Kewaunee Nuclear Power Plant
N490 Highway 42
Kewaunee, WI 54216-9511
920.388 2560

Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, WI 54241
920 755.2321

NMC
Committed to Nuclear Excellence

Kewaunee / Point Beach Nuclear
Operated by Nuclear Management Company, LLC

NRC-02-104

December 6, 2002

10 CFR 50, App. E

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

Ladies/Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Radiological Emergency Response Plan Implementing Procedures

Pursuant to 10 CFR 50 Appendix E, attached is the latest revisions to the Kewaunee Nuclear Power Plant Radiological Emergency Response Plan Implementing Procedures (EPIPs). These revised procedures supersede the previously submitted procedures.

Pursuant to 10 CFR 50.4, two additional copies of this letter and attachment are hereby submitted to the Regional Administrator, U. S. Nuclear Regulatory Commission, Region III, Lisle, Illinois. As required, one copy of this letter and attachment is also submitted to the Kewaunee Nuclear Power Plant NRC Senior Resident Inspector.

Sincerely,

Thomas Coutu

Thomas Coutu
Site Vice President

SLC

Attachment

cc - US NRC Senior Resident Inspector, w/attach.
US NRC, Region III (2 copies), w/attach.
Electric Division, PSCW, w/o attach.
QA Vault, wo/attach.

A045

DOCUMENT TRANSMITTAL

KEWAUNEE NUCLEAR POWER PLANT

FROM: DIANE FENCL - KNPP TRANSMITTAL DATE: 11-26-2002

EMERGENCY PLAN IMPLEMENTING PROCEDURES TRANSMITTAL FORM

OUTSIDE AGENCY COPIES (1-20)

S. Campion - NRC Document Control Desk (1)*
S. Campion - NRC Region III (2, 3)*
S. Campion - NRC Resident Inspector (4) (receives Appx. A phone numbers)*
S. Campion - State of Wisconsin (5)*
S. Campion - KNPP QA Vault (NRC Letter & Memo Only) (15)*
Krista Kappelman - PBNP - EP (10)*
Craig Weiss - Alliant Energy (11)*
Jill Stern - Nuclear Management Company (12)*

PERSONAL COPIES (21-40) These copies are for the personal use of the listed individuals for reference or emergency response.

J. Bennett (33) D. Seebart (24) J. Ferris (13) T. Coutu (28)

REFERENCE COPIES - CUSTODIAN (41-100) These copies are for general reference by anyone. They are distributed throughout the plant and corporate offices. The named individual is the responsible custodian for the procedures and shall insure they are properly maintained.

NO Library - KNPP (59)
C. Sternitzky - ATF-2 (44)
M. Daron - Security Building (46)
C. Grant - EOF (81)
C. Grant - OSF (52)
LOREB - STF (62, 66, 67, 68, 70, 72, 73, 74)
STF Library (43)
Resource Center - Training (82)
D. Krall - CR/SS Office (51, 56)
C. Grant - TSC (50)
W. Galarneau - RAF (53)
W. Galarneau - SBF/EMT (54)
W. Galarneau - RPO (55)
STF (86, 87, 88)

WORKING COPIES (101-199) These copies of procedures are kept in the areas designated for use in response to an emergency.

W. Galarneau - RAF/RPO (106, 107)
W. Galarneau - SBF/ENV (108, 109)
W. Galarneau - SBF/EM Team (110, 111, 111A)
W. Flint - Cold Chem/HR Sample Room (113)
S. Zutz - SBF/SEC (114)
D. Krall - CR/Communicator (116)(Partial Distribution)
Simulator/Communicator (117)
M. Fencl - Security (121)
S. Zutz - Security Building (120)
Ops Admin. (126)
C. Grant - TSC Response Binder (Partial Distribution)
C. Grant - EOF Response Binder (Partial Distribution)

Originals to KNPP QA Vault

Please follow the directions when updating your EPIP Manual. WATCH FOR DELETIONS!!! These are controlled procedures and random checks may be made to ensure the manuals are kept up-to-date.

*THIS IS NOT A CONTROLLED COPY. *IT IS A COPY FOR INFORMATION ONLY.*

KEWAUNEE NUCLEAR POWER PLANT
REVISION OF EMERGENCY PLAN IMPLEMENTING PROCEDURES
November 26, 2002

Please follow the directions listed below. If you have any questions regarding changes made to the EPIPs, please contact Dave Seebart at ext. 8719.

EPIP Index, dated 11-26-2002.

REMOVE		INSERT	
PROCEDURE	REV.	PROCEDURE	REV.
EPIP-AD-01	J	EPIP-AD-01	K
EPIP-AD-02	AD	EPIP-AD-02	AE
EPIP-OSF-02	U	EPIP-OSF-02	V
EPIP-SEC-03	AE	EPIP-SEC-03	AF
EPIP-TSC-08A	N	EPIP-TSC-08A	O

Return a signed and dated copy of this transmittal letter, within 10 days of transmittal date, to the sender. If you have any questions or comments, please contact Dave Seebart at ext. 8719.

I CERTIFY Copy No._____ (WPSC No.) of the Kewaunee Nuclear Power Plant's EPIPs has been updated.

SIGNATURE **DATE**

Please return this sheet to *DIANE FENCL.*

Diane Fencl

Enclosure

EMERGENCY PLAN IMPLEMENTING PROCEDURES

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	EP-AD		
EPIP-AD-01	Personnel Response to the Plant Emergency Siren	K	11-26-2002
EPIP-AD-02	Emergency Class Determination	AE	11-26-2002
EPIP-AD-03	KNPP Response to an Unusual Event	AF	06-20-2002
EPIP-AD-04	KNPP Response to Alert or Higher	AK	08-20-2002
EP-AD-5	Site Emergency	**Deleted**	04-27-87
EPIP-AD-05	Emergency Response Organization Shift Relief Guideline	D	05-09-2002
EP-AD-6	General Emergency	**Deleted**	04-24-87
EPIP-AD-07	Initial Emergency Notifications	AR	06-20-2002
EP-AD-8	Notification of Alert or Higher	**Deleted**	02-26-96
EP-AD-9	Notification of Site Emergency	**Deleted**	04-27-87
EP-AD-10	Notification of General Emergency	**Deleted**	04-27-87
EPIP-AD-11	Emergency Radiation Controls	R	04-11-2002
EP-AD-12	Personnel Assembly and Accountability	**Deleted**	03-26-94
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EP-AD-13A	Limited Area Evacuation	**Deleted**	03-01-83
EP-AD-13B	Emergency Assembly/Evacuation	**Deleted**	03-01-83
EP-AD-13C	Site Evacuation	**Deleted**	03-01-83
EP-AD-14	Search and Rescue	**Deleted**	05-25-94
EPIP-AD-15	Recovery Planning and Termination	P	09-12-2002
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EP-AD-17	Communications	**Deleted**	03-05-84
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EP-ENV-3E	Manual Determination of X/Q	**Deleted**	04-24-87
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EP-ENV-3H	Protective Action Recommendations	**Deleted**	04-13-90
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EPIP-ENV-04D	Plume Tracking for Environmental Monitoring Teams	O	08-20-2002
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EP-ENV-5C	SAM II Operation	**Deleted**	04-14-86
EP-ENV-5D	PAC-4G (Alpha Counter) Operation	**Deleted**	04-14-86
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EPIP-EOF-04	EOF Staff Action for Alert or Higher	AJ	08-06-2002
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EP-OP-3	Control Room Communications	**Deleted**	04-24-87
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EP-OSF-4	Operational Support Facility Communications	**Deleted**	04-24-87
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EPIP-RET-04A	SBF Operation/Relocation	**Deleted**	10-02-2001
EP-RET-4B	Radiological Controls at Site Access Facility	**Deleted**	07-12-94
EP-RET-4C	Site Radiological Monitoring	**Deleted**	07-12-94
EP-RET-4D	SAM-II Operation	**Deleted**	07-12-94
EP-RET-5	Plume Projection	**Deleted**	09-26-84
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EPIP-SEC-03	Personnel Assembly and Accountability	AF	11-26-2002
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EPIP-TSC-07	RV Head Venting Time Calculation	J	06-20-2002
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EPIP-TSC-08B*	STMRLS Computer Program	G	06-20-2002
EP-TSC-8C*	See EP-TSC-8B	**Deleted**	04-16-92
* EP-TSC-8B was totally deleted; therefore, EP-TSC-8C was changed to EP-TSC-8B			
EP-TSC-9	Core Damage Assessment Using Released Radionuclides	**Deleted**	09-30-86
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* EP-TSC-9A, Rev. D was totally deleted; therefore, EP-TSC-9B became EP-TSC-9A. EP-TSC-9B was previously EP-TSC-9C.			
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EPIP-APPX-A-06	EP-FIG-005	APPX-A-06-02	Site Boundary Facility - KNP Floor Plan	A	10-31-2000
EPIP-APPX-A-06	EP-FIG-008	APPX-A-06-01	Radiological Analysis Facility - KNP Floor Plan	A	10-31-2000
EPIP-EOF-12 Form EPIPF-EOF-02-01	EP-FIG-009	EOF-12-01	Division Office Building (2nd Floor) Floor Plan	B	10-24-2000
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EPIP-AD-19	EP-FIG-014	AD-19-01	Population Distribution by Geographical Sub-Areas (with sectors)	A	10-31-2000
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EPIP-APPX-A-03	Off-Site Telephone Numbers	**Deleted**	02-06-2002
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EOF-04-02	Telephone Communications Log Sheet	A	12-14-2001
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RET-02B-02	Auxiliary Building Stack (Grab Sample)	D	08-06-2002
RET-02B-03	Auxiliary Building Stack (Sping Reading)	D	08-06-2002
RET-02B-04	Containment Stack (Sping Reading)	C	08-06-2002
RET-02B-05	Steam Release	D	08-06-2002
RET-02B-06	Field Reading (Grab Sample)	B	08-06-2002
RET-04-01	SAM-2 Counting Equipment Worksheet	E	06-12-2001
RET 8.3	Hospital Survey 1	**Deleted**	06-05-2001
RET 8.4	Hospital Survey 2	**Deleted**	07-25-97
RET 8.5	Hospital Survey 3	**Deleted**	07-25-97
RET-08-06	Hospital Survey 4	**Deleted**	05-23-2002
RET-09-01	Post-Accident TLD Record Sheet	D	04-16-2002
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TSC-03-03	Environmental Status Board	J	06-12-2001
TSC-03-04	Radiation Monitors	I	01-08-2002
TSC-04-01	Emergency Physical Change Request	G	05-09-2002
TSC-04-02	Emergency Physical Change Safety Review	Deleted	05-09-2002
TSC-04-03	Emergency Physical Change Index	F	08-29-2000
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TSC-08A-01	Steam Release Data Sheet (Energy Balance)	H	12-14-2001
TSC-08A-02	Steam Release Calculation Sheet (Energy Balance)	G	12-14-2001
TSC-08A-03	Steam Release Data/Calculation Sheet (Open Valve)	E	12-14-2001
TSC-08A-04	Steam Release Data/Calculation Sheet (STMRLS Program)	D	12-14-2001
TSC-09A-01	Core Exit Thermocouple Data	D	05-16-2002
TSC-09A-02	Fuel Rod Clad Damage Estimate	D	05-16-2002
TSC-09A-03	Fuel Rod Overtemperature Damage Estimate	E	05-16-2002
TSC 9A.4	Core Damage Based on Activity Ratios	Deleted	05-16-2002
TSC-09A-05	Core Damage Assessment (Monitoring Data)	E	05-16-2002
TSC 9A.6	Core Damage Summary	Deleted	05-16-2002

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant *Emergency Plan Implementing Procedure*	No. EPIP-AD-01	Rev. K
	Title Personnel Response to the Plant Emergency Siren	
	Date NOV 26 2002	Page 1 of 4
Reviewed By Dave Seebart	Approved By W. L. Yarosz	

Nuclear Safety Related	☐ Yes ☑ No	PORC Review Required	☐ Yes ☑ No	SRO Approval Of Temporary Changes Required	☐ Yes ☑ No

1.0 Purpose

1.1 This procedure provides instruction for defining the initial actions to be taken in the event the plant emergency siren is sounded.

2.0 General Notes

2.1 The applicable content of this procedure shall be general knowledge for all personnel badged for unescorted access to KNPP and qualified Emergency Response Organization (ERO) responders.

2.2 When the plant emergency siren sounds, stop your work and listen for the plant page announcement for further information.

3.0 Precautions and Limitations

3.1 IF approached by the media, THEN inform them that the most accurate information concerning the emergency can be obtained at the Joint Public Information Center in the WPS Green Bay Division Office Building.

3.2 ONLY the scheduled Control Room staff, individuals specifically called to the Control Room (CR) by the ED or EOD, and the following individuals may report directly to the Control Room:

- Emergency Director (ED)
- Event Operations Director (EOD)
- ERF Communicator - Control Room (ERFCM-CR)
- Notifier (SEC-N)
- NRC Communicator (NRCCM)
- Control Room Support (SP-C)
- NRC Resident Inspector
- CAS Operator
- Shift Technical Advisor (STA)

3.3 IF no Accountability Coordinator (AC) is available in an Assembly Area, THEN one of the first ERO members to arrive should implement Section 5.3 of EPIP-SEC-03, "Personnel Assembly and Accountability," until relieved by a designated Accountability Coordinator.

4.0 Initial Conditions

4.1 This procedure shall be implemented upon the sounding of the plant emergency siren accompanied by a plant page announcement of a **Declared Emergency**, or when directed by the Shift Manager (SM) or Emergency Director.

5.0 Procedure

5.1 When personnel within the Site Boundary hear the emergency siren and the page announcement of a declared emergency, they shall respond as follows:

5.1.1 Emergency Response Organization (ERO) staff shall report to their duty locations.

a. ERO personnel inside the Radiologically Controlled Area (RCA) should pass through the RCA access point near the Radiation Protection Office (RPO) on their way to their emergency duty location.

b. ERO personnel who need to pass through the Security Building en-route to their emergency duty location should do so promptly unless instructed to assemble elsewhere by Security.

c. The following are exceptions for ERO members reporting to identified duty locations:

- Fire Brigade/Fire Team report to their turn out gear location and contact the Shift Manager (SM) or Event Operations Director (EOD)
- On-Shift NAOs contact the SM or EOD
- Security Force personnel contact to the Shift Captain
- Dispatched emergency teams such as search and rescue or repair teams contact to the SM or Support Activities Director (SAD)

5.1.2 Visitors, contractors, and non-ERO personnel on-site shall assemble in the nearest designated Assembly Area.

a. IF inside the Protected Area (PA), THEN report to one of the following areas:

- Radiation Protection Office (RPO)
- Administrative Training Facility (ATF) Lunchroom
- Warehouse Annex Lunchroom

b. IF outside the PA, THEN report to one of the following areas:

- Security Building Classroom C
- Simulator Training Facility (STF) Lunchroom

5.2 While in transit to your duty location or assembly area and you observe:

5.2.1 An injured person or vehicle accident - Report the event to the Radiation Protection Director in the TSC or the Shift Manager using the closest communication system available. Then, provide assistance to any victims to the best of your ability until help arrives and without causing bodily harm to yourself.

5.2.2 Any plant system or structural problem - Report your observation to the OSF as soon as possible after arriving at your duty location or assembly area.

5.3 When an evacuation is implemented, follow the instructions provided by Security and:

a. Exit the plant in an orderly fashion by the directed route.

b. IF reporting to a designated county relocation area, THEN proceed directly there, following all directions that may be provided for exiting the Emergency Planning Zone (EPZ) by county emergency government officials.

6.0 Final Conditions

6.1 Plant Emergency has been Terminated or Recovery actions have begun and the Emergency Response Manager has suspended the use of EPIPs or it has been determined that accountability is no longer required.

7.0 References

7.1 EPIP-SEC-03, Personnel Assembly and Accountability

7.2 Figure EPIPFG-SEC-05-01, KNP Site Map and Evacuation Routes

8.0 Records

8.1 The following QA records and non-QA records are identified in this directive/procedure and are listed on the KNPP Records Retention Schedule. These records shall be maintained according to the KNPP Records Management Program.

8.1.1 QA Records

None

8.1.2 Non-QA Records

None

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Nuclear Safety Related	☑ Yes ☐ No	PORC Review Required	☑ Yes ☐ No	SRO Approval Of Temporary Changes Required	☑ Yes ☐ No

1.0 Purpose

1.1 This procedure provides instruction for determining proper emergency classification listed in order to activate the appropriate level of response from the Kewaunee Nuclear Power Plant (KNPP) emergency response organization and off-site response organization.

2.0 General Notes

2.1 None

3.0 Precautions and Limitations

3.1 Plant monitors used to determine whether emergency classification levels are being exceeded should be checked for accuracy prior to declaring an emergency class (e.g., compare against redundant channels, determine if consistent with system status, or verification by sample analysis when required by Chart A(1).

3.2 This procedure is not written to facilitate de-escalation. Therefore, any decision to de-escalate must be based on a thorough review of procedures and plant conditions. If appropriate, it is preferable to terminate or enter recovery. However, there may be occasions where it is appropriate to de-escalate.

3.3 An emergency classification should be made within 15 minutes of recognizing that conditions exist requiring classification in accordance with the EALs. This 15 minute goal is in addition to the 15 minute notification requirement once an emergency declaration has been made on "Event Notice," Form EPIPF-AD-07-01. There are times when it may be appropriate to delay classification while significant changes in plant parameters are evaluated for their impact on classification. Examples of such events are an unanticipated:

- Plant Trip
- SI Initiation
- Entry into an orange or red path
- Loss of a safety system

If such an event should occur during classification, it may be appropriate to exceed the 15 minute goal to ensure an accurate classification.

4.0 Initial Conditions

4.1 This procedure applies during any plant evolution that may result in an emergency declaration.

5.0 Procedure

5.1 Determine if a plant emergency exists during abnormal plant conditions by referring to Table 2-1, Emergency Action Level Charts.

5.2 IF a plant emergency exists, THEN perform the required actions of the appropriate emergency procedure listed below:

5.2.1 EPIP-AD-03, "KNPP Response to an Unusual Event"

5.2.2 EPIP-AD-04, "KNPP Response to Alert or Higher"

5.3 As plant conditions change, continue referring to the Emergency Action Level Charts.

5.4 Determine if the emergency should be reclassified.

5.5 IF the event is reclassified, THEN return to Step 5.2.

5.6 IF Final Conditions (Section 6.0) are not met, THEN return to Step 5.3.

5.7 IF Final Conditions (Section 6.0) are met, THEN use of this procedure may be suspended.

6.0 Final Conditions

6.1 Plant Emergency has been Terminated or Recovery actions have begun and the Responsible Director has suspended the use of EPIPs.

7.0 References

7.1 Kewaunee Nuclear Power Plant Emergency Plan

7.2 EPIP-AD-01, Personnel Response to the Plant Emergency Siren

7.3 EPIP-AD-03, KNPP Response to an Unusual Event

7.4 EPIP-AD-04, KNPP Response to Alert or Higher

7.5 COMTRAK 89-001, NRC Inspection Report 88-11, Improve Guidance for Fires Chart G

7.6 OEA 87-246, Report OE 2265, Improve Description of Unusual Aircraft Activity Chart P

7.7 NRC Letter 07-11-94, Branch Position on Acceptable Deviations to NUREG-0654

8.0 Records

8.1 The following QA records and non-QA records are identified in this directive/procedure and are listed on the KNPP Records Retention Schedule. These records shall be maintained according to the KNPP Records Management Program.

8.1.1 QA Records

None

8.1.2 Non-QA Records

None

EMERGENCY ACTION LEVEL CHARTS

The following charts are separated into different abnormal operating conditions which may, depending upon their severity, be classified as an Unusual Event, Alert, Site Emergency, or General Emergency.

CHART A(1)
ABNORMAL RADIOLOGICAL EFFLUENT

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
SEE CHART A(2)	Effluent monitors detect levels corresponding to greater than 1 rem/hr whole body or 5 rem/hr thyroid at the site boundary under "actual meteorological" conditions.	GENERAL EMERGENCY
Projected or measured dose rates to be provided by the Radiological Protection Director or Environmental Monitoring Teams.	Projected or measured in the environs dose rates greater than 1 rem/hr whole body or 5 rem/hr thyroid at the site boundary.	GENERAL EMERGENCY
SEE CHART A(2)	Effluent monitors detect levels corresponding to greater than 50 mr/hr for ½ hour OR greater than 500 mr/hr for two minutes (or five times these levels to the thyroid) OR for "adverse meteorology."	SITE EMERGENCY
Projected or measured dose rates to be provided by the Radiological Protection Director or Environmental Monitoring Teams.	At the site boundary, projected or measured dose rates greater than 50 mr/hr for ½ hours OR greater than 500 mr/hr for two minutes (or five times these levels to the thyroid) or EPA PAGs are projected to be exceeded outside the site boundary.	SITE EMERGENCY
SEE CHART A(2)	Radiological effluents greater than 10 times ODCM instantaneous limits.	ALERT
a. Containment R-2 OR R-7 ≥ 1.0E+4 mr/hr, OR b. Charging Area R-4 ≥ 1.0E+4 mr/hr, OR c. SFP Area R-5 ≥ 1.0E+4 mr/hr, OR d. Plant area air sample indicates airborne contamination > 1,000 times the occupational DAC values.	Radiation levels or airborne contamination which indicate a severe degradation in the control of radioactive materials (e.g., radiation levels suddenly increase by a factor of 1,000).	ALERT
(1) Gaseous Releases: See Chart A(2) (2) Liquid Releases: Notification by the Rad-Chem Group of violating ODCM 3.3.1 limits.	Offsite Dose Calculation Manual limits exceeded.	UNUSUAL EVENT

CHART A(2)
GASEOUS EFFLUENT ACTION LEVELS

1. AUX BUILDING VENT RELEASES - *WITH SIGNIFICANT CORE DAMAGE*

Instrument readings assuming a post accident gas release AND Containment High Range Radiation Monitors 42599 (R-40) and 42600 (R-41) reads 1000 R/hr within one-half hour of the accident.

NOTE: Use adverse meteorology conditions (ADV MET) only when, 10m and 60m wind speed < 5mph AND Delta-T > +2.4 degrees F or Sigma Theta is < 3.01 degrees. All other cases are average meteorology (AVG MET).

NOTE: R-13 and R-14 are expected to be off scale high during all events on this page.

SV & SFP FANS	AUX BLDG SPING MONITORS				AUX BLDG STACK MONITORS				EMERG. CLASS.
	MID RANGE CPM (01-07) PPCS PT G9086G		HIGH RANGE CPM (01-09) PPCS PT G9088G		R-35 MR/HR		R-36 R/HR		
TOTAL NUMBER RUNNING	AVG MET	ADV MET	AVG MET	ADV MET	AVG MET	ADV MET	AVG MET	ADV MET	
1	**	1.1E+4	6.5E+1	*	**	7.9E+2	1.27E+2	7.9E-1	GENERAL EMERG.
2	8.8E+5	5.5E+3	3.25E+1	*	**	3.9E+2	6.35E+1	4 0E-1	
3	5.9E+5	3.7E+3	2 16E+1	*	**	2.6E+2	4.2E+1	2.6E-1	
4	4.4E+5	2.7E+3	1.62E+1	*	**	2.0E+2	3.175E+1	2.0E-1	
1	8 8E+4	5.5E+2	3.0E+0	*	6 3E+3	3.9E+1	6.3E+0	*	SITE EMERG.
2	4.4E+4	2.7E+2	1.5E+0	*	3.1E+3	1.9E+1	3.1E+0	*	
3	2.9E+4	1.8E+2	1.0E+0	*	2.1E+3	1.3E+1	2.1E+0	*	
4	2.2E+4	1.3E+2	*	*	1.5E+3	9.5E+0	1.5E+0	*	
1	1.0E+3	6 2E+0	*	*	7.0E+1	*	*	*	ALERT
2	5.0E+2	3.1E+0	*	*	3.5E+1	*	*	*	
3	3.3E+2	2 0E+0	*	*	2.3E+1	*	*	*	
4	2.5E+2	1.5E+0	*	*	1.75E+1	*	*	*	
1	1.0E+2	6.2E-1	*	*	7.0E+0	*	*	*	UNUSUAL EVENT
2	5 0E+1	3.1E-1	*	*	3.5E+0	*	*	*	
3	3.3E+1	2.0E-1	*	*	2.3E+0	*	*	*	
4	2.5E+1	1.5E-1	*	*	1.7E+0	*	*	*	

* Offscale Low
** Offscale High (Confirmation Only)

CHART A(2)
GASEOUS EFFLUENT ACTION LEVELS continued

2. AUX BUILDING VENT RELEASES *WITHOUT CORE DAMAGE*

NOTE: Use adverse meteorology conditions (ADV MET) only when, 10m and 60m wind speed < 5mph AND Delta-T > +2.4 degrees F or Sigma Theta is < 3.01 degrees. All other cases are average meteorology (AVG MET).

NOTE: R-13 and R-14 are expected to be off scale high during all events on this page.

SV & SFP FANS	AUX BLDG SPING MONITORS				EMERG. CLASS.
TOTAL NUMBER RUNNING	MID RANGE CPM (01-07) PPCS PT G9086G		HIGH RANGE CPM (01-09) PPCS PT G9088G		
	AVG MET	ADV MET	AVG MET	ADV MET	
1	**	9.4E+4	1.6E+4	1.0E+2	GENERAL EMERG.
2	**	4.7E+4	8.0E+3	5.0E+1	
3	**	3.1E+4	5.3E+3	3.3E+1	
4	**	2.3E+4	4.0E+3	2.5+1	
1	7.5E+5	4.6E+3	8.0E+2	5.0E+0	SITE EMERG.
2	3.7E+5	2.3E+3	4.0E+2	2.5E+0	
3	2.5E+5	1.5+3	2.6E+2	1.6E+0	
4	1.8E+5	1.1E+3	2.0E+2	1.2E+0	

SV & SFP FANS TOTAL NUMBER RUNNING	AUX BLDG SPING MONITORS		EMERG. CLASS.
	LOW RANGE Ci/cc (01-05) PPCS PT G9084G	MID RANGE CPM (01-07) PPCS PT 9086G	
1	**	8.6E+3	ALERT
2	**	4.3E+3	
3	**	2.8E+3	
4	**	2.1E+3	
1	6.3E-2	8.6E+2	UNUSUAL EVENT
2	3.1E-2	4.3E+2	
3	2.1E-2	2.8E+2	
4	1.5E-2	2.1E+2	

** Offscale High (Confirmation Only)

CHART A(2)
GASEOUS EFFLUENT ACTION LEVELS continued

3. STEAM LINE RELEASE *WITH SIGNIFICANT CORE DAMAGE*

Instrument readings assuming radioactive steam is releasing at a total of 1.4E+5 pounds per hour to the atmosphere AND Containment High Range Radiation Monitor 42599 (R-40) or 42600 (R-41) reads 1000 R/hr within one-half hour of the accident.

	"A" Steam Line Monitors		"B" Steam Line Monitors		Emergency Classification
R-15 (cpm)	R-31 (mR/hr)	R-32 (R/hr)	R-33 (mR/hr)	R-34 (R/hr)	
**	1.3E+3	1.3E+0	1.3E+03	1.3E+0	General Emergency
**	6.0E+1	--	6.0E+1	--	Site Emergency
**	1.5E-1	--	1.5E-1	--	Alert
2.0E+05	--	--	--	--	Unusual Event

** Offscale High (Confirmation Only)

4. SHIELD BUILDING STACK RELEASE

Instrument readings assuming SBV System is operating in the recirculation mode.

Reactor Bldg. Discharge Vent SPING		Emergency Classification
PPCS PT G9077G (02-07) Mid Range (cpm)	PPCS PT G9079G (02-09) High Range (cpm)	
1.3E+05	1.5E+2	General Emergency
6.7E+03	7.0E+0	Site Emergency
1.5E+1	--	Alert
--	--	Unusual Event

CHART B
FUEL DAMAGE INDICATION

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) CET > 1,200 Degrees for greater than 15 minutes, OR (2) R40 or R41 > 1,000 r/hr, OR (3) SACRG-1, Severe Accident Control Room Guideline Initial Response has been implemented.	Plant conditions exist that make the release of large amounts of radioactivity in a short time period possible.	GENERAL EMERGENCY
(Major damage is more than one spent fuel element damaged.) (1) Fuel Handling accident in Containment a. Alarm on R-11 OR R-12, AND b. Dropped spent fuel assembly, OR c. Report of a large object dropped in Rx core, OR (2) Fuel Handling Accident in Auxiliary Bldg. a. Alarm on R-13 or R-14, AND b. A large object dropped in spent fuel pool, OR c. A dropped spent fuel assembly, OR d. A loss of water level below spent fuel.	Major damage to spent fuel in containment or auxiliary building.	SITE EMERGENCY
(1) R-9 indication is offscale high, AND (2) Laboratory analysis confirms RCS activity levels comparable to USAR Appendix D, Table D.4-1.	Severe loss of fuel cladding a. Very high coolant activity sample b. Failed fuel monitor indicates greater than 1% fuel failures within 30 minutes or 5% total fuel failures.	ALERT
(1) Fuel Handling Accident in Containment a. A confirming report, AND b. Alarm on R-11 OR R-12, OR (2) Fuel Handling Accident in Auxiliary Bldg. a. A confirming report, AND b. Alarm on R-13 OR R-14.	Fuel damage accident with release of radioactivity to containment or auxiliary building.	ALERT
(1) With RCS Temperature > 500°F, a. > 0.2 µCi/gram DOSE Equivalent I-131 for 48 hours, OR b. Exceeding T.S. Figure 3.1-3 for Dose Equivalent I-131, OR c. > 91/$\bar{E}$ µCi/cc As determined by SP-37-065 (from T.S. 3.1.c)	High reactor coolant activity sample.	UNUSUAL EVENT
(1) R-9 is greater than 5.0 R/hr, AND (2) Verified by RCS chemistry sample analysis.	Failed fuel monitor indicates greater than 0.1% equivalent fuel failures within 30 minutes.	UNUSUAL EVENT

CHART C
PRIMARY LEAK TO LOCA

NOTE: This chart does not apply when leakage from the Reactor Coolant System is caused by a Steam Generator tube rupture.

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) LOCA is verified per IPEOP E-1, "Loss of Reactor or Secondary Coolant," AND (2) ECCS failure is indicated by: a. SI and RHR pumps not running, OR b. Verification of no flow to the reactor vessel, OR c. Core exit thermocouples indicate greater than 1,200°F, AND (3) Failure or potential failure of containment is indicated by: a. Physical evidence of containment structure damage, OR b. Containment Pressure is > 23 PSIG and loss of all containment fan coil units and both trains of ICS, OR c. Containment hydrogen monitor indicates ≥ 10% hydrogen concentration, OR d. Containment pressure exceeds 46 psig.	(1) Loss of coolant accident, AND (2) Initial or subsequent failure of ECCS, AND (3) Containment failure or potential failure exists (loss of 2 of 3 fission product barriers with a potential loss of 3rd barrier).	GENERAL EMERGENCY
(1) SI System is activated and RCS leakage exceeds charging system capacity as verified by Control Room indications or IPEOPs.	Reactor Coolant System leakage greater than make-up pump capacity.	SITE EMERGENCY
(1) Charging flow verses letdown flow indicates an unisolable RCS leak > 50 gpm.	Reactor Coolant System leak rate greater than 50 GPM.	ALERT
(1) Initiation of reactor shutdown required by Technical Specification, Section T.S. 3.1.d. Indicated leakage may be determined using Reactor Coolant System mass balance calculations performed by SP-36-082.	Exceeding Reactor Coolant System leak rate, Technical Specifications, requiring reactor shutdown.	UNUSUAL EVENT

CHART D
PRIMARY TO SECONDARY LEAK

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Entry into IPEOP E-3, "Steam Generator Tube Rupture," is expected or has occurred, AND (2) Primary-to-secondary flow > 800 GPM OR RCS pressure decreasing uncontrollably, AND (3) All three transformers Main Aux., Reserve Aux., and Tertiary Aux., are de-energized.	Rapid failure of steam generator tubes with loss of off-site power.	SITE EMERGENCY
(1) Entry into IPEOP E-3, "Steam Generator Tube Rupture," is expected or has occurred, AND (2) Primary-to-secondary leak rate > 400 GPM, AND (3) All three transformers: Main Aux., Reserve Aux., and Tertiary Aux., are de-energized.	Rapid gross failure of one steam generator tube with loss of off-site power.	ALERT
(1) Entry into IPEOP E-3, "Steam Generator Tube Rupture," is expected or has occurred, AND (2) Primary-to-secondary leak rate greater than 800 GPM indicated by SI flow OR RWST level change.	Rapid failure of multiple steam generator tubes.	ALERT
(1) Primary-to-secondary leakage > 150 gallons per day for more than 4 hours (TS 3.1.d.2). (**Do not delay declaration** if leakage suddenly increases above 150 gallons per day AND plant shutdown actions are initiated.)	Exceeding Primary-to-Secondary leak rate Technical Specification.	UNUSUAL EVENT

CHART E
LOSS OF POWER

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) RCS is ≥ 350°F, AND (2) Buses 1 through 6 are de-energized including the D/G supplies to buses 5 and 6, AND (3) Loss of the turbine driven AFW pump, AND (4) Conditions exist for greater than 2 hours.	Failure of off-site and on-site AC power, AND Total loss of auxiliary feedwater makeup capability for greater than 2 hours. (Loss of power plus loss of all AFW would lead to clad failure and potential containment failure.)	GENERAL EMERGENCY
(1) Buses 1 through 6 are de-energized including the D/G supplies to buses 5 and 6 for longer than 15 minutes. (Does not apply when core is unloaded or cavity is flooded with internals removed.)	Loss of off-site power, AND Loss of on-site AC power (for more than 15 minutes).	SITE EMERGENCY
(1) Low voltage lockout OR de-energized condition on all safeguards DC distribution cabinets for greater than 15 minutes. a. BRA 102 and BRB 102, OR b. BRA 104 and BRB 104, OR c. BRA 102 and BRB 104, OR d. BRB 102 and BRA 104 (Does not apply when core is unloaded or cavity is flooded with internals removed.)	Loss of all vital on-site DC power (for more than 15 minutes).	SITE EMERGENCY
(1) Low voltage lockout OR de-energized condition on all safeguards DC distribution cabinets for less than 15 minutes. a. BRA 102 and BRB 102, OR b. BRA 104 and BRB 104, OR c. BRA 102 and BRB 104, OR d. BRB 102 and BRA 104 (Does not apply when core is unloaded or cavity is flooded with internals removed.)	Loss of all vital on-site DC power (for less than 15 minutes).	ALERT
(1) Buses 1 through 6 are de-energized, AND (2) The D/G supplies to buses 5 and 6 do not respond as designed. AC power is restored to bus 5 or 6 within 15 minutes. (Does not apply when core is unloaded or cavity is flooded with internals removed.)	Loss of off-site power, AND Loss of on-site AC power (for less than 15 minutes.)	ALERT
(1) With the Reactor Coolant System above cold shutdown condition: a. All three transformers: Main Aux., Reserve Aux., and Tertiary are de-energized, OR b. Both D/Gs unavailable (unable to supply bus 5 or 6 by any means).	Loss of off-site power, OR Loss of on-site power capability.	UNUSUAL EVENT
(1) Core is unloaded or reactor cavity is flooded with internals removed, AND (2) Buses 1 through 6 are de-energized including the D/G supplies to buses 5 and 6 for longer than 15 minutes.	Loss of off-site power, AND Loss of on-site AC power (for more than 15 minutes).	UNUSUAL EVENT

CHART F
ENGINEERED SAFETY FEATURE ANOMALY

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) RCS > 200°F with a loss of cooling capability or inventory control: a. Loss of negative reactivity control, OR b. Steam dump, S/G safeties, and power operating reliefs not operable (> 350°F), OR c. Inability to feed S/Gs (No AFW or Main Feedwater/Condensate Flow), OR d. Loss of RCS inventory control, OR e. Loss of both trains of RHR, AND the inability to sustain either natural OR forced circulation with the steam generators (≤ 350°F). (A Site Emergency should be declared upon the initiation of bleed and feed per FR H.1, "Response to Loss of Secondary Heat Sink.")	Complete loss of any function needed when RCS > 200°F.	SITE EMERGENCY
(Apply this criteria when the RCS is ≤ 200°F.) (1) Loss of both trains of RHR (Does not apply when core is unloaded OR cavity is flooded with internals removed.)	Complete loss of any function needed when RCS ≤ 200°F.	ALERT
(1) Failure of both Rx trip breakers to open upon receipt of a valid signal. Applies even if IPEOP FR S.1 is not entered.	Failure of the Reactor Protection System to initiate and complete a reactor trip which brings the reactor subcritical.	ALERT
(1) Loss of ESF function, required support function or required Tech Spec instruments OR Exceeding Tech Spec Safety Limits, AND (2) upon discovery, inability or failure to take required shutdown or mode change actions within the required time. (Total loss of AFW system when required (FR-H.1 implemented) should be declared a UE regardless of Tech Spec action compliance.)	Inability to reach required shutdown within Tech Spec limits	UNUSUAL EVENT

CHART G
LOSS OF INDICATION

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Total loss of Annunciator System computer alarms, and sequence of events recorder for greater than 15 minutes, AND (2) Uncontrolled plant transient in progress or initiated during the loss.	Most or all alarms (annunciators) lost and a plant transient initiated or in progress.	SITE EMERGENCY
(1) Total loss of Annunciator System, computer alarms, and sequence of events recorder. (Not applicable when plant is at or below cold shutdown.)	Most or all alarms (annunciators) lost.	ALERT
(1) Significant loss of ESF or Rx Protection instrumentation. An Unusual Event should NOT be declared for a non-emergency Tech Spec backdown, when the affected parameter remains monitorable. (Not applicable when plant is at or below cold shutdown.)	Indications or alarms on process or effluent parameters not functional in control room to an extent requiring plant shutdown or other significant loss of assessment capability.	UNUSUAL EVENT

CHART H

(DELETED)

CHART I
SECONDARY SIDE ANOMALY

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Main steam line break that results in a SI actuation, AND (2) a. R-15 or R-19 reads offscale high with confirmation by chemistry analysis, OR b. Primary-to-secondary leakage > 50 gpm, AND (3) a. R-9 or CNTMT high range rad monitors (42599, 42600) indicate > 10 R/hr, OR b. CNTMT hydrogen monitor indicates > 1% hydrogen concentration.	Steam line break, AND Primary-to-secondary leak > 50 GPM, AND Indication of Fuel Damage.	SITE EMERGENCY
(1) Main steam line break that results in a SI actuation, AND a. R-15 OR R-19 reads a factor of 1000 above normal, OR b. Primary-to-secondary leakage > 10 gpm.	Steam line break with significant (greater than 10 GPM) primary-to-secondary leakage. (Applies even if events occur in opposite steam generators.)	ALERT
(1) Turbine trip and observation of penetration of casing.	Turbine rotating component failure causing rapid plant shutdown.	UNUSUAL EVENT
(1) The uncontrolled depressurization of the secondary system that results in an SI actuation.	Rapid depressurization of the secondary side.	UNUSUAL EVENT

CHART J
MISCELLANEOUS ABNORMAL PLANT CONDITIONS

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Containment boundary failure or potential failure: a. Containment pressure > 46 psig, OR b. Loss of all containment fan coil units and both trains of ICS, OR c. Containment hydrogen monitor ≥ 10% hydrogen concentration, AND (2) Loss of core cooling capability: a. Loss of SI and RHR flow, AND (3) Failure of shutdown system when required: a. Entry into IPEOP FR-S.1, "Response to Nuclear Power Generation/ATWS," OR b. Loss of AFW for greater than 30 minutes with loss of main FW and condensate.	Other plant conditions that make a release of large amounts of radioactivity in a short time period possible; e.g., any core melt situation. Examples: - Failure of main FW and AFW systems for greater than 30 minutes without Safety Injection and Residual Heat Removal flow. Plus a containment failure is imminent. - Transient requiring the operation of shutdown systems with a failure of these shutdown systems. In addition, failure of SI and RHR and containment failure is imminent.	GENERAL EMERGENCY
(1) Evacuation of Control Room (E-O-06 event).	Evacuation of control room and control of shutdown systems required from local stations.	SITE EMERGENCY
(1) Conditions that warrant increased awareness on part of the plant staff will be evaluated by the Plant Manager or his designate. This is to determine if conditions are applicable for activating the E.P. Example: Loss of AFW system when required, validated upon implementation of FR H.1 "Response to Loss of Secondary Heat Sink."	Other plant conditions that warrant increased awareness on the part of plant staff or state and/or local authorities.	UNUSUAL EVENT

CHART K
FIRE AND FIRE PROTECTION

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) A fire within the Auxiliary Building, Technical Support Center, safeguards alley, D/G rooms, Battery Rooms, or screenhouse that defeats redundant safety trains of ESF equipment causing the required ESF system to be inoperable.	A fire compromising the functions of safety systems.	SITE EMERGENCY
(1) A fire within the Auxiliary Building, Technical Support Center, safeguards alley, D/G rooms, Battery Rooms, or screenhouse that lasts more than 10 minutes OR causes a single train of required ESF equipment to be inoperable.	A fire potentially affecting safety systems.	ALERT
(1) Any fire within the protected area lasting more than 10 minutes.	A fire within the plant lasting more than 10 minutes.	UNUSUAL EVENT

CHART L

(DELETED)

CHART M
EARTHQUAKE

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Activation of seismic recorder with TRIGGER, OBE, and DBE lights lit in relay room on RR159, AND (2) Verification of a seismic event by physical experience or from U. of W. - Milwaukee Seismic Center.	An earthquake greater than Design Basis Earthquake (DBE).	SITE EMERGENCY
(1) Activation of seismic recorder with TRIGGER, and OBE lights lit in relay room on RR159, AND (2) Verification of a seismic event by physical experience or from U. of W. - Milwaukee Seismic Center.	An earthquake greater than Operational Basis Earthquake (OBE).	ALERT
(1) Activation of seismic recorder with TRIGGER light lit in relay room on RR159, OR (2) An earthquake felt in the Plant*. (*Should be confirmed by evidence of physical damage or verification from University of Wisconsin Seismic Center.)	An earthquake felt in plant or detected on station seismic instrumentation.	UNUSUAL EVENT

NOTE: 1.) Telephone numbers for U of W - Milwaukee Seismic Center are in the KPB Emergency Telephone Directory, ETD 02.

2.) The Point Beach Seismic Monitor may be used if the KNPP Monitor is out of service.

CHART N
HIGH WINDS OR TORNADO

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Winds in excess of 100 mph for greater than 1 hour, AND (2) Plant above cold shutdown condition.	Sustained winds in excess of design levels with plant not in cold shutdown.	SITE EMERGENCY
(1) A tornado which strikes the facility, AND (2) Causes damage to render a single train of required ESF equipment to be inoperable.	Any tornado striking facility.	ALERT
(1) A tornado observed on-site causing significant damage to the facility.	Any tornado on-site.	UNUSUAL EVENT

CHART O
FLOOD, LOW WATER, OR SEICHE

<table>
<tr><th colspan="4">KNPP INDICATION</th><th>EMERGENCY CLASSIFICATION CRITERIA</th><th>CLASSIFICATION</th></tr>
<tr><td colspan="3">FOREBAY LEVEL
Indicated for > 15 minutes</td><td></td><td rowspan="5">Flood, low water, or seiche near design levels.</td><td rowspan="5">ALERT</td></tr>
<tr><td>0 PUMPS</td><td>1 PUMP</td><td>2 PUMPS</td><td>CORRESPOND TO LAKE LEVEL</td></tr>
<tr><td>NOTE 3</td><td>NOTE 1</td><td>≥ 94% *</td><td>≥ 588 ft.</td></tr>
<tr><td>< 50% *</td><td>NOTE 5</td><td>NOTE 5</td><td>< 568.5 ft.</td></tr>
<tr><td colspan="4">OR Deep water Wave ≥ 22.5 ft.</td></tr>
<tr><td colspan="3">FOREBAY LEVEL
Indicated for > 15 minutes</td><td></td><td rowspan="5">50-year flood, low water level or seiche</td><td rowspan="5">UNUSUAL EVENT</td></tr>
<tr><td>0 PUMPS</td><td>1 PUMP</td><td>2 PUMPS</td><td>CORRESPOND TO LAKE LEVEL</td></tr>
<tr><td>NOTE 2</td><td>≥ 98% *</td><td>≥ 88% *</td><td>≥ 586 ft.</td></tr>
<tr><td>< 53.1% *</td><td>< 46.9% *
NOTE 4</td><td>NOTE 5</td><td>< 569.5 ft.</td></tr>
<tr><td colspan="4">OR Deep water wave ≥ 18 ft. (as confirmed by the U.S. Coast Guard, Two Rivers)</td></tr>
</table>

NOTE 1: Above the bottom of bar No. 1 painted on the south wall of the forebay.

NOTE 2: Above the bottom of bar No. 2 painted on the south wall of the forebay.

NOTE 3: Above the bottom of bar No. 3 painted on the south wall of the forebay.

NOTE 4: Applies to an uncontrollable decrease (cannot be restored by operator action. If the water box inlet valves are throttled, use other means to determine lake level per E-CW-04, "Loss of Circulating Water.")

NOTE 5: The corresponding forebay level for the associated lake level is below the circulating water pump trip setpoint of 42%. Therefore, this criterion will not be reached.

* Computer point for forebay level is L09075A and should be used because of its greater accuracy. Plant elevations and lake elevations are referenced to International Great Lakes Datum (IGLD), 1955

(IGLD 1955 = IGLD 1985 - 0.7 FEET)

CHART P
EXTERNAL EVENTS AND CHEMICAL SPILLS

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) An aircraft crash into plant buildings which causes a complete loss of an ESF function.	Aircraft crash affecting vital structures by impact OR fire.	SITE EMERGENCY
(1) A missile strikes plant buildings, OR (2) An explosion occurs within a plant building, which causes a complete loss of an ESF function.	Severe damage to safe shutdown equipment from missiles or explosion.	SITE EMERGENCY
(1) Release of flammable or toxic gas from a ruptured container, which causes or is likely to cause evacuation of stations necessary to control shutdown systems, AND (2) Portable monitors indicate toxic or explosive concentrations of the gas at life threatening levels in those vital areas.	Uncontrolled release of toxic or flammable gas is confirmed within vital area.	SITE EMERGENCY
(1) An aircraft crashes into plant buildings AND causes a single train of required ESF equipment to be inoperable.	Aircraft crash on facility.	ALERT
(1) A missile strikes the facility AND causes a single train of required ESF equipment to be inoperable.	Missile impact from whatever source on facility.	ALERT
(1) Release of toxic or flammable gas at life threatening levels from a ruptured container enter the protected area AND impacts safe operation of the plant.	Uncontrolled release of toxic or flammable gas is confirmed within the protected area.	ALERT
(1) Self-explanatory.	Known explosion damage to facility affecting plant operation.	ALERT
(1) An aircraft crash within the site boundary, OR (2) Unusual aircraft activity such as erratic flying, dropped unidentified object, or other hostile acts, which threaten the plant or plant personnel. (Any other persistent aircraft activity for which identification attempts through the FAA or other agencies have been unsuccessful.)	Aircraft crash on-site or unusual aircraft activity over facility.	UNUSUAL EVENT
(1) Release of toxic or flammable gas from a ruptured tank/truck on site, AND (2) Portable monitors indicate toxic or explosive concentrations at life threatening levels of the gas near the spill area.	Uncontrolled release of toxic or flammable gas is confirmed on site.	UNUSUAL EVENT

CHART Q
SECURITY CONTINGENCY

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Physical attack on the plant that has resulted in unauthorized personnel occupying the control room or any other vital areas as described in the Security Plan.	Loss of physical control of the plant.	GENERAL EMERGENCY
(1) Physical attack on the plant involving imminent occupancy of the control room, auxiliary shutdown panels, or other vital areas as defined by the Security Plan.	Imminent loss of physical control of the plant.	SITE EMERGENCY
(1) Security safeguards contingency event that results in a hostile force entering the protected area of the plant, but not gaining control over shutdown capability or of any vital areas as defined in the Security Plan, OR (2) Security safeguards contingency event that results in a site specific HI level CREDIBLE threat as defined in the Security Plan.	Ongoing security compromise.	ALERT
(1) Security safeguards contingency event that results in a site specific LO level CREDIBLE threat as defined in the Security Plan, OR	Security threat or attempted entry or attempted sabotage.	UNUSUAL EVENT
(2) Security safeguards contingency event that results in a Bomb threat accompanied by interception of bomb materials, OR (3) Security safeguards contingency event that results in an attempted entry into the protected area of the plant by a hostile force, OR (4) Security safeguards contingency event that results in undetonated bomb found within the protected area.		

NOTE: Security staff will NOT act as notifier during **security events**. Utilize Control Room staff for notifications.

WISCONSIN PUBLIC SERVICE CORP.	No. EPIP-OSF-02	Rev. V
Kewaunee Nuclear Power Plant	Title Operational Support Facility Operations	
Emergency Plan Implementing Procedure	Date NOV 26 2002	Page 1 of 7
Reviewed By Dave Seebart	Approved By W. L. Yarosz	

Nuclear Safety Related	☐ Yes ☑ No	PORC Review Required	☐ Yes ☑ No	SRO Approval Of Temporary Changes Required	☐ Yes ☑ No

1.0 Purpose

1.1 This procedure provides instruction for the Operational Support Facility (OSF) Staff when responding to an **Alert, Site Emergency, or General Emergency.**

2.0 General Notes

2.1 None

3.0 Precautions and Limitations

3.1 Ensure accountability of personnel and OSF Staff reporting to the OSF is maintained throughout the incident (See "Personnel Assembly and Accountability," EPIP-SEC-03) via the Technical Support Center (TSC) Area Accountability Coordinator.

3.2 A radiation survey of designated OSF assembly area or use of a portable radiation monitoring instrument for verification of habitability will be performed per "TSC and OSF Activation Checklist," Form EPIPF-TSC-02-01.

3.3 If it becomes necessary to evacuate the designated OSF assembly area, then a minimum staff will be maintained in the lower TSC. Additional OSF support personnel will be evacuated per "Personnel Evacuation," EPIP-SEC-05.

3.4 If it becomes necessary to evacuate or relocate the TSC and the OSF, then use the guidance in Section 5.5 to assist in relocating the personnel and functionality of the OSF.

4.0 Initial Conditions

4.1 This procedure shall be implemented upon declaration of an **Alert, Site Emergency, General Emergency,** or when directed by the Shift Manager (SM) or Emergency Director (ED).

5.0 Procedure

5.1 Fire Team and Repair Team Accountability

5.1.1 Fire Team

a. IF you have not been notified that a fire exists, THEN proceed to your assigned Turn Out Gear location.

- Report the team member names to the SM or Event Operations Director (EOD).
- Upon completion of initial accountability, if the Fire Team is not required, report to Accountability Location as follows:
  1. Admin. Team to ATF-1 Accountability Location
  2. Annex Team to Warehouse Accountability Location

b. IF you have been notified that a fire exists, THEN:

- Upon hearing the plant siren, assemble and account at your Turn Out Gear Lockers (Admin. and Annex).
- If time permits, one team member should locate the nearest Gai-tronics, telephone, or portable radio, and report the names and locations of the fire team members to the SM or EOD.
- Respond to the fire keeping the SM or EOD informed of your actions.

c. During subsequent soundings of the plant alarm:

- IF you are in the field investigating or fighting a fire, THEN do NOT report to an Accountability Location.
- IF time permits, THEN one team member should locate the nearest Gai-tronics, telephone, or portable radio and report the names and locations of the team members to the SM or EOD.
- IF time does not permit, THEN proceed with your emergency duty regardless of accountability concerns.

5.1.2 ERO Repair Teams

a. IF you have not been contacted by the SM, Support Activity Director (SAD), or a Maintenance Supervisor in regards to performing an emergency duty, THEN proceed to the OSF upon hearing the plant siren.

b. IF you have been contacted by the SM, SAD, or Maintenance Supervisor and have been instructed to (1) perform an emergency duty, (2) report to the OSF, or (3) report to another area in response to the emergency (e.g., obtain equipment or tools), THEN:

- Upon hearing the plant siren, locate the nearest Gai-tronics or telephone and contact the SM, SAD, or Maintenance Supervisor (whomever contacted you) to report your location.
- IF you are continuing on to another area, THEN inform this person.
- Continue with your emergency duty as instructed.

c. During subsequent soundings of the plant alarm, if you are in the field performing an emergency duty:

- Do NOT report to an Accountability Area.

Note

IF you are actually required to leave the area, THEN the OSF Coordinator will inform you.

- Locate the nearest Gai-tronics or telephone and report your location to the OSF Coordinator.

5.2 OSF Coordinator

5.2.1 WHEN notified that an Emergency has been declared:

a. Report to the OSF.

b. IF an OSF Coordinator has been designated, until released, THEN assist the designated OSF Coordinator.

c. IF an OSF Coordinator has NOT been designated, THEN notify the SAD of your intent to assume the responsibilities of the OSF Coordinator and continue implementation of this procedure.

5.2.2 Notify the SAD of your assumption of the responsibilities of the OSF Coordinator.

5.2.3 Obtain the ERO Response binder from the "TSC Material Locker."

5.2.4 Verify an OSF Support Person is available to implement Step 5.3 of this procedure or assign another OSF staff member to this task.

5.2.5 Direct an OSF Assembly Area Staff Member to:

a. Develop a list of OSF personnel resources by name and emergency duty position.

b. If required, serve as Accountability Coordinator to maintain personnel accountability.

c. Relay briefings during the course of the event.

5.2.6 Notify additional support personnel as needed, using the telephone numbers listed in the KPB Emergency Telephone Directory.

5.2.7 Obtain and maintain knowledge of "work in progress" and "work to be performed" upon arrival at the OSF and throughout the event.

Note

Both the OSF and the TSC "High Priority Work" status boards must be in unison.

a. Post the jobs actually in progress with the priority (No. 1-7) assigned by the ED on the "High Priority Work" status board.

b. Post the jobs awaiting team assignment on the "Lower Priority Work" status board.

5.2.8 Provide updates to the OSF Support Person, SAD, and TSC Data Coordinator as needed, to maintain the "High Priority" and "Lower Priority" status boards current.

5.2.9 Brief the OSF Staff periodically on priority and pending work.

5.2.10 Ensure an OSF Event Log of all significant events and actions is maintained. Including as a minimum:

a. Date

b. Time

c. Significant Event/Action

d. Name of person information was received from or sent to

e. Initials of person making log entry

5.2.11 Assist the SAD as required for evaluation of equipment and material necessary to support the emergency response organization.

5.2.12 Assist the SAD in the review of work requests and the planning and scheduling of work as required.

5.2.13 Implement emergency repair and modifications on plant equipment and systems as directed by the SAD in accordance with "Work Requests During an Emergency," EPIP-OSF-03.

a. Ensure pre-job briefings are conducted using "Operational Support Facility Team Briefing," Form EPIPF-OSF-03-01.

5.2.14 Implement search and rescue operations as directed by the SAD in accordance with EPIP-OSF-04.

5.2.15 Provide manpower, equipment, and material necessary to support the emergency organization.

5.2.16 Support accountability of OSF staff members through the designated Accountability Coordinator in the TSC.

5.2.17 If appropriate, plan a shift relief for OSF Support Personnel per "Emergency Response Organization Shift Relief Guideline," EPIP-AD-05.

5.2.18 IF Final Conditions (Section 6.0) have NOT been met, THEN return to Step 5.2.7.

5.2.19 WHEN Final Conditions are met (Section 6.0):

a. Verify all work areas are returned to normal status and emergency procedures, forms, etc., are returned to their proper place.

b. Collect all completed forms, notes, and other documentation and give them to the TSCD.

5.3 OSF Support Person

5.3.1 WHEN notified that an Emergency has been declared:

a. Report to the OSF.

b. IF an OSF Support Person has been designated, until released, THEN assist the designated OSF Support Person.

c. IF an OSF Support Person has NOT been designated, THEN notify the OSF Coordinator of your intent to assume the responsibilities of the OSF Coordinator and continue implementation of this procedure.

5.3.2 Ensure that copies of "Operational Support Facility Team Briefing," Form EPIP-OSF-03-01, are available.

5.3.3 Maintain OSF Status Boards as directed by the OSF Coordinator.

5.3.4 Maintain an "OSF Event Log" of significant events, announcements, and OSF Coordinator priorities.

5.3.5 Record incoming and outgoing ad hoc telephone messages on "Telephone Communications Log Sheet," Form EPIPF-EOF-04-02.

5.3.6 Inform the OSF Coordinator promptly of information received from maintenance teams in the field or other support organizations.

5.3.7 When requested, make document copies.

5.4 Operations Staff Support

5.4.1 Operations Staff reporting to the OSF may be needed to support the Control Room or the OSF. Priority should be given to the Control Room for the use of their time.

Note

The dispatch of Operations Personnel from the OSF must be coordinated between the EOD and the ED to prevent conflicting or redundant assignments. SROs in the OSF need to make sure that they do not compromise the decisions or priorities of the on shift Shift Manager.

5.4.2 Operations Staff in the OSF may be asked to provide support for:

a. Tag-out preparation.

b. System and component location information.

c. Work package preparation.

d. Direct assignment to maintenance repair teams.

5.5 IF it becomes necessary to relocate or evacuate the OSF/TSC, THEN the following guidance should be utilized to maintain the functionality of the OSF:

a. OSF Assembly Area personnel should be relocated with the guidance and direction of the Radiological Protection Director (RPD) and may be concurrent with the relocation of the Radiological Assessment Facility.

b. The OSF Coordinator should relocate with the OSF Assembly Area and establish and maintain communications with the Support Activities Director.

c. Team tracking and logging activities should be maintained and continued at the new OSF location in accordance with Section 5.2.

6.0 Final Conditions

6.1 Plant emergency has been Terminated or Recovery actions have begun and the responsible director has suspended the use of EPIPs.

7.0 References

7.1 Kewaunee Nuclear Power Plant Emergency Plan

7.2 EPIP Appendix A-1, Communication System Description

7.3 EPIP-AD-05, Emergency Response Organization Shift Relief Guideline

7.4 EPIP-OSF-03, Work Requests During an Emergency

7.5 EPIP-OSF-04, Search and Rescue

7.6 EPIP-SEC-03, Personnel Assembly and Accountability

7.7 EPIP-SEC-05, Personnel Evacuation

7.8 EPIP-TSC-02, Technical Support Center Activation

8.0 Records

8.1 The following QA records and non-QA records are identified in this directive/procedure and are listed on the KNPP Records Retention Schedule. These records shall be maintained according to the KNPP Records Management Program.

8.1.1 QA Records

- OSF Event Log
- Telephone Communications Log Sheet, Form EPIPF-EOF-04-02
- Operational Support Facility Team Briefing, Form EPIPF-OSF-03-01

8.1.2 Non-QA Records

None

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Kewaunee Nuclear Power Plant	Title Personnel Assembly and Accountability	
Emergency Plan Implementing Procedure	Date NOV 26 2002	Page 1 of 11
Reviewed By Russ Kroening	Approved By W. L. Yarosz	

Nuclear Safety Related	☐ Yes ☑ No	PORC Review Required	☐ Yes ☑ No	SRO Approval Of Temporary Changes Required	☐ Yes ☑ No

1.0 Purpose

1.1 This procedure provides instruction for establishing and maintaining personnel accountability within the Protected Area (PA) of the plant.

2.0 General Notes

2.1 When initial assembly and accountability are in progress, certain individuals (as designated in EPIP-AD-01, "Personnel Response to the Plant Emergency Siren") will be allowed to move in, out, and about the PA before initial accountability is complete.

2.2 Emergency Response Organization (ERO) staff shall report to their duty locations.

2.3 Visitors, Contractors, and non-ERO personnel on-site should assemble in the nearest designated Assembly Area.

2.4 Severe Weather

2.4.1 Several of the Assembly Areas are NOT appropriate for severe weather safety.

a. Warehouse Annex Lunchroom - relocate to the locker room.

b. Administrative Training Facility (ATF) Lunchroom - relocate to the ATF Basement.

c. Simulator Training Facility (STF) Lunchroom - relocate to the Simulator Control Room away from the glass partition along the west wall close to the floor.

d. Classroom C Security Building - relocate to the Security Building locker room.

Note

IF unable to relocate as stated above, personnel should relocate on lower levels of buildings in interior rooms away from all windows.

2.4.2 The following locations are adequate during severe weather:

a. Control Room (CR)

b. Radiation Protection Office (RPO)

c. Technical Support Center (TSC)

3.0 Precautions and Limitations

3.1 Initial **accountability starts** from the site announcement (siren sounding/public address message) and needs to be **completed within 30 minutes.**

a. The SMS Emergency Accountability **Program will begin 2 minutes** after site announcement. This allows for personnel to exit areas that are not their normal emergency work area (i.e., Control Room).

b. The first report should be **generated after 5 minutes.**

c. **After 10 minutes,** print a report or review the computer screen every minute until the number of unaccounted for personnel plateaus.

d. When the number of unaccounted for personnel plateaus, **accountability is complete.**

3.2 Allow prompt movement of ERO personnel into and out of the Protected Area when the Site Protection Director has determined there is no personnel hazard restricting such movement.

3.3 Adhere to the radiation control policies and requirements outlined in EPIP-AD-11, "Emergency Radiation Controls," and EPIP-RET-02D, "Emergency Radiation Entry Controls and Implementation."

3.4 Personnel who are in the Control Room when the Emergency Accountability Program is started are accounted for by the SMS.

3.5 Security Force Members, Fire Brigade Members, NAOs, and dispatched Emergency Teams are exempt from the SMS Emergency Accountability Program. They will be accounted for as defined in EPIP-AD-01, Step 5.1.1.c.

4.0 Initial Conditions

4.1 Personnel **assembly** is required whenever the plant emergency siren is sounded. **Accountability** will be required upon assembly unless otherwise directed by the Shift Manager/Emergency Director.

5.0 Procedure

5.1 **Site Protection Director (SPD) or Designee** shall:

5.1.1 IF a designated Master Accountability Coordinator (MAC) is not available, THEN direct the Security Shift Captain to perform accountability functions.

5.1.2 Contact the Emergency Director (ED) or Radiological Protection Director (RPD) to determine the location of any personnel hazards on-site or off-site and continue to monitor conditions.

5.1.3 IF conditions warrant, THEN direct the Security Force to hold exiting personnel in the Security Building until the RPD determines a safe evacuation route.

5.1.4 Advise the MAC of all hazardous areas and/or severe weather.

5.1.5 Advise on-site directors of hazardous areas or severe weather conditions.

5.1.6 Direct Security Force personnel to make a tour through the Owner Controlled Area (OCA), sewage plant, exterior warehouses, exterior substation, and Met Tower to inform personnel to assemble in the STF or Security Building, or to leave the site, as appropriate.

5.1.7 Ensure attempts are made by any available means to contact all personnel who are unaccounted for.

5.1.8 IF attempts fail to locate personnel who are unaccounted for, THEN direct the Central Alarm Station (CAS) or Secondary Alarm Station (SAS) operator to run a computer report for that person(s).

5.1.9 Provide the Support Activities Director (SAD) and the RPD with information regarding all personnel who are unaccounted for based upon last known locations obtained from the computer report.

5.1.10 Keep the ED informed of the status of personnel accountability.

5.1.11 When initial accountability is complete, ensure the following message is announced over the Gai-tronics:

"Attention all personnel. Initial accountability is complete. Personnel may relocate to other areas but shall maintain accountability."

5.1.12 Maintain cognizance of all personnel outside the PA who remain on-site.

5.1.13 Continue to provide the MAC with updates on any location determined to be a personnel hazard including areas outside the PA.

5.2 **Master Accountability Coordinator (MAC)** shall:

5.2.1 WHEN accountability is required:

a. Report to the Security Building.

b. IF a MAC has been designated and UNTIL they are released,

1. If appropriate, plan a shift relief per EPIP-AD-05, "Emergency Response Organization Shift Relief Guideline."

2. Help the designated MAC.

c. IF a MAC has NOT been designated, notify the Site Protection Director (SPD) of your intent to assume the responsibilities of the MAC and continue implementation of this procedure.

d. Assign an Accountability Coordinator to the South Security Building Visitor's Desk.

1. Inform this Accountability Coordinator to complete Form EPIPF-SEC-03.01, "Emergency Accountability Log," for ERO members entering the Protected Area.

2. Implement Step 5.3.8 of this procedure.

e. IF there is no Accountability Coordinator available for the Security Visitor's Desk, THEN assign a plant staff or security staff member to perform Step 5.2.1.d.

5.2.2 Contact Security to verify there is NOT a hard copy visitor list. If this list is available, pick up the KNPP Protected Area Visitor and Non-Designated Vehicle log (SIP 20.02-1) at the Registration Desk.

5.2.3 Contact each Accountability Coordinator by phone to confirm visitor log.

Note

CAS or SAS shall print the Emergency Report ten minutes after the Emergency Accountability Program has started.

5.2.4 IF you have not received the Emergency Report, THEN contact CAS or SAS to obtain it.

5.2.5 Should attempts fail to locate personnel who are unaccounted for, direct the CAS or SAS to run a computer report on that person.

5.2.6 Review the Emergency Report

a. Contact the Control Room and strike any names from the list that have been positively accounted for (individual is in the Control Room or is accounted for on their "Emergency Accountability Log").

b. Contact the Technical Support Center (TSC) and strike any names from the list that have been positively accounted for (individual is in the TSC or is accounted for on their "Emergency Accountability Log").

c. Contact all names remaining on the list by any possible means.

5.2.7 WHEN all personnel have been contacted or reasonable attempts to contact have failed, record the names of individuals not accounted for and their last known location and provide this information to the SPD.

5.2.8 Contact the Accountability Areas outside the PA (per Table 1) to determine the number and location of personnel on-site but not within the Protected Area.

5.2.9 Report to the SPD the number and location of personnel on-site but outside the PA and obtain an update regarding personnel hazards and/or severe weather.

5.2.10 Provide Accountability Coordinators (AC) with information regarding personnel hazards and/or severe weather provided by the SPD and continue to do so on a periodic basis.

5.2.11 Brief the SPD on any change in accountability status or new problems (i.e., groups or individuals overdue in assembly areas).

5.2.12 If appropriate, plan a shift relief for the MAC per EPIP-AD-05.

5.2.13 WHEN Final Conditions (Section 6.0) are met,

a. Return your work area to normal status and return emergency procedures, forms, etc. to there proper place.

b. Record any discrepancies to emergency supplies that need correction and report them to the SPD.

c. Collect all completed forms, notes, and other documentation and give them to the SPD.

5.3 **Accountability Coordinator (AC)** shall:

5.3.1 WHEN accountability is required:

a. Report to your assigned assembly area.

b. IF an AC has NOT been designated, THEN notify a Facility Director or MAC of your intent to assume the responsibilities of the AC in the assembly area and continue implementation of this procedure.

c. IF an AC has been designated and UNTIL they are released,

1. Help in facility activation.
2. If appropriate, plan a shift relief per EPIP-AD-05.
3. Help the designated AC.

5.3.2 Obtain Accountability packet located in the assembly areas in the following locations:

a. Control Room (CR) - On the wall behind the Control Room Supervisor's desk.

Note

Make a list for the MAC of Fire Brigade Members, NAOs, and dispatched Emergency Teams that are accountability exempt.

b. Technical Support Center (TSC) - On the desk near the entrance door (No. 410).

c. Radiation Protection Office (RPO) - Next to the entrance door (No. 55).

d. Administrative Training Facility (ATF) - Lunchroom southwest corner, above the phone and Gai-tronics.

e. Warehouse Annex - Lunchroom west wall, above the phone and Gai-tronics.

f. Security Building - Room "C" on the wall by the phone and Gai-tronics.

g. Site Training Facility (STF) - Lunchroom on the southwest wall near the Gai-tronics.

5.3.3 Locate yourself near the SMS accountability card reader.

Note

Visitors have non-magnetic badges, so they should NOT swipe their key card in an accountability card reader. Log visitors and report their information to the MAC.

5.3.4 WHEN the Gai-tronics announcement is made that emergency accountability has been initiated, ensure that all badged personnel located in the area swipe their Security key card in the accountability reader and receive a green light.

5.3.5 IF a Director or Supervisor notifies you of individuals who will NOT assemble, THEN record them as if they were leaving the facility per Step 5.3.8.

5.3.6 During accountability, demand quiet and cooperation. Maintain accountability of personnel assembled there.

5.3.7 WHEN provided by the MAC, inform personnel in your assembly area of information on hazardous areas.

Note

Only address the teams or individuals you logged out.

5.3.8 WHEN an individual elects to move to another area, log their departure on "Emergency Accountability Log," Form EPIPF-SEC-03-01, as follows:

Note

This includes visitors also.

a. In the "Name" column: Enter the name of the individual leaving the area.

b. In the "Card" column: Enter the individual's security card number.

c. In the "Destination" column: Enter the location to which the individual is heading.

Acronym	Area
For Another Accountability Area	
CR	Control Room
RPO	Radiation Protection Office
TSC	Technical Support Center
WA	Warehouse Annex Lunchroom
ATF	Administrative Training Facility Lunchroom
For Repair Team Activity	
LPA	Leaving the Protected Area
PA	Outside the Buildings but inside the Protected Area
ADMN	Administrative Buildings
TURB	Turbine Building
AUX	Auxiliary Building
CNTM	Containment Building
WRHS	Warehouse or Shop Area

d. In the "Departure Time" column: Enter the time the individual departed the area.

e. In the "Return/Arrive Time" column: Enter the time the individual returns to the area or the time you are informed they arrive at another Assembly Area by the Accountability Coordinator in that area.

5.3.9 IF an individual arrives in your area who did not log out of your area and is not immediately returning to the area he checked out of, THEN contact the area he departed and notify them of the individual's arrival time and intent to stay.

5.3.10 IF moving the entire group of assembled personnel to another area, THEN:

a. Contact the MAC to inform them of the intended move.

b. Record badge numbers of people moving.

c. Instruct personnel in your area to proceed directly to the new destination, staying in a group until head count can be verified.

d. Verify the badge numbers upon arrival at the new location.

e. Contact the MAC to verify arrival and to provide a phone number at the new location.

5.3.11 IF the plant siren is sounded following the initial accountability, THEN initiate contacts to all individuals listed as NOT "Returned or Arrived" on your Form EPIPF-SEC-03-01:

a. WHEN contacted, give them any information you know about the siren sounding.

b. IF instructed by a Facility Director, instruct the individual to come back to an assembly area.

c. Note the individuals that were contacted and notify the MAC of individuals logged out of your area and whether you were able to contact them.

d. Return to Step 5.3.4.

5.3.12 If appropriate, plan a shift relief for the area AC per EPIP-AD-05.

5.3.13 IF Final Conditions (Section 6.0) have NOT been met, THEN return to Step 5.3.7.

5.3.14 IF Final Conditions (Section 6.0) are met, THEN

Note

Flag any discrepancies to emergency supplies that need correction.

a. Return your work area to normal status and return emergency procedures, forms, etc. to there proper place.

b. Collect all completed forms, notes, and other documentation and give them to the SPD.

5.4 **Security Force** shall:

5.4.1 WHEN accountability is required and the SMS system is offline, manually maintain a log of personnel entering/exiting the PA to enable the MAC to update the accountability roster as necessary.

5.4.2 Guide PA ingress/exit in accordance with EPIP-SEC-02, "Security Force Response to Emergencies."

5.4.3 **Patrolling Security Officers** shall:

a. Verify their locations by portable radio to the Shift Captain for accountability.

b. Obtain personal dosimetry to take with them on patrol in accordance with EPIP-SEC-04, "Security Force Actions for Dosimetry Issue."

6.0 Final Conditions

6.1 Plant Emergency has been Terminated or Recovery actions have begun and the Emergency Director has suspended the use of EPIPs or it has been determined emergency accountability is no longer required.

7.0 References

7.1 Kewaunee Nuclear Power Plant Emergency Plan

7.2 EPIP-AD-01, Personnel Response to the Plant Emergency Siren

7.3 EPIP-AD-05, Emergency Response Organization Shift Relief Guideline

7.4 EPIP-AD-11, Emergency Radiation Controls

7.5 EPIP-RET-02D, Emergency Radiation Entry Controls and Implementation

7.6 EPIP-SEC-02, Security Force Response to Emergencies

7.7 EPIP-SEC-04, Security Force Actions for Dosimetry Issue

8.0 Records

8.1 The following QA records and non-QA records are identified in this directive/procedure and are listed on the KNPP Records Retention Schedule. These records shall be maintained according to the KNPP Records Management Program.

8.1.1 QA Records

None

8.1.2 Non-QA Records

- Emergency Accountability Log, Form EPIPF-SEC-03-01

ACCOUNTABILITY AREAS
(Inside the Protected Area)

LOCATION	PHONE NUMBER
Control Room	8207
Radiation Protection Office	8451
Technical Support Center (Included OSF and RAF)	8353
Administrative Training Facility (Lunchroom)	6480
Warehouse Annex (Lunchroom)	6452

ALTERNATE LOCATION	PHONE NUMBER
Administrative Training Facility (Basement)	6548
Warehouse Annex (Locker Room)	6454

ACCOUNTABILITY AREAS
(Outside the Protected Area)

LOCATION	PHONE NUMBER
Security Building Classroom C	6548
Simulator Training Facility (Lunchroom)	6534

ALTERNATE LOCATION	PHONE NUMBER
Security Locker Room (Security Building)	8292
Simulator Training Facility (Simulator Control Room)	8607

ACCOUNTABILITY LEADERS

LEADER	PHONE NUMBER
Master Accountability Coordinator (Security Building)	8509
Accountability Coordinator (Sec. Bldg. Visitor's Desk)	8289
Site Protection Director (Sec. Bldg.)	8418
(TSC)	PBX 8591 Kew. Ex. 388-0459

WISCONSIN PUBLIC SERVICE CORP.	No. EPIP-TSC-08A	Rev. O
Kewaunee Nuclear Power Plant	Title Calculations for Steam Release from Steam Generators	
Emergency Plan Implementing Procedure	Date NOV 26 2002	Page 1 of 6
Reviewed By John Helfenberger	Approved By W. L. Yarosz	

Nuclear Safety Related	☐ Yes ☑ No	PORC Review Required	☑ Yes ☐ No	SRO Approval Of Temporary Changes Required	☑ Yes ☐ No

1.0 Purpose

1.1 This procedure provides instruction for calculating the steam release rate in cc/sec to the environment from a faulted steam generator with a tube rupture in the same generator.

2.0 General Notes

2.1 The calculation for steam release may be performed using the PC Program STMRLS or manually. Step 5.1 of this procedure is used when the computer calculation is performed. Steps 5.2 or 5.3 are used when performing a manual calculation.

3.0 Precautions and Limitations

3.1 None

4.0 Initial Conditions

4.1 This procedure applies when the reactor is shutdown with or without reactor coolant pumps running. The core Delta-T and faulted steam generator pressure is relatively stable. The faulted steam generator is the only steam release path. The fault may be on any unisolated portion of the steam generator or steam line.

5.0 Procedure

5.1 Steam Release Calculation Using PC Program STMRLS

Note

IF steam release is due to an open steam generator PORV or safety valve, THEN only Steps 5.1.1(a) and 5.1.1(g) need to be performed.

5.1.1 Record the following data on Form EPIPF-TSC-08A-04:

a. Release due to open PORV or safety valve (Y/N).

b. Reactor power prior to reactor shutdown (MWth).

c. Number of days that reactor was at power.

d. Time since reactor shutdown (min).

e. Number of operating reactor coolant pumps. IF one or two reactor coolant pumps are running, THEN record RCS average temperature from loop with running reactor coolant pump. IF zero reactor coolant pumps are running, THEN record wide range hot leg and cold leg temperatures for each RCS loop.

f. RCS average pressure (psig).

g. Ruptured steam generator pressure (psig).

- IF ruptured steam generator pressure is approximately the saturation pressure for RCS average temperature, THEN a steam release projection is available.

h. Intact steam generator pressure (psig).

i. Safety injection flow rate (gpm).

j. Total auxiliary feedwater flow rate to intact steam generator (gpm).

Note

Ensure that a PC and printer are set up in the lower Technical Support Center.

5.1.2 Log into the KNPP Network using your own Network ID and Password.

5.1.3 Click on the Steam Release Icon on the menu bar.

5.1.4 IF the network is unavailable, THEN:

a. Turn OFF the computer.

b. Retrieve the diskette labeled EPIP-TSC-08B, "STMRLS Computer Program," from the TSC emergency supply cabinet. (See EPIP-TSC-08B for alternate diskette locations.)

c. Insert the diskette into the PC's disk drive.

d. Turn the computer ON. After approximately 20 seconds, the computer will begin to execute the program.

Note

A steam release "projection" is available if ruptured steam generator is approximately equal to saturation pressure for RCS average temperature. To enable the projection, enter "0" for ruptured steam generator pressure. This tells the computer that the ruptured steam generator is saturated at RCS temperature.

5.1.5 Input the data from Form EPIPF-TSC-08A-04 into the program. The program will prompt all required inputs.

5.1.6 Record the steam release rate on Form EPIPF-TSC-08A-04.

5.1.7 IF a steam release projection is made, THEN note the general trend (increasing or decreasing) of the steam release. Do not use the projection release rates. **The projection is for trending purposes only.**

Note

The letters under blanks on the calculation sheet match the letters on the data sheet.

Note

IF steam release is due to an open PORV or safety valve, THEN perform Step 5.3.

5.2 Steam Release Calculation Using an Energy Balance Across RCS

5.2.1 Heat Input from the Reactor and Reactor Coolant Pumps

5.2.1.1 Record the following data on Form EPIPF-TSC-08A-01:

a. Time elapsed since reactor trip.

b. Decay heat using Reactor Data Manual, Section RD 11.2 or below tabulation (the Reactor Data Manual and table below assume 100% power for 300 days prior to reactor trip).

RATE OF PRODUCTION OF DECAY HEAT FOLLOWING SHUTDOWN

TIME AFTER SHUTDOWN	% OF FULL POWER
1 second	6.37
1 minute	2.69
30 minutes	1.25
1 hour	1.06
8 hours	0.63
24 hours	0.46
48 hours	0.37

c. Number of reactor coolant pumps running.

5.2.1.2 Use Formula 1 on Form EPIPF-TSC-08A-02 to calculate the heat input in Btu/sec.

5.2.2 Heat Input from the Reactor Coolant System

5.2.2.1 Record the following data on Form EPIPF-TSC-08A-01:

a. With one or two RXCPs running, record T_{ave} from loop with running reactor coolant pump.

b. With zero running, record RCS wide range hot and cold leg temperatures for each loop.

c. Reactor Coolant System pressure.

d. Using steam tables, calculate the Enthalpy (h_f) at RCS temperature and pressure.

e. Using steam tables, calculate the Specific Volume (V_f) at RCS temperature and pressure.

f. Safety injection total flow using F8002G (FI-924) and F8001G (FI-925).

5.2.2.2 Use Formula 2 on Form EPIPF-TSC-08A-02 to calculate the heat input in Btu/sec.

5.2.3 Heat Input from Auxiliary Feedwater Flow

5.2.3.1 Record the following data on Form EPIPF-TSC-08A-01:

a. Intact steam generator pressure.

b. Using steam tables, calculate the saturated liquid Enthalpy (h_f) at intact steam generator pressure.

c. Auxiliary feedwater total flow using FI-18201 and FI-18202 (Control Room).

5.2.3.2 Use Formula 3 on Form EPIPF-TSC-08A-02 to calculate the heat input in Btu/sec.

5.2.4 Steam Release Calculation

5.2.4.1 Record the following data on Form EPIPF-TSC-08A-01:

a. Faulted steam generator pressure.

b. Using steam tables, calculate the Latent Heat of Vaporization (h_{fg}) at faulted steam generator pressure.

c. Using steam tables, calculate the Specific Volume (V_g) at faulted steam generator pressure.

5.2.4.2 Use Formulas 4 and 5 on Form EPIPF-TSC-08A-02 to calculate the steam release in cc/sec.

5.3 Steam Release Calculation Due to Open PORV or Safety Valve

5.3.1 Steam Generator Parameters

5.3.1.1 Record the following data on Form EPIPF-TSC-08A-03:

a. Valve that is open (PORV or safety).

b. Discharge area for the open valve: PORV area is 0.0474 ft^2 and for the safety, the area is 0.0983 ft^2.

c. Faulted steam generator pressure.

d. Using steam tables, determine the saturation temperature.

5.3.2 Steam Release Calculation

a. Using Equation 1, determine the steam velocity.

b. Using Equations 2 and 3, calculate the steam release rate.

6.0 Final Conditions

6.1 The emergency declaration is closed out, OR

6.2 The steam release is terminated, OR

6.3 The plant has been stabilized, recovery operations have been entered, and it has been determined that any steam release does not present a hazard to the public. (Projections indicate doses from a release are below Technical Specification Limits at the Site Boundary.)

7.0 References

7.1 Reactor Data Manual, Section RD 11.2, Reactor Decay Heat

7.2 Startup Test 3.9, Reactor Coolant System Steam Rate Without Nuclear Heat

7.3 Steam Tables, Properties of Saturated and Superheated Steam

7.3.1 Table 1, Saturated Steam: Temperature Table

7.3.2 Table 2, Saturated Steam: Pressure Table

7.4 EPIP Appendix B, Forms

7.5 EPIP-TSC-08B, STMRLS Computer Program

7.6 COMTRAK 89-029

8.0 Records

8.1 The following QA records and non-QA records are identified in this directive/procedure and are listed on the KNPP Records Retention Schedule. These records shall be maintained according to the KNPP Records Management Program.

8.1.1 QA Records

- Steam Release Data Sheet (Energy Balance), Form EPIPF-TSC-08A-01
- Steam Release Calculation Sheet (Energy Balance), Form EPIPF-TSC-08A-02
- Steam Release Data/Calculation Sheet (Open Valve), Form EPIPF-TSC-08A-03
- Steam Release Data/Calculation Sheet (STMRLS Program), Form EPIPF-TSC-08A-04

8.1.2 Non-QA Records

None