



NRC-00-023

Wisconsin Public Service Corporation
(a subsidiary of WPS Resources Corporation)
Kewaunee Nuclear Power Plant
North 490, Highway 42
Kewaunee, WI 54216-9511
920-388-2560

March 10, 2000

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, Wisconsin Public Service Corporation hereby submits one copy of 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,

A handwritten signature in black ink, appearing to read "Mark L. Marchi".

for
Mark L. Marchi
Vice President-Nuclear

DLF/jmf

Attachment

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

A045

KEWAUNEE NUCLEAR POWER PLANT

February 16, 2000

EMERGENCY PLAN IMPLEMENTING PROCEDURES TRANSMITTAL FORM

RETURN TO DIANE FENCL - KNPP

OUTSIDE AGENCY COPIES (1-20)

T. Webb - NRC Document Control Desk (1)*
T. Webb - NRC Region III (2 & 3)*
T. Webb - NRC Resident Inspector (4) (receives Appx. A phone numbers)*
T. Webb - State of Wisconsin (5)*
T. Webb - KNPP QA Vault w/NRC Letter (15)*
Bob Hayden – Wisconsin Electric Power Co. (10)
Craig Weiss – Wisconsin Power & Light (11)

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

T. Keneklis (30) D. Masarik (32) D. Seebart (24) B. Bartelme (34)
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D. Braun - Admin. Bldg. Upper (45)
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L. Renier-Hicks – GB-D2 Nuclear EOF (77)
J. Mueller - OSF (52)
C. Hutter - ATF-1 (64)
LOREB – ATF-1 (66)
LOREB - STF (62, 67, 68, 70, 72, 73, 74)
STF Library (43)
Resource Center (82, 89, 94, 131)
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M. Anderson - CR/SS Office (51, 56)
L. Renier-Hicks – GB-D2 Nuclear (84)
J. Mueller - TSC (50)
C. Long - RAF (53)
C. Long - SBF/EMT (54)
C. Long - RPO (55)

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C. Long - RAF/RPO (106, 107)
C. Long - SBF/ENV (108, 109)
C. Long - SBF/EM Team (110, 111, 111A)
C. Long - T. R. Hospital (118, 119)
W. Flint - Cold Chem/HR Sample Room (113)
N. Deda - SBF/SEC (114)
M. Anderson - CR/Communicator (116)(Partial Distribution)
Simulator/Communicator (117)
J. Fletcher - Security (121)
N. Deda - Security Building (120)
K. Evers (125)
J. Stoeger (126)

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
 February 16, 2000

Please follow the directions listed below. If you have any questions regarding changes made to the EIPs, please contact Dave Seebart at ext. 8719. If you are a controlled copy holder (see cover page), return this page to Diane Fencl by March 17, 2000, SIGNED AND DATED to serve as a record of revision.

DELETE		INSERT	
PROCEDURE	REV.	PROCEDURE	REV.
EPIP-ENV-3C	T	EPIP-ENV-03C	U
EP-SEC-2	S	EPIP-SEC-02	T
EP-SEC-4	N	EPIP-SEC-04	O
EP-SEC-5	D	EPIP-SEC-05	E
EPIP Form SEC 4.1	E	EPIP Form SEC 4.1	F

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

 SIGNATURE

 DATE

Please return this sheet to *DIANE FENCL*.

Diane Fencl
 Diane Fencl

Enclosure

EMERGENCY PLAN IMPLEMENTING PROCEDURES

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EP-AD			
EP-AD-1	Plant Personnel Response to an Emergency	E	03-16-99
EP-AD-2	Emergency Class Determination	Y	12-15-98
EP-AD-3	KNPP Response to an Unusual Event	Z	01-19-99
EP-AD-4	KNPP Response to Alert or Higher	AA	01-19-99
EP-AD-5	Site Emergency	Deleted	04-27-87
EP-AD-5	Emergency Response Organization Shift Relief Guideline	A	10-13-98
EP-AD-6	General Emergency	Deleted	04-24-87
EPIP-AD-07	Initial Emergency Notifications	AK	02-01-2000
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
EP-AD-11	Emergency Radiation Controls	P	08-10-99
EP-AD-12	Personnel Assembly and Accountability	Deleted	03-26-94
EP-AD-13	Personnel Evacuation	Deleted	04-25-94
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	M	01-18-2000
EP-AD-16	Occupational Injuries or Vehicle Accidents During Emergencies	Deleted	03-14-97
EP-AD-17	Communications	Deleted	03-05-84
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EP-ENV			
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EP-ENV-3A	Environmental Protection Director Actions and Directives	Deleted	09-26-84
EP-ENV-3B	EM Team Actions	Deleted	09-26-84
EPIP-ENV-03C	Dose Projection Using RASCAL Version 2.2 Software	U	02-16-2000
EP-ENV-3D	Revision and Control of ISODOSE II	Deleted	02-14-95
EP-ENV-3E	Manual Determination of X/Q	Deleted	04-24-87
EP-ENV-3F	Manual Determination of X/Q (Green Bay Meteorological Data)	Deleted	05-30-86
EP-ENV-3G	Manual Dose Projection Calculation	Deleted	06-02-89
EP-ENV-3H	Protective Action Recommendations	Deleted	04-13-90
EP-ENV-4A	Portable Survey Instrument Use	R	02-23-99
EP-ENV-4B	Air Sampling and Analysis	U	02-23-99
EP-ENV-4C	Environmental Monitoring Teams	Deleted	04-13-90
EP-ENV-4C	Ground Deposition Sampling and Analysis	U	02-23-99
EP-ENV-4D	Plume Tracking for Environmental Monitoring Teams	L	02-23-99
EP-ENV-5A	LCS-1 Operation	Deleted	04-14-86
EP-ENV-5B	MS-3 Operation	Deleted	04-14-86
EP-ENV-5C	SAM II Operation	Deleted	04-14-86
EP-ENV-5D	PAC-4G (Alpha Counter) Operation	Deleted	04-14-86
EP-ENV-5E	Reuter-Stokes Operation	Deleted	08-27-85
EP-ENV-6	Data Analysis, Dose Projections and Protective Action Recommendations	Deleted	12-21-81
EP-ENV-6	Alternate Sample Analysis and Relocation of EM Team	Deleted	04-14-86
EP-ENV-6A	Relocation of Site Access Facility (Habitability)	Deleted	03-23-84
EP-ENV-6B	SAF Environmental Sample Analysis Relocation	Deleted	03-23-84
EP-ENV-7	Site Access Facility Communications	Deleted	09-26-84
EP-ENV-8	Total Population Dose Estimate Calculations	Deleted	04-14-86

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EP-EOF-4	Corporate Action for Alert or Higher	AE	03-16-99
EP-EOF-5	Corporate Staff Action for Site Emergency	Deleted	04-24-87
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EP-EOF-8	Relocation of EOF	Deleted	03-01-83
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EP-OP-3	Control Room Communications	Deleted	04-24-87
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EP-RET-2B	Gaseous Effluent Sample and Analysis	Q	03-03-98
EP-RET-2C	Containment Air Sampling and Analysis	Deleted	03-01-83
EP-RET-2D	Emergency Radiation Entry Controls and Implementation	L	07-27-99
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EP-RET-2F	Personnel Decontamination	Deleted	04-13-90
EPIP-RET-03	Chemistry Emergency Team	O	02-01-2000
EP-RET-3A	Liquid Effluent Release Paths	K	01-12-99
EP-RET-3B	Post-Accident Reactor Coolant Alternate Sampling Procedure	Deleted	01-25-88
EP-RET-3C	Post Accident Operation of the High Radiation Sample Room	O	01-18-2000
EP-RET-3D	Containment Air Sampling Analysis Using CASP	M	01-18-2000
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EP-RET-4	SBF Activation	P	07-27-99
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EP-RET-4A	SBF Operation/Relocation	C	07-27-99
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EP-RET-4D	SAM-II Operation	Deleted	07-12-94
EP-RET-5	Plume Projection	Deleted	09-26-84
EP-RET-5	Site Boundary Dose Rates During Controlled Plant Cooldown	F	07-21-98
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EP-RET-9	Post-Accident Population Dose	J	08-10-99
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EP-SEC-2A	Manual Activation of Emergency Sirens	Deleted	04-16-82
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EP-TSC-6	Assessment of Reactor Core Damage	Deleted	09-30-86
EP-TSC-7	RV Head Venting Time Calculation	G	05-26-94
EP-TSC-8A	Calculations for Steam Release from Steam Generators	L	02-23-99
EP-TSC-8B*	STMRLS Computer Program	D	04-16-96
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			

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EP-TSC-9C*	See EP-TSC-9B	Deleted	04-16-92
* EP-TSC-9A, Rev. D was totally deleted; therefore, EP-TSC-9B became EP-TSC-9A. EP-TSC-9B was previously EP-TSC-9C.			
EP-TSC-10	Technical Support for IPEOP's	G	04-01-99

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EPIP-APPX-A-3	Off-Site, On-Site, and Company Support Telephone Numbers	BG	12-15-99
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AD 11.1	Emergency Radiation Work Permit	F	04-16-96
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ENV 1.4	EMT Orders/Field Data	A	09-03-96
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EOF 4.1	SRCL Initial Action Checklist	B	09-16-97
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EOF 8.3	Fax for Emergency Declaration or Status Updates	F	09-21-99
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EOF 12.1	I.D. Badge Registration Form	F	08-04-98
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OSF 3	Operational Support Facility Team Briefing	A	02-14-95
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RET 2B.1	Containment Stack Release (Grab Sample)	C	04-16-96
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RET 2B.6	Field Reading (Grab Sample)	A	04-16-96
RET 4	SAM-II Counting Equipment Worksheet	D	04-16-96
RET 8.3	Hospital Survey 1	E	07-25-97
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TSC 3.1	Plant System Status	K	02-14-95
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TSC 8A.4	Steam Release Data/Calculation Sheet (STMRLS Program)	C	04-16-96
TSC 9A.1	Core Damage Based on Reactor Vessel Level & Fuel Rod Temp.	C	02-14-95
TSC 9A.2	Core Damage Based on Radiation Monitors	C	02-14-95
TSC 9A.3	Cs-134 and Cs-137 PCF Determination	D	04-16-96
TSC 9A.4	Core Damage Based on Activity Ratios	C	02-14-95
TSC 9A.5	Core Damage Assessment (Monitoring Data)	D	04-16-96
TSC 9A.6	Core Damage Summary	C	02-14-95

WISCONSIN PUBLIC SERVICE CORP.		No. EPIP-ENV-03C	Rev. U
Kewaunee Nuclear Power Plant		Title Dose Projection Using RASCAL Version 2.2 Software	
<i>Emergency Plan Implementing Procedure</i>		Date FEB 16 2000	Page 1 of 20
Reviewed By <i>[Signature]</i>		Approved By <i>[Signature]</i>	
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		SRO Approval Of Temporary Changes Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for assessing radiological dose due to radiological emergencies using Radiological Assessment System for Consequence Analysis (RASCAL) Version 2.2 Software.
- 1.2 RASCAL is a set of computer based tools to estimate the following: source term, atmospheric transport, dose from a radiological accident, dose from field measurements of radiological concentrations, and compute decay of radionuclides.

2.0 General Notes

- 2.1 For releases of radionuclides too small to be adequately evaluated using RASCAL, refer to SP-32B-268, Site Boundary Doses From Gaseous Effluents.
- 2.2 After activation of the EOF and the RAF, each dose projection printout should be reviewed and approved by both the Radiation Protection Director (RPD) and the Environmental Protection Director (EPD) prior to distribution to the Emergency Director (ED) or Emergency Response Manager (ERM).
- 2.3 KNPP Meteorological Data is available from the Plant Process Computer - Group Output Block #9, Graphics Display #54 or #111, Point Summary #M@@@@@, or the Technical Support Center.
- 2.4 Point Beach Meteorological Data is available through the Point Beach Nuclear Power Plant Control Room (See EPIP Appendix APPX-A-3 for the telephone number).
- 2.5 RASCAL may be run from any computer connected to the two primary network servers used by the Nuclear Department (GBNUC1 and KNPP1).
- 2.6 Two computers, connected to reliable power sources and provided with hard disk drives and necessary software, are provided as stand alone dose calculating stations to be used to run RASCAL Version 2.2. They are in:
 - EOF Dispatch Area (GB D2-6)
 - RAF Calibration Room

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No.	EPIP-ENV-03C	Rev.	U
	Title	Dose Projection Using RASCAL Version 2.2 Software		
	Date	FEB 16 2000	Page 2 of 20	

3.0 Precautions and Limitations

- 3.1 Lake Breeze is not calculated by RASCAL.
- 3.1.1 To determine if Lake Breeze is present, see Table 1.
- 3.1.2 IF Lake Breeze is present, THEN RASCAL projections may not be correct.
- 3.2 Due to the uncertainties of initial conditions and the unfolding accident sequence, RASCAL should be used to bound the possible range of dose projections. Set up several sets of inputs to cover the possible range of plant conditions (source terms), event data, and meteorological conditions.
- 3.3 Dose projections produced by RASCAL are rough estimates and should serve only as a guide during a declared emergency. Protective Action Recommendations should be based as a minimum on the level of declared emergency as stated in EPIP-AD-19, and when available actual conditions as measured in the field.

4.0 Initial Conditions

- 4.1 This procedure is to be used in conjunction with RASCAL software whenever conditions at the Kewaunee Nuclear Power Plant involve a release, or potential release of radioactive materials to the atmosphere.

5.0 Procedure

- 5.1 Starting RASCAL without Network Support

Note

The computer in the EOF dispatch area is "Stand Alone" and does not have a network connection. It is equipped with a hard drive which is setup to boot and run RASCAL automatically. IF RASCAL doesn't start, THEN perform step 5.1.1 using a designated back-up Lap Top computer.

- 5.1.1 In the EOF Dispatch Area, perform the following steps:
- 5.1.1.1 Ensure a laser printer is connected to the computer.
- 5.1.1.2 Restart (reboot) the computer.

Note

In the RAF, RASCAL may be run from the network using step 5.2. When it is run stand alone, using step 5.1.2, it is not set up for printing.

- 5.1.2 In the RAF or RAF Calibration Room, perform the following steps:
- 5.1.2.1 Remove the network cable from the wall.

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- 5.1.2.2 Restart (reboot) the computer.
- 5.1.2.3 Select Start, then Run.
- 5.1.2.4 Type C:\RASCAL22\RASCAL22.BAT.
- 5.1.2.5 Enter.

Note

Contact the Help Desk at extension 7200 if problems are encountered.

5.2 Starting RASCAL from a Network computer

- 5.2.1 Log onto the network using your normal Login ID.
- 5.2.2 Select the desired printer.
 - 5.2.2.1 Click on the **START** button.
 - 5.2.2.2 Click on the **SETTINGS** icon.
 - 5.2.2.3 Click on the **PRINTERS** icon.
 - 5.2.2.4 Select the desired printer and right click on the icon.
 - 5.2.2.5 Left click on the **SET AS DEFAULT**.
 - 5.2.2.6 Close printers folder.
- 5.2.3 Run the RASCAL Program
 - 5.2.3.1 Select Start, then Run.
 - 5.2.3.2 Type N:\APPS\RASCAL22\RASCAL22.BAT.

!! Caution !!

RASCAL will not accept the date 2/29/2000 (this is known Y2K problem). If a dose projection or other calculation is required with any dates of 2/29/2000, all dates should substitute the year "2000" with the year "1944."

- 5.3 When the RASCAL Version 2.2 Program starts and displays text showing the version, press any key or any mouse button to continue.

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5.3.1 Select one of the following menu choices:

- Source Term to Dose (ST-DOSE); should be used to assess the consequences of potential or ongoing releases. ST-DOSE estimates the integrated doses and consequences resulting from the accidental release of radionuclides to the atmosphere.
- Close-In Source Term to Dose; is designed for a materials accident. In a materials accident the effects are usually close to the source. A “close-in” straight-line Gaussian plume model estimates doses within 25 to 800 meters from the accident site.
- Field Measurement to Dose (FM-DOSE); computes doses from measured environmental radionuclides in the air or on the ground.
- Decay Calculator; computes the activities of radionuclides present after decay and ingrowth for a period specified by the user.
- Exit/Return to System

5.4 IF ST-DOSE or Close-In source is chosen, THEN select “Create New Case.”

Note

The case name will appear as a title on the printouts and, therefore, should be both descriptive and unique. For example: Tube rupture – Initial Run, No fuel damage.

5.4.1 Enter a **CASE TITLE** on the main data entry form in the first field (i.e., Kewaunee Plant Emergency Drill).

5.4.1.1 Pressing F6 will clear the field and allow quick entry.

5.4.1.2 Add your initials to the title to help identification of your printout.

5.4.2 Site Name; enter “K” for Kewaunee.

5.4.3 Effective Release Height; enter **OM**.

5.4.4 Default Units: Select (Ci)

5.4.5 Data Source: IF the data entered are not measured data, THEN select projected. IF the data entered are real data for an actual incident, THEN select actual.

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5.4.6 Select one of the following source term calculation methods:

- Isotopic Release Rate
- Isotopic Concentrations
- Mix specified by Analyst
- Plant Conditions
- Containment Monitor Reading
- Spent Fuel/Spent Fuel Pool

Note

Contact the RPD for isotopic release rate information (EPIP Forms RET 2B.1 or RET 2B.2).

5.4.6.1 IF the source term release rates for each radionuclide has been estimated independently, THEN select isotopic release rate.

5.4.6.1.1 Release Units: Select units of the release; first select metric prefix, then select sec., min., or hr.

5.4.6.1.2 Release Rates: Enter release rate for each radionuclide to a maximum of three significant figures.

5.4.6.1.3 Zero - resets all release rates to zero.

5.4.6.1.4 Select "Main Menu" or press F10 Key to exit form.

5.4.6.2 IF the source term release concentration for each radionuclide has been estimated independently, THEN select isotopic concentrations.

5.4.6.2.1 Release Rate: Enter release rate for the accident then select cc, ft³, liter, or g., then select sec., min., or hr.

5.4.6.2.2 Concentration Units: Select the units of concentration, first select metric prefix, then select cc, ft³, liter, or g,

5.4.6.2.2 Concentration: Enter concentration of each radionuclide to a maximum of three significant figures.

5.4.6.2.3 Zero - resets all concentrations to zero.

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Note

This pushbutton imports data from the decay calculator. The data imported is added to the concentrations already present on the form.

5.4.6.2.4 Import: (Option) Allows the decay of several isotopic concentrations over different time periods and then adding them together.

5.4.6.2.5 Select "Main Menu." Press F10 key to exit form.

Note

Contact the RPD for SPING data or steam release information (EPIP Forms RET 2B.3, RET 2B.4, or RET 2B.5).

5.4.6.3 IF gross release rate information is available on Forms RET 2B.3 (Auxiliary Building Stack Release), RET 2B.4 (Containment Stack Release), or RET 2B.5 (Steam Release), THEN select Mix Specified by Analyst.

5.4.6.3.1 Enter the gross release rate in Ci/sec.

Note

Sum of percentage of release may not be greater than 100%.

Note

Default values for percentage of release are 98% noble gases, 2% iodines.

5.4.6.3.2 Percentage of Release: Enter the estimated percentages of the release that is in each of the listed categories.

5.4.6.3.3 Select "Main Menu" or press F10 Key to exit form.

5.4.6.4 IF the release pathway is known, THEN select Plant Conditions.

5.4.6.4.1 Select one of the following release pathways:

- Large dry or sub atmospheric containment (leakage/failure)
- Steam generator tube rupture
- Bypass of containment

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5.4.6.4.2 IF the release pathway is large dry or subatmospheric containment leakage/failure, THEN select:

Note

Core Conditions can be obtained from the control room or the TSC if it is activated.

- a. Core conditions:
 - Gap release (15-30 min)
 - In-vessel severe core damage (>30 min.)
 - Vessel melt through
- b. Enter reactor power for the last few months or a default of 1650 Mw(T)
- c. Select sprays (ON or OFF)
- d. Select release path (Filtered or Unfiltered)
- e. Select leak Rate (percent per hr.)
- f. Select "Main Menu" or press F10 Key to exit form

5.4.6.4.3 IF release pathway is Steam Generator Tube Rupture, THEN:

Note

Core Conditions can be obtained from the control room or the TSC if it is activated.

- a. Select the coolant concentrations using the description that is closest to probable core condition:
 - Gap release (uncovered 15-30 min.)
 - In-vessel severe core damage (>30 min.)
 - Typical coolant
 - Coolant with 100x normal non-nobles
- b. Select Steam Generator Conditions (Partitioned or Not Partitioned)

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Note

Default is one tube.

- c. Select Release Rate using one of five leak rate categories, based on number of tubes or pumps active.
- d. Select release is from (steam jet air ejector or safety valves).
- e. Select "Main Menu" or press F10 Key to exit form.

5.4.6.4.4 IF the release pathway is Bypass of containment, THEN:

Note

Core conditions can be obtained form the control room or TSL if it is activated.

- a. Select one of the following core conditions:
 - Gap release (15-30 min.)
 - In-vessel severe core damage (>30 min.)
 - In-vessel melt through
- b. Enter
 - Reactor power level last few months or a default of 1650 Mw(τ)
- c. Select release path (filtered or unfiltered)
- d. Select leak rate (percentage per hour)
- e. Select "Main Menu" or press F10 Key to exit form.

5.4.6.5 IF the containment area radiation levels are known, THEN select Containment Monitor Reading.

- 5.4.6.5.1 Select Location of Monitor (PWR)
- 5.4.6.5.2 Enter Reactor Power for the last few months or allow default of 1650 Mw(t)
- 5.4.6.5.3 Enter Monitor Reading in R/hr
- 5.4.6.5.4 Select containment sprays (ON or OFF)
- 5.4.6.5.5 Select Release Path (filtered or unfiltered)
- 5.4.6.5.6 Select Leak Rate from one of the eight leak rate categories in percent per hour

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5.4.6.5.7 Select "Main Menu" or press F10 Key to exit form

5.4.6.6 IF the accident is based on the spent fuel, THEN select Spent Fuel/Spent Fuel Pool

5.4.6.6.1 Select Fuel Condition (Zircalloy Fire-New Batch Only or Fuel Cladding Failure-Gap Release)

5.4.6.6.2 Enter Reactor Power Enter for the last few months or allow default of 1650 Mw(t)

5.4.6.6.3 Enter Last Batch put in Pool (date and time)

5.4.6.6.4 Enter number of batches

5.4.6.6.5 Select sprays (ON or OFF)

5.4.6.6.6 Select Release Path (filter or unfiltered)

5.4.6.6.7 Select Leak Rate (one of the seven leak rates in percent per hour)

5.4.6.6.8 Select "Main Menu" or press F10 Key to exit form.

5.4.7 Select **EVENTS** from the main menu.

Note

Radionuclides are decayed from shutdown time except when the isotopic release rates containment monitor or spent fuel option are used.

5.4.7.1 If required, enter the day and time the Reactor Shutdown, OR IF the analysis does not model a reactor trip, THEN enter the time the release started in the **SHUTDOWN** field.

Note

The release start to containment time may be the same as shutdown or up to one year later. It may not be before shutdown.

5.4.7.2 If required, enter date and time for Release to Containment or Other Structure when the release from the Reactor Coolant System occurred.

Note

The release start to environment must not be before the release to containment but may be up to 24 hours after it.

5.4.7.3 If required, enter the day and time for Release to Environment (Start of Exposure) when the release to the atmosphere occurred.

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Note

The release end time can be from 1 minute to 24 hours after the start of the release.

Note

IF a leak rate of 100% per hour is to be selected in the source-term section, THEN the release end time cannot be more than 1 hour later than the release start time.

- 5.4.7.4 If required, enter the End of Release to Environment day and time.

Note

Exposure end time must be the same as or later than the release to environment end. However, it cannot be more than 48 hours after the release to environment end.

- 5.4.7.5 If required, enter the End of Exposure day and time, time when dose calculations will end.

- 5.4.7.6 WHEN all the Event Times are entered correctly, THEN select "Main Menu" or press F10.

- 5.4.8 Select **METEOROLOGICAL DATA** from the Main Menu.

Note

The time entered for the first set of met data should correspond to the start of release.

- 5.4.8.1 Enter date and time meteorological data was obtained.

- 5.4.8.2 Enter the 10 meter wind speed.

- 5.4.8.3 Enter the 10 meter wind direction.

Note

RASCAL does not calculate the meteorological stability classification. Table 3 can be used to determine Pasquill categories.

- 5.4.8.4 Select the stability class of the mixing layer. A choice list of stability classes is displayed when the stability field is highlighted.

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5.4.8.5 Enter Mixing Layer Height (Default 500m)

Note

Precipitation affects the wet deposition rate. The precipitation type and intensity can be found in National Weather Service hourly weather reports. Table 2 provides the conversion of weather report precipitation symbols to the appropriate precipitation class and intensity. Notes usually precede the affected steps.

Note

IF a weather report shows more than one precipitation type, THEN choose the type giving the most intense model precipitation

Note

IF rain and snow precipitation are reported with equal intensity, THEN enter the corresponding rain intensity.

5.4.8.6 Select Precipitation Type

- None
- Light Rain
- Moderate Rain
- Heavy Rain
- Light Snow
- Moderate Snow
- Heavy Snow

5.4.8.7 When all of the data is entered correctly, THEN select “Main Menu” or press F10 key to exit this form.

5.4.9 IF additional meteorological data for other times is to be entered, THEN repeat step 5.4.8.

Note

There are two dispersion models: Plume or Puff. Use plume when projecting dose based on a single met data set. Use puff when projecting dose based on several different met data sets, for extremely low wind speed conditions, or when more data points on the plots are desired. Notes usually precede the affected steps

Select the PLUME option to calculate doses using a straight-line Gaussian plume model.

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Note

All of the meteorology data that have been entered and that are effective during the interval from release to the environment through the end of exposure are used in calculating doses with a Puff model.

Select the **PUFF** model to calculates doses for 0-2 miles using straight-line Gaussian plume model and for greater distances using a Lagrangian puff model.

- 5.4.10 Select **CALCULATION OPTIONS** from the Main Data Entry Form (Plume or Puff).

Note

This option is not included for CLOSE-IN ST DOSE calculations (0-2 MI).

- 5.4.11 Select **BUILDING WAKE** (ON or OFF)

Select on to include building wake into calculation.

Note

The release will be assumed to be at ground level if the wind speed is 1 mph or more and the rate of diffusion will be increased to account for the effects of the building wake. If wind speed is less than 1 mph, the release will be assumed to be at the specific release height and the diffusion rate will not be adjusted.

Select **OFF** to exclude building wake effects.

Note

RASCAL defaults to a 10 mile radius from the plant with a spatial resolution of 0.67 mile.

- 5.4.12 Select **CALCULATION RADIUS** (10 miles (16KM) or 25 miles (40 KM)).

Note

The calculate pushbutton is not available if you have not defined a title and a source term or if you have selected a new plant site and previously selected source term option is invalid for the new plant site.

The form that appears summarizes the input and reports calculation progress.

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5.4.13 Select **CALCULATE** to begin calculations.

Note

Three summary reports and ten graphic reports are generated. Only significant results are displayed. Values $<10^{-3}$ rem are converted to zeros.

5.4.13.1 Select the desired report for the list below:

- **MAXIMUM VALUES** to display a table of the Maximum Doses at selected distances from the release point.
- **COMPUTED SOURCE TERM REPORT** for a summary of the radionuclides making up the release will be displayed and radionuclide and the fraction of the core inventory released.

Note

Not available for CLOSE-IN ST DOSE calculations (0-2 MI).

The remaining options are:

- **TOTAL ACUTE BONE DOSE** to plot the Total Acute Bone Dose on the map and give insight into early health effects for reactor accidents.
- **ACUTE LUNG DOSE** to plot the Acute Lung Dose on the map and provide insight into early health effects for accidents where lung dose dominates such as Pu releases.
- **TEDE** to plot the Total Effective Dose Equivalent on the map for comparison with EPA guidance.
- **THYROID DOSE** to plot the Thyroid Dose on the map for comparison with EPA thyroid PAGs.
- **CLOUD SHINE DOSE** to plot the Cloud Shine Dose on the map for calculating the DDE from the plume.

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Note

The total Deep Dose Equivalent (DDE) equals cloud shine + initial ground shine.

- **INITIAL GROUND SHINE DOSE** to plot Ground Shine Dose on the map for calculating DDE from deposition.
 - **4-DAY GROUND SHINE DOSE** to plot the deposition component of the Total Effective Dose Equivalent on the map (not normally viewed).
 - **ACUTE BONE INHALATION DOSE** to plot the Inhalation Component of the Total Acute Bone Dose on the map (not normally viewed).
 - **DEPOSITION** to plot the Ground Deposition levels in $\mu\text{Ci}/\text{cm}^2$ and on the map (not normally viewed).
- 5.4.13.2 Select (**VIEW/PRINT**) to see projected data. If a printout is required, select (Print (ALT-P) or Enter (ALT-P))
- 5.4.13.3 Select (Save File) to save your calculations for later review.
- 5.4.13.4 Select "**MAIN FORM**" or press (**F10**) to exit this form.
- 5.4.14 Select (Mainform (F-10)) or the F-10 key to return to the main menu.
- 5.5 Comparison of RASCAL Dose Projection Results with Environmental Monitoring Team (EMT) and/or Site Radiation Emergency Team (SRET) Survey Results.
- 5.5.1 IF available, THEN obtain plume centerline field radiation survey results (mr/hr) at 0.5, 1.0, 2.0, 5.0, and/or 10 miles from the plant.
- 5.5.2 Using the maximum values results (screen and printout) for the completed dose projection, add the doses (rem) from the Cloud Shine line and the Initial Ground Shine line together (for the appropriate distance from the plant).
- 5.5.3 Convert the sum of Cloud Shine and Ground Shine Dose from rem to mrem (multiply by 1000).
- 5.5.4 Convert the sum of Cloud Shine and Initial Ground Shine Dose to a dose rate (mrem/hr) by dividing the sum by the total exposure time (hours) entered in the event times menu.
- 5.5.5 Compare the dose rate (mrem/hr) from the dose projection determined in step 5.6.4 to the dose rate (mrem/hr) measured by the field team at the corresponding centerline distance from the plant.

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5.6 IF Field Measurements to Dose (FM-Dose) is chosen, THEN select "Create New Case."

Note

A title must be entered to calculate results.

5.6.1 Enter a title.

5.6.2 If known, enter the date and time the sample was collected.

5.6.3 Ground Concentration Units: Select units, first select metric unit and (Ci or Ba). Then select (M^2 , CM^2 or ft^2).

5.6.4 Air Concentration Units: Select units, first select metric units and (Ci or Ba) then select (M^2 , CM^2 or ft^2).

5.6.5 Enter ground concentrations.

Note

Surface Correction Factor, Resuspension Factor, and Reentry Delay are set at default values and should only be changed if specific instructions to do so are given.

5.6.5.1 Enter exposure time.

5.6.5.2 Enter concentration for each nuclide deposited.

5.6.5.3 Use "scroll up" or "scroll down" for additional nuclides.

5.6.5.4 Select "Main Menu" or press F10 to exit form.

5.6.6 Enter air concentration.

5.6.6.1 Enter exposure time.

5.6.6.2 Enter concentration for each nuclide.

5.6.6.3 Use "scroll up" or "scroll down" for additional nuclides.

5.6.6.4 Select "Main Menu" or press F10 to exit form.

5.6.7 Select the concentrations to be used in the calculations (air, ground, or both).

5.6.8 Select the dose units, metric unit and (REM or Su).

5.6.9 Select calculate.

5.6.10 Select the view desired.

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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 EIPs.

7.0 References

- 7.1 NAD-12.20, Emergency Plan Implementing Procedures (EIPs)
- 7.2 NAD-05.23, Software Development, Procurement, Modification, and Control
- 7.3 EPIP-AD-19, Protective Action Guidelines
- 7.4 SP-32B-268, Site Boundary Doses from Gaseous Effluents
- 7.5 NUREG/CR-5247/PNL-8454, Vol. 1, Rev. 1, RASCAL Version 2.2 User's Guide
- 7.6 Workbook of Atmospheric Dispersion Estimates, D. Bruce Turner, 1970
- 7.7 NUREG/BR0150, Vol. 1, Rev. 2, RTM-92 Response Technical Manual
- 7.8 EPA-400-R-92-001, Manual of Protective Action Guides and Protective Actions For Nuclear Incidents
- 7.9 NUREG/CR-5247, Vol. 2, Rev. 2, RASCAL Version 2.2 Workbook
- 7.10 EPIP Forms
- 7.10.1 RET 2B.1, Containment Stack Release (Grab Sample)
- 7.10.2 RET 2B.2, Auxiliary Building Stack (Grab Sample)
- 7.10.3 RET 2B.3, Auxiliary Building Stack (Spring Reading)
- 7.10.4 RET 2B.4, Containment Stack (Spring Reading)
- 7.10.5 RET 2B.5, Steam Release

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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

- RASCAL Projection Printouts

8.1.2 Non-QA Records

None

LAKE BREEZE

Determine Lake Breeze Effect

The following conditions must be met for a possible Lake Breeze Effect:

KNPP or PBNP wind direction is between 20° and 170°,
<u>AND</u>
PBNP Inland Tower or Green Bay NWS wind direction is between 210° and 330°,
<u>AND</u>
Meteorological Data Record time is between 0700 and 2000 hours,
<u>AND</u>
Meteorological Data Record date and date of Lake Breeze onset time are the same.

WEATHER REPORT SYMBOL, MODEL CLASS, AND INTENSITY

WEATHER REPORT SYMBOL	MODEL CLASS	INTENSITY
None	NONE	---
A	SNOW	Moderate
IC-, IP-	SNOW	Light
IC, IP	SNOW	Moderate
IC+, IP+	SNOW	Heavy
L-, L, L+	RAIN	Light
R-, RW-	RAIN	Light
R, RW	RAIN	Moderate
R+, RW+	RAIN	Heavy
S-, SG-, SP-, SW-	SNOW	Light
S, SG, SP, SW	SNOW	Moderate
S+, SG+, SP+, SW+	SNOW	Heavy
ZL-, ZL, ZL+, ZR-	RAIN	Light
ZR	RAIN	Moderate
ZR+	RAIN	Heavy

STABILITY CLASSIFICATION

To specify a stability classification without using RASCAL, first obtain **Delta T** or **Sigma Theta** from the Meteorological data. Values of **Delta T** or **Sigma Theta** will correspond to the various stability classifications as shown below

STABILITY CLASSIFICATION	PASQUILL CATEGORIES	SIGMA THETA ($\sigma\theta$) (DEGREES)	60M - 10M DELTA T ($^{\circ}\text{F}/50\text{M}$)
Extremely Unstable	A	$\sigma\theta \geq 22.5$	DELTA T ≤ -1.71
Moderately Unstable	B	$22.5 > \sigma\theta \geq 17.5$	$-1.71 < \text{DELTA T} \leq -1.53$
Slightly Unstable	C	$17.5 > \sigma\theta \geq 12.5$	$-1.53 < \text{DELTA T} \leq -1.35$
Neutral	D	$12.5 > \sigma\theta \geq 7.5$	$-1.35 < \text{DELTA T} \leq -0.45$
Slightly Stable	E	$7.5 > \sigma\theta \geq 3.8$	$-0.45 < \text{DELTA T} \leq 1.35$
Moderately Stable	F	$3.8 > \sigma\theta \geq 2.1$	$1.35 < \text{DELTA T} \leq 3.60$
Extremely Stable	G	$2.1 > \sigma\theta$	$3.60 < \text{DELTA T}$

Reference: ANSI/ANS-2.5-1984

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Reviewed By <i>Brian G. Fencel</i>	Approved By <i>David R. Leebart</i>	
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SRO Approval Of Temporary Changes Required
		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for Security Force actions in the event of a declared emergency at the Kewaunee Nuclear Power Plant (KNPP).

2.0 General Notes

- 2.1 Attachments A through I for Security Force Members (SFM) will be placed in packets at key locations – CAS, SAS, Captains office, IPO, and Squad Room.

3.0 Precautions and Limitations

- 3.1 IF the plant emergency is caused by a security event, or should a security event occur during a plant emergency, THEN the Contingency Plan and Security Implementing Procedures have priority over the actions in this procedure.
- 3.2 After declaration of a plant emergency, all Security Force Members shall wear dosimetry as directed by EPIP-SEC-04.
- 3.3 IF the Security Building is declared uninhabitable, THEN ensure an adequate level of security effectiveness is maintained.
- 3.4 Ensure all vehicles designated for off-site use have their gas tanks topped off.

4.0 Initial Conditions

- 4.1 The Security Force shall implement this procedure upon declaration of a plant emergency.

5.0 Procedure

- 5.1 **Site Protection Director (SPD)** shall:
- 5.1.1 **When a siren is sounded**, immediately implement EPIP-SEC-03, "Personnel Assembly and Accountability."
- 5.1.2 For any announced Unusual Event, Alert, Site Emergency, or General Emergency, ensure that the Security Shift Captain has immediately dispatched a Security Force Supervisor to the Control Room to act as a notifier.
- 5.1.3 Contact the Radiation Protection Director (RPD) to obtain information on any controlled or potentially hazardous areas.

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5.1.4 Notify the Support Activities Director (SAD) of the need for any search and rescue operations as determined by personnel accountability.

5.2 IF the event is an Alert or higher, THEN the **Security Shift Captain** shall:

5.2.1 Set up the TLD and dosimeter issue station per EPIP-SEC-04.

- a. Issue dosimetry to all Security Force Members.
- b. Ensure dosimetry is issued to all incoming personnel.

5.2.2 Designate a SFM for response to the public fishing area and any other areas within the site boundary as determined to be necessary. The **designated Officer** shall:

- a. Obtain a TLD or dosimeter.
- b. Obtain the portable bullhorn.
- c. Obtain a vehicle.
- d. Inform the people at the public fishing area and other members of the general public found on-site that they must leave the area by using the following statement:

NO OTHER INFORMATION SHOULD BE GIVEN BEYOND THE SCOPE OF THIS STATEMENT.

<p>“The plant site has been temporarily closed and you are requested to leave. Please do so at this time.”</p>

e. Inform KNPP contracted workers on-site and outside of the protected area of the emergency level declared and to report to the Security Building or the Simulator Training Building for assembly.

f. Make a tour of the following areas as necessary to ensure all personnel are responding to the emergency siren:

- Met Towers
- Sewage Treatment Plant
- Warehouse 1
- Substation (external)

5.2.3 Call in additional Security Force Members as necessary to augment the normal shift complement.

5.2.4 IF plant personnel are to be evacuated per EPIP-SEC-05, THEN assist in the evacuation.

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5.2.5 Divide ingress into the plant according to the following:

5.2.5.1 Until radiological conditions prohibit, the following personnel (Priority 1) shall proceed directly to the Security Building and will be expedited into the plant ahead of other Emergency Response Organization (ERO) personnel using appropriate latitude allowed by the Security Manual (i.e., 10 CFR 50.54 x and y).

- a. Fire Team Members listed in EPIP-APPX-A-2
- b. All directors and alternates listed in EPIP-APPX-A-2
- c. Notifiers and communicators as listed in EPIP-APPX-A-2
- d. NRC Resident Inspector

5.2.5.2 Until radiological conditions prohibit, all ERO personnel arriving from off-site shall proceed directly to the Security Building. Entry into the plant shall follow normal entry procedures, except all Priority 1 personnel shall be expedited past other personnel.

Note

IF off-site non-WPSC emergency assistance (i.e., ambulance driver) arrives on-site, THEN they should be expedited into the plant.

5.2.5.3 IF any personnel who are not emergency responders are found or arrive on-site, THEN inform them to leave the site per Step 5.2.2.d or report to an assembly area per Step 5.2.2.e. Members of the media should be directed to Green Bay and given (920) 433-1400 or (800) 838-6192 to call for information.

5.2.6 IF the SPD requests site boundary control to be established further out than the Protected Area (PA) boundary, THEN proceed as follows:

5.2.6.1 Establish new boundaries.

5.2.6.2 IF any public roads are within the boundaries, THEN contact the appropriate County Sheriffs' Department for assistance.

5.2.6.3 Establish where dosimetry should be issued and turned in.

5.2.6.4 Establish recommended traffic flow into and out of the new controlled area.

5.2.6.5 Special consideration is appropriate for Priority 1 personnel responding to a pager activation.

5.2.6.6 Establish roadblocks with appropriate traffic flow directions USING DESIGNATED SFMs AS APPROPRIATE.

5.2.6.7 Move dosimetry issue in a coordinated effort with the roadblocks.

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5.2.6.8 Personnel identification at roadblocks shall be accomplished by using Plant Access lists, personal recognition, plant key card, or other picture I.D., as appropriate.

5.2.7 IF the Security Building is declared uninhabitable, THEN proceed as follows:

5.2.7.1 Security Operational and Administrative functions shall be moved to and directed from another location chosen in conjunction with the SPD, Emergency Director (ED), and RPD.

5.2.7.2 The Security Shift Captain shall designate a SFM to obtain the following items for transport to the location chosen in Step 5.2.7.1:

- a. Emergency key cards
- b. Keys for the SAS and Armory
- c. All additional security portable radios, spare batteries, and chargers
- d. Necessary Contingency Equipment

5.2.7.3 Direct Central Alarm Station (CAS) to take over all security functions normally considered primary Secondary Alarm Station (SAS) functions and CAS shall disable SAS.

6.0 Final Conditions

6.1 None

7.0 References

- 7.1 EPIP-AD-07, Initial Emergency Notifications
- 7.2 EPIP-SEC-03, Personnel Assembly and Accountability
- 7.3 EPIP-SEC-04, Security Force Actions for Dosimetry Issue
- 7.4 EPIP-SEC-05, Personnel Evacuation
- 7.5 NAD-02.10, Responsibilities Under a Fire Emergency

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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

SHIFT CAPTAIN

**** On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Contingency Event.**

1. Obtain an EIPs, binder the FFD clipboard, ensure you take the portable phone, obtain fit for duty keys from SAS, then go to the Visitor/Vehicle desk.

Note

*Have the first Non-Emergency Response Person (**badged person only**) take over dosimetry issue at the entrance turnstile area.*

- When the event requires Fire Brigade, you should assume the Lane Search Duties (see Attachment H) and send that Officer to clear the site as stated in EPIP-SEC-02-5.2.2.
2. Ensure accountability is being performed (SMS Emergency Program started), document start and completion of initial accountability.
 3. Ensure no tours are being suspended via R-1 Officer.
 4. Ensure TLD Station is set up at entrance turnstile area.
 5. Ensure the site is clear of the Public (Fishermen, etc.) and gas tanks are filled on three (3) WPS Vans used. (#2690 - #2399 - #2689) extra keys are in SAS. Notify the Kewaunee Sheriff when OCA clearing problems exist.
 6. Conduct accountability on any Visitors on-site. (EPIP-SEC-03-5.2.3)
 7. Give safe route (with SPD/RPD guidance) map to all persons exiting the site.
 8. Collect TLD SRD as Personnel exit the turnstile (when leaving site).

(Use Laminated Map Located in the Binder.)

“Update Security Force Members as to the current/changing conditions as often as possible.”

CAS OPERATOR

**** On the Emergency/Drill Siren, evaluate all of your ACS and CCTV equipment to ensure we are NOT in a Contingency Event.**

***Note**

All Security tours and alarm response will be conducted by R-1 until additional support arrives.

1. Start the Emergency Accountability Program on the SMS (begin emergency) no earlier than two minutes after the siren has sounded.
2. Once the program is started, print an Emergency Report to ensure program is operational.
3. Conduct a radio check with all Security Personnel to ensure accountability of Security Force.
4. Notify the Shift Captain of your results.
5. Document all gai-tronics announcements on a paper other than the CAS Activity Log (CAL).

SAS OPERATOR

**** On the Emergency/Drill Siren, evaluate all of your ACS and CCTV equipment to ensure we are NOT in a Security Event.**

***Note**

All Security tours and alarm response will be conducted by R-1 until additional support arrives.

1. Obtain a list of Accountability Area Coordinators. (See Attachment)
2. Call in one (1) person for each area and circle the name of the person contacted.

Note

During normal business hours, call them on the gai-tronics to ensure they assume their duties.

3. Help the Accountability Coordinator when a person is unaccounted for (i.e., Run report on the person who is unaccounted for).
4. Continue to monitor all ACS And CCTV equipment to ensure Security is maintained.
5. Ten minutes after the Emergency Accountability Program has been started, print Emergency Report and forward the report to the MAC.
6. Support additional report requests from the MAC.



FIELD SUPERVISOR

**** On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Contingency Event.**

1. Respond to the Control Room.
2. Start Notifier Duties.
3. When relieved, report to the Shift Captain.

RESPONSE OFFICER R-1

**** On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Contingency Event.**

1. Remain in the Plant as the Response Officer.
2. Pick up dosimetry for self, CAS, and Notifier (Field Supervisor).
3. Evaluate per schedule what tours need to be completed.
4. Notify Captain (Ext. 8292) when the potential exists that a tour cannot be completed.
5. Conduct all scheduled tours, P.O. - F.C. - R.O., until relief arrives.
6. Respond to all pids and door alarms.
7. Listen to gai-tronics announcements indicating hazardous areas. Avoid those areas and report to the Captain.
8. When relief arrives, give turn over as to hazardous areas and status of tours.

COMPENSATORY - OFFICER R-2

- ** **On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Security Event.**
 - ** **When posted for compensatory reasons, remain posted unless health conditions arise, then leave the area and report your situation to the Shift Captain.**
 - ** **When the event requires Fire Brigade Members, you will respond as a Fire Brigade Member.**
1. Call CAS for tour/other assignments.

PROTECTED AREA - OFFICER R-3

**** On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Contingency Event.**

**** When the event requires Fire Brigade Members, you will respond as a Fire Brigade Member.**

1. Stop at HP, pickup All Security Personnel TLDs (Security Personnel have "RED" dynotape), give R-1 the TLDs for Security Personnel stationed in the Power Block.
2. Take remaining TLDs to the Security Building.
3. Obtain the bull horn from the Captain's Office.
4. Obtain keys for a vehicle.
5. Ensure gas tanks are full – the three (3) WPS Vans used for Emergency (#2690 - #2399 - #2689).
6. Notify the Captain you are about to implement EPIP-SEC-02-5.2.2, Clear the OCA.

*** When clearing the OCA, this includes All Non-Emergency Personnel (Fishermen, Media, Sight-seers).**

"The plant site has been temporarily closed and you are requested to leave. Please do so at this time."

* Anyone requesting additional information can be given to the public information Hotline #1-800-838-6192.

7. Advise the Captain when complete and when you encounter non-compliance problems.
8. Report back to IPO and resume tour duties. Notify SAS and Captain that you are resuming your P.O. Duties.

LANE SEARCH - OFFICER R-4

- ** **On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Security Event.**

 - ** **During events that require Fire Brigade Response, you will be relieved by the Shift Captain and you should assume the duties of R-3 (see Attachment G). When complete, return to Lane Search.**
1. Control access through search equipment. ensure only Emergency Response Personnel are allowed on-site. All others shall be told to report to Classroom "C" upstairs. (Ask All Personnel if they are an ERO Member)
 2. Close door to 302.
 3. Set up ribbon to route Personnel to table in front turnstile for dosimetry issue. (ribbon found under x-ray podium)
 4. Set up dosimetry table and equipment stored under x-ray podium for incoming Personnel to use.

VISITOR REGISTRATION - OFFICER R-5

- ** **On the Emergency/Drill Siren, evaluate the situation to ensure we are NOT in a Security Event.**
 - ** **When the event requires Fire Brigade Members or when R-2 is posted, you will also assume the duties of R-2 (see Attachment F).**
1. Report to the Security Building.
 2. Support the MAC (see Emergency Plan SEC 3 5.2)

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		Title	Security Force Actions for Dosimetry Issue		
		Date	FEB 16 2000	Page 1 of 4	
Reviewed By <i>Brian G. Presl</i>		Approved By <i>David R. Leebant</i>			
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SRO Approval Of Temporary Changes Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for Security Force actions associated with dosimetry issue and return during emergencies.

2.0 General Notes

- 2.1 None

3.0 Precautions and Limitations

- 3.1 Thermoluminescent Dosimeter(s) (TLD) will not be reissued except to the persons to whom they were initially issued.
- 3.2 Whenever a TLD rack is moved, exercise caution to avoid sudden movements which could dislodge TLDs from the rack.
- 3.3 Ensure Security Force Members (SFM) wear dosimetry whenever they are on duty.
- 3.4 Ensure all personnel leaving the site turn in their dosimetry.
- 3.5 Site Radiation Emergency Team (SRET) and Environmental Monitoring Team members (EMTs) have dosimetry at the Site Boundary Facility (SBF) and do not need to pick up dosimetry at the Security Building.

4.0 Initial Conditions

- 4.1 This procedure will be implemented when an emergency has been classified as an **Alert, Site Emergency, General Emergency** or when the siren is sounded for an Unusual Event.

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5.0 Procedure

5.1 SPD shall ensure that the Security Force does the following:

5.1.1 Set up a dosimetry issue station as follows:

5.1.1.1 Collect materials from the X-Ray "A" Podium and arrange them before the entrance turnstiles.

- a. TLDs
- b. Box of self-reading dosimeters (SRDs)
- c. Packets of TLD issue logs (EPIP Form SEC-04.1)
- d. SRD charger
- e. Card Table between Podium and Wall

5.1.1.2 Set up appropriate barricades to route ingress traffic from the search equipment, to dosimetry issue, and into the PA through turnstiles.

5.1.1.3 Assign a SFM (or other support personnel if available) to man the dosimetry issue station.

5.1.2 Immediately after activation, issue dosimetry as follows:

- a. Re-zero a supply of SRDs and ensure that all SRDs are "zeroed" prior to issue.
- b. Supply one SRD and one TLD to each person as they enter the PA. Personnel should have their name entered on their TLD to facilitate future reissue.

Note

Fire Team personnel have dosimetry in their turn-out gear lockers and will not receive dosimetry at the Security Building.

- c. Fill out the Emergency Dosimeter Log (EPIP Form SEC-04.1).

5.1.3 Security Force Members will be issued dosimetry even when they will be stationed outside the PA.

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5.1.4 Dosimetry turn in:

Note

Personnel who leave the PA but plan on staying on-site should not turn in their dosimetry until they are ready to leave the site.

- a. When personnel exit the site, collect dosimetry.
- b. Prior to separating the security badge, TLD, and SRD, the following must be done:
 1. Fill out the Emergency Dosimeter Log (EPIP Form SEC-04.1).
 2. Ensure the person's name is on the TLD.

Note

EVERY TLD THAT IS RE-ISSUED CAN ONLY BE RE-ISSUED TO THE PERSON WHO PREVIOUSLY USED IT.

- c. Return SRDs to the dosimetry issue station to be reused.
- d. TLD will be collected at Visitor/Vehicle registration desk.

5.1.5 Long-term dosimetry issue:

- a. Follow the same route for personnel ingress.
- b. At the dosimetry issue station, pick up an SRD, TLD, and complete the required Emergency Dosimeter Log entries (EPIP Form SEC-04.1). Verify you have your own TLD.

5.1.6 IF the Security Building becomes uninhabitable, THEN coordinate movement of the dosimetry issue and turn-in stations with movement of the security control location.

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 EIPs.

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	Title Security Force Actions for Dosimetry Issue	
	Date FEB 16 2000	Page 4 of 4

7.0 References

- 7.1 EPIP-SEC-02, Security Force Response to Emergencies
- 7.2 EPIP-RET-04A, SBF Operation/Relocation
- 7.3 NRC Report 50-305/84-17 Open Item No. 305/84-17-02
- 7.4 EPIP Appendix B, Forms

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

- Emergency Dosimeter Log, EPIP Form SEC-04.1

8.1.2 Non-QA Records

None

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		Title	Personnel Evacuation		
		Date	FEB 16 2000	Page	1 of 3
Reviewed By <i>Brian G. Presl</i>		Approved By <i>David R. Seebart</i>			
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	SRO Approval Of Temporary Changes Required	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for actions required to implement an evacuation of personnel from the Kewaunee Nuclear Power Plant (KNPP) site.

2.0 General Notes

- 2.1 None

3.0 Precautions and Limitations

- 3.1 Ensure the radiological conditions along evacuation routes are assessed by the Radiological Protection Director (RPD) or the on-shift Radiation Technologist prior to evacuation of personnel.

4.0 Initial Conditions

- 4.1 This procedure is implemented whenever the evacuation of nonessential personnel becomes desirable or evacuation of emergency personnel becomes necessary. The desirability or necessity of an evacuation will be determined by the Emergency Director (ED) and RPD.

5.0 Procedure

- 5.1 Site Protection Director (SPD) shall:
- 5.1.1 Request the RPD to initiate the activities in Section 5.2 of this procedure.
 - 5.1.2 Obtain information from the ED regarding any special evacuation instructions required to exit the Emergency Planning Zone per the Manitowoc and Kewaunee County Emergency Directors.
 - 5.1.3 Ensure that all personnel have been assembled and accounted for in accordance with EPIP-SEC-03. Personnel to be evacuated must be identified and preassembled in:
 - a. The Administration Training Facility (ATF) assembly area
 - b. The Warehouse Annex assembly area
 - c. The Security Building assembly area
 - d. The Simulator Training Facility (STF) assembly area

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5.1.4 IF RPD determines that the use of personal vehicles is not possible, THEN ensure that alternate transportation arrangements are made with the Administrative/Logistics Director (ALD) in the Emergency Operations Facility (EOF) for the evacuation.

5.1.5 Instruct the evacuees as follows:

- a. Exit the plant in an orderly fashion by the directed route.
- b. Follow all directions that are provided for exiting the Emergency Planning Zone.

5.1.6 Direct the evacuation of personnel using the route determined by the RPD. (See attachment EPIP-FIG-026, KNPP Site – Map, for the primary route and an alternate route.)

Note

When evacuation requires a route other than normal Security Building exit, the Accountability Log shall be sent to CAS/SAS for Key Card Disabling.

5.1.7 Verify that all evacuees have been logged out of the protected area prior to releasing them.

5.1.8 IF evacuee counts indicate missing personnel, THEN initiate EPIP-SEC-03.

5.1.9 Inform ED of the need to contact the Manitowoc and Kewaunee County Emergency Government Directors of the progress of the plant evacuation.

5.2 Radiological Protection Director shall:

5.2.1 Determine a safe route from the designated evacuation assembly areas.

5.2.2 Determine whether personal vehicles are inaccessible or too contaminated to leave the site.

5.2.3 Dispatch necessary emergency teams to where they are needed.

5.2.4 Monitor the evacuees for contamination.

5.2.5 Notify the Site Boundary Facility (SBF) and the Environmental Protection Director (EPD) of the evacuation and its nature.

6.0 Final Conditions

6.1 All non-essential personnel have been evacuated from the owner controlled property.

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	Title	Personnel Evacuation		
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7.0 References

- 7.1 Kewaunee Nuclear Power Plant Emergency Plan
- 7.2 EPIP-SEC-03, Personnel Assembly and Accountability
- 7.3 EPIP-OSF-04, Search and Rescue

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

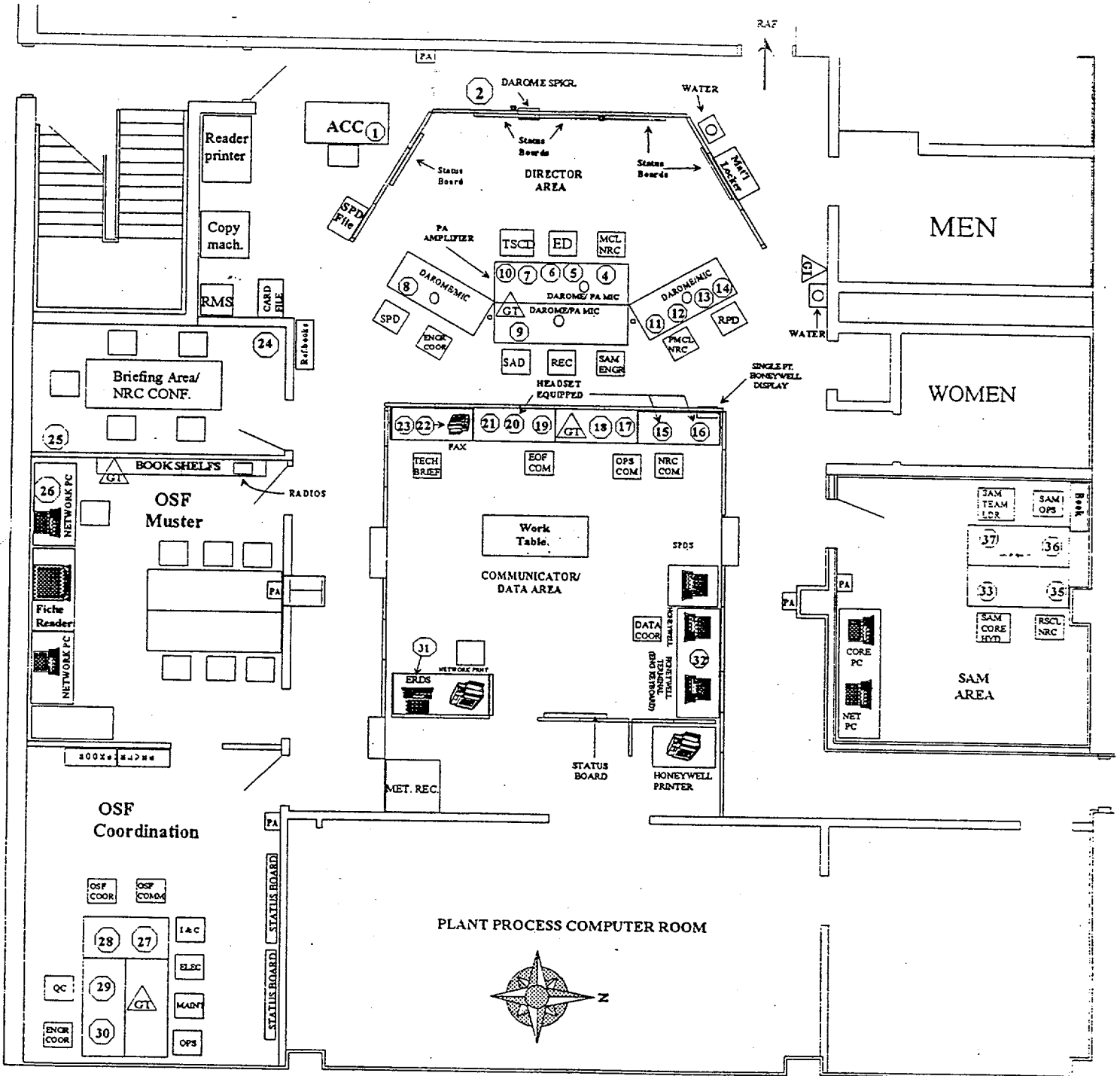
- None

- 8.1.2 Non-QA Records

- None

FLOOR PLAN TECHNICAL SUPPORT CENTER

EPFIG-003
Rev. ORIG
MAR 03 1998



KNPP SITE - MAP

EP FIG-026
JUL 21 1998
 REV. A

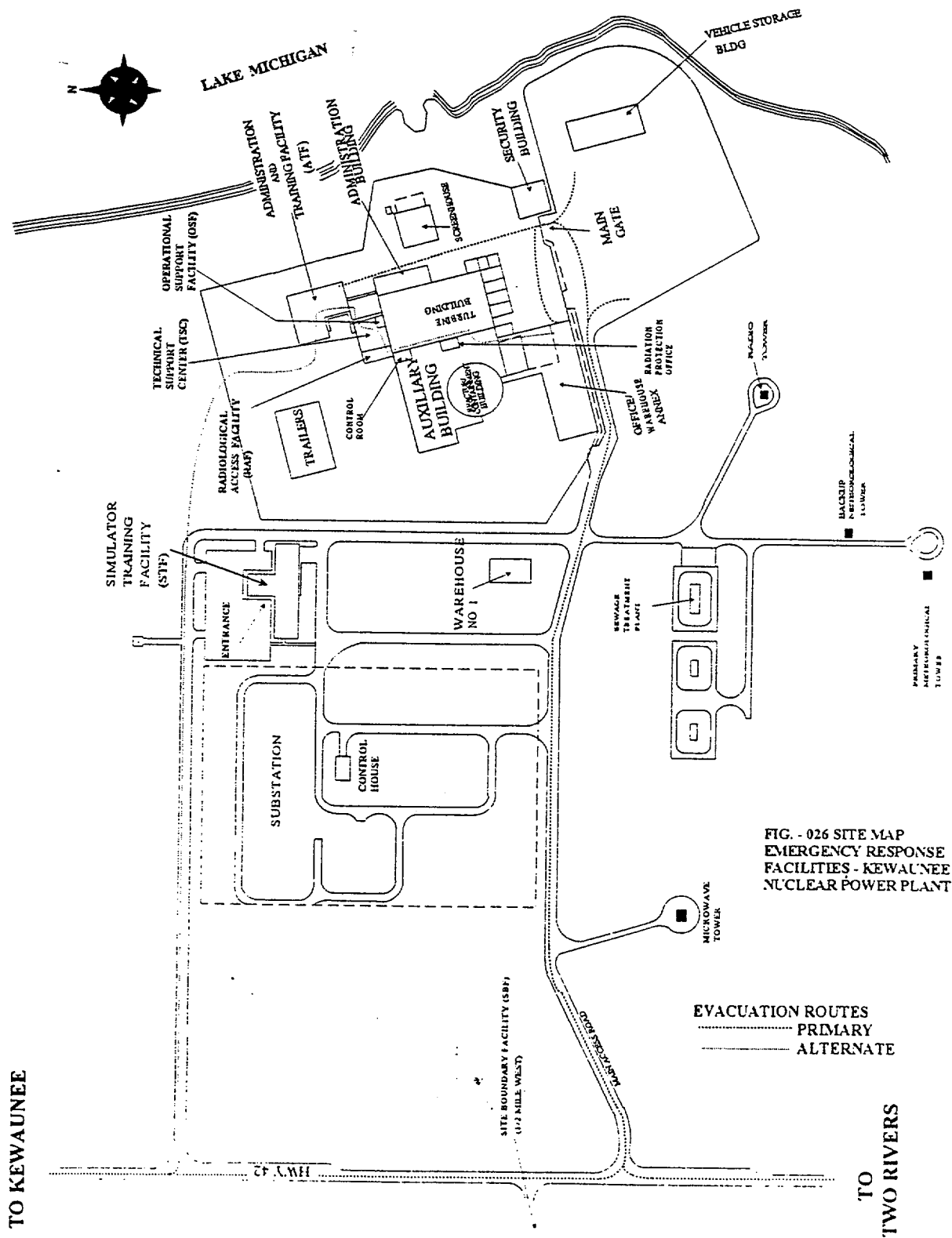


FIG - 026 SITE MAP
 EMERGENCY RESPONSE
 FACILITIES - KEWAUNEE
 NUCLEAR POWER PLANT

EVACUATION ROUTES
 ——— PRIMARY
 - - - - - ALTERNATE

TO KEWAUNEE

TO TWO RIVERS

KEWAUNEE NUCLEAR POWER PLANT

March 7, 2000

EMERGENCY PLAN IMPLEMENTING PROCEDURES TRANSMITTAL FORM

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| L. Renier-Hicks – GB-D2 Nuclear EOF (77) | C. Long - RAF (53) |
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KEWAUNEE NUCLEAR POWER PLANT
 REVISION OF EMERGENCY PLAN IMPLEMENTING PROCEDURES
 March 7, 2000

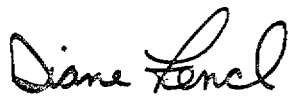
Please follow the directions listed below. If you have any questions regarding changes made to the EIPs, please contact Dave Seebart at ext. 8719. If you are a controlled copy holder (see cover page), return this page to Diane Fencl by April 7, 2000, SIGNED AND DATED to serve as a record of revision.

DELETE		INSERT	
PROCEDURE	REV.	PROCEDURE	REV.
EP-AD-2	Y	EPIP-AD-02	Z
EP-TSC-7	G	EPIP-TSC-07	H
EP-TSC-8A	L	EPIP-TSC-08A	M
EP-TSC-8B	D	EPIP-TSC-08B	E
EP-TSC-9B	H	EPIP-TSC-09B	I

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

SIGNATURE DATE

Please return this sheet to *DIANE FENCL*.



Diane Fencl

Enclosure

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EP-AD			
EP-AD-1	Plant Personnel Response to an Emergency	E	03-16-99
EPIP-AD-02	Emergency Class Determination	Z	03-07-2000
EP-AD-3	KNPP Response to an Unusual Event	Z	01-19-99
EP-AD-4	KNPP Response to Alert or Higher	AA	01-19-99
EP-AD-5	Site Emergency	Deleted	04-27-87
EP-AD-5	Emergency Response Organization Shift Relief Guideline	A	10-13-98
EP-AD-6	General Emergency	Deleted	04-24-87
EPIP-AD-07	Initial Emergency Notifications	AK	02-01-2000
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
EP-AD-11	Emergency Radiation Controls	P	08-10-99
EP-AD-12	Personnel Assembly and Accountability	Deleted	03-26-94
EP-AD-13	Personnel Evacuation	Deleted	04-25-94
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	M	01-18-2000
EP-AD-16	Occupational Injuries or Vehicle Accidents During Emergencies	Deleted	03-14-97
EP-AD-17	Communications	Deleted	03-05-84
EP-AD-18	Potassium Iodide Distribution	M	07-25-97
EP-AD-19	Protective Action Guidelines	O	06-23-98
EP-ENV			
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EP-ENV-3A	Environmental Protection Director Actions and Directives	Deleted	09-26-84
EP-ENV-3B	EM Team Actions	Deleted	09-26-84
EPIP-ENV-03C	Dose Projection Using RASCAL Version 2.2 Software	U	02-16-2000
EP-ENV-3D	Revision and Control of ISODOSE II	Deleted	02-14-95
EP-ENV-3E	Manual Determination of X/Q	Deleted	04-24-87
EP-ENV-3F	Manual Determination of X/Q (Green Bay Meteorological Data)	Deleted	05-30-86
EP-ENV-3G	Manual Dose Projection Calculation	Deleted	06-02-89
EP-ENV-3H	Protective Action Recommendations	Deleted	04-13-90
EP-ENV-4A	Portable Survey Instrument Use	R	02-23-99
EP-ENV-4B	Air Sampling and Analysis	U	02-23-99
EP-ENV-4C	Environmental Monitoring Teams	Deleted	04-13-90
EP-ENV-4C	Ground Deposition Sampling and Analysis	U	02-23-99
EP-ENV-4D	Plume Tracking for Environmental Monitoring Teams	L	02-23-99
EP-ENV-5A	LCS-1 Operation	Deleted	04-14-86
EP-ENV-5B	MS-3 Operation	Deleted	04-14-86
EP-ENV-5C	SAM II Operation	Deleted	04-14-86
EP-ENV-5D	PAC-4G (Alpha Counter) Operation	Deleted	04-14-86
EP-ENV-5E	Reuter-Stokes Operation	Deleted	08-27-85
EP-ENV-6	Data Analysis, Dose Projections and Protective Action Recommendations	Deleted	12-21-81
EP-ENV-6	Alternate Sample Analysis and Relocation of EM Team	Deleted	04-14-86
EP-ENV-6A	Relocation of Site Access Facility (Habitability)	Deleted	03-23-84
EP-ENV-6B	SAF Environmental Sample Analysis Relocation	Deleted	03-23-84
EP-ENV-7	Site Access Facility Communications	Deleted	09-26-84
EP-ENV-8	Total Population Dose Estimate Calculations	Deleted	04-14-86

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EP-EOF-4	Corporate Action for Alert or Higher	AE	03-16-99
EP-EOF-5	Corporate Staff Action for Site Emergency	Deleted	04-24-87
EP-EOF-6	Corporate Staff Action for General Emergency	Deleted	04-24-87
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EP-EOF-8	Continuing Emergency Notifications	R	08-31-99
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EP-EOF-10	Notification of General Emergency	Deleted	04-24-87
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EP-RET-2A	RPO - RAF Activation	Q	07-27-99
EP-RET-2B	Gaseous Effluent Sample and Analysis	Q	03-03-98
EP-RET-2C	Containment Air Sampling and Analysis	Deleted	03-01-83
EP-RET-2D	Emergency Radiation Entry Controls and Implementation	L	07-27-99
EP-RET-2E	Handling of Injured Personnel	Deleted	04-16-96
EP-RET-2F	Personnel Decontamination	Deleted	04-13-90
EPIP-RET-03	Chemistry Emergency Team	O	02-01-2000
EP-RET-3A	Liquid Effluent Release Paths	K	01-12-99
EP-RET-3B	Post-Accident Reactor Coolant Alternate Sampling Procedure	Deleted	01-25-88
EP-RET-3C	Post Accident Operation of the High Radiation Sample Room	O	01-18-2000
EP-RET-3D	Containment Air Sampling Analysis Using CASP	M	01-18-2000
EP-RET-3E	Post Accident Operation of High Rad Sample Room Inline Multiported Count Cave	Deleted	08-27-85
EP-RET-4	SBF Activation	P	07-27-99
EP-RET-4A	EOF Radiological Monitoring	Deleted	03-10-83
EP-RET-4A	SBF Operation/Relocation	C	07-27-99
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
EP-RET-5	Site Boundary Dose Rates During Controlled Plant Cooldown	F	07-21-98
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EP-SEC-2A	Manual Activation of Emergency Sirens	Deleted	04-16-82
EP-SEC-3	Personnel Assembly and Accountability	W	11-10-98
EPIP-SEC-04	Security Force Actions for Dosimetry Issue	O	02-16-2000
EP-SEC-5	Security Force Response to the EOF	Deleted	07-28-88
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EP-TSC-3	Plant Status Procedure	T	07-21-98
EP-TSC-4	Emergency Physical Changes, Major Equipment Repair	K	08-10-99
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EP-TSC-6	Assessment of Reactor Core Damage	Deleted	09-30-86
EPIP-TSC-07	RV Head Venting Time Calculation	H	03-07-2000
EPIP-TSC-08A	Calculations for Steam Release from Steam Generators	M	03-07-2000
EPIP-TSC-08B*	STMRLS Computer Program	E	03-07-2000
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			

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EP-TSC-9	Core Damage Assessment Using Released Radionuclides	Deleted	09-30-86
EP-TSC-9A*	Core Damage Assessment	I	02-23-99
EPIP-TSC-09B*	CORE Computer Program	I	03-07-2000
EP-TSC-9C*	See EP-TSC-9B	Deleted	04-16-92
* EP-TSC-9A, Rev. D was totally deleted; therefore, EP-TSC-9B became EP-TSC-9A. EP-TSC-9B was previously EP-TSC-9C.			
EP-TSC-10	Technical Support for IPEOP's	G	04-01-99

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APPX-A-6	EP-FIG-005	Floor Plan - Site Boundary Facility	ORIG	03-03-98
APPX-A-6	EP-FIG-008	Floor Plan - Radiological Analysis Facility	ORIG	03-03-98
EP-EOF-12 Form EOF 2.1	EP-FIG-009	Floor Plan - Division Office Building (2nd Floor)	A	08-10-99
APPX-A-6	EP-FIG-012	Floor Plan - State/County Work Area (D2-1)	B	09-21-99
APPX-A-6	EP-FIG-013	Floor Plan - NRC Work Area (D2-4)	ORIG	03-03-98
EP-AD-19	EP-FIG-014	Population Distribution by Geographical Sub-Areas	ORIG	06-23-98
APPX-A-6	EP-FIG-022	Floor Plan - EOF	A	08-10-99
EP-EOF-12	EP-FIG-024	Map - Location of JPIC, MBC, GOB, DOB, etc.	ORIG	08-04-98
EP-SEC-5	EP-FIG-026	Site Map	A	07-21-98
APPX-A-6	EP-FIG-034	Floor Plan - Media Briefing Center	Deleted	08-04-98
EP-EOF-12 APPX-A-6	EP-FIG-035	Floor Plan - G.B. Office Building (1st Floor)	B	08-10-99
APPX-A-6	EP-FIG-037	Floor Plan - Corporate Response Center	Deleted	08-04-98
APPX-A-6	EP-FIG-038	Floor Plan - JPIC	Deleted	08-04-98
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EP-OSF-2	EP-FIG-039A	Lower Priority Work	ORIG	07-08-98
APPX-A-6	EP-FIG-043	JPIC - Federal Work Area	ORIG	08-04-98
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EPIP-APPX-A-2	Response Personnel Call List	BE	12-15-99
EPIP-APPX-A-3	Off-Site, On-Site, and Company Support Telephone Numbers	BG	12-15-99
APPX-A-6	WPSC Emergency Response Facility Telephone Listing	V	08-04-98

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AD 11.1	Emergency Radiation Work Permit	F	04-16-96
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ENV 1.2	EMT Status	A	09-03-96
ENV 1.3	Meteorological and Plant Status Data	A	09-03-96
ENV 1.4	EMT Orders/Field Data	A	09-03-96
ENV 2	EMT Activation Checklist	L	02-23-99
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EOF 2.2	EOF Deactivation Checklist	J	09-21-99
EOF 4.1	SRCL Initial Action Checklist	B	09-16-97
EOF 4.2	Telephone Communications Log Sheet	ORIG	04-16-96
EOF 8.3	Fax for Emergency Declaration or Status Updates	F	09-21-99
EOF 8.5	Plant Emergency Status Report	ORIG	02-21-95
EOF 8.6	Radiological Status Report	C	03-14-97
EOF 11.2	Operating Status	E	02-14-95
EOF 11.3	Environmental Status Board	E	07-31-95
EOF 12.1	I.D. Badge Registration Form	F	08-04-98
EP-OSF			
OSF 2.2	Maintenance Work in Progress	Deleted	07-08-98
OSF 3	Operational Support Facility Team Briefing	A	02-14-95
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RET 2B.1	Containment Stack Release (Grab Sample)	C	04-16-96
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RET 2B.5	Steam Release	C	04-16-96
RET 2B.6	Field Reading (Grab Sample)	A	04-16-96
RET 4	SAM-II Counting Equipment Worksheet	D	04-16-96
RET 8.3	Hospital Survey 1	E	07-25-97
RET 8.4	Hospital Survey 2	Deleted	07-25-97
RET 8.5	Hospital Survey 3	Deleted	07-25-97
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RET 9	Environmental TLD Record Sheet	C	02-14-95
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TSC 1.2	Severe Accident Management Summary and Strategy Recommendation	A	04-01-99
TSC 1.3	Severe Accident Management - Status	A	04-01-99
TSC 2.1	TSC and OSF Activation Checklist	N	04-01-99
TSC 2.2	TSC Ventilation Checklist	H	04-01-99
TSC 2.3	Emergency Response Data System (ERDS) Link Initiation Checklist	F	04-01-99
TSC 2.4	TSC Chart Recorder Operation Checklist	C	04-01-99
TSC 2.5	TSC and OSF De-activation Checklist	ORIG	04-01-99
TSC 3.1	Plant System Status	K	02-14-95
TSC 3.2	Plant Equipment Status	K	08-12-97
TSC 3.3	Environmental Status Board	I	04-16-96
TSC 3.4	Radiation Monitors	G	02-14-95
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TSC 4.2	Emergency Physical Change Safety Review	E	08-04-98
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TSC 8A.3	Steam Release Data/Calculation Sheet (Open Valve)	D	02-14-95
TSC 8A.4	Steam Release Data/Calculation Sheet (STMRLS Program)	C	04-16-96
TSC 9A.1	Core Damage Based on Reactor Vessel Level & Fuel Rod Temp.	C	02-14-95
TSC 9A.2	Core Damage Based on Radiation Monitors	C	02-14-95
TSC 9A.3	Cs-134 and Cs-137 PCF Determination	D	04-16-96
TSC 9A.4	Core Damage Based on Activity Ratios	C	02-14-95
TSC 9A.5	Core Damage Assessment (Monitoring Data)	D	04-16-96
TSC 9A.6	Core Damage Summary	C	02-14-95

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	Title Emergency Class Determination		
	Date MAR 07 2000		Page 1 of 20
Reviewed By <i>[Signature]</i>		Approved By <i>[Signature]</i>	
Nuclear Safety Related	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	PORC Review Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		SRO Approval Of Temporary Changes Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 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).

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 Chart 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.

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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, Plant Emergency Organization

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	PAGE
Abnormal Radiological Effluent	A (1)	4
Gaseous Effluent Action Levels	A (2)	5 – 7
Fuel Damage Indication	B	8
Primary Leak to LOCA	C	9
Primary to Secondary Leak	D	10
Loss of Power	E	11
Engineered Safety Feature Anomaly	F	12
Loss of Indication	G	13
DELETED	H	13
Secondary Side Anomaly	I	14
Miscellaneous Abnormal Plant Conditions	J	15
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Flood, Low Water, or Seiche	O	18
External Events and Chemical Spills	P	19
Security Contingency	Q	20

**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 " <u>actual meteorological</u> " 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
<ul style="list-style-type: none"> a. Containment R-2 OR R-7 $\geq 1.0E+4$ mr/hr, <u>OR</u> b. Charging Area R-4 $\geq 1.0E+4$ mr/hr, <u>OR</u> c. SFP Area R-5 $\geq 1.0E+4$ mr/hr, <u>OR</u> d. Plant area air sample indicates airborne contamination > 1000 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 1000).	ALERT
<ul style="list-style-type: none"> (1) <u>Gaseous Releases</u>: See Chart A(2) (2) <u>Liquid Releases</u>: Notification by the Rad-Chem Group of violating ODCM 3.3.1 limits. 	Off-site 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 significant core damage (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. 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. 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.
	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	2.5E+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	1.5E+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 significant core damage (Containment High Range Radiation Monitor 42599 (R-40) or 42600 (R-41) reads 1000 R/hr within one-half hour of the accident).

R-15 (cpm)	"A" Steam Line Monitors		"B" Steam Line Monitors		Emergency Classification
	R-31 (mR/hr)	R-32 (R/hr)	R-33 (mR/hr)	R-34 (R/hr)	
**	1.3E+3	E+0	1.3E+03	E+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
Any core melt situation with large fission product releases from containment possible or major fuel failure.	Plant conditions exist that make the release of large amounts of radioactivity in a short time period possible.	GENERAL EMERGENCY
(Applies when more than one spent fuel element is damaged.) (1) <u>Fuel Handling accident in Containment</u> Report of a large object dropped in Rx core OR dropped spent fuel assembly, <u>AND</u> Alarm on R-11 OR R-12 (2) <u>Fuel Handling Accident in Auxiliary Bldg.</u> Report of: a. A large object dropped in spent fuel pool, <u>OR</u> b. A dropped spent fuel assembly, <u>OR</u> c. A loss of water level below spent fuel, <u>AND</u> Alarm on R-13 or R-14.	Major damage to spent fuel in containment or auxiliary building.	SITE EMERGENCY
R-9 indication is offscale high, <u>AND</u> Laboratory analysis confirms RCS activity levels comparable to USAR Table D.4-1.	<u>Severe loss of fuel cladding</u> 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) <u>Fuel Handling Accident in Containment</u> A confirming report, <u>AND</u> Alarm on R-11 OR R-12 (2) <u>Fuel Handling Accident in Auxiliary Bldg.</u> A confirming report, <u>AND</u> Alarm on R-13 OR R-14.	Fuel damage accident with release of radioactivity to containment or auxiliary building.	ALERT
With RCS Temperature > 500°F, a. > 0.2 μCi/gram DOSE Equivalent I-131 for 48 hours, <u>OR</u> b. Exceeding T.S. figure 3.1-3 for Dose Equivalent I-131, <u>OR</u> c. > 91.5 μCi/cc As determined by SP 37-065 (from T.S. 3.1.c)	High reactor coolant activity sample.	UNUSUAL EVENT
R-9 is greater than 5.0 R/hr, <u>AND</u> 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) <u>LOCA</u> is verified per IPEOP E-1 "Loss of Reactor or Secondary Coolant", <u>AND</u> (2) ECCS failure is indicated by: a. SI and RHR pumps not running, <u>OR</u> b. Verification of no flow to the reactor vessel, <u>OR</u> c. Core exit thermocouples indicate greater than 1200°F, <u>AND</u> (3) Failure or potential failure of containment is indicated by: a. Physical evidence of containment structure damage, <u>OR</u> b. Loss of all containment fan coil units and both trains of ICS, <u>OR</u> c. Containment hydrogen monitor indicates ≥ 10% hydrogen concentration, <u>OR</u> d. Containment pressure exceeds 46 psig.	(1) Loss of coolant accident, <u>AND</u> (2) Initial or subsequent failure of ECCS, <u>AND</u> (3) Containment failure or potential failure exists (loss of 2 of 3 fission product barriers with a potential loss of 3rd barrier).	GENERAL EMERGENCY
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
Charging flow versus let down flow indicates leakage > 50 GPM from an unidentified source.	Reactor Coolant System leak rate greater than 50 GPM.	ALERT
Initiation of reactor shutdown <u>required</u> 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, <u>AND</u> (2) Primary to secondary flow > 800 GPM OR RCS pressure decreasing uncontrollably, <u>AND</u> (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, <u>AND</u> (2) Primary to secondary leak rate > 400 GPM, <u>AND</u> (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, <u>AND</u> (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
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
<p>(1) RCS is $\geq 350^{\circ}\text{F}$, <u>AND</u></p> <p>(2) Buses 1 through 6 are de-energized including the D/G supplies to buses 5 and 6, <u>AND</u></p> <p>(3) Loss of the turbine driven AFW pump, <u>AND</u></p> <p>(4) Conditions exist for greater than 2 hours.</p>	<p>Failure of off-site and on-site AC power, <u>AND</u></p> <p>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.)</p>	GENERAL EMERGENCY
<p>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.)</p>	<p>Loss of off-site power, <u>AND</u></p> <p>Loss of on-site AC power (for more than 15 minutes).</p>	SITE EMERGENCY
<p>Low voltage lockout OR de-energized condition on all safeguards DC distribution cabinets for greater than 15 minutes.</p> <p>a. BRA 102 and BRB 102, <u>OR</u> b. BRA 104 and BRB 104, <u>OR</u> c. BRA 102 and BRB 104, <u>OR</u> d. BRB 102 and BRA 104</p> <p>(Does not apply when core is unloaded or cavity is flooded with internals removed.)</p>	<p>Loss of all vital on-site DC power (for more than 15 minutes).</p>	SITE EMERGENCY
<p>Low voltage lockout OR de-energized condition on all safeguards DC distribution cabinets for less than 15 minutes.</p> <p>a. BRA 102 and BRB 102, <u>OR</u> b. BRA 104 and BRB 104, <u>OR</u> c. BRA 102 and BRB 104, <u>OR</u> d. BRB 102 and BRA 104</p> <p>(Does not apply when core is unloaded or cavity is flooded with internals removed.)</p>	<p>Loss of all vital on-site DC power (for less than 15 minutes).</p>	ALERT
<p>Buses 1 through 6 are de-energized, <u>AND</u></p> <p>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.)</p>	<p>Loss of off-site power, <u>AND</u></p> <p>Loss of on-site AC power (for less than 15 minutes.)</p>	ALERT
<p>With the Reactor Coolant System above cold shutdown condition:</p> <p>a. All three transformers: Main Aux., Reserve Aux., and Tertiary are de-energized, <u>OR</u></p> <p>b. Both D/Gs unavailable (unable to supply bus 5 or 6 by any means).</p>	<p>Loss of off-site power, <u>OR</u></p> <p>Loss of on-site power capability.</p>	UNUSUAL EVENT
<p>Core is unloaded or reactor cavity is flooded with internals removed, <u>AND</u></p> <p>Buses 1 through 6 are de-energized including the D/G supplies to buses 5 and 6 for longer than 15 minutes.</p>	<p>Loss of off-site power, <u>AND</u></p> <p>Loss of on-site AC power (for more than 15 minutes).</p>	UNUSUAL EVENT

**CHART F
ENGINEERED SAFETY FEATURE ANOMALY**

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
<p>RCS \geq 350°F with a loss of cooling capability or inventory control:</p> <p>a. Loss of negative reactivity control, <u>OR</u></p> <p>b. Steam dump, S/G safeties, and power operating reliefs not operable, <u>OR</u></p> <p>c. Inability to feed S/Gs at HSD conditions (No AFW or Main Feedwater Flow), <u>OR</u></p> <p>d. Loss of RCS inventory control.</p> <p>A Site Emergency should be declared upon the initiation of bleed and feed per FR H.1, "Response to Loss of Secondary Heat Sink"</p>	Complete loss of any function needed for plant hot shutdown.	SITE EMERGENCY
<p>(Apply this criteria when the RCS is < 350°F.)</p> <p>(1) Loss of both trains of RHR, <u>AND</u></p> <p>(2) The inability to sustain either natural <u>OR</u> forced circulation with the steam generators.</p> <p>(Does not apply when core is unloaded <u>OR</u> cavity is flooded with internals removed.)</p>	Complete loss of any function required for cold shutdown.	ALERT
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 sub-critical.	ALERT
<p>(1) Loss of ESF function, required support function or required Tech Spec instruments <u>OR</u> Exceeding Tech Spec Safety Limits, <u>AND</u></p> <p>(2) upon discovery, inability or failure to take required shutdown or mode change actions within the required time.</p> <p><u>NOTE:</u> Total loss of AFW system when required (FR-H.1 implemented) should be declared a UE regardless of Tech Spec action compliance.</p>	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, <u>AND</u> (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
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
Significant loss of ESF or Rx Protection instrumentation. An Unusual Event should <u>NOT</u> 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, <u>AND</u> (2) a. R-15 or R-19 reads offscale high with confirmation by chemistry analysis, <u>OR</u> b. Primary to secondary leakage > 50 gpm, <u>AND</u> (3) a. R-9 or CNTMT high range rad monitors (42599, 42600) indicate > 10 R/hr, <u>OR</u> b. CNTMT hydrogen monitor indicates > 1% hydrogen concentration.	Steam line break, <u>AND</u> primary to secondary leak > 50 GPM, <u>AND</u> Indication of Fuel Damage.	SITE EMERGENCY
Main steam line break that results in a SI actuation, <u>AND</u> a. R-15 <u>OR</u> R-19 reads a factor of 1000 above normal, <u>OR</u> 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
Turbine trip and observation of penetration of casing.	Turbine rotating component failure causing rapid plant shutdown.	UNUSUAL EVENT
The uncontrolled depressurization of the secondary system to < 500 psig steam generator pressure (SI actuation setpoint).	Rapid depressurization of the secondary side.	UNUSUAL EVENT

**CHART J
MISCELLANEOUS ABNORMAL PLANT CONDITIONS**

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
<p>(1) Containment boundary failure or potential failure:</p> <p>a. Containment pressure > 46 psig, <u>OR</u></p> <p>b. Loss of all containment fan coil units and both trains of ICS, <u>OR</u></p> <p>c. Containment hydrogen monitor \geq 10% hydrogen concentration, <u>AND</u></p> <p>(2) Loss of core cooling capability:</p> <p>a. Loss of SI and RHR flow, <u>AND</u></p> <p>(3) Failure of shutdown system when required:</p> <p>a. Entry into IPEOP FR-S.1, "Response to Nuclear Power Generation/ATWS," <u>OR</u></p> <p>b. Loss of AFW for greater than 30 minutes with loss of main FW and condensate.</p>	<p>Other plant conditions that make a release of large amounts of radioactivity in a short time period possible; e.g., any core melt situation.</p> <p>Examples:</p> <ul style="list-style-type: none"> - 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
Evacuation of Control Room (E-O-06 event).	Evacuation of control room and control of shutdown systems required from local stations.	SITE EMERGENCY
<p>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.</p> <p><u>Example:</u> Loss of AFW system when required, validated upon implementation of FR H.1 "Response to Loss of Secondary Heat Sink."</p>	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
A fire within the Auxiliary Building, Technical Support Center, safeguards alley, D/G 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
A fire within the Auxiliary Building, Technical Support Center, safeguards alley, D/G rooms or screenhouse that causes a single train of required ESF equipment to be inoperable.	A fire potentially affecting safety systems.	ALERT
A fire within the Administration Building, Technical Support Center, Turbine Building, Warehouse Annex, Auxiliary Building, or Containment Building 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, <u>AND</u> (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, <u>AND</u> (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, <u>OR</u> (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: Telephone numbers for U of W - Milwaukee Seismic Center are in EPIP-APPX-A-3.

**CHART N
HIGH WINDS OR TORNADO**

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
(1) Winds in excess of 100 mph for greater than 1 hour, <u>AND</u> (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, <u>AND</u> (2) Causes damage to render a single train of required ESF equipment to be inoperable.	Any tornado striking facility.	ALERT
A tornado observed on-site causing significant damage to the facility.	Any tornado on-site.	UNUSUAL EVENT

**CHART O
FLOOD, LOW WATER, OR SEICHE**

KNPP INDICATION				EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
FOREBAY LEVEL				Flood, low water, or seiche near design levels.	ALERT
0 PUMPS	1 PUMP	2 PUMPS	CORRESPOND TO LAKE LEVEL		
NOTE 3	NOTE 1	≥ 94% *	≥ 588 ft.		
≤ 64% *	≤ 42% *	≤ 42% *	≤ 573 ft.		
OR Deep water Wave ≥ 22.5 ft.					
FOREBAY LEVEL				50-year flood, low water or seiche.	UNUSUAL EVENT
0 PUMPS	1 PUMP	2 PUMPS	CORRESPOND TO LAKE LEVEL		
NOTE 2	≥ 98% *	≥ 88% *	≥ 586 ft.		
≤ 71% *	≤ 63% * NOTE 4	≤ 54% * NOTE 4	≤ 575 ft. 4 in.		
OR Deep water wave ≥ 18 ft.					

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; e.g., throttling water box valves, etc.).

* Computer point for forebay level is L9075A 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 - .7 FEET)

**CHART P
EXTERNAL EVENTS AND CHEMICAL SPILLS**

KNPP INDICATION	EMERGENCY CLASSIFICATION CRITERIA	CLASSIFICATION
An aircraft crash into plant buildings which causes a complete loss of an ESF function.	Aircraft crash affecting vital structures by impact <u>OR</u> fire.	SITE EMERGENCY
A missile strikes plant buildings OR 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
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. 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
An aircraft crashes into plant buildings AND causes a single train of required ESF equipment to be inoperable.	Aircraft crash on facility.	ALERT
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
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
Self-explanatory.	Known explosion damage to facility affecting plant operation.	ALERT
(1) An aircraft crash within the site boundary, <u>OR</u> (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
Release of toxic or flammable gas from a ruptured tank/truck on site. 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
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
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
Security safeguards contingency event that results in adversaries commandeering an area of the plant, but not control over shutdown capability or of any vital areas as defined in the Security Plan.	Ongoing security compromise.	ALERT
Examples: <ul style="list-style-type: none"> - Bomb threat accompanied by interception of bomb materials. - Adversary intercepted in the protected area. - Un-detonated bomb found within the protected area. 	Security threat or attempted entry or attempted sabotage.	UNUSUAL EVENT

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

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No. EPIP-TSC-07		Rev. H
	Title RV Head Venting Time Calculation		
	Date MAR 07 2000		Page 1 of 3
Reviewed By <i>E. J. [Signature]</i>		Approved By <i>[Signature]</i>	
Nuclear Safety Related	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	PORC Review Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		SRO Approval Of Temporary Changes Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for determining the maximum allowable venting period of the reactor vessel head when noncondensable gases are present in the RCS.

2.0 General Notes

- 2.1 None

3.0 Precautions and Limitations

- 3.1 This procedure should be done concurrently with FR-I.3, "Response to Voids in Reactor Vessel," Section 4.17. Determine maximum allowable venting time.
- 3.2 The procedure may only be performed when containment hydrogen concentration is below 3%.

4.0 Initial Conditions

- 4.1 The range selector switch on each monitor must remain in the 0-10% position. The high range is not calibrated and will result in false Control Room and computer indication.
- 4.2 The containment hydrogen analyzer has been placed in service per EPIP-RET-03C. Allow a minimum sample purge time of 10 minutes.
- 4.3 All available containment air circulating equipment should be operating to prevent the formation of hydrogen gas pockets and ensure a representative sample is obtained. If only one containment dome fan is operating, the sample should be taken from the operating fan discharge.

5.0 Procedure

- 5.1 Obtain the **RCS Pressure** from the Honeywell Computer Point ID P0420A or Control Room meters and record it on EPIP Form TSC 7.
- 5.2 Obtain the **Containment Pressure** from the Honeywell Computer Point IDs P8004A, P8005A, or Control Room meters and record it on EPIP Form TSC 7.

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- 5.3 Obtain the **Containment Hydrogen Concentration** from Honeywell Computer Point IDs X8001A, X8002A, or Control Room meters (41615 and 41616). If only one containment dome fan is running, use the appropriate hydrogen analyzer channel to get a representative sample. If both fans are running, use the channel with the higher concentration indication. Record the hydrogen concentration, the dome fans in service, and which analyzer was used on EPIP Form TSC 7.
- 5.4 Obtain the Containment Temperature from the Control Room and record it on EPIP Form TSC 7.
- 5.5 Complete the calculations on EPIP Form TSC 7 and report the results (maximum head venting time) to the TSCD.

6.0 Final Conditions

- 6.1 Emergency declaration is terminated, OR
- 6.2 The reactor component system has been stabilized and recovery operations have been entered per EPIP-AD-15.

7.0 References

- 7.1 "Background Information for Westinghouse Emergency Response Guidelines, FR-I.3 Void in Reactor Vessel," Rev. LP-BASIC, September 15, 1981
- 7.2 "FR-I.3, Response to Voids in Reactor Vessel," LP-Rev. 1, September 1, 1983
- 7.3 EPIP-RET-03C, Post-Accident Operation of the High Radiation Sample Room
- 7.4 Flow Diagram, "Reactor Building Vent System Post-LOCA Hydrogen Control," M-403

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.

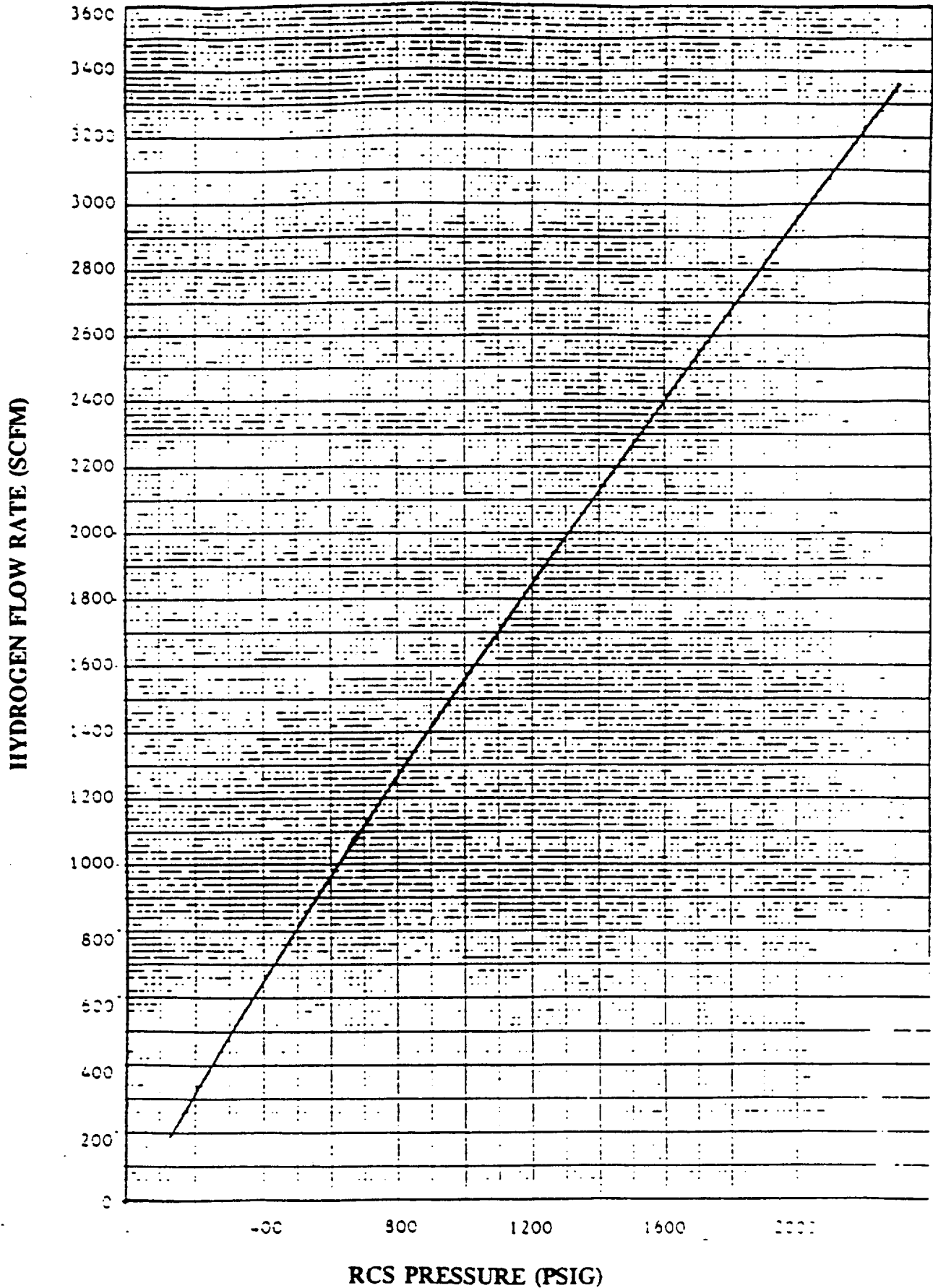
8.1.1 QA Records

- Head Venting Calculation, EPIP Form TSC 7

8.1.2 Non-QA Records

None

HYDROGEN FLOW RATE VERSUS RCS PRESSURE



WISCONSIN PUBLIC SERVICE CORP.		No. EPIP-TSC-08A	Rev. M
Kewaunee Nuclear Power Plant		Title Calculations for Steam Release from Steam Generators	
<i>Emergency Plan Implementing Procedure</i>		Date MAR 07 2000	Page 1 of 6
Reviewed By <i>Edward S Coen</i>		Approved By <i>[Signature]</i>	
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		SRO Approval Of Temporary Changes Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 done 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 is 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 EPIP Form TSC 8A.4:
- Release due to open PORV or safety valve (Y/N).
 - Reactor power prior to reactor shutdown (MWth).
 - Number of days that reactor was at power.
 - Time since reactor shutdown (min).

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- 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 (gal/min).
- j. Total auxiliary feedwater flow rate to intact steam generator (gal/min).

Note

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

- 5.1.2 Turn the computer and printer ON.
- 5.1.3 Log into the KNPP Network:
 - a. Use your own Network ID and Password.
 - b. When prompted "you have not logged on ... log in here in the future," click "NO."
- 5.1.4 Click on Steam Release Icon.
- 5.1.5 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 40 seconds, the computer will begin to execute the program.

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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.

- 5.1.6 Input the data from EPIP Form TSC 8A.4 into the program. The program will prompt all required inputs.
- 5.1.7 Record the steam release rate on EPIP Form TSC 8A.4.
- 5.1.8 **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 EPIP Form TSC 8A.1:

- 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).

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**RATE OF PRODUCTION OF DECAY HEAT
FOLLOWING SHUTDOWN**

<u>TIME AFTER SHUTDOWN</u>	<u>% OF FULL POWER</u>
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 EPIP Form TSC 8A.2 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 EPIP Form TSC 8A.1:

- 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 EPIP Form TSC 8A.2 to calculate the heat input in Btu/sec.

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5.2.3 Heat Input from Auxiliary Feedwater Flow

5.2.3.1 Record the following data on EPIP Form TSC 8A.1:

- 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 EPIP Form TSC 8A.2 to calculate the heat input in Btu/sec.

5.2.4 Steam Release Calculation

5.2.4.1 Record the following data on EPIP Form TSC 8A.1:

- 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 EPIP Form TSC 8A.2 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 EPIP Form TSC 8A.3:

- 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.

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	Date	MAR 07 2000	Page 6 of 6	

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 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), EPIP Form TSC 8A.1
- Steam Release Calculation Sheet (Energy Balance), EPIP Form TSC 8A.2
- Steam Release Data/Calculation Sheet (Open Valve), EPIP Form TSC 8A.3
- Steam Release Data/Calculation Sheet (STMRLS Program), EPIP Form TSC 8A.4

8.1.2 Non-QA Records

None

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>		No.	EPIP-TSC-08B	Rev.	E
		Title	STMRLS Computer Program		
		Date	MAR 07 2000	Page 1 of 3	
Reviewed By <i>msRonski</i>		Approved By <i>[Signature]</i>			
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	SRO Approval Of Temporary Changes Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for a means by which revisions to the steam release program software can be tracked for historical reasons.

2.0 General Notes

- 2.1 This program can be used in conjunction with EPIP-TSC-08A whenever a steam release calculation is needed in support of emergency efforts during a declared emergency at the Kewaunee Nuclear Power Plant.

3.0 Precautions and Limitations

- 3.1 None

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 Supervisor or Emergency Director.

5.0 Procedure

- 5.1 The **Lead Plant Reactor Engineer** is responsible for the following:
- 5.1.1 Ensuring that all changes to this procedure are accomplished in accordance with NAD-12.20, "Emergency Plan Implementing Procedures (EIPs)."
 - 5.1.2 Ensuring the requirements of RE-27 for the STMRLS Program are met.
 - 5.1.3 Ensuring program disks are distributed in the proper locations.
- 5.2 The STMRLS Program shall be controlled after initial approval by RE-27 as a "Safety Related" Program and shall be reviewed annually to ensure the program is up-to-date.
- 5.3 Changes to the STMRLS Program shall be made in accordance with Section 4.2, "Computer Code Revisions," of RE-27.
- 5.4 All documentation concerning a STMRLS Program revision shall be kept in the STMRLS Programmer/User's Manual.

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No. EPIP-TSC-08B	Rev. E
	Title STMRLS Computer Program	
	Date MAR 07 2000	Page 2 of 3

- 5.5 All program disks, with the exception of the master disk (which is kept in the Reactor Engineering file), shall be compiled by the Computer Group. Reactor Engineering personnel will verify the accuracy of the "RUN-ONLY" code by comparing the results from the code to the existing benchmark. This shall be done before the copies are distributed.
- 5.6 Program disks shall be labeled by the Lead Plant Reactor Engineer with the following information:

EPIP-TSC-08B - STMRLS Computer Program

Date: October 2, 1990

Revision: A

Copy Number: _____

- 5.7 Executable copies of the program are distributed by the Plant Computer Group as follows:

COPY NUMBER	LOCATION
N/A	Network: KNPP_VOL1\GROUP\EP(242)\STMRLS
1 & 3	TSC SAM Room – Cabinet One
4	"MASTER" TSC Lower – Plant Computer Group Master File

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.

7.0 References

- 7.1 STMRLS Programmer/User's Manual
- 7.2 EPIP-TSC-01, Technical Support Center Organization and Responsibilities
- 7.3 EPIP-TSC-08A, Calculations for Steam Release from Steam Generators
- 7.4 RE-27, Control of Computer Codes
- 7.5 NAD-05.23, Software Development and Control

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No. EPIP-TSC-08B	Rev. E
	Title STMRLS Computer Program	
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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

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No. EPIP-TSC-09B		Rev. I
	Title CORE Computer Program		
	Date MAR 07 2000		Page 1 of 3
Reviewed By <i>Madonski</i>		Approved By <i>[Signature]</i>	
Nuclear Safety Related	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	PORC Review Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		SRO Approval Of Temporary Changes Required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

1.0 Purpose

- 1.1 This procedure provides instruction for a means by which revisions to Core Damage Assessment Program software can be tracked for historical reasons.

2.0 General Notes

- 2.1 This software program will be used whenever core damage assessment is required in support of emergency efforts during a declared emergency at the Kewaunee Nuclear Power Plant.

3.0 Precautions and Limitations

- 3.1 None

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 Supervisor or Emergency Director.

5.0 Procedure

- 5.1 The **Lead Plant Reactor Engineer** is responsible for the following:
- 5.1.1 Ensuring that all changes to this procedure are accomplished in accordance with NAD-12.20, "Emergency Plan Implementing Procedures (EIPs)."
 - 5.1.2 Ensuring the requirements of RE-27 for the CORE Program are met.
 - 5.1.3 Ensuring program disks are distributed in the proper locations.
- 5.2 The CORE Program shall be controlled by RE-27 as a "Safety Related" Program and shall be reviewed annually to ensure the program is up-to-date.
- 5.3 Changes to the CORE Program shall be made in accordance with Section 4.2, "Computer Code Revisions," of RE-27.
- 5.4 All documentation concerning a CORE Program revision shall be kept in a binder along with the CORE Programmer/User's Manual.

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No. EPIP-TSC-09B	Rev. I
	Title CORE Computer Program	
	Date MAR 07 2000	Page 2 of 3

5.5 All program disks, with the exception of the master disk (which is kept in the Reactor Engineering file), shall be compiled by the Computer Group. Reactor Engineering personnel will verify the accuracy of the "RUN-ONLY" code by comparing the results from the code to the existing benchmark. This shall be done before the copies are distributed.

5.6 Program disks shall be labeled by the Lead Plant Reactor Engineer with the following information:

EPIP-TSC-09B – CORE Computer Program

Date: December 1, 1987

Revision: D

Copy Number: _____

5.7 Executable copies of the program are distributed by the Plant Computer Group as follows:

COPY NUMBER	LOCATION
N/A	Network: KNPP_VOL1\GROUP\EP(242)\CORE
3	TSC SAM Room – Cabinet One
4	"MASTER" TSC Lower – Plant Computer Group Master File

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.

WISCONSIN PUBLIC SERVICE CORP. Kewaunee Nuclear Power Plant <i>Emergency Plan Implementing Procedure</i>	No. EPIP-TSC-09B	Rev. I
	Title CORE Computer Program	
	Date MAR 07 2000	Page 3 of 3

7.0 References

- 7.1 CORE Programmer/User's Manual
- 7.2 LC 89-024
- 7.3 EPIP-TSC-01, Technical Support Center Organization and Responsibilities
- 7.4 EPIP-TSC-09A, Core Damage Assessment
- 7.5 NAD-05.23, Software Development and Control
- 7.6 RE-27, Control of Computer Codes

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