

NRC 2003-0043

May 19, 2003

Document Control Desk  
U.S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington DC 20555

Ladies/Gentlemen:

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

Enclosed are copies of revised procedures to the Point Beach Nuclear Plant Emergency Plan Implementing Procedures. The revised procedures dated May 9, 2003 should be filed in your copy of the manual.

Sincerely,

  
A.J. Gavia  
Site Vice President  
FAF/kmd

Enclosures

cc: NRC Resident Inspector (w/o/e)  
Incident Response Center, Region III

A045

INDEX

PROCEDURE NUMBER	PROCEDURE TITLE	REVISION NUMBER	EFFECTIVE DATE	PERIODIC REVIEW/ CANCELED DATE
---------------------	-----------------	--------------------	-------------------	---

**TABLE OF CONTENTS**

EP 1.0	Introduction.....	26	05/09/03	05/09/03
EP 2.0	Emergency Plan Acronyms & Definitions.....	39	05/09/03	05/09/03
EP 3.0	Summary of Emergency Plan.....	23	08/28/00	05/09/03
EP 4.0	Emergency Conditions.....	38	02/06/02	05/09/03
EP 5.0	Organizational Control of Emergencies.....	47	02/21/03	02/21/03
EP 6.0	Emergency Measures .....	46	05/09/03	05/09/03
EP 7.0	Emergency Facilities and Equipment .....	45	02/07/03	02/07/03
EP 8.0	Maintaining Emergency Preparedness.....	45	05/09/03	05/09/03
EP 9.0	Recovery .....	36	02/06/02	05/09/03

**APPENDICES**

APPENDIX A	Emergency Response Organization Personnel Function and Responsibility .....	22		05/09/03	05/09/03
APPENDIX B	Emergency Classifications.....	20	R	02/06/02	02/06/02
APPENDIX C	Maps .....	13		02/07/03	02/07/03
APPENDIX D	Letters of Agreement <sup>(1)</sup> .....	22	I	05/09/03	05/09/03
APPENDIX E	State of Wisconsin Emergency Operations Plan.....	6		05/09/03	05/09/03
APPENDIX F	Manitowoc County Emergency Operations Plan.....	9		05/09/03	05/09/03
APPENDIX G	Kewaunee County Emergency Operations Plan .....	9		05/09/03	05/09/03
APPENDIX H	Typical Equipment List .....	9		08/28/00	05/09/03
APPENDIX I	List of EPIP Categories and Cross-References to the Emergency Plan .....	15		08/28/00	05/09/03
APPENDIX J	Evacuation Time Estimates for the Area Surrounding the Point Beach Nuclear Plant .....	12		08/28/00	05/09/03
APPENDIX K	NUREG-0654 Cross Reference Matrix .....	0		02/06/02	05/09/03

**CROSS-REFERENCE INDEX**

EP CR INDEX	Emergency Plan Cross-Reference Index.....	11		05/09/03	05/09/03
-------------	---	----	--	----------	----------

## INTRODUCTION

---

### 1.0 PURPOSE

The purpose of the Emergency Plan is to describe an organization for managing emergency situations, to classify emergencies according to severity, to define and assign responsibilities and authorities, to clearly outline an effective course of action and protective measures required to mitigate the consequences of an accident, and to safeguard the public and plant personnel in the event of an accident at the Point Beach Nuclear Plant (PBNP). Detailed Emergency Plan Implementing Procedures (EPIPs) required to implement the Emergency Plan have been developed and are available for use at the plant site. These procedures take into account such items as radiation hazards, weather conditions, and availability of technical and operating personnel, communications links, and support agencies.

### 2.0 SCOPE AND APPLICABILITY

This Emergency Plan is applicable to the Point Beach Nuclear Plant. The plant is owned by the We Energies (We), operated by the Nuclear Management Company (NMC), 700 First Street, Hudson, WI 54016, and located at 6610 Nuclear Road, Two Rivers, WI 54241. The Emergency Plan describes advance planning elements and the provisions and implementing procedures developed for emergency situations. The EPIPs for this Plan consist of the procedures used by responding personnel in emergency situations. Other plant procedures that play a role in emergency situations include plant operating, emergency operating, radiological control, security, and administrative procedures. These procedures are compatible with the Plan and will be used to mitigate the consequences of any emergency.

The interrelationships among the various elements of onsite emergency response and the elements of offsite emergency response are described in this Emergency Plan along with the appropriate federal, state, and local agencies participating in radiological emergencies.

### 3.0 GENERAL

PBNP recognizes the fact that periodically there will be differences between this Emergency Plan and the Emergency Plan Implementing Procedures. The Emergency Plan is the guiding document to which the procedures are written. The Plan describes the organization, emergency measures, facilities, training, etc., of the PBNP Emergency Preparedness Program. The Emergency Plan Implementing Procedures more accurately reflect how a particular situation will be addressed, how personnel will be assigned, how equipment will be placed, etc.

As long as differences of specific implementing procedures do not change the intent or commitment of the Plan, the procedures will reflect the actual plant activity or commitment, and the Plan will not be revised until the next annual review.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

1.0 KEY ABBREVIATIONS

The following key and readily recognizable abbreviations are used throughout the plan:

ABVNT	Auxiliary Building Vent
AC	1) Alternating Current; 2) Air Conditioning
ADC	Analog to Digital Converter
AEOF	Alternate Emergency Operations Facility
AgZ	Silver Zeolite
AHU	Air Handling Unit
AL	Alert
ALI	Annual Limit on Intake
ALARA	As Low As Reasonably Achievable
AMS	Air Monitoring System
ANALYZ	Analyzer
ANI	American Nuclear Insurers
AOT	Auxiliary Operator Trainee
AOV	Air Operated Valve
ASIP	Auxiliary Safeguards Instrumentation Panel
AT&T	American Telephone & Telegraph
A&E	Architect/Engineer
BAST	Boric Acid Storage Tank
CAE	Combined Air Ejector
CAS	Central Alarm Station
CBO	Contained Breathing Oxygen
CC	Cursor Channel
CCR	Communications and Community Relations
CCWHX	Component Cooling Water Heat Exchanger
CDE	Committed Dose Equivalent
CEDE	Committed Effective Dose Equivalent
CFM	Cubic Feet per Minute
CFR	Code of Federal Regulations
CM	Common Multiplier
COMB AE	Combined Air Ejector (or CAE)
cpm	Counts Per Minute
CPR	Cardiopulmonary Resuscitation
CR	Control Room
CRT	Cathode Ray Tube
CT	Computer Terminal
CTH	County Trunk Highway
CVCS	Chemical Volume & Control System
CW	Circulating Water

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

DA	Digital to Analog
DAC	Derived Air Concentration
DAM	Data Acquisition Module
DAVNT	Drumming Area Vent
DBA	Design Basis Accident
DC	1) Dose Commitment; 2) Direct Current
DEM	Division of Emergency Management
DHFS	Department of Health & Family Services
DI	De-ionized; Demineralized
DMA	Department of Military Affairs
DNB	Departure from Nucleate Boiling
DNBR	Departure from Nucleate Boiling Ratio
DNR	Department of Natural Resources
DOE	Department of Energy
DOH	Division of Health
DOS	Duty Operating Supervisor
DOT	Department of Transportation
DPM	Disintegrations Per Minute
EAL	Emergency Action Level
EAS	Emergency Alerting System
EBS	Emergency Broadcast System
EC	Energy Center
ECCS	Emergency Core Cooling System
ED	Emergency Director
EDG	Emergency Diesel Generator
ENS	Emergency Notification System (Red Phone)
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EOP	Emergency Operating Procedure
EP	Emergency Plan
EPA	Environmental Protection Agency
EPIP	Emergency Plan Implementation Procedure
EPMP	Emergency Plan Maintenance Procedure
EPP	Emergency Preparedness Program
EPZ	Emergency Planning Zone
ERD	Estimated Release Duration
ERDS	Emergency Response Data System
ERF	Emergency Response Facility
ESIV	Estimated Safety Injection Volume
ETD	Emergency Telephone Directory

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

FCC	Federal Communications Commission
FEMA	Federal Emergency Management Agency
FI	Flow Indicator
FM	Frequency Modulation
FMT	Field Monitoring Team
FRERP	Federal Radiological Emergency Response Plan
FRMAC	Federal Radiological Monitoring & Assessment Center
FSAR	Final Safety Analysis Report
FTS	Federal Telecommunications System
FX	Foreign Exchange (RE: Telephone Circuitry)
GC	Gas Chromatograph
GE	General Emergency
GM	Geiger Mueller
gpm	Gallons Per Minute
GSBVNT	Gas Stripper Building Vent
GTE	General Telephone and Electronics
HPCAL	Health Physics Calibration Procedure
HPIP	Health Physics Implementation Procedure
HPN	Health Physics Network
HVAC	Heating Ventilation and Air Conditioning
IBM-PC	International Business Machines Personal Computer
ID	Identification
IIT	Incident Investigation Team (NRC)
INPO	Institute for Nuclear Power Operations
IRP	Incident Response Plan
I&C	Instrumentation & Control
I/O	Input/Output
IPZ	Ingestion Pathway Zone
ISFSI	Independent Spent Fuel Storage Installation
JPIC	Joint Public Information Center
KNPP	Kewaunee Nuclear Power Plant
kV	Kilovolt
LCD	Liquid Crystal Diode
LCO	Limiting Condition for Operation
LI	Level Indicator
LIN	Location Identification Number
LLD	Lower Limit of Detection
LOCA	Loss of Coolant Accident
LPZ	Low Population Zone

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

MAD-CR	Meteorology and Dose Assessment Program-Control Room
MASP	Modified Amended Security Plan
MCA	Multi-Channel Analyzer
MPC	Maximum Permissible Concentration
MPD	Maximum Permissible Dose
MPH	Mile Per Hour
mR	Milli-Roentgen
mRem	MilliRem = 1/1000 of a Rem
MSA	Mine Safety Appliance
MSIV	Main Steam Isolation Valve
MSLB	Main Steam Line Break
MSR	Moisture Separator Reheater
MW	Megawatt
NA	Not Applicable
NES	Nuclear Engineering Section
NGSD	Noble Gas Skin Dose
NLR	No License Required
NMC	Nuclear Management Company
NNSR	Non-Nuclear Safety Related
NPASS	Nuclear Planning, Systems and Support Section
NPPOSA	Nuclear Power Plant Operating Service Agreement
NRC	Nuclear Regulatory Commission
NRR	Nuclear Reactor Regulation (Office of)
NSR	Nuclear Safety Related
NSSS	Nuclear Steam Supply System
NUREG	Nuclear Regulatory Commission Report
NWS	National Weather Service
OA	Outside Air
OI	Operating Instruction
OP	Operating Procedure
OPT	Optional
OSC	Operations Support Center
OSHA	Occupational Safety and Health Administration
OSRC	Offsite Review Committee
OSRPF	Offsite Radiation Protection Facility
PA	Public Address, Protected Area, Public Affairs
PAB	Primary Auxiliary Building
PAC	Portable Alpha Counter
PAG	Protective Action Guides
PAR	Protective Action Recommendation
PASS	Post Accident Sampling System
PBNP	Point Beach Nuclear Plant
PBSP	Point Beach Security Procedures

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

PBX	Private Branch Exchange
PDP	Portable Data Processor (Digital Equipment Corporation)
pH	Hydrogen Ion Concentration
PHA	Pulse Height Analysis
PI	Pressure Indicator
PIC	Pressurized Ion Chamber
PIM	Position Instruction Manuals
PIMS	Pooled Inventory Management Systems
PORV	Power Operated Relief Valve
PPCS	Plant Process Computer System
ppm	Parts Per Million
PSB	Public Service Building
psia	Pounds Per Square Inch (Absolute)
psig	Pounds Per Square Inch (Gauge)
PWR	Pressurized Water Reactor
Q	Quart
QA	Quality Assurance
QAD	Quality Assurance Division
QAS	Quality Assurance Section
QF	Quality Factor
R	Roentgen
RAP	Regulated Air Pump
RAS	Regulated Air Sampler
RAT	Radiological Assistance Team
RCA	Radiation Control Area
RCP	Reactor Coolant Pump
RCS	Reactor Coolant System
RCT	Radio Chemistry Technician
RDW	Radioactive Waste
REDS	Remote EOF Datalink System
REM	Roentgen Equivalent Man
RES	Regulatory Services
RHR	Residual Heat Removal
RM	Radiation Monitor
RMS	Radiation Monitoring System
RMSASRB	Radiation Monitoring System Alarm Setpoint Response Book
RO	1) Reactor Operator; 2) Eberline brand name Radiation Survey Instrument
RP	Radiation Protection
RPS	Reactor Protection System
RPT	Radiation Protection Technologist
RPU	Radiation Protection Unit
RTD	Resistance Temperature Detector
RWP	Radiation Work Permit

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

RWST	Refueling Water Storage Tank
Rx	Reactor
SAS	Secondary Alarm Station
SAMGs	Severe Accident Management Guidelines
SBCC	Site Boundary Control Center
SBF	Site Boundary Facility (Kewaunee Nuclear Plant)
SCBA	Self Contained Breathing Apparatus
SE	Site Emergency
SFP	Spent Fuel Pool
SG	Steam Generator
SGBD	Steam Generator Blowdown
SGTR	Steam Generator Tube Rupture
SI	Safety Injection
SM	Shift Manager
SOP	1) Standard Operating Procedure; 2) Step Off Pad
SP	State Patrol
SPING	System Particulate Iodine and Noble Gas
SRC	State Radiological Coordinator
SRD	Self Reading Dosimeter
SRO	Senior Reactor Operator
STA	Shift Technical Advisor
STH	State Highway
STP	Standard Temperature and Pressure
Tc	Temperature, cold leg
TC	Thermocouple, Team Coordinator
TEDE	Total Effective Dose Equivalent
Th	Temperature, hot leg
TI	Temperature Indicator
TID	Temperature Indicating Device
TLD	Thermoluminescent Dosimeter
TR	Temperature Recorder
TS	Technical Specification
TSC	Technical Support Center
TSO	Time Sharing Option
UE	Unusual Event
ULD	Upper Level of Detection
USCG	United States Coast Guard
USEPA	United States Environmental Protection Agency
USNRC	United States Nuclear Regulatory Commission
V	Volt
Vac	Volts, Alternating Current
VAMP	Victoreen Area Monitor Package
Vdc	Volts, Direct Current

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

WB	Whole Body
We	We Energies
WEDAP	Wisconsin Electric Dose Assessment Program
WEM	Wisconsin Emergency Management
WIS STATS	Wisconsin Statutes
WOG	Westinghouse Owners Group
WPS	Wisconsin Public Service
WPSC	Wisconsin Public Service Commission
WT	Water Treatment
X/Q	Wind Dispersion Factor

## EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

### 2.0 DEFINITIONS

This section provides definitions of terms applicable to the PBNP Emergency Plan.

#### 2.1 Accident

An unforeseen and/or unintentional event and its consequences that may result in an emergency.

#### 2.2 Admin Building

This three-story building houses the TSC proper, the OSC, TSC satellite file system, and offices areas. The entire building is within the TSC post-accident ventilation system envelope.

#### 2.3 Assessment Actions

Those actions taken during or after an accident to obtain and process information necessary to make decisions to implement specific emergency measures.

#### 2.4 Background Radiation

The radioactivity that occurs naturally in our environment.

#### 2.5 Clean Area

That area within the protected area excluding the radiation control area(s).

#### 2.6 Containment Building

Houses the reactor, pressurizer, reactor coolant pumps, steam generator, and other equipment or piping containing reactor coolant. The containment building is an airtight structure which is made of 3½ foot thick steel-reinforced concrete with an inside steel liner.

#### 2.7 Control Room (CR)

The Control Room is operated under the direction of the Shift Manager. It is the primary place where conditions are monitored and corrective actions for both units are taken to mitigate any abnormal occurrence. It is the location where primary assessment and classification of an accident begins. It's purpose is to monitor the conditions of both units and provide the main communications link between the plant and the TSC concerning analysis of reactor system problems, as well as long - and short-term guidance on corrective actions.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.8 Corporate Office

Corporate offices refer to Nuclear Management Company and We Energies. Examples of support provided are risk management, legal, insurance, finance, and governmental offices.

2.9 Corrective Actions

Those emergency measures taken to improve or terminate an emergency situation at or near the source of the problem, to prevent or mitigate any release of radioactive material, or to reduce the magnitude of the emergency situation, (e.g., shutting down equipment, fire fighting, repair, and damage control).

2.10 Emergency

The situation or condition which may result in damage to property or risk to the health and safety of the general public or plant personnel.

2.11 Emergency Actions

Those steps taken, as a result of exceeding an emergency action level in a plant emergency operating procedure or in this Emergency Plan, to assess the situation and ensure that the proper corrective and/or protective actions are taken.

2.12 Emergency Action Level (EAL)

A predetermined set of initiating conditions which places the plant in a given emergency class. An EAL can be an instrument reading, equipment status, measurable parameter either on or offsite, an observable event or other phenomenon which, if it occurs, indicates entry into a particular emergency class.

2.13 Emergency Alert System

A set of pre-determined local radio stations which will broadcast emergency messages advising area residents of Protective Actions to be taken.

2.14 Emergency Classification System

A classification system that arranges accidents according to their severity. Four emergency classifications are defined under this system. They are, in order of increasing severity:

- Unusual Event
- Alert
- Site Emergency
- General Emergency

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.15 Emergency Director

A designated person responsible for the overall management of the emergency response and recovery operation.

2.16 Emergency Operations Center (EOC)

The headquarters for emergency response by the county and state governments. The state and each county has its own EOC, located at the state capitol or county seat.

2.17 Emergency Operations Facility (EOF)

Following its activation, this facility is located in the Site Boundary Control Center at the south exclusion area boundary, approximately one mile southwest of the plant. This facility is operated by the EOF manager for evaluating and controlling emergency situations that may affect the public. For example, radiological dose projections and verifications will be performed at the EOF and results will be provided to local, state, and federal agencies as required for implementation of offsite emergency plans. The EOF also serves as the command center for direction of recovery operations. It becomes a center for offsite environmental monitoring by Radiation Protection personnel. It serves as a Radiation Protection control point for individuals entering or leaving the site.

2.18 Emergency Plan Implementing Procedures (EPIPs)

Specific procedures providing actions to implement this Emergency Plan in order to mitigate or terminate an emergency situation.

2.19 Emergency Plan Maintenance Procedure (EPMPs)

Specific procedures providing information and actions designed to maintain equipment and facilities prepared to respond to an emergency situation.

2.20 Emergency Planning Zone (EPZ)

Offsite area surrounding PBNP for which planning is conducted to ensure that prompt and effective actions can be taken to protect the public in the event of an accident. For the plume exposure pathway, the EPZ has a radius of approximately 10 miles; and for the ingestion exposure pathway, the EPZ has a radius of approximately 50 miles (see Appendix C and Appendix J).

2.21 Emergency Response Organization (ERO)

Specific personnel who are trained in various positions to respond to the emergency.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.22 Evacuation

The process implemented where radiological or other hazards require additional actions such as radiological monitoring, in conjunction with the release of personnel.

2.23 Exclusion Area

The area within the site boundary surrounding PBNP in which the plant personnel have the authority to determine all activities including exclusion or removal of personnel and property from the area. At PBNP, the outer boundary of the exclusion area is coincident with the site boundary (see Appendix C).

2.24 Federal Emergency Management Agency (FEMA)

The lead federal agency with responsibility for off-site federal response to a nuclear power plant incident.

2.25 Federal Response Center (FRC)

The central location to be used as the command center for all federal agencies.

2.26 Federal Radiological Monitoring and Assessment Center (FRMAC)

Where the Department of Energy will establish a center to coordinate radiological analysis of the event.

2.27 Gatehouse

A building at the perimeter of the protected area manned by security force personnel and used for normal access to and egress from the protected area. The gatehouse on the south side of the plant is the primary access and egress point to the plant. In an emergency situation where the south gatehouse would be unavailable, Security could re-activate a gatehouse on the north side of the plant for emergency access or egress to the plant.

2.28 Incident

This term is often used interchangeably with the term "accident" and, therefore, shall be considered to have the same definition.

2.29 Ingestion Exposure Pathway

The principal exposure from this pathway would be from ingestion of contaminated water or foods such as milk, livestock feed, or vegetables. Depending on the magnitude and nature of the radiological emergency, the time of potential exposure may range in duration from hours to months.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.30 Joint Public Information Center (JPIC)

This facility is under the direction of the JPIC Manager and functions as a coordinating point and common working area for local, county, state and federal agencies involved with a public information role in the emergency response. It is also a contact point for disseminating information to the public through the news media during severe emergencies.

2.31 Limited Evacuation

The orderly withdrawal of personnel from area(s) onsite. This may be a limited plant evacuation of a room, plant area, or building. It may also be a full evacuation of all non-essential personnel from the site, both exclusion and protected areas.

2.32 Low Population Zone (LPZ)

The area immediately surrounding the exclusion area which includes a residential population of which the total number and density are such that appropriate protective actions can be readily taken in the event of a serious radiological accident (see Appendix C and Appendix J).

2.33 Non-Essential Personnel

Those not needed to respond to the accident. In public communications, these people should be called "workers without emergency response duties."

2.34 Nuclear Management Company (NMC)

Operator of the Point Beach Nuclear Plant under the conditions/terms of the Nuclear Power Plant Operating Service Agreement (NPPOSA). Offices are located at 700 First St., Hudson, WI 54016.

2.35 Nuclear Power Plant Operating Service Agreement (NPPOSA)

Document which details the operating relationship between the NMC (operator) and We Energies (We) (owner) of the Point Beach Nuclear Plant (PBNP).

2.36 Nuclear Regulatory Commission (NRC)

The federal governmental agency that is responsible for the licensing and regulation of all activities related to the commercial use of radioactive materials, including the regulation and inspection of nuclear power plants.

2.37 Offsite

The area beyond the exclusion area of PBNP.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.38 Offsite Radiation Protection Facility (OSRPF)

Following its activation, this facility is located across from the EOF in the Site Boundary Control Center. The facility is equipped with emergency radiation monitoring and sampling equipment, Radiation Protection supplies, protective and all-weather clothing, and other miscellaneous supplies for use during an emergency situation. Full monitoring teams are dispatched from this facility to monitor radiological conditions around PBNP and within the 10-mile EPZ.

2.39 Onsite

All areas at PBNP within the exclusion and protected area.

2.40 Operations Support Center (OSC) (Staging Area) (El. 8' of the TSC building)

This facility is an area for preparation and deployment of reentry teams. Communications are provided to the TSC and CR.

2.41 Plume

Describes the shape and location of the radioactive material released to the atmosphere from a nuclear plant in an accident.

2.42 Plume Exposure Pathway

The principal exposures from this pathway are whole body external exposure to gamma radiation from the plume and from deposited material, and internal exposure from inhalation of radioactive gas from the passing radioactive plume. Depending on the nature of the meteorological and radiological conditions, the time of potential exposure could range from hours to days.

2.43 Point Beach Nuclear Plant (PBNP)

A two-unit [522 Megawatts (designed electrical rating net) each] pressurized water nuclear power plant located on a 1,260 acre site in the town of Two Creeks, Wisconsin.

2.44 Population-at-Risk

Those persons for whom protective actions are being, or would be, taken.

2.45 Projected Dose

The estimated dose that would be received by individuals if no protective actions were taken following a release of radioactive material.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.46 Protected Area

The area within the PBNP security fence. This is sometimes referred to as "onsite" by the utility industry. However in this plan, "onsite" is a defined term.

2.47 Protective Actions

Those measures taken in anticipation of or after an inadvertent release of radioactive material for the purpose of preventing or minimizing radiological exposures to persons that potentially could occur if the actions were not taken.

2.48 Protective Action Guides (PAGs)

The projected radiological dose (including dose commitment values) at or above which protective actions may be warranted.

2.49 Protective Action Recommendation (PAR)

Protective Action Recommendation of evacuation is made by the utility to the state and county governments in order to protect the health and safety of the public. The state and county government may implement a PAR of evacuate or shelter in place at their discretion.

2.50 Radiation Control Area (Controlled Zone)

The area within the protected area in which radioactive materials and radiation are present or could normally be expected to be present in sufficient quantities to require protective measures. This area typically includes the containments, facades, auxiliary building, the area surrounding these buildings, and parts of the service building. This area is controlled by administrative means.

2.51 Radiological Emergency

A radiological emergency is defined as an accident that may result in some loss of control of radioactive materials or may involve a hazard or potential hazard to the health and safety of people, or to the safety of property or environment.

2.52 Recovery Operations

Those operations taken after the emergency to restore the plant as nearly as possible to its pre-emergency condition.

2.53 Release of Personnel

The orderly dismissal of nonessential personnel not immediately needed for response to the event.

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.54 Security Building (Extension Building)

The building inside the protected area containing the Central Alarm Station and the Security Manager's office, and one of the Fitness for Duty testing areas. Office areas unrelated to security are also in the building.

2.55 Severe Accident Management Guidelines (SAMG)

Guidance documents developed to assist in the management of accidents significantly beyond that for which the plant was designed. Goal is to mitigate core damage and maintain the containment of fission products.

2.56 Site Boundary Control Center (SBCC)

This building is located approximately one mile southwest of PBNP at the south entrance to the plant site. During normal operations, it may function as a training center. During an emergency, the building houses the EOF and OSRPF and functions as an ingress/egress point to the site and assembly area for ERO personnel assigned to the EOF during a plant evacuation.

2.57 Siren Warning System

A set of sirens installed in a (approximately) 10 mile radius around the plant. When sirens are sounded by county officials, residents should listen to Emergency Alert System radio stations for information/instructions.

2.58 Technical Support Center (TSC)

This facility is within two minutes walking distance of the Control Room and operates under the direction of the TSC Manager. The facility has the capability to supply and display technical information for use by technical and designated management personnel in support of reactor operations and Control Room functions during emergency and recovery operations. The TSC has its own emergency ventilation system.

2.59 TSC Satellite File

These supporting documents are located on El 26' of the Admin Building, consisting of procedures for all disciplines, component instruction manuals for major systems and components, and a complete set of permanent drawing aperture cards with a reader/printer.

2.60 We Energies (We)

We Energies (We) headquarters is located at 231 West Michigan Street, Milwaukee, Wisconsin, 53201. Support provided by the corporate office is detailed in the Nuclear Power Plant Operating Service Agreement (NPPOSA).

EMERGENCY PLAN ACRONYMS & DEFINITIONS

---

2.61 Wisconsin Emergency Management (WEM)

A division of the State of Wisconsin Department of Military Affairs. The WEM coordinates the state's expertise required to deal with a given emergency. The types of emergencies to which they may respond include: chemical spills, fires, tornadoes, flooding, public employee strikes and nuclear plant accidents. The WEM Director reports to the Governor. The WEM makes recommendations to the governor regarding evacuation and other protective actions.

## EMERGENCY MEASURES

---

### 1.0 DISCUSSION

Emergency measures begin with the identification and classification of an emergency and the activation of the appropriate emergency organization. Emergencies are classified in four distinct classes. Definitions for each class, criteria for classifying emergency situations, and examples of emergencies falling in each class are described in EP 4.0. The initial corrective and protective actions are recommended. The details of these various emergency measures are contained in the plant's EIPs. A general outline of the method and format is presented here.

### 2.0 ACTIVATION OF EMERGENCY ORGANIZATION

The four classes of emergencies defined in EP 4.0, Sections 1.1 through 1.4 require a varying degree and scope of emergency response. The emergency organizations for each class are depicted in Figures 5-3 through 5-5 of EP 5.0. These figures have been designed to show titles of emergency personnel and the places to which they report during each classification of emergency. The function and responsibilities of these personnel are more fully described in Appendix A.

The various emergency classifications can occur individually or in some order of progression over a period of time. The onsite emergency organization will be activated when the emergency is announced on the public address (Gai-tronics) system. The public address announcement will include the location and the classification of the emergency. Initially, the emergency organization will consist of the normal operating shift personnel who are qualified as emergency team members. Additional emergency team members and plant staff personnel are readily available during normal working hours and on a call-in basis during other than normal working hours. Activation of offsite emergency organizations will be accomplished in accordance with the severity of the emergency class. EIPs provide predetermined message formats for notification of offsite agencies, in conjunction with an established message authentication scheme for each emergency classification. The overall offsite notification of supporting groups and agencies is shown in EP 5.0, Figure 5-7.

## EMERGENCY MEASURES

---

### 3.0 ASSESSMENT ACTIONS

#### 3.1 Responsibility for Assessment

Effective coordination and direction of all elements of the emergency organization require continuing assessment throughout the emergency. The assessment of plant conditions, radiation levels, and offsite consequences is initially coordinated by the Shift Manager (SM). The Shift Manager is in direct charge of all emergency operations.

The assessment of emergencies can usually be accomplished by the normal operating shift under the direction of the Shift Manager. However, other members of the plant staff, including the use of the emergency response organization as described in EP 5.0, Section 3.0, will be called upon as required. Technical services and support will be obtained from the combination of NMC and We Energies corporate personnel (as outlined in the NPPOSA), plant staff, and outside support organizations as necessary and appropriate.

The SM shall conduct a formal turnover of all responsibilities to the Emergency Director who will assume the overall management of the event and all key non-delegable responsibilities. The TSC Manager and EOF Manager are responsible for input to the classification and Protective Action Recommendation process.

Should any emergency progress to core damage, Emergency Operating Procedures will be exited and plant response will be in accordance with Severe Accident Management Guidelines (SAMG). Decision-making responsibilities for plant response will shift to the TSC. Several ERO positions have been designated as SAMG Evaluators or Decision-Makers. Operations personnel perform the SAMG function of Implementor.

#### 3.2 Types of Assessment Actions

The different types of assessment actions are described in Table 6-1. The details of the assessment function are incorporated in the EPIPs for each emergency classification. Continued assessment will be performed as required, with updating of offsite response agencies. In addition, the results may require additional notifications, emergency actions, or reclassification of the accident.

## EMERGENCY MEASURES

---

### 3.3 Methods of Assessment

Accidents involving releases of radioactive materials to the environment require special methods of assessment to ensure that responses are appropriate for the protection of the population-at-risk as well as plant personnel. The plant has an extensive system for monitoring radioactive materials released to the environment (e.g., liquid process, containment purge exhaust and auxiliary building ventilation exhaust, air ejector vent monitors). As a general requirement, the various process monitors are capable of initiating appropriate alarms or actuating control equipment to provide containment of radioactive materials if pre-established limits are reached. These systems will allow for monitoring releases of radioactivity during accident conditions. In any accident condition where releases are not monitored or able to be monitored, emergency procedures provide the basis for calculating theoretical worst-case release rates corresponding to a design basis accident described in the PBNP FSAR.

In addition, the site has a permanent meteorological installation so that wind speed and direction, standard deviation of wind direction as well as change of temperature with height, are recorded continuously in the Control Room. Wind speed, direction, and standard deviation of wind direction are also available from a backup tower on site and from an inland tower located several miles west of PBNP. The inland tower is used to identify lake effect winds. In the event the above instrumentation is inaccessible or inoperative, such information can be obtained from Kewaunee Nuclear Power Plant, the local Coast Guard Station, or the National Weather Service in Green Bay.

The methodology and technique used to predict the offsite concentration of radioactive noble gases and iodine are as follows:

On determination of any emergency or potential emergency condition anticipated to have significant offsite dose consequences, a procedure is initiated to project doses. The Emergency Director is responsible for ensuring that the appropriate EIPs are performed. These concentration levels will be verified by offsite field monitoring teams deployed with portable radiological measurement and communications equipment. This information will aid state and local authorities in evaluating emergency action responses.

## EMERGENCY MEASURES

---

### 4.0 CORRECTIVE ACTIONS

Plant procedures contain steps to take corrective actions in order to avoid or mitigate serious consequences. Operator training is a vital factor in ensuring that corrective actions are taken in an expeditious manner. The instrumentation, control system monitors, and radiation monitoring system provide indications used by the operators to regulate systems necessary for the safe and proper operation of the plant.

These systems provide the operator with the information and controls needed to start up, operate at power, and shut down the plant. The systems also provide the means to cope with abnormal operating conditions should they occur. Control of systems and display of information from these various systems are centralized in the Control Room. This instrumentation provides a basis for initiation of corrective actions.

When necessary, the following additional corrective actions can be implemented during emergency situations:

#### 4.1 Fire Fighting

Detailed procedures for responding to fire situations are defined in the PBNP Fire Protection Manual. The Fire Protection Manual describes detailed instructions on fire protection and fire fighting with the fire protection organization and individual responsibilities. If outside assistance is needed, the Two Creeks Fire Department is called in to assist in extinguishing the fire.

#### 4.2 Damage Control and Repair

For minor emergencies, the plant personnel will normally be able to handle the cleanup, repair, and damage control. For major emergencies, the support of other company personnel or specialized outside contractors may be required to assist in the damage control, cleanup, and repair operation. Emergency response operations will be handled with the assistance of agencies available for that purpose.

Exposure to personnel during corrective actions should be controlled as stipulated in EP 6.0, Section 6.1.

## EMERGENCY MEASURES

---

### 5.0 PROTECTIVE ACTIONS

The EPIP used in classifying emergencies has predetermined EALs that, when met or exceeded, will require protective actions to be taken. In addition, the Shift Manager may initiate EPIPs when they are determined to be necessary. EPIPs include assessment actions, corrective actions, and protective actions as appropriate. Protective actions will ensure that personnel, both on and offsite, will be notified and actions initiated for their protection in the event radiation or airborne activity levels from a radiological emergency onsite exceed or are predicted to exceed predetermined values, or when other situations threaten personnel safety.

Protective actions taken within the exclusion and protected area (onsite) are the responsibility of the SM and TSC Manager with input from the Operations Coordinator, while those taken offsite fall under the jurisdiction of Wisconsin Emergency Management with the resources of the State Division of Health and Family Services, Radiation Protection Unit, and the Manitowoc and Kewaunee County Emergency Managements. Recommendations of protective actions to be taken offsite will be made only by the Emergency Director. It is recognized that at the beginning of an emergency evolution, the Shift Manager will have the responsibility and authority of the Emergency Director.

#### 5.1 Protective Actions, Evacuation, and Personnel Accountability

This subsection provides for the timely relocation of individuals to prevent or minimize exposure to direct or airborne radiation hazardous chemicals hazards.

##### 5.1.1 Exclusion Area

###### a. Exclusion Area Criteria

Protective actions for personnel onsite will be taken when a radiological emergency has occurred, or may occur, which will result in concentrations of airborne activity or radiation levels that exceed normal limits for a specific area or areas and cannot be readily controlled. In addition, protective actions will be taken for onsite personnel in such situations as chemical release, fire, meteorological danger, etc., where personnel safety is threatened.

EMERGENCY MEASURES

---

b. Notification and Response Time

The actuation of fire alarms, radiation alarms, plant evacuation alarm, telephone calls, paging system, and public address (Gai-tronics) announcements, as applicable, will alert onsite personnel to hazardous conditions and to actions they must take. Such actions may be to assemble in emergency teams, to report to assembly areas, to evacuate specific areas within the plant, or to evacuate the plant. Table 6-2 describes the assembly areas for onsite personnel (which could include plant personnel, contractor personnel, and visitors) to protect them from direct radiation or airborne hazards according to evacuation classification. The means and time required to notify the above personnel are delineated as follows: approximately two minutes are required in the Control Room to determine that an accident has occurred. In addition, it is conservatively estimated that eight minutes are required to determine local severity of the accident. Indications of importance for identification and assessment include pressurizer pressure, pressurizer level, containment pressure, and automatic initiation of safety injection. Therefore, the best estimate for initial notification of onsite personnel would be approximately 10 minutes or greater, depending on instrumentation response and assessment capability at the time of the incident. It is important to note that most credible accidents in a nuclear power plant develop slowly and "defense-in-depth" concepts delay the release of significant amounts of radioactivity.

c. Security and Site Access Control

The security program at PBNP is designed to deter, detect, and delay an intruder. The plant protected area is enclosed by a standard security fence. Plant personnel reporting to the plant during an emergency will report via the SBCC or the appropriate gatehouse. Security personnel will control access, log incoming personnel, and provide assistance, as required or requested. In the event these areas are uninhabitable, security control will be performed at the site boundary.

Provisions to restrict access to areas of the site outside the fenced protected area will be accomplished under the direction of the Security Shift Commander. The Security Shift Commander will assign a security force to control access to the plant property by barricading and manning the site roads with appropriate placement of lights, chains, traffic cones, padlocks, and gates. Access control will be performed with the aid and cooperation of the Manitowoc County Sheriff's Department, as well as assistance from the Wisconsin State Patrol.

Plant security procedures are found in the PBNP Security Plan.

EMERGENCY MEASURES

---

d. Assembly, Release and Evacuation

Personnel assembly, release, and evacuation at PBNP will depend on the nature of the emergency and the extent of the area affected. The Shift Manager, or the TSC Manager if the TSC is activated, will initiate any limited plant evacuation or full-site assembly, release, and/or evacuations. These protective actions will be made after careful consideration of the benefits and risks involved. The details of this process for the responsibilities and functions of plant personnel and contractors within the protected area and exclusion area are included in the EPIPs. In general, these protective actions will be in accordance with the following guidelines:

1. A limited plant evacuation will be considered when any of the following conditions exist:
  - (a) Unscheduled area radiation monitor high-level alarm.
  - (b) Conditions which indicate a valid containment alarm is necessary.
  - (c) Unevaluated airborne radioactive concentrations in excess of the derived air concentrations (DACs) specified in Appendix B to 10 CFR 20.
  - (d) Excessive radioactive surface contamination levels (RP personnel may require evacuation of rooms, areas, or the affected portions thereof).
  - (e) Other emergency conditions, such as fire, or chemical release that may endanger human life or health.

The criteria for these radiation levels and alarms do not apply to anticipated increases or alarms resulting from planned operations.

When a limited plant evacuation is ordered, personnel in the room, area, or building will proceed in accordance with the EPIPs, or as directed over the public address system. If evacuation is from areas within the RCA, personnel will proceed to the RP station for accountability and radiation monitoring.

EMERGENCY MEASURES

---

2. A plant and exclusion area assembly, release, or evacuation will be considered when the conditions that require a limited plant evacuation are not confined to a building of the plant, or when general area radiation levels outside of the radiation controlled area exceed prescribed limits. In addition, these protective actions could be initiated following a limited plant evacuation if a hazard continues to increase in severity or spreads to other areas and the Shift Manager or TSC Manager deems it necessary to assemble personnel from the plant. An assembly and release or evacuation will also be ordered upon the classification of a Site or General Emergency. When a plant and exclusion area assembly, release or evacuation is ordered, personnel will proceed as follows:
  - (a) Public visitors on the beach, fishing pier, and Energy Center will proceed to the SBCC.
  - (b) Duty Shift operations personnel will report immediately to the Control Room and remain there until instructed otherwise.
  - (c) Personnel with assigned emergency duties shall proceed to their pre-assigned emergency response facility.
  - (d) Plant personnel, NMC and We Energies Corporate personnel, contractors, temporary employees, and visitors who are inside the protected area but do not have an emergency assignment will proceed to designated assembly areas in (Table 6-2).
  - (e) Plant personnel, NMC and We Energies corporate personnel, contractors, temporary employees and visitors who are but outside the protected area should proceed to the nearest assembly area in Table 6.2 unless directed otherwise by Security personnel.

At the discretion of the TSC Manager, the assembled non-essential personnel will be:

  - (a) Released from the site when chemical or constraints radiological are not present.
  - (b) Evacuated from the site when radiological conditions are present and additional actions, such as radiological monitoring and relocation, are required.
3. Evacuation of a specific emergency response facility (ERF) will be considered when habitability of that facility is questionable or the facility is considered to be unfit to support its function.

EMERGENCY MEASURES

---

e. Personnel Accountability

Personnel accountability will be conducted at a Site Emergency or higher and is the responsibility of plant supervision and Security with the coordination of the Security Coordinator. During an emergency situation which requires personnel in the plant to assemble in the various assembly areas, management personnel should help assure that all their personnel are accounted for. This accountability should take no longer than 30 minutes. The Security Supervisor will verify complete accountability using the security computer or the manual accountability procedure, and will forward this information to the TSC. If the TSC is not activated, this information will be forwarded to the Shift Manager. If personnel are unaccounted for, teams will be dispatched to locate and, if necessary, rescue the personnel. Personnel accountability procedures are included in the EIPs.

f. Monitoring Personnel Evacuated From Site

All individuals within the protected area of the plant, who have controlled zone access, are required to have in their possession personnel monitoring devices capable of measuring the dose received from external sources of ionizing radiation. These devices consist of thermo luminescent dosimeter (TLD) for permanent record and/or a self-reading dosimeter (SRD) or electronic personnel dosimeter (EPD) for day-to-day indication of external radiation exposures. For personnel not routinely monitored by TLD/SRD/EPD, the potential for exposure to external sources of ionizing radiation within the protected area is monitored through the use of paired TLDs located throughout the plant. Non-monitored plant personnel will be issued radiation monitoring devices when their services are required during an emergency. A combination of checking SRDs/EPDs and questioning of evacuees will be used to determine if there were any significant external exposures involved in the emergency. For any known or suspected overexposures, the TLDs will be read as soon as possible, and further investigation will be conducted to determine the amount of exposure and the necessary action to be taken.

If normal contamination control is not possible, monitoring for contamination and internal exposure at the OSRPF and OSC will be accomplished by using portable instrumentation and questioning attitudes. Any persons suspected or known to have ingested or inhaled radioactive material will be whole body counted to assess internal exposure as soon as conditions permit.

EMERGENCY MEASURES

---

5.1.2 Offsite Area

a. Action Criteria

Required protective actions for offsite areas are discussed in the state and local plans. As mentioned, the plant shall classify the accident (EP 4.0, Section 1.0 and Table 4-1) and notify the federal, state, and local authorities. The state plan has adopted the U.S. Environmental Protection Agency's Protective Action Guides for initiating actions to protect public health and safety. The local communities and state agencies have detailed plans for activating their agencies, taking various protective actions, and performing social services. Plant recommendations of protective actions for people offsite will come from the Emergency Director.

The criteria for recommending protective action strategies to be taken in areas beyond the plant exclusion area encompass a number of factors and considerations. The determination of what emergency protective actions should be implemented in any given accident situation must be based on the actual plant conditions that exist or that are projected at the time of the accident, with the consideration of weather conditions, local protection factors for typical residential units, evacuation times, release potential, and projected or potential doses. Therefore, the effective means in utilizing and applying protective actions in the event of an accident is an important consideration to reduce radiation exposure to the general public.

Protective Actions for the public beyond the site boundary would apply to a radius of two miles in all directions from the plant and a larger radius of 5 miles from the plant in a sector greater than 60° (up to 360°) centered on the average downwind direction.

There are various types of protective actions that can be implemented by the state and counties which include the following:

1. Population sheltering
2. Evacuation
3. Controlling food, milk, and water distribution

EMERGENCY MEASURES

---

4. Prophylaxis (e.g., thyroid protection)
5. Individual protective actions (e.g., respiratory protection equipment and protective clothing)

Table 6-3 lists protective actions that may be recommended for various accident phases and approximate time periods as a function of exposure pathways following an initiation of an accident. This information should be useful for appropriate state and local agencies in making value judgments that are necessary to plan actions in limiting the radiation exposure to the general public during an emergency at PBNP.

(a) Sheltering and Evacuation

Protective actions such as sheltering and evacuation can provide protection for the public against exposure to gaseous radioactive fission products released during an accident at PBNP. Evacuation of the population in the plume exposure pathway to minimize public exposure to a passing radioactive cloud could be potentially 100% effective. However, the protective action of population sheltering may be more appropriate at the time of the accident with the consideration of such factors as weather conditions, wind direction, roadway conditions, duration and type of exposure, and projected or potential doses to the population. Although the State of Wisconsin and the counties could implement sheltering, and because sheltering has different meanings for NRC and FEMA, Point Beach Nuclear Plant will only recommend evacuation as a protective action for the public.

(b) Shielding

Shielding estimates for several distinct building types have been made by using currently available shielding technology. Table 6-4 through Table 6-6 present these estimates and indicate the wide range of potential shielding factors afforded by normally inhabited structures, and that basements of both homes and large buildings offer very effective shielding against radiation. The shielding effectiveness of a structure is expressed in terms of a shielding factor which is the ratio of the dose received inside the structure to the dose that would be received outside the structure. The benefits of population sheltering can be maximized by recommending that windows and doors of homes be closed and sealed, and ventilation systems turned off to minimize the turnover rate of air within the building.

EMERGENCY MEASURES

---

(c) Exposure Pathways

If there were an atmospheric release of radioactive materials, doses to the public could occur by external radiation as the cloud passes, by exposure to external radiation from radionuclides deposited on the ground and other surfaces, or by internal exposure due to inhalation or ingestion of radionuclides. Levels in excess of accepted protective action guides would generally occur closer to the source so that the protective actions could be recommended on a two-phased approach. The first phase would be to evacuate those individuals in these closer areas (i.e., within a 2-mile radius), while the second phase could be a recommendation to take shelter and institute food, water, and milk control since the need for evacuation versus sheltering in the 2- to 10-mile area may not be evident. However, beyond 10 miles, there is little apparent distinction between the effectiveness of evacuation and sheltering in terms of minimizing projected health effects.\*

The protective actions discussed above are only a few of the alternate courses of action which could be taken in a radiological emergency.

b. Company Responsibilities During an Offsite Emergency

The responsibilities of the Company during an offsite emergency include the following:

1. To provide the best possible effort to resolve the emergency onsite and thus alleviate the offsite conditions.
2. To notify participating agencies in accordance with EP 5.0, Figure 5-7. In addition, the Company will provide the best possible information, protective action recommendations (PARs), and support services to these agencies.
3. To coordinate the Company's action with those of federal, state, and local agencies involved.
4. In some unlikely cases, it is possible for a radiological release to exceed the 10-mile EPZ. In such cases, additional PARs could be issued and tracking support provided if the counties so desire.

---

\* Examination of Offsite Emergency Protective Measures for Core Melt Accidents. Aldrich, D. C., McGrath, P. E., Ericson, D. M., Jr., and Jones, R. B., of Sandia Laboratories, Albuquerque, New Mexico, and Rasmussen, N. C., Department of Nuclear Engineering, M. I. T., Cambridge, Massachusetts, as presented at the American Nuclear Society Topical Meeting on Probabilistic Analysis of Nuclear Reactor Safety, May 8-10, 1978.

EMERGENCY MEASURES

---

c. Participating Agency Responsibilities

Participating agency responsibilities are denoted in EP 5.0, Section 5.0 and are further explained in the letters of agreement referenced in Appendix D.

d. Notification and Response Time

Notification of businesses, property owners and tenants, school administrators, recreation facility operators, and the general public within the EPZs will be accomplished by local and state authorities as described in their response plans. An integrated siren system and the Emergency Alerting System (EAS) will be used to notify the general public of an emergency requiring protective action. The State of Wisconsin has the responsibility of determining public protective actions and coordinating the activation of the integrated siren system with the local county agencies.

The counties have the responsibility to activate the sirens at the predetermined time and to disseminate EAS messages to the public which are consistent with the protective action recommendations made by the state of Wisconsin. These messages will include protective action instructions as well as general information concerning emergencies. The siren system controls are operated by the Sheriffs Dispatch of Manitowoc and Kewaunee counties. The siren system operability is tested routinely. The details of the means and the times to evacuate the above persons are discussed in Appendix J.

5.2 Onsite Protective Equipment and Supplies

Protective equipment and supplies, as presented in Table 6-7, will be used to minimize external and internal radiological exposure and contamination to individuals on and offsite. Typical emergency equipment lists are located in the EPMPs and referenced in Appendix H. Detailed procedures on the use of protective equipment and supplies are incorporated in the Radiation Protection Manuals and the EIPs (see Appendix I).

EMERGENCY MEASURES

---

5.3 Contamination Control Measures

5.3.1 Exclusion Area

Measures are taken on a continual basis to prevent or minimize direct exposure to or ingestion of radioactive materials within the onsite areas of the exclusion area. The details of the contamination control measures for onsite areas are contained in the Radiation Protection procedures at the plant. The following is a brief outline of these procedures:

- a. Controls have been established at the plant to minimize and control the spread of contamination.
- b. All tools and equipment used in radiologically controlled areas are checked for contamination before being taken from the radiologically controlled area. If the item is found to be contaminated and decontamination is not practical, the item remains controlled. Equipment and tools are unconditionally released for use outside the radiologically controlled areas if the items are free from detectable radioactive contamination. (Ref. NP 4.2.25)
- c. Removal of material and equipment from an RCA with radiation and contamination levels in excess of the allowable limits must be approved for "conditional" release by Radiation Protection (RP) personnel. Any item approved for "conditional" release will be packaged, sealed, labeled, and handled in accordance with applicable regulations to prevent the release of any contamination. (Ref. NP 4.2.25)
- d. Personnel working within a radiologically controlled area are periodically monitored by RP personnel. Radiation work permits (RWPs) are required for all personnel working in radiologically controlled areas. Specific instructions, precautions, and limitations are listed on the RWP. (Ref. NP 4.2.20)
- e. Individuals leaving the RCA are to monitor themselves for contamination before entering the clean area of the plant. (Ref. NP 4.2.19)

EMERGENCY MEASURES

---

- f. The accumulation of radionuclides in the body shall not exceed that which would result from exposure to the derived air concentrations (DACs) of radionuclides in air or drinking water for occupational exposure as indicated in 10 CFR 20.1201. In general, exposure to airborne concentrations higher than the DACs are prevented or avoided to the extent practicable. If exposures are necessary, the wearing of appropriate, properly fitted, respiratory protective equipment may be required as determined by an RP supervisor. Periodic air samples are taken in selected operational and work areas to ensure that DAC levels are not exceeded.
- g. Decontamination following a radiological emergency will be conducted in accordance with approved EIPs or approved routine RP procedures or practices.

5.3.2 Offsite

For areas beyond the exclusion area, Wisconsin Emergency Management and the Division of Health and Family Services, Radiation Protection Section, are responsible for assessment and evaluation and will determine protective actions to be taken within the EPZs. The State of Wisconsin Radiological Response Team(s) will identify levels and control access within the affected area. Other State agencies shall take actions, as necessary, under the direction of the Administrator of the Wisconsin Emergency Management, to assess and control the dairy and agricultural products within the affected area. In addition, the Administrator of the Wisconsin Emergency Management, along with principal supportive State agencies, will provide advisory information regarding the use of potentially affected home food and water supplies throughout the EPZ. These State agencies will also be responsible for ensuring that contamination levels are below the established criteria before normal use is restored.

Table 6-8 provides guidelines and recommendations for use by appropriate State and local agencies involved with response planning. This includes radiation protection activities involving protection against ingestion of contamination from the release of radioactivity to the environment. This table describes action levels and recommended protective actions for ground, food, milk, and water contamination control.

## EMERGENCY MEASURES

---

### 6.0 AID TO AFFECTED PERSONNEL

Provisions have been made to assist personnel who are injured or have received high radiation exposures. Many plant employees and some contractor personnel are trained in first aid and radiation protection procedures. First aid and decontamination facilities are available onsite and offsite, and necessary transportation services are also available. The following subsections describe measures to be used to provide any necessary assistance.

#### 6.1 Emergency Personnel Exposure Criteria

Personnel permanently employed at PBNP with access to the radiologically controlled area are issued a thermo luminescent dosimeter (TLD) and a self-reading dosimeter (SRD) or electronic personnel dosimeter (EPD). Normal operating procedures require that a TLD and SRD or EPD are worn when inside the radiologically controlled area. These requirements ensure that plant personnel will have a monitoring device in the event of any plant emergency when in the RCA. For personnel not routinely monitored by TLD and SRD or EPD, the potential for exposure to external sources of ionizing radiation within the protected area is monitored through the use of paired TLDs located throughout the plant. It is the responsibility of RP personnel to ensure issuance of personnel monitoring devices to personnel whose services may be utilized during an emergency. Personnel monitoring devices are available at the RP station, gatehouses, TSC/OSC, and the EOF/OSRPF.

In all situations, every reasonable effort will be made to minimize exposure to emergency personnel. In the event of injuries, fires, or minor radiation incidents, the limits set forth in 10 CFR 20.1201 shall apply. In addition, the routine PBNP administrative radiation dose levels will be observed. These levels are summarized in Table 6-9. In the event of major radiation emergencies, Radiation Protection supervision may authorize emergency workers to receive up to the limits outlined in 10 CFR 20.1201. The Rad/Chem Coordinator and respective OSC Leaders are responsible to carefully control exposure to emergency workers in excess of occupational limits.

In some situations, it is possible that certain activities or duties for the protection of persons or the substantial protection of property may result in doses in excess of 10 CFR 20.1201. When circumstances do not allow time for planned actions, the Emergency Director (SM) has the authority to take immediate actions as required. When circumstances allow for planned actions, the Emergency Director will authorize the dose extension based on recommendations from the Rad/Chem Coordinator or Dose/PAR Coordinator.

EMERGENCY MEASURES

---

Decisions to accept doses in excess of occupational limits will be on a volunteer basis and approved by the Emergency Director, based on the recommendation of the Rad/Chem Coordinator or Dose/PAR Coordinator. The prospective volunteer shall be made aware of the risks. Whole body doses in the order of 100-200 rem may result in radiation sickness, and whole body doses in excess of 300 rem involve a risk of fatality to 50% of those exposed, if medical treatment is not provided. Individuals exposed to more than 25 rem to the whole body shall be removed from further emergency duty and referred to a physician for evaluation.

The emergency exposure criteria for non-plant personnel and volunteers involved in providing first aid, decontamination, ambulance service, and medical treatment to injured persons shall be limited to the following criteria:

- 6.1.1 In the event of injuries, fires, or minor radiation incidents:
- a. Non-plant personnel (except medical and fire personnel) are evacuated from the area and denied reentry.
  - b. Medical and fire personnel may be exposed to the administrative levels specified in Table 6-9 and, if warranted, the limits specified in 10 CFR 20.
- 6.1.2 In the event of a major radiation emergency such as some Site Emergencies, the provisions of emergency exposure criteria that were set for plant personnel shall be applied to assisting non-plant personnel in the emergency response effort. When an assisting agency, e.g., DOE Region V Radiological Assistance Team or State of Wisconsin Radiation Protection Section, has its own emergency plan, the provisions of that agency's plan shall apply to that agency's personnel.

6.1.3 Emergency Exposure Criteria for Airborne Concentrations

In the event of an emergency, exposure to airborne concentrations of radioactivity shall be limited by the following:

- a. In the event of injuries, fires, or minor radiation incidents, routine administrative dose levels apply. The accumulation of radionuclides in the body should not exceed that which would result from exposure to the DACs of radionuclides in air for occupational exposure as indicated in 10 CFR 20.1201.

Respiratory protection and stable iodine shall be used whenever appropriate to control inhalation doses. (See Section 6.5 for details on administering thyroid-blocking agents.)

Limits for exposure to Xe-133 and other noble gases are based on beta plus gamma dose limits to the skin.

EMERGENCY MEASURES

---

- b. In the event of a major radiation emergency such as some Site Emergencies, exposure to airborne concentrations of radioactivity shall be limited by the following:
  1. Whenever practicable, the total exposure of any individual during an emergency should be limited to the limits allowed in 10 CFR 20.1201. If external radiation fields are low, the total exposure of any individual should be limited to 2000 DAC-hours. DAC-hours are calculated by multiplying the concentration in terms of the number of DACs by the total time of exposure.
  2. In the event emergency operations demand life-saving or rescue actions and external radiation fields are low; individuals may be allowed exposures of 10,000 DAC-hours. If external radiation fields are not minimal, the sum of the external and internal doses should be limited to 25 rem. One DAC-hour may be considered equivalent to 2.5 millirem. Exposures above 2000 DAC-hours should be received only with the approval of the Emergency Director.
  3. Respiratory protection and stable iodine shall be used whenever appropriate to control inhalation doses. (Also, see Section 6.5 for details on administering thyroid-blocking agents.)
  5. It is the responsibility of all plant personnel, the respective OSC Leaders and the Rad/Chem Coordinator to carefully control the exposure permitted by 1 and 2 above.
  6. Personnel who have been exposed to more than 10,000 DAC-hours shall be removed from further emergency duty and referred to a physician for evaluation.

6.1.4 Exposure Records and Control

Exposure records and forms for emergency workers are maintained for plant personnel at the South Service Building, OSC and OSRPF. This information will be utilized to determine emergency team assignments. It is the responsibility of the Rad/Chem Coordinator, Dose/PAR Coordinator, and their designated personnel to establish and maintain the personnel monitoring program during emergency situations.

Provisions for establishing an emergency dosimeter service within 24 hours are provided, as is distribution of self-reading dosimeters or EPDs to determine doses received by emergency personnel. Detailed procedures for personnel monitoring are included in the EIPs (see Appendix I).

## EMERGENCY MEASURES

---

### 6.2 Decontamination and First Aid

Facilities and supplies for decontaminating personnel are available at the RP station, OSC, and OSRPF. All personnel leaving the RCA or leaving a contaminated area will be monitored for contamination. During emergencies, other onsite personnel will be checked for contamination as necessary. Measures will be taken to minimize the spread of contamination.

Such measures may include isolating affected areas, placing contaminated personnel in clean protective clothing before moving, and decontaminating personnel, their clothing, and equipment prior to release. Personnel found to be contaminated will be decontaminated under the direction of RP personnel.

Emergency first aid and medical treatment will be given to injured or ill personnel. Onshift personnel trained in first-aid are available onsite, 24 hour-per-day, and will assist injured or ill personnel either at the scene of the accident or in the first-aid room. If personnel must be transported to medical facilities, measures will be taken to prevent the spread of contamination if present. Such measures may include the placing of affected personnel in clean protective clothing or wrapping in blankets. Inform the organizations who will provide the transportation and treatment. The plant maintains an onsite first-aid room located in the Extension Building. The first-aid room is equipped with facilities suitable for the temporary care of a victim of an accident or illness until the services of a physician or transport can be obtained. Additional first-aid supplies are available at the following locations: gatehouses, turbine building, switchyard, Unit 1 and Unit 2 facades, EOF, TSC, RCA checkpoint, Control Room, Sewage Treatment Plant and RCA Maintenance Shop.

### 6.3 Medical Transportation

In the event that offsite emergency medical transportation is required, the Manitowoc County Sheriff's dispatcher will be called. The dispatcher will determine who should respond to the emergency. Normally, the Mishicot emergency vehicle will respond first. If the Mishicot emergency vehicle is unavailable, the City of Two Rivers Fire Department emergency vehicle will respond.

EMERGENCY MEASURES

---

6.4 Medical Treatment

Arrangements have been made with Aurora Medical Center - Manitowoc County for treatment of personnel working at PBNP. Hospital personnel have been instructed and trained with regard to treating potentially contaminated patients. In addition, arrangements have been made with two area physicians that maintain a medical affiliation with the Aurora Medical Center - Manitowoc County for the medical treatment of potentially contaminated personnel from PBNP. The University of Wisconsin Hospital and Clinics in Madison, Wisconsin, will provide backup services in the event that the services of Aurora Medical Center - Manitowoc County become unavailable or that additional services are required. The University Hospital provides instruction and training on handling radiological accident patients. Letters or Agreements with respect to arrangements for both hospitals and medical services are referenced in Appendix D.

6.5 Iodine Prophylaxis (Thyroid Protection)

6.5.1 Background

A number of chemical compounds can be ingested before or shortly after inhalation of radioactive material to inhibit the biological assimilation of inhaled radionuclides. Of these, stable iodine has received more attention as a chemical prophylactic agent than other elements because inhaled radioiodine presents a radiological hazard under certain types of nuclear reactor accidents.

Radioiodine is quickly absorbed into the blood stream and concentrates primarily in the thyroid gland. This can result in significant doses to the thyroid. Therefore, a protective action to be considered after an accident involving the release containing radioactive iodine is the use of stable iodine as a thyroid-blocking agent. This can reduce the accumulation of radioactive iodine in the thyroid gland.

EMERGENCY MEASURES

---

6.5.2 Criteria for Use

The criteria for administering a thyroid-blocking agent (Potassium Iodide) to emergency personnel depends on the projected absorbed dose to the thyroid based on the severity and magnitude of the accident. If the initial estimate indicates a thyroid total absorbed dose of 25 rem or more, a thyroid-blocking agent will be distributed to emergency and support personnel. Prior to distribution, the Rad/Chem Coordinator or Dose/PAR Coordinator will make this recommendation with final approval by the Emergency Director.

For the greatest effectiveness, the thyroid-blocking agent should be administered as soon as possible, preferably before the exposure or within two hours of exposure. For most individuals the majority of radioiodine uptake by the thyroid occurs within 12 hours after a short-term exposure. The initial administration of a blocking agent will be of some value even as long as 4-8 hours after the exposure period. The determination of whether the thyroid-blocking agent should be continued on a daily basis will be made by the Medical Services Division after evaluation of the situation.

EMERGENCY MEASURES

---

TABLE 6-1

ASSESSMENT ACTIONS\*

<u>Action</u>	<u>Description</u>
1. <u>Surveillance of Control Room Instrumentation</u>	Radiation levels, pressures, temperatures, levels, flows, and meteorological data are monitored. The Control Room operators can assess plant status by observing sensor readout. Most sensors have visual and audio alarms. Primary and secondary system data will be provided to the Shift Technical Advisor as necessary for their assessment. Control Room operators will take corrective actions as necessary
2. <u>In-plant Radiological Surveys</u>	The re-entry teams with RP personnel assigned, as necessary, will perform these surveys. The radiation levels on the plant's fixed area and process monitoring systems will be obtained from the TSC or Control Room to assist in these evaluations. Surveys of equipment and personnel for contamination are done with portable equipment from the emergency lockers or other devices used routinely.
3. <u>Site Boundary Control Center Surveys</u>	Handled in same fashion as in-plant surveys by the RP personnel teams.
4. <u>Offsite Consequence Assessment</u>	The radiological assessment personnel will use effluent monitors and meteorological data to make projections of offsite consequences. Radiation Field Monitoring Teams will take direct readings (air, water, soil, vegetation).
5. <u>Environmental Monitoring</u>	Samples of various environmental media are collected and analyzed by either PBNP personnel or an outside contractor laboratory. Results will be evaluated by plant emergency response personnel.

\*NOTE: Detailed assessment actions procedures are described in the EPIPs.

EMERGENCY MEASURES

TABLE 6-2

ASSEMBLY AND EVACUATION ACTIONS

Evacuation Classification	Public Visitors (Energy Center, Beach)	Emergency Response Organization	Plant Personnel, Corporate Personnel, Contractors, Temporary Employees and Visitors Not Assigned Emergency Duties <sup>1</sup>
Limited Plant Evacuation	Take Action as Directed	Take Action as Directed	Take Action as Directed
Protected Area Assembly	Report to SBCC, Two Creeks Town Hall or Two Rivers National Guard Armory as directed.	Report to Assigned Emergency Response Facility.	Report to NSB Cafeteria, Admin. Bldg. El. 26', NES Cafeteria,
(Exclusion Area Assembly)	Report to SBCC	Report to Assigned Emergency Response Facility	Training Building North Foyer or Warehouse #4
Plant and Exclusion Area Evacuation	Report to SBCC, Two Creeks Town Hall or Two Rivers National Guard Armory as directed.	Report to Assigned Emergency Response Facility.	Report to SBCC, Two Creeks Town Hall or Two Rivers National Guard Armory as directed.

EMERGENCY MEASURES

TABLE 6-3

STATE AND LOCAL AGENCIES IMPLEMENTED PROTECTIVE ACTIONS

**NOTE:** Point Beach Nuclear Plant will only recommend evacuation as an offsite protective action.

<u>ACCIDENT PHASE</u>	<u>EXPOSURE PATHWAY</u>	<u>EXAMPLES OF ACTIONS TO BE IMPLEMENTED</u>
Emergency Phase 1 (0.5 to 24 hours)*	Inhalation of gases, radio iodine, or particulate	Evacuation, access control, shelter, respiratory protection, thyroid protection
	Direct whole body exposure	Evacuation, access control, shelter
Intermediate Phase 2 (24 hours to 30 days)*	Ingestion of milk	Take cows off pasture, prevent cows from drinking surface water, discard contaminated milk or divert to stored products such as cheese.
	Ingestion of fruits and produce	Wash all produce or impound produce, delay harvest until approved, substitute uncontaminated produce.
	Ingestion of water	Isolate contaminated supplies, substitute from other sources, filter, demineralize.
	Whole body exposure and inhalation	Relocation, access control, decontamination

EMERGENCY MEASURES

Table 6-3

<u>ACCIDENT PHASE</u>	<u>EXPOSURE PATHWAY</u>	<u>EXAMPLES OF ACTIONS TO BE IMPLEMENTED</u>
Long Term Phase 3 (over 30 days)*	Ingestion of food and water contaminated from the soil either by resuspension or uptake through roots	Decontamination, condemnation or destruction of food, deep plowing, condemnation or alternate use of land
	Whole body exposure from deposition material or inhalation of resuspended material.	Relocation, access control, decontamination, deep plowing
<u>Assessment Reporting</u>	In the case of offsite consequences, the federal, state, and local agencies are immediately notified in accordance with the Emergency Plan. Predetermined criteria are used to recommend various protective actions for the population at risk.	

(1) Emergency phase - Time period of majority of release and subsequent plume exposure.

(2) Intermediate phase - Time period of moderate continuous release with plume exposure and contamination of environment.

(3) Long-Term Phase - Recovery period.

\* "Typical" post-accident time periods.

EMERGENCY MEASURES

TABLE 6-4

REPRESENTATIVE SHIELDING FACTORS FROM GAMMA CLOUD SOURCE\*

<u>Structure or Location</u>	<u>Shielding Factor</u> <sup>(1)</sup>	<u>Representative Range</u>
Outside	1.0	--
Vehicles	1.0	--
Wood-frame house <sup>(2)</sup> (no basement)	0.9	
Basement of wood house	0.6	0.1 to 0.7 <sup>(3)</sup>
Masonry House (no basement)	0.6	0.4 to 0.7 <sup>(3)</sup>
Basement of masonry house	0.4	0.1 to 0.5 <sup>(3)</sup>
Large office or industrial building	0.2	0.1 to 0.3 <sup>(3, 4)</sup>

- (1) The ratio of the dose received inside the structure to the dose that would be received outside the structure.
- (2) A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.
- (3) This range is mainly due to different wall materials and different geometries.
- (4) The shielding factor depends on where the personnel are located within the building (e.g., the basement or an inside room).

\*Taken from SAND 77-1725 (Unlimited Release)

EMERGENCY MEASURES

---

TABLE 6-5

SELECTED SHIELDING FACTORS FOR AIRBORNE RADIONUCLIDES\*

<i>Wood house, no basement</i>	<i>0.9</i>
<i>Wood house, basement</i>	<i>0.6</i>
<i>Brick house, no basement</i>	<i>0.6</i>
<i>Brick house, basement</i>	<i>0.4</i>
<i>Large office or industrial building</i>	<i>0.2</i>
<i>Outside</i>	<i>1.0</i>

\*Taken from SAND 77-1725 (Unlimited Release)

EMERGENCY MEASURES

TABLE 6-6

REPRESENTATIVE SHIELDING FACTORS FOR SURFACE DEPOSITED RADIONUCLIDES\*

<u>Structure of Location</u>	<u>Representative Shielding Factor <sup>(1)</sup></u>	<u>Representative Range</u>
1 m above an infinite smooth surface	1.00	--
1 m above ordinary ground	0.70	0.47-0.85
1 m above center of 50' road-ways, 50% decontaminated	0.55	0.4-0.6
Cars on 50' road:		
Road fully contaminated	0.5	0.4-0.7
Road 50% decontaminated	0.5	0.4-0.6
Road fully decontaminated	0.25	0.2-0.5
Trains	0.40	0.3-0.5
One and two-story wood-frame house (no basement)	0.4 <sup>(2)</sup>	0.2-0.5
One and two-story block house (no basement)	0.2 <sup>(2)</sup>	0.04-0.40
House basement, one or two walls fully exposed:		
One story, less than 2' of basement, walls exposed	0.1 <sup>(2)</sup>	0.03-0.15
One story, less than 2' of basement, walls exposed	0.05 <sup>(2)</sup>	0.03-0.07
Two stories, less than 2' of basement, walls exposed	0.03 <sup>(2)</sup>	0.02-0.05
Three- or four-story structures, 5,000 to 10,000 ft <sup>2</sup> per floor:		
First and second floors	0.05 <sup>(2)</sup>	0.01-0.08
Basement	0.01 <sup>(2)</sup>	0.001-0.07
Multi-story structures >10,000 ft <sup>2</sup> per floor:		
Upper floors	0.01 <sup>(2)</sup>	0.001-0.02
Basement	0.005 <sup>(2)</sup>	0.001-0.015

- (1) The ratio of dose received inside the structure to the dose that would be received outside the structure.  
 (2) Away from doors and windows.

\*Taken from SAND 77-1725 (Unlimited Release)

EMERGENCY MEASURES

TABLE 6-7

USE OF PROTECTIVE EQUIPMENT AND SUPPLIES

<u>Equipment</u>	<u>Criteria for Issuance*</u>	<u>Storage Location</u>	<u>Means of Distribution</u>
a. <u>Respiratory Equipment:</u>			
1) Full-Face Respirator (Filter)** Protection Factor-50	For areas of airborne particulate activity only (Notes 3 and 4).	(a) RP Station	(a) Used as needed by reentry personnel (b) Issued under the control of Radiation Protection (c) Issue Full-Face Respirators and filters for OSRPF as needed from TSC / OSC Facility.
2) Continuous Flow Air- Line (Supplied Air, Full-Face Respirator) Protection Factor - 1,000	(a) For areas of airborne particulate, iodine, gas activity, or combinations of same (Notes 2 and 4). (b) Not to be used in IDLH atmosphere.	(a) Control Room	(a) Used as needed by reentry personnel (b) Issued under the control of Radiation Protection
3) Self-Contained Breathing Apparatus Protection Factor - 10,000	(a) Inhalation hazard during fire fighting (b) For areas of airborne particulate iodine, gas activity, or combination of same (Notes 1, 2 and 4). (c) Any time IDLH atmosphere is suspected or unknown chemical concentration.	(a) Control Room (b) RP Station (c) TSC (OSC) (d) Fire Brigade Lockers	(a) Used as needed by reentry personnel (b) Issued under the control of Radiation Protection

\* Significance of qualifying notes must be recognized.

\*\* The proper type of air-purifying filters, cartridges, and canisters with the respirator must be chosen for the hazard present in the atmosphere.

EMERGENCY MEASURES

Table 6-7

<u>Equipment</u>	<u>Criteria for Issuance*</u>	<u>Location</u>	<u>Means of Distribution</u>
b. <u>Protective Clothing</u> (Coveralls, Hoods, Boots, Gloves)	As needed in areas of known contamination	(a) Various areas of the plant (b) EOF (OSRPF)	Used as needed by reentry personnel
c. <u>Potassium Iodide for Thyroid-Blocking</u>	Reduce accumulation of radioactive iodine in the thyroid gland, used during a radiation emergency only	(a) Control Room (b) TSC (OSC) (c) EOF (OSRPF)	Issued as needed under direction of RP personnel after approved by Emergency Director

NOTES

- (1) This type of respirator provides the greatest protection and is preferred emergency device in unknown or high airborne concentrations.
- (2) Limitations on occupancy in gaseous atmospheres will typically be governed by external dose limits.
- (3) Respirators with mechanical filters provide no protection against gaseous activity or in oxygen-deficient atmospheres.
- (4) Where airborne tritium is involved, filter type respirators are not suitable for protection. Supplied air apparatus (air line or self-contained) are not recognized as effective for concentrations greater than two times DAC.

EMERGENCY MEASURES

TABLE 6-8

GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION

1.0 SURFACE CONTAMINATION

1.1 Action Levels

- 1.1.1 Projected gamma dose  $\geq 2$  rem.
- 1.1.2 Surface contamination levels  $\geq 200 \mu\text{Ci}/\text{m}^2$  one hour post-accident.
- 1.1.3 Exposure rate  $\geq 1$  mR/hr at 1 meter above the ground one hour post-accident.

1.2 Recommended Protective Actions

- 1.2.1 Evacuate the affected area.
- 1.2.2 Restrict entry to contaminated offsite areas until radiation levels have decreased to state of Wisconsin approved levels.

2.0 FOOD AND WATER CONTAMINATION

2.1 Action Levels\*

Nuclide*	Concentration in Milk or Water		Total Intake via All Food and Water Pathways		Pasture Grass (Fresh Weight)	
	Prev Level ( $\mu\text{Ci}/\text{l}$ )	Emerg Level ( $\mu\text{Ci}/\text{l}$ )	Prev Level ( $\mu\text{Ci}$ )	Emerg Level ( $\mu\text{Ci}$ )	Prev Level ( $\mu\text{Ci}/\text{kg}$ )	Emerg Level ( $\mu\text{Ci}/\text{kg}$ )
I-131	0.015	0.15	0.09	0.9	0.05	0.5
Cs-134	0.15	1.5	4.0	40.0	0.8	8.0
Cs-137	0.24	2.4	7.0	70.0	1.3	13.0
Sr-90	0.009	0.09	0.2	2.0	0.18	1.8
Sr-89	0.14	1.4	2.6	26.0	3.0	30.0

Prev = Preventive

Emerg = Emergency

\* The preventive level corresponds to a 1.5 rem projected dose commitment to the thyroid or 0.5 rem projected dose commitment to the whole body, bone marrow, or any other organ. The emergency level corresponds to a 15 rem projected dose commitment to the thyroid or 5 rem projected dose commitment to the whole body, bone marrow, or any other organ.

\*\* If other nuclides are present, Regulatory Guide 1.109 will be used to calculate the dose to the critical organ. Infants are the critical segment of the population.

Reference: U.S. EPA Publication EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, May 1992.

EMERGENCY MEASURES

---

TABLE 6-8 Continued

2.2 Recommended Protective Actions

Preventive

1. Removal of lactating cows from contaminated pasture and substitution of uncontaminated feed.
2. Substitute source of uncontaminated water.
3. Withhold contaminated milk from market to allow radioactive decay
4. Divert fluid milk to production of dry whole milk, butter, etc.

Emergency

- Isolate food and water from its introduction into commerce after considering:
- a. Availability of other possible actions;
  - b. Importance of particular food in nutrition;
  - c. Time and effort to take action;
  - d. Availability of other foods.

EMERGENCY MEASURES

---

TABLE 6-9

YEARLY ADMINISTRATIVE DOSE LEVELS<sup>1</sup>

<u>Category</u>	<u>TEDE<sup>2</sup></u>
1. Doses received only at PBNP	2 rem
2. All doses received in current year.	4 rem
3. The sum of the deep-dose equivalent and the committed dose equivalent to any organ other than the lens of the eye.	40 rem
4. Eye dose equivalent	12 rem
5. Skin shallow-dose equivalent	40 rem
6. Extremity shallow-dose equivalent	40 rem

Notes:

1. Levels are derived from the Radiation Protection Procedure NP 4.2.14.
2. Total effective dose equivalent (TEDE) is the sum of the deep-dose equivalent (for external exposure) and the committed effective dose equivalent (for internal exposures).

## MAINTAINING EMERGENCY PREPAREDNESS

---

### 1.0 DISCUSSION

PBNP maintains, as three separate documents, this Emergency Plan, the Emergency Plan Implementing Procedures (EPIPs), and the Emergency Plan Maintenance Procedures (EPMPs).

It is intended that the Emergency Plan be maintained up to date by using established procedures contained in the Nuclear Power Procedures Manual. The EPIPs contain detailed information extracted from the Final Safety Analysis Report (FSAR), other pertinent documents, and detailed site specific emergency procedures. The EPIPs are controlled by standard plant administrative procedures and are distributed and revised accordingly. The Emergency Plan, EPIPs, and Severe Accident Management Guidelines (SAMGs) will be reviewed on an annual basis and updated as necessary. Updates will take into account needed changes identified by drills and exercises.

The EPMPs contain procedures for Emergency Plan equipment maintenance, offsite personnel Emergency Plan training, and for the Emergency Preparedness Program review. The EPMPs also provide guidance for Emergency Plan drills and exercises.

Approved changes to the Emergency Plan, EPIPs, and EPMPs are forwarded to all organizations and individuals responsible for their implementation. Revised procedures are dated and pages marked to show where changes have been made.

### 2.0 RESPONSIBILITIES

#### 2.1 Site Vice President

The Site Vice President has the overall responsibility for radiological emergency response planning, including the development and updating of emergency plans and coordination of these plans with other organizations, corporate policy and plans, the FSAR, and the agreements and understanding with federal, state, and local organizations. The Site Vice President may designate personnel to assist in meeting this responsibility.

#### 2.2 Plant Manager

The Plant Manager is responsible for the coordination of efforts in planning, training, exercises, drills, and review and updating of the Emergency Plan and EPIPs including agreements and understandings with outside agencies. The Plant Manager will receive appropriate guidance on emergency planning and preparedness from the Site Vice President. The Plant Manager may designate personnel to assist in meeting this responsibility.

MAINTAINING EMERGENCY PREPAREDNESS

---

2.3 Manager - Nuclear Oversight

The Manager - Nuclear Oversight with the Manager - Emergency Preparedness will arrange for independent reviews of the emergency preparedness program annually. The review will include the Emergency Plan, the EIPs, practices, training, exercises, drills, records, and equipment. Management controls will be implemented for evaluation and correction of review findings. The results of the review will be documented, reported to the Offsite Review Committee, and retained for a period of at least five years.

2.4 Training Manager

The Training Manager is responsible for assuring that all personnel assigned to the PBNP Emergency Response Organization take part in appropriate training programs on the Emergency Plan and Emergency Plan Implementing Procedures.

2.5 Nuclear Plant Managers

Each manager is responsible for ensuring that personnel in his/her department receive the appropriate training and indoctrination on the Emergency Plan, and Emergency Plan Implementing Procedures.

2.6 Manager - Emergency Preparedness

The Manager - Emergency Preparedness is responsible for the overall emergency planning efforts and verifying that all emergency preparedness (10 CFR 50) requirements are maintained to assure operability of the Point Beach Nuclear Plant. The Manager - Emergency Preparedness will receive appropriate guidance from the Site Vice President and the Plant Manager. The Manager - Emergency Preparedness may designate other personnel to assist in meeting this responsibility.

MAINTAINING EMERGENCY PREPAREDNESS

---

3.0 ORGANIZATIONAL PREPAREDNESS

3.1 Training - NMC, We Energies, and Plant Personnel

3.1.1 Personnel with unescorted access to PBNP:

- a. Personnel with unescorted access will be indoctrinated on the Emergency Plan (EP) and Emergency Plan Implementing Procedures (EPIP) through the general employee training program. This training program has provisions for immediate indoctrination of new employees. Thereafter, all personnel with unescorted access meet this commitment during annual plant access qualification renewal.
- b. Personnel with unescorted access shall receive, as a minimum, instructions in the following topics:
  1. Emergency alarms and their meanings
  2. Emergency assembly areas
  3. Precautions and limitations during emergencies
  4. Reasons for emergency plans
  5. Worker responsibilities during emergencies

3.1.2 Personnel assigned to the PBNP Emergency Response Organization (ERO)

- a. Plant, NMC, and We Energies personnel assigned specific duties associated with the Emergency Plan will receive initial and annual continuing training specific to the response role they are assigned, under the direction of the Training Manager.
- b. The objectives of initial and continuing training are to:
  1. Prepare the ERO in the areas of emergency plan organization, facility organization, accident classification, emergency data analysis and problem solving.
  2. Keep personnel in the ERO informed of substantive changes in the Emergency Plan procedures.
  3. Maintain a high degree of preparedness at all levels of the emergency response organization.

MAINTAINING EMERGENCY PREPAREDNESS

- c. The emergency response training program provides for annual continuing training using a systematic approach on portions of the Emergency Plan and Emergency Plan Implementing Procedures that affect the trainee's role in the Emergency Response Organization. Specific continuing training requirements include:
    1. The Shift Manager, Operations Coordinator, and Shift Technical Advisor will receive specialized training in accident assessment. The following are general topics that will be included in this annual training:
      - (a) Accident assessment and classification
      - (b) Dose projections
      - (c) Protective action recommendations
      - (d) Notification of offsite agencies
    2. Radiological Field Monitoring Teams (Chemistry and Radiation Protection) will receive training in the actions they will be expected to perform during an emergency. The following general topics will be included in the training:
      - (a) Personnel monitoring (reentry and medical assistance)
      - (b) Emergency exposure criteria
      - (c) Locations and use of radiological emergency equipment
      - (d) Post-accident sampling
    3. Training of individuals assigned to repair and damage control teams (reentry teams) will be conducted annually.
  - d. Individuals assigned to search and rescue teams shall maintain qualifications to meet the requirements of the supporting agency providing first aid and CPR training.
- 3.1.3 The conduct of all emergency response training will be critiqued and documented on appropriate Training forms.
- 3.1.4 **Emergency Preparedness Staff**
- Emergency Preparedness Staff will maintain familiarity with state-of-the-art emergency preparedness equipment and procedures on an annual basis by attending seminars, workshops, and training as appropriate.

MAINTAINING EMERGENCY PREPAREDNESS

---

3.2 Training - Offsite

A training opportunity will be provided annually for offsite organizations and agencies as specified in respective agreements and understandings. In addition, those offsite organizations and agencies that may provide onsite emergency assistance will be encouraged to become familiar with the general layout of PBNP facilities as it relates to their responsibilities, and will be invited to attend appropriate Emergency Plan training and orientation courses conducted. Training for specific offsite organizations and agencies will be provided as follows:

3.2.1 A training opportunity on an annual basis for hospital personnel, ambulance/rescue personnel, police, and fire departments. The training shall include the procedures for notification, basic radiation protection, and the organization's expected role.

3.2.2 Training media on an annual basis for the general population in the EPZ.

This training program will include the following:

- a. Educational material concerning radiation.
- b. Identification of a contact point for further information.
- c. Protective actions that can be taken for any radiological emergency. These actions would range from simple sheltering and respiratory protection to the more complex and serious steps such as evacuation.

3.2.3 Local news media personnel will be provided an opportunity to become more familiar with information pertaining to radiological emergency planning, nuclear power generation, Point Beach Nuclear Plant, radiation, and points of contact for release of public information in an emergency. Because PBNP and Kewaunee Nuclear Power Plant (KNPP) are served by a common media corps, information will be provided jointly each year.

## MAINTAINING EMERGENCY PREPAREDNESS

---

### 3.3 Drills and Exercises

PBNP conducts a biennial exercise and additional periodic drills. A drill in this context is a supervised instruction period aimed at testing, developing, and maintaining skills in a particular operation. It is often a component of an exercise, which is an event that tests the integrated capability, and a major portion of the basic elements existing within emergency preparedness plans and organizations.

Each drill or exercise is conducted to ensure that the participants are familiar with their duties and responsibilities, to verify the adequacy of and methods used in EPIPs and other emergency procedures, to check the availability of emergency supplies and equipment, and to verify the operability of emergency equipment.

The Manager - Emergency Preparedness is responsible for planning, scheduling, and coordinating all Emergency Plan drills and exercises. All Emergency Plan drills and exercises are subject to the approval of the Plant Manager. The Plant Manager will assign personnel to correct any deficiencies identified during the conduct of drills or exercises.

When a major drill or exercise is required, the Manager - Emergency Preparedness will:

- 3.3.1 Develop and prepare a scenario. This scenario shall include, but not be limited to, the basic objective(s) of the drill or exercise; the date(s), time period, place(s) and participating organizations; the simulated events; a timeline of real and simulated initiating events; a narrative summary describing the conduct of the drill or exercise; and arrangements for qualified controllers.
- 3.3.2 Coordinate efforts with other appropriate emergency organizations and agencies.
- 3.3.3 Schedule a date to conduct the drill or exercise and assign qualified controllers.
- 3.3.4 Obtain the approval of the Plant Manager if the drill or exercise involves more than one plant group.
- 3.3.5 Critique the results of the drill or exercise.
- 3.3.6 Retain critique results for review prior to future drills or exercise and guidance in developing Emergency Plan, EPIPs, or PIMs as appropriate.

MAINTAINING EMERGENCY PREPAREDNESS

---

3.4 Exercises

PBNP conducts an emergency response exercise to demonstrate the effectiveness of the Emergency Plan on a frequency determined by the NRC. Exercises may include mobilization of state and local personnel and resources, and are intended to verify their capability to respond to an accident. Joint exercises shall be conducted on a frequency described in NRC/FEMA guidance. PBNP will invite qualified observers from federal, state, and local governments to observe and critique the exercises. A critique shall be conducted following the exercise to evaluate the ability of organizations to respond as required in the Emergency Plan. The critique will be conducted as soon as practicable after the exercise.

The scenarios for drills and exercises will be varied such that all major elements of the emergency response plans and preparedness organizations are tested within a six year period.

3.5 Drills

Drills are conducted which involve appropriate offsite and on-site emergency organizations. These drills are conducted by simulating actual emergency conditions. Drills are evaluated by an assigned monitor. Drills that will be conducted and their frequency include:

3.5.1 Communications Drills

Communications with federal, state, and local governments within the plume exposure pathway EPZ are tested monthly. Communications between PBNP and the NRC Operations Center are tested at least once each month from the Control Room, the TSC and the EOF. Communications between PBNP, state and local emergency operations centers, and field monitoring teams are tested annually.

3.5.2 Fire Drills

Fire drills are conducted in accordance with the PBNP Fire Protection Manual. The Fire Protection Coordinator will coordinate all fire drills with offsite agencies as necessary.

3.5.3 Medical Emergency Drills

A medical emergency drill involving a simulated contaminated individual and containing provisions for participation by the Aurora Medical Center - Manitowoc County is conducted every two years. The offsite portions of this drill may be performed as part of the annual exercise. Since the Kewaunee Nuclear Power Plant will also be conducting drills with the hospital on a biennial basis, the hospital and a local ambulance service will participate in drills annually.

MAINTAINING EMERGENCY PREPAREDNESS

---

3.5.4 Radiological Monitoring and Radiation Protection Drills

Plant environs, radiological monitoring, and radiation protection drills, both onsite and offsite are conducted twice each year. These drills evaluate the response to, and analysis of, simulated airborne and direct radiation measurements in the environment.

3.5.5 Chemistry Drills

In-plant post-accident liquid sampling drills shall be conducted annually on each unit. Containment atmosphere sampling drills will be conducted each fuel cycle of each unit.

3.5.6 Site Assembly, Accountability, Release, and Evacuation Drills

A site assembly drill is conducted annually to assure that all personnel are aware of assembly areas. Accountability is implemented to ensure all personnel have been accounted for onsite. A release or evacuation of nonessential personnel may also be conducted as a part of the drill.

3.5.7 Shift Augmentation Drills

Shift augmentation drills will be conducted annually.

MAINTAINING EMERGENCY PREPAREDNESS

---

4.0 REVIEW AND UPDATING OF THE PLAN, PROCEDURES AND LETTERS OF AGREEMENT

The Emergency Plan is reviewed on at least an annual basis and updated as necessary. The Plant Manager is responsible for coordinating these efforts. The Plant Manager is also responsible for coordinating the review and updating of the EIPs. This includes a quarterly review of emergency telephone lists.

The Manager - Nuclear Oversight is responsible with the Manager - Emergency Preparedness for arranging with the Nuclear Oversight Section for an annual review of the Emergency Preparedness Program. The Emergency Plan and the Appendices to the Emergency Plan are controlled reference documents, which are reviewed and approved appropriately. Distribution of the Emergency Plan and supporting procedures will be in accordance with Nuclear Power administrative procedures.

Letters of agreement between PBNP and outside organizations and agencies will be reviewed annually and renewed if required.

5.0 EMERGENCY EQUIPMENT AND SUPPLIES

The Manager - Radiation Protection has overall responsibilities for the inventory and inspection of designated emergency equipment and supplies exclusive of fire protection equipment. The Fire Protection Coordinator has overall responsibilities for the fire protection equipment. He may, however, assign personnel to assist him with this responsibility.

Designated non-fire emergency equipment and supplies and their location are referenced in Appendix H of the Emergency Plan. This equipment is inventoried, inspected, and calibrated at a frequency in accordance with the Emergency Plan Maintenance Procedures (EPMP). Inventories are completed at least once each calendar quarter and after each use. Inspection, calibration and maintenance are accomplished at a frequency recommended by the manufacturer of the equipment. Portable radiation monitoring equipment included in these inventories is calibrated in accordance with approved procedures. Reserve instruments/equipment will replace those, which are removed from emergency kits for calibration or repair in accordance with the guidelines of the EPMPs. Equipment, supplies, and parts having finite shelf lives will be checked and replaced as necessary. Any deficiencies found will either be cleared immediately or documented for corrective action.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

APPENDIX A INDEX

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

SECTION	TITLE	PAGE
1.0	ADMINISTRATIVE SUPPORT LEADER .....	4
2.0	CHEMISTRY LEADER .....	5
3.0	COUNTY LIAISON .....	5
4.0	DOSE/PAR COORDINATOR .....	6
5.0	DOSE/PAR MONITOR .....	6
6.0	SHIFT MANAGER .....	7
7.0	SHIFT TECHNICAL ADVISOR .....	7
8.0	ELECTRICAL LEADER .....	8
9.0	ELECTRICAL/I&C ENGINEER .....	8
10.0	EMERGENCY DIRECTOR .....	8
11.0	ENGINEERING COORDINATOR .....	9
12.0	ENS COMMUNICATOR .....	10
13.0	EOF MANAGER .....	10
14.0	ERF COMMUNICATOR-TSC .....	11
15.0	FIELD TEAM LEADER .....	11
16.0	HPN/SRC COMMUNICATOR .....	12
17.0	I&C LEADER .....	12

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

APPENDIX A INDEX

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

SECTION	TITLE	PAGE
18.0	JPIC MANAGER.....	12
19.0	MECHANICAL LEADER .....	13
20.0	MECHANICAL SYSTEM ENGINEER .....	13
21.0	OFFSITE ASSEMBLY AREA COORDINATOR.....	13
22.0	OFFSITE RADIATION PROTECTION COORDINATOR.....	14
23.0	OPERATIONS COORDINATOR.....	14
24.0	OPERATIONS LEADER .....	15
25.0	OPERATIONS SUPPORT CENTER COORDINATOR.....	15
26.0	PLANT STATUS MONITOR .....	16
27.0	PROBABILISTIC RISK ASSESSMENT ENGINEER .....	16
28.0	RAD/CHEM COORDINATOR.....	16
29.0	RAD/CHEM MONITOR .....	17
30.0	RADIATION PROTECTION LEADER .....	17
31.0	REACTOR/CORE PHYSICS ENGINEER .....	18
32.0	REENTRY TEAM COORDINATOR.....	18
33.0	RESOURCE COORDINATOR.....	19
34.0	SBCC SURVEY LEADER.....	19

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

APPENDIX A INDEX

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

SECTION	TITLE	PAGE
35.0	SECURITY COORDINATOR.....	20
36.0	STATE LIAISON.....	20
37.0	STATE/COUNTY COMMUNICATOR.....	21
38.0	TSC MANAGER.....	21
39.0	ERF COMMUNICATOR-EOF.....	22
40.0	ERF COMMUNICATOR-CR.....	22
41.0	PLANT SPOKESPERSON.....	23

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

EMERGENCY RESPONSE ORGANIZATION  
PERSONNEL FUNCTION AND RESPONSIBILITIES

Criteria which may be considered during the selection of personnel for emergency organization positions include the qualification criteria required for normal operational job functions, the managerial and technical capabilities demonstrated in the performance of their normal administrative job functions, and completion of the appropriate emergency plan training. The qualification criteria for the operating plant staff are listed in the PBNP Nuclear Organization Manual (NOM).

The Emergency Response Organization charts and reporting structure are located in EP 5.0.

1.0 ADMINISTRATIVE SUPPORT LEADER

1.1 Responsibilities

- 1.1.1 Provide clerical and administrative support to responding ERO personnel at the TSC and EOF.
- 1.1.2 Ensure each position has adequate office supplies, procedures, and operational equipment to perform their duties
- 1.1.3 Coordinate records management, duplication and distribution of all documents, fax transmittals, word processing, event recording, and other office support for the emergency response facilities.

1.2 Principal Working Relationships

Resource Coordinator, TSC Manager, EOF Manager

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

2.0 CHEMISTRY LEADER

2.1 Responsibilities

- 2.1.1 Prepare, brief, and dispatch reentry teams on job scope, safety, and hazardous conditions.
- 2.1.2 Setup of the OSC Chemistry facilities and provide gamma spectroscopy support at the OSRPF.
- 2.1.3 Analyze chemistry problems and secure necessary chemistry resources to assist emergency response and recovery operations.
- 2.1.4 Manages post-accident sampling of containment atmosphere and reactor coolant system.
- 2.1.5 Assist with developing work scope packages, modifications, and analyses of problems.

2.2 Principal Working Relationships

Reentry Team Coordinator, Rad/Chem Coordinator, Reentry Teams

Emergency Director, JPIC Manager, Resource Coordinator

3.0 COUNTY LIAISON

3.1 Responsibilities

- 3.1.1 Respond to County EOC personnel questions regarding forms transmitted, classifications, PARs, and nuclear terminology
- 3.1.2 Work in parallel with the counties and EOF to ensure that they are receiving accurate and timely utility information.

3.2 Principal Working Relationships

Manitowoc and Kewaunee EOC Directors, State/County Communicator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

4.0 DOSE/PAR COORDINATOR

4.1 Responsibilities

- 4.1.1 Direct offsite dose assessment, provide input to classification and protective action recommendations.
- 4.1.2 Communicate periodically with the State Radiological Coordinator regarding offsite conditions, dose projections, PARs, and status updates
- 4.1.3 Monitor facility radiological conditions and hazards.
- 4.1.4 Recommend when it is necessary to authorize dose in excess of the maximum PBNP yearly admin. level (4 rem), or in excess of the 10 CFR 20.1201 limits (5 rem).
- 4.1.5 Review current or potential exposures and recommend when potassium iodide should be distributed to emergency workers as a protection measure.

4.2 Principal Working Relationships

EOF Manager, OSRP Coordinator, HPN/SRC Communicator

5.0 DOSE/PAR MONITOR

5.1 Responsibilities

- 5.1.1 Assist the Dose/PAR Coordinator with offsite dose assessment and development of Protective Action Recommendations (PARs).
- 5.1.2 Maintain communications with the Field Team Leader for current field monitoring team data.
- 5.1.3 Periodically obtain current weather forecasts and update the status boards as necessary.
- 5.1.4 Maintain the Rad/Met status board based upon changes in protective actions, classification, or significant changes in meteorology.

5.2 Principal Working Relationships

Dose/PAR Monitor, Field Team Leader, OSRP Coordinator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

6.0 SHIFT MANAGER

6.1 Responsibilities

- 6.1.1 Coordinates the safe operation of the plant, including implementation of normal and emergency procedures to safely place and maintain the plant in a safe shutdown condition.
- 6.1.2 Direct the activities of the plant Operations personnel and shift support personnel, coordinated with the OSC.
- 6.1.3 Operate the plant in compliance with all plant procedures, directives, Technical Specifications, and emergency procedures.
- 6.1.4 Provide information and recommendations on accident response.
- 6.1.5 Monitor plant parameters and plant conditions.
- 6.1.6 Onsite individual with unilateral authority to classify an event until relieved.
- 6.1.7 Interface with the emergency response organization in support of the emergency response operations.
- 6.1.8 Implement emergency response prior to relief by members of the emergency organization.

6.2 Principal Working Relationships

Emergency Director, TSC Manager, Operations Coordinator, EOF Manager

7.0 SHIFT TECHNICAL ADVISOR

7.1 Responsibilities

- 7.1.1 Monitor critical safety functions in the Control Room.
- 7.1.2 Assist with initial communication requirements, if necessary.
- 7.1.3 Assist with classifications, if necessary.

7.2 Principal Working Relationships

Shift Manager, Duty Operating Supervisor

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

8.0 ELECTRICAL LEADER

8.1 Responsibilities

- 8.1.1 Prepare, brief, and dispatch reentry teams on job scope, safety, and hazardous conditions.
- 8.1.2 Analyze electrical problems and develop plans for monitoring and controlling plant problems.

8.2 Principal Working Relationships

Reentry Team Coordinator, Reentry Teams

9.0 ELECTRICAL/I&C ENGINEER

9.1 Responsibilities

- 9.1.1 Continuously analyze problems with the operation of plant systems and equipment and develop plans or modifications to mitigate any concerns.
- 9.1.2 Provide engineering support including Severe Accident Management response.

9.2 Principal Working Relationships

Engineering Coordinator

10.0 EMERGENCY DIRECTOR

10.1 Responsibilities

- 10.1.1 Overall management and responsibility for the emergency response and recovery operations for Point Beach Nuclear Plant, with the non-delegable responsibilities for decisions regarding:
  - a. Classification/re-classification of emergencies
  - b. Protective Action Recommendations for offsite agencies
  - c. Notification of Federal, State, and County authorities
  - d. Request for federal assistance

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

- e. Authorizing the use of potassium iodide (KI)
- f. Authorizing emergency radiation exposures in excess of 10 CFR 20 limits

10.1.2 Serve as a senior company contact for offsite governmental agencies at the site. (NRC, FEMA, Wisconsin Emergency Management, local authorities)

10.2 Principal Working Relationships

Shift Manager, TSC Manager, EOF Manager, JPIC Manager, Plant Spokesperson

11.0 ENGINEERING COORDINATOR

11.1 Responsibilities

- 11.1.1 Provide the administrative and technical control of any engineers.
- 11.1.2 Evaluate plant onsite power availability and preferred operating status for unaffected unit.
- 11.1.3 Direct, coordinate, and approve engineering, design and construction activities on site.
- 11.1.4 Ensure that the engineering and design activity is adequately staffed and equipped to provide timely support.
- 11.1.5 Assists in the planning, scheduling, and expediting of recovery operations.
- 11.1.6 Provide SAMG Team direction.
- 11.1.7 Analyze problems with the operation of plant systems and equipment.

11.2 Principal Working Relationships

TSC Manager, Reactor/Core Physics Engineer, PRA Engineer, Mechanical Systems Engineer, Electrical/I&C Engineer.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

12.0 ENS COMMUNICATOR

12.1 Responsibilities

- 12.1.1 Ensuring the NRC has adequate information.
- 12.1.2 Immediately informing the NRC of changes in emergency classification or protective action recommendations (initial, upgrades, de-escalation, termination).
- 12.1.3 Providing plant and radiological status updates to the NRC.
- 12.1.4 Monitor the event for potential licensing concerns.

12.2 Principal Working Relationships

TSC Manager, NRC via ENS

13.0 EOF MANAGER

13.1 Responsibilities

- 13.1.1 Command and control of the Emergency Operations Facility, including the Offsite Radiation Protection Facility and site access.
- 13.1.2 Ensure EOF has an adequate staffing level to respond to the event.
- 13.1.3 Maintain an information flow with the Control Room and TSC to establish priorities and focus.
- 13.1.4 Monitor and recommend classification changes and Protective Action Recommendations
- 13.1.5 Ensure initial and continuing communications are maintained with offsite agencies.
- 13.1.6 Interface with responding representatives from offsite emergency agencies and assist in their information and communication needs.
- 13.1.7 Maintain accountability of personnel at the EOF and assess and provide for any considerations necessary for their safety.

13.2 Principal Working Relationships

Emergency Director, TSC Manager, Dose/PAR Coordinator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

14.0 ERF COMMUNICATOR-TSC

14.1 Responsibilities

14.1.1 Maintaining a continuous communications flow between the TSC, EOF, Control Room, and JPIC to monitor:

- a. Event classification and Protective Action Recommendations
- b. Plant and equipment status
- c. Onsite radiological information
- d. Procedures in use
- e. Major activities and decisions within each facility

14.1.2 Monitor data points and trends which could result in an event classification change.

14.2 Principal Working Relationships

TSC Manager, ERF Communicators-EOF/CR/JPIC

15.0 FIELD TEAM LEADER

15.1 Responsibilities

15.1.1 Coordinate the offsite sample radiological survey activities of the field monitoring teams.

15.1.2 Ensure continuing communications are maintained with the field monitoring teams; updating them on plant conditions, current meteorological data, and weather forecasts.

15.2 Principal Working Relationships

Offsite Radiation Protection Coordinator, Dose/PAR Monitor

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

16.0 HPN/SRC COMMUNICATOR

16.1 Responsibilities

- 16.1.1 Ensuring the State of Wisconsin State Radiological Coordinator (SRC) and NRC Health Physics Network (HPN) have adequate information to assist them in implementing offsite emergency plans.
- 16.1.2 Immediately informing the SRC and HPN of changes in emergency classification or changes in protective action recommendations.
- 16.1.3 Providing plant and radiological status updates to the SRC and HPN.

16.2 Principal Working Relationships

Dose/PAR Coordinator, State of Wisconsin SRC, NRC HPN

17.0 I&C LEADER

17.1 Responsibilities

- 17.1.1 Prepare, brief, and dispatch reentry teams on job scope, safety, and hazardous conditions.
- 17.1.2 Analyze instrumentation and control problems and develop plans for monitoring and controlling plant problems.

17.2 Principal Working Relationships

Reentry Team Coordinator, Reentry Teams

18.0 JPIC MANAGER

18.1 Responsibilities

- 18.1.1 Coordinates JPIC information with counterparts from local, state, and federal agencies.
- 18.1.2 Supervise all communications operations at the facility and coordinate the distribution of all news releases and statements.
- 18.1.3 Arrange for interviews and preside at formal press conferences.
- 18.1.4 Supervises communications with NMC and We Energies corporate offices in the event of an emergency (legal, risk management, finance, medical, governmental, employees).

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

18.2 Principal Working Relationships

Emergency Director, Plant Spokesperson

19.0 MECHANICAL LEADER

19.1 Responsibilities

19.1.1 Prepare, brief, and dispatch reentry teams on job scope, safety, and hazardous conditions.

19.1.2 Analyze mechanical problems and develop plans for monitoring and controlling plant problems.

19.2 Principal Working Relationships

Reentry Team Coordinator, Reentry Teams

20.0 MECHANICAL SYSTEM ENGINEER

20.1 Responsibilities

20.1.1 Continuously analyze problems with the operation of plant systems and equipment and develop plans or modifications to mitigate any concerns.

20.1.2 Provide engineering support including Severe Accident Management response.

20.2 Principal Working Relationships

Engineering Coordinator

21.0 OFFSITE ASSEMBLY AREA COORDINATOR

21.1 Responsibilities

21.1.1 Control and organize the release of personnel assembled in onsite and offsite assembly areas.

21.1.2 Assist with radiological monitoring of evacuees and vehicles, as appropriate.

21.1.3 Maintain accountability for all personnel located in the SBCC.

21.1.4 Assist with maintaining habitability, contamination control and ALARA practices.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

21.2 Principal Working Relationships

TSC Manger, EOF Manager, Offsite Radiation Protection Coordinator, Security Coordinator

22.0 OFFSITE RADIATION PROTECTION COORDINATOR

22.1 Responsibilities

22.1.1 Direct the activities of the OSRPF and Field Monitoring Teams (FMTs) in support of the EOF.

22.1.2 Dispatch and control of FMTs:

a. Obtaining direct radiation, particulate, gas, and iodine samples.

b. Obtaining field environmental samples of air, water, and vegetation;

22.1.3 Implement monitoring, decontamination, and safety plans for personnel/vehicles evacuated from the site.

22.1.4 Coordinate and monitor facility habitability.

22.2 Principal Working Relationships

Dose/PAR Coordinator, Field Team Leader, SBCC Survey Leader, Rad/Chem Coordinator, Offsite Assembly Area Coordinator

23.0 OPERATIONS COORDINATOR

23.1 Responsibilities

23.1.1 Assist the TSC Manager in setting priorities of TSC activities in support of the Control Room.

23.1.2 Continuously monitor event classifications and provide recommendations to the TSC Manager and Emergency Director.

23.1.3 Ensure critical safety functions are being monitored and trended.

23.1.4 Coordinate the use of SAMGs in the Control Room and TSC with the Engineering Coordinator.

23.1.5 Analyze problems associated with the operations of plant systems and equipment.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

23.2 Principal Working Relationships

Shift Manager, TSC Manager, OSC Coordinator

24.0 OPERATIONS LEADER

24.1 Responsibilities

24.1.1 Prepare, brief, and dispatch reentry teams on job scope, safety, and hazardous conditions.

24.1.2 Analyze operations problems and develop plans for monitoring and controlling plant problems.

24.1.3 Provide directions to individuals assigned to maintain reentry team radio communications and dispatched reentry team status.

24.1.4 Assist with development of work scope packages and modifications.

24.2 Principal Working Relationships

Reentry Team Coordinator, Reentry Teams

25.0 OPERATIONS SUPPORT CENTER COORDINATOR

25.1 Responsibilities

25.1.1 Ensure the OSC priorities and reentry teams are in direct support of the Control Room and TSC

25.1.2 Direct dispatch of reentry teams as required for search and rescue, fire fighting, emergency repairs and damage assessment.

25.1.3 Assess OSC effectiveness and support the Reentry Team Coordinator as necessary.

25.2 Principal Working Relationships

Operations Coordinator, TSC Manager, Reentry Team Coordinator, Rad/Chem Coordinator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

26.0 PLANT STATUS MONITOR

26.1 Responsibilities

- 26.1.1 Serve as a resource for plant and local environment data for event monitoring at the TSC and EOF.
- 26.1.2 Maintain plant status board and fission product barrier status board.
- 26.1.3 Provide for the accumulation, retention, and retrieval of computer generated plant and local environment data.
- 26.1.4 Question suspicious information, looking for independent/redundant information to substantiate questionable information.

26.2 Principal Working Relationships

ERF Communicators-TSC/EOF

27.0 PROBABILISTIC RISK ASSESSMENT ENGINEER

27.1 Responsibilities

- 27.1.1 Continuously analyze problems with the operation of plant systems and equipment and develop plans or modifications to mitigate any concerns.
- 27.1.2 Provide engineering support including Severe Accident Management response.

27.2 Principal Working Relationships

Engineering Coordinator

28.0 RAD/CHEM COORDINATOR

28.1 Responsibilities

- 28.1.1 Coordinate chemistry activities and functions to support collection of onsite chemical data and release information.
- 28.1.2 Assess onsite radiological conditions and implement protective action recommendations for onsite personnel, contractors, and Security officers.
- 28.1.3 Evaluate the need for post-accident sampling of reactor coolant system, containment atmosphere, and Containment Sump "A," including the oversight of containment hydrogen reduction.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

- 28.1.4 Evaluate the need to take an isokinetic stack sample.
- 28.1.5 Recommend when it is necessary to authorize dose in excess of the maximum PBNP yearly admin. level (4 rem), or in excess of the 10 CFR 20.1201 limits (5 rem).
- 28.1.6 Review current or potential exposures and recommend when potassium iodide should be distributed to emergency workers as a protection measure.
- 28.1.7 Offsite dose assessments in support of the EOF, if necessary.
- 28.1.8 Assist with development of plant procedures to process and control liquid, gaseous, and solid wastes.

28.2 Principal Working Relationships

Rad/Chem Monitor, Chemistry Leader, Dose/PAR Coordinator, TSC Manager

29.0 RAD/CHEM MONITOR

29.1 Responsibilities

- 29.1.1 Assist the Rad/Chem Coordinator in assessment of onsite radiological conditions and communicating plant and facility habitability.
- 29.1.2 Maintain Systems/RMS status board in the TSC and provide assistance with the plant maps in the OSC.

29.2 Principal Working Relationships

Rad/Chem Coordinator, Radiation Protection Leader

30.0 RADIATION PROTECTION LEADER

30.1 Responsibilities

- 30.1.1 Prepare, brief, and dispatch reentry teams on job scope, safety, hazardous conditions, and radiological concerns.
- 30.1.2 Implement appropriate radiation protection support of all onsite activities.
- 30.1.3 Analyze radiation protection problems and develop plans for monitoring and controlling plant problems.
- 30.1.4 Manage radiological controls for post-accident sampling of containment atmosphere and reactor coolant system.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

30.1.5 Maintain habitability, contamination control and ALARA practices within the TSC/OSC.

30.1.6 Ensure plant maps in the OSC are maintained with current radiological data and hazardous environments in the plant.

30.2 Principal Working Relationships

Reentry Team Coordinator, Rad/Chem Coordinator, Reentry Teams

31.0 REACTOR/CORE PHYSICS ENGINEER

31.1 Responsibilities

31.1.1 Monitor core and reactor coolant parameters for indications of inadequate core cooling and significant changes or trends.

31.1.2 Provide engineering support including Severe Accident Management response.

31.1.3 Assist in performing post-accident core damage assessment, if necessary.

31.2 Principal Working Relationships

Engineering Coordinator

32.0 REENTRY TEAM COORDINATOR

32.1 Responsibilities

32.1.1 Responsible for the reentry teams and recovery operations in response to the emergency, under the direction of the OSC Coordinator.

32.1.2 Assume reentry dispatch and tracking responsibility for onsite teams of emergency reentry, search and rescue, fire fighting, and non-PBNP personnel repair efforts (including in the exclusion area).

32.1.3 Coordinate preparation, briefings, and dispatching of reentry teams on job scope, safety, and plant conditions.

32.1.4 Coordinate the development of work scope packages, modifications, and analysis of problems.

32.1.5 Continually assist debrief information from returning reentry teams for changing plant conditions.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

32.2 Principal Working Relationships

OSC Coordinator, Operations Leader, Radiation Protection Leader, Chemistry Leader,  
I&C Leader, Mechanical Leader, Electrical Leader

33.0 RESOURCE COORDINATOR

33.1 Responsibilities

33.1.1 Support the emergency with onsite and offsite procurement needs, including:

- a. Staffing levels for response and recovery.
- b. Emergency equipment for emergency or recovery support.
- c. Communications equipment.
- d. Emergency facility supplies and equipment.
- e. Vendor and Contract support.

33.1.2 Utilize Emergency Preparedness Letters of Agreements as needed.

33.1.3 Establish and maintain communications with various private and federal offsite agencies in the event of an emergency, as needed; i.e., PSCW, INPO, A&E, NSSS)

33.2 Principal Working Relationships

EOF Manager, TSC Manager

34.0 SBCC SURVEY LEADER

34.1 Responsibilities

34.1.1 Ensure habitability of the SBCC by the issuance of dosimetry, monitoring compliance with contamination control practices, and performing radiological and smear surveys.

34.1.2 Monitoring and decontamination of vehicles and personnel entering and leaving the exclusion area.

34.2 Principal Working Relationships

Offsite Radiation Protection Coordinator, Offsite Assembly Area Coordinator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

35.0 SECURITY COORDINATOR

35.1 Responsibilities

- 35.1.1 Ensure the safety of plant, visitors, contractor, and security personnel.
- 35.1.2 Direct the onsite Security personnel in maintaining the plant security program in support of the emergency situations and recovery operations.
- 35.1.3 Direct the coordination of personnel accountability and release from the site, plus restricting access to secured areas.
- 35.1.4 Coordinate security escorts of reentry teams as appropriate.
- 35.1.5 Coordinate onsite and offsite access to the plant as appropriate.

35.2 Principal Working Relationships

TSC Manager, EOF Manager, Offsite Assembly Area Coordinator

36.0 STATE LIAISON

36.1 Responsibilities

- 36.1.1 Respond to State EOC personnel questions regarding forms transmitted, classifications, PARs, and nuclear terminology
- 36.1.2 Work in parallel with the state and EOF to ensure that they are receiving accurate and timely utility information.

36.2 Principal Working Relationships

State of Wisconsin EOC Director and SRC, State/County Communicator, HPN/SRC Communicator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

37.0 STATE/COUNTY COMMUNICATOR

37.1 Responsibilities

- 37.1.1 Ensuring the state and counties have adequate information to assist them in implementing offsite emergency plans.
- 37.1.2 Immediately informing the state and counties of changes in emergency classification or changes in protective action recommendations.
- 37.1.3 Providing plant and radiological status updates to the state and counties.

37.2 Principal Working Relationships

ERF Communicator-EOF, State and Counties EOC Directors

38.0 TSC MANAGER

38.1 Responsibilities

- 38.1.1 Direct all onsite emergency response in support of the Control Room by assuming the responsibility of:
  - a. Assessment of plant conditions and recommendations of classifications
  - b. Onsite Protective Action Recommendations
  - c. Onsite radiological assessment
  - d. NRC (ENS) Communications
- 38.1.2 Implement onsite operating procedures and EPIP's in support of the emergency response.
- 38.1.3 Determination of when to release non-essential personnel.
- 38.1.4 Evaluate changes in plant critical safety function areas, fission product barrier status, and classification changes.
- 38.1.5 Resolve questions concerning plant licensing requirements with the NRC.

38.2 Principal Working Relationships

Emergency Director, EOF Manager, Shift Manager, Operations Coordinator

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

39.0 ERF COMMUNICATOR-EOF

39.1 Responsibilities

- 39.1.1 Maintaining a continuous communications flow between the EOF, TSC, Control Room, and JPIC to monitor:
- a. Event classification and Protective Action Recommendations
  - b. Plant and equipment status
  - c. Onsite radiological information
  - d. Procedures in use
  - e. Major activities and decisions within each facility
- 39.1.2 Monitor data points and trends which could result in an event classification change.

39.2 Principal Working Relationships

EOF Manager, ERF Communicators-CR/TSC/JPIC

40.0 ERF COMMUNICATOR-CR

40.1 Responsibilities

- 40.1.1 Maintaining a continuous communications flow between the Control Room, TSC, EOF, and JPIC and to monitor:
- a. Event classification and Protective Action Recommendations
  - b. Plant and equipment status
  - c. Onsite radiological information
  - d. Procedures in use
  - e. Major activities and decisions within each facility
- 40.1.2 Monitor data points and trends which could result in an event classification change.

EMERGENCY RESPONSE ORGANIZATION PERSONNEL  
FUNCTION AND RESPONSIBILITY

---

40.2 Principal Working Relationships

Shift Manager, ERF Communicators-TSC/EOF/JPIC

41.0 PLANT SPOKESPERSON

41.1 Responsibilities

41.1.1 Attend media briefings to address public concerns.

41.1.2 Liaison between the emergency response organization and other corporate departments impacted by the emergency or whose services are required to support the response.

41.2 Principal Working Relationships

Emergency Director, JPIC Manager

LETTERS OF AGREEMENT<sup>(1)</sup>

---

**NOTE:** Letters of Agreement will be reviewed annually and renewed if required.

- 1.0 STATE OF WISCONSIN, DIVISION OF EMERGENCY MANAGEMENT <sup>(2)</sup>
- 2.0 MANITOWOC COUNTY SHERIFF'S DEPARTMENT
- 3.0 MANITOWOC COUNTY EMERGENCY MANAGEMENT
- 4.0 KEWAUNEE COUNTY EMERGENCY GOVERNMENT
- 5.0 KEWAUNEE COUNTY SHERIFF'S DEPARTMENT
- 6.0 AURORA MEDICAL CENTER- MANITOWOC COUNTY
- 7.0 AURORA TWO RIVERS CLINIC
- 8.0 UNIVERSITY OF WISCONSIN HOSPITAL & CLINICS
- 9.0 TWO CREEKS VOLUNTEER FIRE DEPARTMENT
- 10.0 WISCONSIN PUBLIC SERVICE CORPORATION <sup>(6)</sup>
- 11.0 CITY OF TWO RIVERS
- 12.0 TOWN OF TWO CREEKS
- 13.0 WESTINGHOUSE ELECTRIC CORPORATION <sup>(3)</sup>
- 14.0 INPO <sup>(4)</sup>
- 15.0 BECHTEL POWER CORPORATION
- 16.0 NATIONAL WEATHER SERVICE
- 17.0 MISHICOT AREA AMBULANCE SERVICE
- 18.0 WISCONSIN ARMY NATIONAL GUARD, TWO RIVERS <sup>(5)</sup>
- 19.0 NUCLEAR POWER PLANT OPERATING SERVICES AGREEMENT (NPPOSA)  
BETWEEN We ENERGIES AND NUCLEAR MANAGEMENT COMPANY, LLC

LETTERS OF AGREEMENT<sup>(1)</sup>

---

- (1) Can be found in plant file 11015020 (before 1989) and A9.2 (LA) (1989 and after).
- (2) A letter of agreement between Nuclear Management Company - Point Beach Nuclear Plant and the State of Wisconsin is referenced in the State of Emergency Operations Plan. Renewal of the Letter of Agreement is not required as long as the State of Wisconsin continues to participate in the 44 CFR 350 process.
- (3) Renewed triennially.
- (4) Renewal not required. Agreement is perpetual unless canceled in writing by either party.
- (5) Renewal required on or before August 31, 2003.
- (6) Memo of Support, Wisconsin Public Service Corporation Support for the Kewaunee Nuclear Power Plant and Point Beach Nuclear Power Plant Emergency Preparedness Programs.

STATE OF WISCONSIN EMERGENCY OPERATIONS  
PLAN

---

The State of Wisconsin Emergency Operations Plan is an all-hazards plan that includes Annex H, Health and Medical, Appendix 2, Radiological Emergency Preparedness, identifying the resources and responsibilities for agencies that will respond to incidents at Point Beach Nuclear Plant.

Copies are available in the Emergency Preparedness office, Technical Support Center, Emergency Operations Facility, and Alternate Emergency Operations Facility.

MANITOWOC COUNTY EMERGENCY OPERATIONS  
PLAN

---

The Manitowoc County Emergency Operations Plan is an all-hazards plan that includes Annex I, Radiological Incidents, identifying the resources and responsibilities for agencies that will respond to incidents at Point Beach Nuclear Plant.

Copies are available in the Emergency Preparedness office, Technical Support Center, Emergency Operations Facility, and Alternate Emergency Operations Facility.

**KEWAUNEE COUNTY EMERGENCY OPERATIONS PLAN**

---

The Kewaunee County Emergency Operations Plan is an all-hazards plan that includes Annex I, Radiological Incidents, Identifying the resources and responsibilities for agencies that will respond to incidents at Point Beach Nuclear Plant.

Copies are available in the Emergency Preparedness office, Technical Support Center, Emergency Operations Facility, and Alternate Emergency Operations Facility.

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

NOTE: EP 6S3.7 = Emergency Plan Section 6.0 Subsection 3.7.

	<u>Section</u>
<u>A</u>	
Accident	EP2S2.1; see also Spectrum of Postulated Accidents
Activation of Emergency Organization	EP6S2.0
Alert	EP4S1.2
Alternate Emergency Operations Facility	EP5S4.2.8; EP7S2.1
Assessment Actions	EP 6; Table 6-1
Assessment Equipment	EP7; Table 7-1; Table 7-2
Assessment Facilities	EP7S4.0; Table 7-1
<u>C</u>	
Classification System	EP4S1.0
Unusual Event	EP4S1.1
Alert	EP4S1.2
Site Emergency	EP4S1.3
General Emergency	EP4S1.4
Communication Systems	EP7S3.0; Figure 7-1
Contamination Control Measures	EP6S5.3
Plant Site	EP6S5.3.1
Offsite Areas	EP6S5.3.2

EMERGENCY PLAN CROSS-REFERENCE INDEX

	<u>Section</u>
Control Room	EP2S2.9; EP7S2.5
Corrective Actions	EP2S2.11; EP6S4.0
 <u>D</u>	
Damage Control and Repair	EP6S4.2; EP7S7.0
Decontamination	EP6S6.2
Department of Energy (DOE)	EP5S5.2.3
Dose Projections	EP6S3.0
Drills	EP8S3.3, 3.5
 <u>E</u>	
Emergency	EP2S2.12
Emergency Action Levels	EP2S2.14; Appendix B
Emergency Classification System	EP2S2.16; EP4S1.0
Emergency Exposure Criteria	EP6S6.1
Emergency Director	EP2S2.17; Appendix A
Emergency Facilities and Equipment	EP7
Emergency Notification	EP5
Plant Personnel	EP5S3.0; EP5 Figure 5-6
NMC and We Energies Corporate Personnel	EP5S3.2.3; EP5S4.1
Offsite Agencies	EP5S7.1; EP5 Figure 5-7

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

	<u>Section</u>
NRC	EP5S6.0; EP5 Figure 5-7
General Public	EP5S7.2
Emergency Operations Facility	EP2S2.19; EP7S2.1
Emergency Organization	EP5S3.0; Figure 5-3 through 5-5
Emergency Plan Review and Updating	EP8S4.0
Emergency Plan Implementing Procedures	EP2S2.20; EP8S1.0; Appendix I
Emergency Plan Maintenance Procedures	EP2S2.21; EP8S1.0
Emergency Planning Zone	EP2S2.22
Emergency Response Organization	EP2S 2.23; EP5S3.0; Appendix A
Equipment and Supplies	EP7; EP8
Damage Control	EP7S7.0
Equipment and Supplies List	EP8S5.0; Appendix H
Fire Equipment	EP7S7.0
Onsite Protective Equipment and Supplies	EP6S5.2; EP7 Table 7-1
Evacuation	EP2; EP6
Plant Site	EP2S2.24; EP4S1.0; EP 5S3.2.3 EP6S5.1.1
Offsite Areas	EP6S5.1.2; Appendix J
Emergency Response Facility	EP6S5.1.1

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

	<u>Section</u>
Exclusion Area	EP2S2.25; EP6S5.1.1; EP6S5.3.1
Exercises	EP8S3.3, 3.4
Exposure Criteria	EP6S6.1
<u>F</u>	
Facilities	
Assessment	EP7S4.0
Communications	EP7S3.0
Emergency	EP7S2.0
First Aid	EP7S6.0
Medical	EP7S6.0
Offsite Emergency	EP7S10.0
Protective	EP7S5.0
Federal Government	EP5S5.2
First Aid	
Facilities	EP7S6.0
Resources and Response	EP6S6.2
Fire Fighting	
Plant	EP6S4.1
Two Creeks Volunteer Fire Department	EP5S4.2.1

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

	<u>Section</u>
<u>G</u>	
General Emergency	EP4S1.4
<u>H</u>	
Hospitals	See Medical Facilities
<u>I</u>	
Iodine Prophylaxis (Thyroid Protection)	EP6S6.5
Implementing Procedures	See Emergency Plan Implementing Procedures
Ingestion Exposure Pathway	EP2S2.31
<u>J</u>	
Joint Public Information Center	EP2S2.32, EP 5S4.2.8 EP7.S2.7
Plant Spokesperson	EP5 Figure 5-5; through 5-6 Appendix A
<u>K</u>	
Kewaunee County Emergency Operations Plan	EP5S5.1.8; Appendix G
Kewaunee County Sheriff's Department	EP5S4.2.9
Kewaunee Nuclear Plant	EP5S4.2.8
<u>L</u>	
Letters of Agreement	EP5S4.2; EP8S4.0; Appendix D
Local Services Support	EP5S4.2; EP5S5.1
Low Population Zone	EP2S2.34

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

Section

M

Manitowoc County

Sheriff	EP5S4.2.7
Manitowoc County Emergency Operations Plan	EP5S5.1.8; Appendix F
Maps	Appendix C
Medical Facilities	EP5S4.2; EP7S6.0
Medical Transportation	EP5S4.2; EP6S6.3
Medical Treatment	EP5S4.2; EP6S6.4
Mutual Aid Agreements	See Letters of Agreement (Appendix D)
Meteorological Equipment	EP7S8.0

N

Nuclear Management Company

Emergency Preparedness Responsibilities	EP5S3.2.3; EP5S4.1; EP7S2.1.8
---	----------------------------------

Nuclear Regulatory Commission (NRC)	EP2S2.38; EP5S5.2; EP5S6.0
-------------------------------------	-------------------------------

O

Offsite	EP2S2.39; EP6S5.1.2; EP6S5.3.2
Offsite Radiation Protection Facility	EP2S2.40; EP7S2.2

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

	<u>Section</u>
Onsite	EP2S2.41
Operations Support Center	EP2S2.42; EP7S2.4
<u>P</u>	
Personnel Accountability	EP6S5.1.1
Plant Organization	
Normal	EP5S2.0; EP5 Figures 5-1 through 5-2
Emergency	EP5S3.0; EP5 Figures 5-3 through 5-5
Plume Exposure Pathway	EP2S2.44
Police	
Manitowoc County (Sheriff Department)	EP5S4.2.7
Wisconsin State Patrol	EP5S5.1.3
Prompt Notification System	EP7S9.0
Protected Area	EP2S2.48
Protective Actions	EP2S2.49; EP6S5.0, 6.0
Assembly and Evacuation	EP6S5.1
Contamination Control	EP6S5.3
Equipment and Supplies	EP6S5.2
Exposure Criteria	EP6S6.1
Iodine Prophylaxis (Thyroid)	EP6S6.5
Offsite Area	EP6S5.1.2, Table 6-3

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

	<u>Section</u>
Plant Site	EP6S5.1.1; Table 6-2
Protective Action Guides	EP2S2.50; EP4; Table 4-1
Protective Facilities	EP7S5.0
<u>R</u>	
Radiological Emergency	EP2S2.53
Radiological Monitoring	
Evacuees	EP6S5.1.1
Environmental	EP6Table 6-1
Personnel	EP6S6.1
Recovery	EP2S2.54; EP9
Relocation	EP6S5.1.1
<u>S</u>	
Security	
Building	EP2S2.56; EP7S2.6
Program	EP6S5.1.1
Severe Accident Management Guidelines	EP2S2.57; EPS53.1; EP8S1.0
Sheltering	EP6S5.1.2
Sirens	EP7S9, Figure 7-2, Table 7-3
Site Boundary Control Center	EP2S2.58; EP7S2.1

EMERGENCY PLAN CROSS-REFERENCE INDEX

---

	<u>Section</u>
Site Emergency	EP4S1.3
Spectrum of Postulated Accidents	EP4S2.0
Staging Area	See Operations Support Center
State Agencies	EP5S5.1
State of Wisconsin	
Emergency Organization and Support Agencies	EP5S5.1
Emergency Operations Plan	Appendix E
Supplies	See Equipment & Supplies
<u>T</u>	
Technical Support Center (TSC)	EP2S2.60; EP7S2.3
Training	EP8S3.0
TSC Satellite File	EP2S2.61
<u>U</u>	
United States Coast Guard	EP5S5.2.4
Unusual Event	EP4S1.1
<u>W</u>	
Water Supply Utilities	EP5S5.1.9
We Energies	
Emergency Preparedness Responsibilities	EP5S4.1