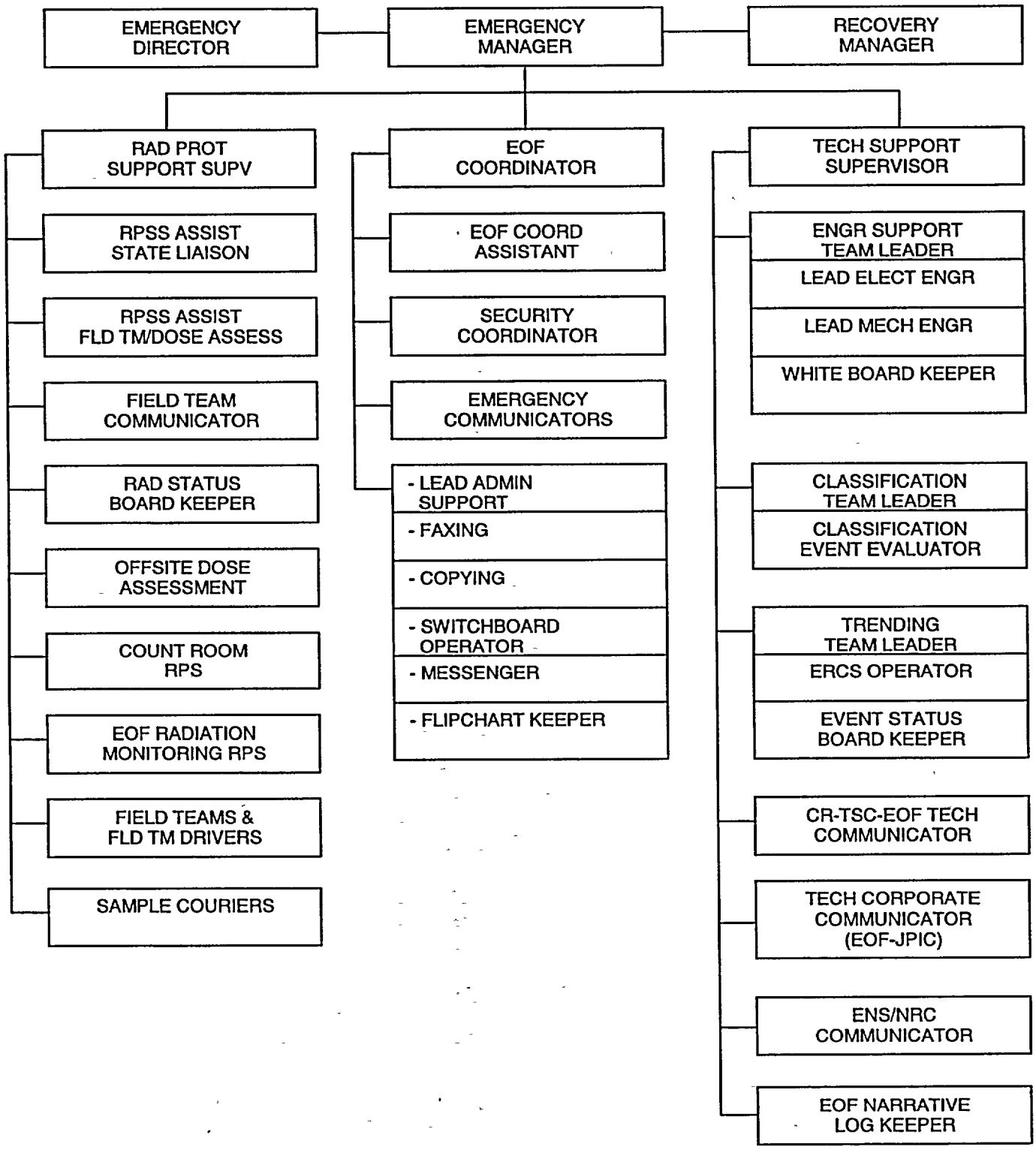



Figure 1 Prairie Island EOF Organization