TABLE OF CONTENTS

01-27-84

TABLE OF EPIP FORMS

EPIP Form	Title	EPIP Procedure
01	Emergency Plan Airborne Radiation Survey Record Site Boundary Control Center (01-83)	7.3.1
02	Emergency Plan Survey Record Site Boundary Control Center (01-83)	7.3.1
03	Dose Factor Calculations for Specific Noble Gas Analysis Results (03-81)	7.3.1
04	Status Report on Plant Systems & Controls for Affected Unit (01-83)	1.2
05	RMS System Status (Release Point Monitors) (01-84)	1.2
06	RMS System Status (Area Type Monitors) (01-84)	1.2
06a	RMS System Status (Process Monitors) (01-84)	1.2
07	For X/Q Determination (09-83)	1.4
08	Estimated Whole Body & Thyroid Projected Doses (09-83)	1.4
09	Estimated Whole Body Dose Calculation Worksheet for Specific Noble Gas Releases (09-83)	1.4
10	Estimated Ground Deposition Calculation Worksheet for Particulate Radionuclide Releases (09-83)	1.4
10a	Estimated Population Dose (09-82)	1.8
11	Summary of Radiological Dose Evaluation Calculations (09-83)	1.4
12	Incident Report Form (09-82)	2.3, 3.3, 4.3, 5.3
13	Status Update Form (09-82)	2.3, 3.3 4.3, 5.3
14	Unused	
15	Unused	
16	Event Data Checklist (03-81)	5.3
17	Accounting Short Form (04-82)	8.1
18	Assembly Area Roster (03-81)	8.1
19	Unused	
20	Unused	
21	Unused	
22	Plant & Company Emergency Call List (09-83)	Call List Tab
23	Offsite Agency Emergency Call List (01-84)	Call List Tab
24	Unused	
25	Unused	
26	Unused	
27	Unused	
28	Unused	
29	Unused	

EPIP Forms	Title	EPIP Procedure
30	Reactor Coolant Post-Accident Sampling Analysis Report (08-83)	7.3.2
31	Containment Atmosphere Post-Accident Sampling Analysis Report (10-83)	7.3.3
32	Search & Rescue and Emergency Operations Checklist (04-82)	12.2
33	Estimation of Core Damage (09-82)	1.7
34	Calculation of Xe-133 Equivalent Release Rates (09-83)	1.8
35	Dose Calculations (09-83)	1.8
36	Unused	
37	Medical Assistance Call List (09-82)	11.1, 11.2 11.3

ESTIMATION OF SOURCE TERM

1.0 GENERAL

The purpose of this procedure is to estimate the source term (stack release rate in Ci/second) using the low range operational stack monitors, the Eberline RMS II Radiation Monitoring Systems or direct contact radiation measurements on the plant effluent vents. The plant effluent vent stacks are:

1.1 Auxiliary Building Vent, (ABVNT)

1.2 Drumming Area Vent, (DAVNT)

1.3 Gas Stripper Building Vent, RE-224 (GSBVNT)

1.4 Unit 1 Containment Purge, 1RE-305

1.5 Unit 2 Containment Purge, 2RE-305

1.6 Combined Air Ejector Decay Duct, RE-225 (CAE)

1.7 Main Steam Safety Valves and Atmospheric Dump Valves, 1(2)RE-231 and 1(2)RE-232

2.0 REFERENCE

2.1 EDS Report to Wisconsin Electric Power Company concerning NUREG-0578, March 7, 1980.

3.0 PRECAUTIONS

3.1 If fuel damage or loss of reactor coolant system integrity has occurred, some or all of the following would be present:

3.1.1 The letdown radiation monitor (1RE-109) or the failed fuel radiation monitor (2RE-109) may be unusually high or offscale.

3.1.2 The containment radiation monitors (1RE-211 and 1RE-212 or 2RE-211 and 2RE-212) may be unusually high or offscale.

3.1.3 The containment area monitors (1RE-102 and 1RE-107 or 2RE-102 and 2RE-107) may be unusually high or offscale.

3.1.4 The charging pump area monitor (1RE-104 or 2RE-104) may be unusually high or offscale.

3.2 Health physics procedures and requirements must be followed when applicable (i.e., entering a high radiation area).

3.3 Evaluation of the radiation monitoring system readouts and radiological hazards must be completed prior to any attempt to enter the auxiliary building or facade to take a contact reading on any stack.

3.4 If this procedure is being used for determination of emergency classification, use EPIP 1.8 "Emergency Off-Site Dose Estimations" for determination of projected dose off-site. EPIP 1.8 is a shorter, however more conservative procedure for determination of projected dose.

4.0 INITIAL CONDITIONS

4.1 Applicable portions of EPIP 1.2, "Plant Status", is completed.

5.0 PROCEDURE FOR Xe-133 EQUIVALENT RELEASE RATE ESTIMATE - WORKSHEET NO. 1

5.1 Chemistry/Health Physics Supervisor or Designated Alternate

5.1.1 Obtain EPIP-05 and EPIP-06 of EPIP 1.2, "Plant Status," for the radiation monitoring systems.

NOTE: IF EPIP-05 AND EPIP-06 IN EPIP 1.2, "PLANT STATUS," ARE NOT COMPLETED, OBTAIN THE METER READINGS FOR EACH PLANT EFFLUENT VENT STACK FROM THE REMOTE CONTROL ROOM READOUT AND RECORD THIS ON WORKSHEET NO. 1 AND THEN PROCEED WITH STEP 5.1.3.

NOTE: PLANT EFFLUENT VENT STACK MONITOR READINGS ARE ALSO AVAILABLE FROM THE TECHNICAL SUPPORT CENTER DATA LOGGER. SEE ATTACHMENTS 1.3-1, 2 & 3.

5.1.2 Enter the meter readings in the appropriate column on Worksheet No. 1 for the indicated vents. If the readings are offscale, not monitored, or the monitors are inoperable, enter the appropriate word "offscale," "not monitored," or "inoperable" in the meter reading column for the vent affected.

5.1.3 Designate individuals in accordance with ALARA concepts to obtain meter readings of the vents whose Eberline RMS monitor readings are unavailable by performing Section 5.2 of this procedure, if required.

NOTE: IF STEP 5.1.3 NEEDS TO BE COMPLETED BECAUSE EBERLINE RMS MONITOR READINGS ARE UNAVAILABLE, THEN PERFORM SECTION 5.3 OF THIS PROCEDURE AFTER APPROPRIATE MEASUREMENTS HAVE BEEN TAKEN IN SECTION 5.2.

5.1.4 Perform Section 5.3 of this procedure to determine the estimated Xe-133 equivalent release rate.

5.2 Direct Stack Survey Team Designees

NOTE: THE FOLLOWING SECTION WILL NOT BE INITIATED UNTIL THE EVALUATION DISCUSSED IN PRECAUTION 3.3 HAS BEEN COMPLETED AND THE SITE MANAGER (DUTY & CALL SUPERINTENDENT), THE DUTY & CALL HEALTH PHYSICS SUPERVISOR, AND THE DUTY SHIFT SUPERINTENDENT HAVE APPROVED INITIATION. THIS SECTION WILL BE ACCOMPLISHED UNDER THE DIRECTION OF HEALTH PHYSICS SUPERVISION.

5.2.1 Determine the most direct and desirable route to the plant effluent stack to be monitored.

5.2.2 Determine the Health Physics requirements to be met for the passage to the vent areas.

5.2.3 Determine the appropriate survey instrument to be used for the plant effluent vent to be monitored.

5.2.4 Proceed by the route determined in Step 5.2.1 to the stack and record the survey instrument reading in contact with the stack in the columns provided on Worksheet No. 1, Part C, Plant Effluent Vent Stack Contact Readings.

NOTE: IN THE CASE OF THE MAIN STEAM SAFETY VALVES AND ATMOSPHERIC STEAM DUMP VALVES, THE READING WILL BE TAKEN IN CONTACT WITH THE CENTERLINE OF THE MAIN STEAM HEADER, THREE FEET FROM THE MAIN STEAM LINE. SHIELD THE PROBE (WITH A MINIMUM OF .25 INCHES OF LEAD) ON THE SIDES FACING THE MAIN STEAM LINE AND THE CONTAINMENT.

5.3 Chemistry/Health Physics Supervisor or Designated Alternate

5.3.1 Choose the appropriate vent stack readouts in Part A, B, or C of Worksheet No. 1 to convert readings to a Xe-133 equivalent release rate. That is if the low range monitors go offscale, use the high range monitors. Conversely, if the normal monitors are onscale, use the normal monitors, or if both normal and high range monitors are offscale or inoperable, use the vent stack contact readings.

5.3.2 Use the appropriate conversion factors for each of the plant effluent vent to convert the chosen vent stack readout, (μCi/cc or R/hour) from Step 5.3.1 to an Xe-133 equivalent release rate in Curies/second and record the value on Worksheet No. 1, Part F, Estimate of Gross Xe-133 Equivalent Release Rate. Enter the appropriate word "offscale," "not monitored," or "inoperable" for the cases where the plant effluent vent was not monitored, offscale, or inoperable.

NOTE: THE FOLLOWING QUALIFYING NOTES MUST BE RECOGNIZED.

1. If the actual flow rate is different than the assumed conversion factor flow rate, a ratio of:

$$\frac{\text{Actual Flow Rate}}{\text{Assumed Flow Rate}}$$

should be applied to determine the release rate.

(Ratio) x Release Rate Value = Adjusted Xe-133 Release Rate

2. Determine the steam line atmospheric vent, or the main steam header vent release rate in accordance with the following:

a. Obtain from the Shift Superintendent an estimated flow rate through the main steam header in lbm/hour of steam being dumped to the environment and the specific volume (v) of the steam.

NOTE: AT 1000 PSIA, SPECIFIC VOLUME IS 0.446 FT^3/LBM. AT 500 PSIA, SPECIFIC VOLUME IS 0.928 FT^3/LBM.

$$\_\_\_\_\_ \text{ lbm/hr} \times v \frac{\text{ft.}^3}{\text{lbm}} \times 7.86 \frac{\text{cc}}{\text{ft.}^3} \frac{\text{hr.}}{\text{sec.}}$$

b. Convert contact reading, if required, the main steam header to μCi/cc using the appropriate conversion factor (Worksheet No. 1 Sect. C).

_____ μCi/cc

NOTE: ACTUAL μCI/CC READINGS ARE AVAILABLE FROM STEAM LINE MONITORS 1RE-231, 1RE-232, 2RE-231 AND 2RE-232.

c. Multiply flow rate obtained in Step (a) by the concentration obtained in Step (b) to obtain the release rate (Xe-133 equivalent) from the main steam header.

Flow Rate (cc/sec.) x Concentration (μCi/cc) = Main Steam Header Release Rate

5.3.2 Sum the values (1) through (5) on Worksheet No. 1, Part F, or use grab sample results #7 on Worksheet No. 1, Part F, to determine the gross Xe-133 equivalent release rate.

NOTE: IF GRAB SAMPLE RESULTS ARE AVAILABLE, THE RESULT OF SUCH SAMPLES SHOULD BE MORE ACCURATE THAN GROSS MONITOR READINGS AND HENCE SHOULD BE USED IN LIEU OF THE RELEASE RATES CALCULATED ABOVE OR IN ADDITION TO THE ABOVE IF THE RELEASE IS FROM AN UNMONITORED RELEASE PATH.

5.3.3 Report the calculated gross Xe-133 equivalent release rate to the Shift Superintendent and the Technical Support Manager.

WORKSHEET NO. 1

XE-133 EQUIVALENT RELEASE RATE

A. OPERATIONAL LOW-RANGE RELEASE MONITORS READOUTS

	Assumed Flow Rate (cfm)	Reading		Conversion Factor		Xe-133 Equiv. Release Rate Ci/sec
Auxiliary Building Vent	70,000	_____ µCi/cc	x	33 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
Drumming Area Vent	43,100	_____ µCi/cc	x	20.3 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
Unit 1 Containment Purge, 1 fan	12,500	_____ µCi/cc	x	5.9 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
2 fans	25,000	_____ µCi/cc	x	11.8 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
Unit 2 Containment Purge, 1 fan	12,500	_____ µCi/cc	x	5.9 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
2 fans	25,000	_____ µCi/cc	x	11.8 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
Gas Stripper Building Vent	13,000	_____ µCi/cc	x	6.1 $\frac{cc\ Ci}{sec\ \mu Ci}$	=	_____
Combined Air Ejector	25	_____ µCi/cc	x	1.2×10^{-2}	=	_____
Steam Line Atmospheric Vent	Refer to Section "D"	_____ µCi/cc				

B. PLANT EFFLUENT VENT STACK CONTACT READINGS

Vent	Assumed Flow Rate (cfm)	Meter Reading (R/hour)	Conversion Factor		Xe-133 Equiv. Release Rate (Ci/sec)
Auxiliary Building	70,000	_____	x 300	=	_____
Drumming Area	43,100	_____	x 2.3×10^2	=	_____
Unit 1 Containment Purge	12,500	_____	x 8.0×10^1	=	_____
	25,000	_____	x 1.6×10^2	=	_____
Unit 2 Containment Purge	12,500	_____	x 8.0×10^1	=	_____
	25,000	_____	x 1.6×10^2	=	_____
Gas Stripper Building	13,000	_____	x 8×10^4	=	_____
Combined Air Ejector	25	_____	x 1.6×10^2	=	_____
Main Steam Header	Refer to Section "D"	_____			

C. ACTUAL VERSUS CONVERSION CURVE FLOW RATE RATIO

$$\frac{\text{Actual Flow Rate}}{\text{Assumed Flow Rate}} \times \text{Release Rate Value} = \text{Adjusted Release Rate}$$

$$\left(\frac{\_\_\_\_\_}{\_\_\_\_\_}\right) \times \_\_\_\_\_ = \_\_\_\_\_$$

D. STEAM HEADER XE-133 EQUIVALENT RELEASE RATE CALCULATION

1. lbm/hr x specific volume, ft^3/lbm x 7.86 $cc\text{-}hr/ft^3\text{-}sec$

NOTE: At 1000 psia specific volume = .446 ft^3/lbm
At 500 psia specific volume = .928 ft^3/lbm

_____ lbm/hr x _____ ft^3/lbm x 7.86 $cc\text{-}hr/ft^3\text{-}sec$

= _____ cc/sec

2. Contact reading from Section C (if contact reading used):

_____ R/hr x 8.0E-4 $\frac{Ci/hrs}{cc - R}$ = _____ Ci/cc

NOTE: IF 1RE-231, 1RE-232, 2RE-231 OR 2RE-232 (STEAM LINE MONITORS) ARE AVAILABLE, THE CONCENTRATIONS CAN BE USED DIRECTLY IN D.3.

3. Steam header release rate:

Flow rate cc/sec x Concentration µCi/cc = Release Rate

_____ (Step D.1) cc/sec x _____ (Step A.7 or D.2) Ci/cc = _____ Ci/sec

E. ESTIMATE OF GROSS Xe-133 EQUIVALENT RELEASE RATE

Vent	Xe-133 Equivalent Release Rate (Curies/Sec.)
1. Auxiliary Building	
2. Drumming Area	
3. Gas Stripper Building	
4. Combined Air Ejector Decay Duct	
5. Main Steam Header	
6. Unit 1 Containment Purge	
7. Unit 2 Containment Purge	

8. Sum _____ (Gross Xe-133 Equiv. Release Rate)

OR

9. Grab Sample Results = _____ Ci/sec.

Completed By _____ Time _____
Date _____

PROTECTIVE ACTION EVALUATION

1.0 PURPOSE

The purpose of this procedure is to provide a basic guide to determine protective action recommendations to be given to the public authorities and to provide a method to transmit these recommendations and other essential data for assessment to the appropriate public authorities.

2.0 REFERENCES

2.1 NUREG-0654, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November, 1980.

2.2 NUREG-0654, Appendix 1, "Emergency Action Level Guidelines for Nuclear Power Plants."

3.0 PRECAUTIONS & LIMITATIONS

3.1 Ask for the name and title of the person or agency being contacted prior to transmitting any information.

3.2 If unable to contact an individual or agency, continue with the transmissions to the other individuals or agencies and then attempt to contact the persons or agencies who have not been contacted.

3.3 All actions and recommendations should be appropriately logged.

3.4 If the radiological release duration is unknown, assume a duration of 8 hours for use during an evaluation of the need for a protective action recommendation.

3.5 When protective action recommendations are made, consider the recommendation over a 90° sector centered on the average wind direction and a full 360° area near (2 miles) the plant.

4.0 INITIAL CONDITIONS

4.1 Applicable portions of EPIP 1.2, "Plant Status," completed.

4.2 EPIP 1.3, "Estimation of Source Term," completed.

4.3 EPIP 1.4, "Radiological Dose Evaluation," completed.

4.4 Site Emergency or General Emergency has been declared.

5.0 PROCEDURE

5.1 Technical Support Manager

5.1.1 Obtain the completed attachments of EPIP 1.4, "Radiological Dose Evaluation," from the person completing them.

5.1.2 Review the results of the dose projection calculations and deposition calculations for all affected areas.

5.1.3 Review Attachments 1.5-1, 1.5-2 and 1.5-3.

5.1.4 Based on actual plant conditions, expected plant conditions in the future, weather conditions, local protection available to the public, evacuation times and any other constraints, determine the most appropriate Protective Actions to reduce exposure to the public and relay the information to the emergency support center.

5.2 Emergency Support Manager

NOTE: THE FOLLOWING STEPS MUST BE DONE BY THE EMERGENCY SUPPORT MANAGER OR HIS DESIGNATED ALTERNATE. UNTIL HE ARRIVES IN THE EMERGENCY SUPPORT CENTER, THE SITE MANAGER IS ACTING AS EMERGENCY SUPPORT MANAGER. UNTIL THE TSC IS ACTIVATED THE SHIFT SUPERINTENDENT HAS THE RESPONSIBILITY FOR MAKING A RECOMMENDATION FOR PROTECTIVE ACTION IF APPROPRIATE.

5.2.1 Review the recommendation of the Technical Support Manager and/or Rad/Con Waste Manager.

5.2.2 Complete Section 2 (status update form) of the incident report form contained in the offsite agency notification procedures.

5.2.3 Contact the NRC and the persons and agencies notified on NAWAS of the emergency and provide the information contained in the status update form to them.

5.2.4 For a General Emergency, form EPIP-16 in EPIP 5.3, "General Emergency - Offsite Agency Notification," shall be used as the basis for followup messages to offsite technical personnel such as NSSS vendor and corporate engineering staff.

ATTACHMENT 1.5-1

Recommended protective actions to reduce whole body and thyroid dose from exposure to a gaseous plume

Projected Dose (Rem) to Individual in General Public		Recommended Action[a]	Comments
Whole body or Thyroid	<1 <5	No planned protective actions.[b] State may issue an advisory to seek shelter and await further instructions.	Previously recommended protective actions may be reconsidered or terminated.
Whole body or Thyroid	1 to <5 5 to <25	Seek shelter as a minimum. Consider evacuation. Evacuate unless constraints make it impractical. Monitor environmental radiation levels.	If constraints exist, special consideration should be given for evacuation of children and pregnant women.
Whole body or Thyroid	5 and above 25 and above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible.

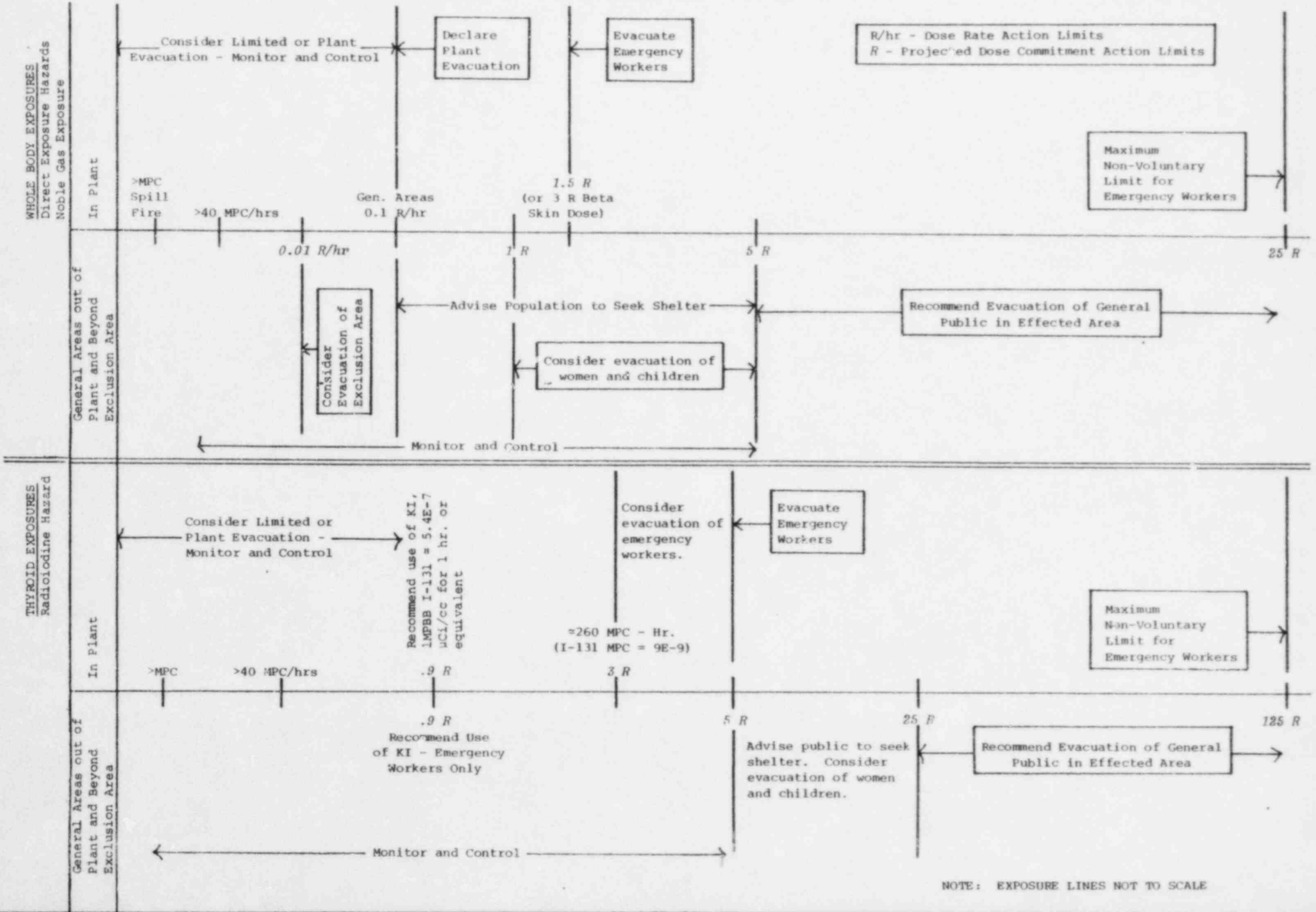
(a) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take into consideration existing conditions and the dangers associated with certain protective actions.

(b) At the time of the incident, officials may implement low-impact protective actions in keeping with the principle of maintaining radiation exposure as low as reasonable achievable.

Reference: Abstracted from EPA 520/1-75-001, "Manual of Protective Actions Guides and Protective Actions for Nuclear Incidents," Table 5.1 (Revised 6/79)

ATTACHMENT 1.5-2

SUMMARY OF PERSONNEL DOSE RATE/PROJECTED DOSE COMMITMENT ACTION LIMITS

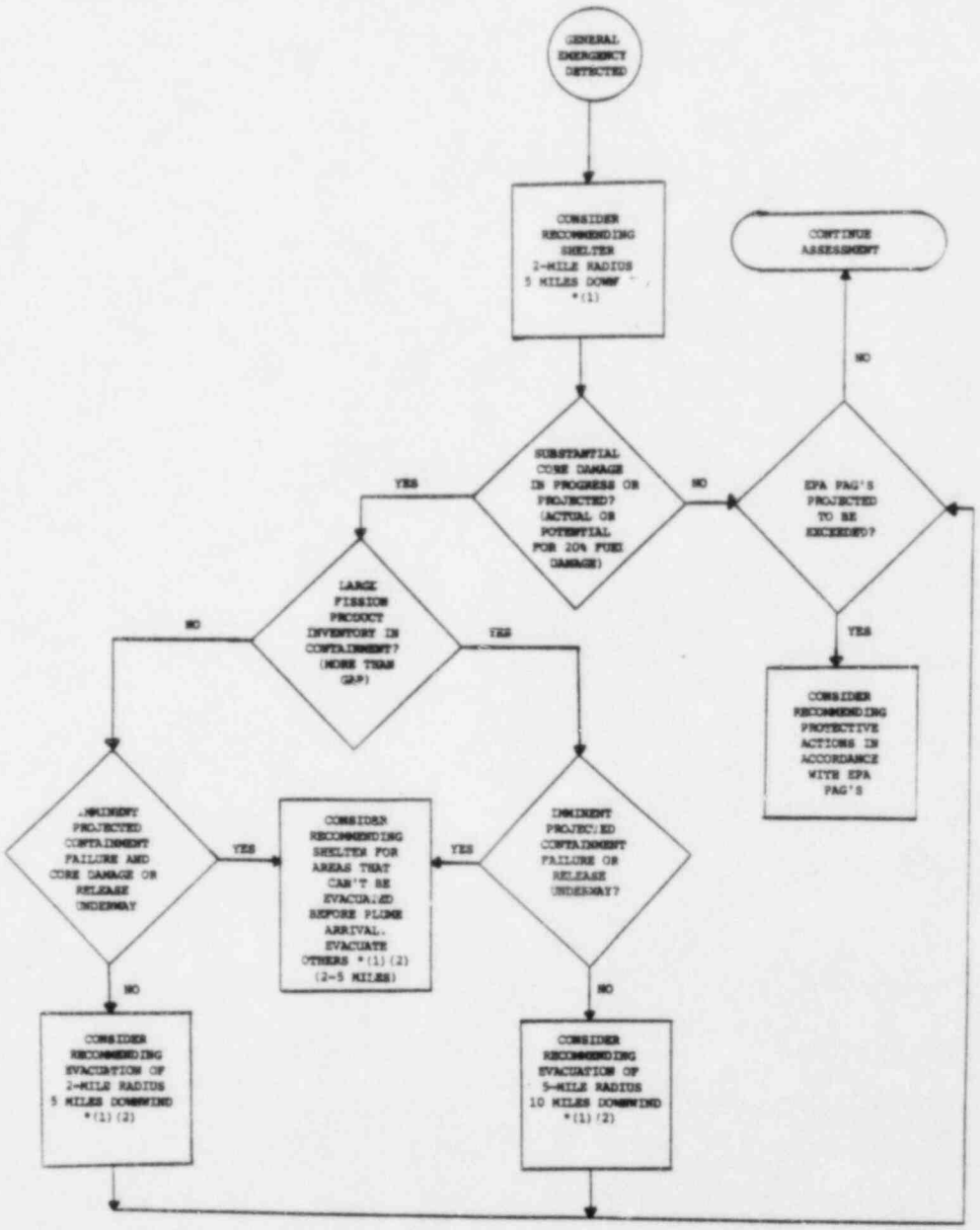


NOTE: EXPOSURE LINES NOT TO SCALE

ATTACHMENT 1.5-3

FLOW CHART FOR GENERAL EMERGENCY OFFSITE PROTECTIVE DECISIONS

The following actions will be based on predetermined observable instrumentation and plant status indicators. However, responsible offsite officials must decide on the feasibility of implementing the protective actions at the time of the accident.



*(1) Situations requiring urgent action by offsite officials (based on control room indicators, no dose projections required) - Obtain DCS concurrence if possible.

*(2) For all evacuations, shelter the remainder of the plume EPZ and promptly relocate the population affected by any ground contamination following plume passage.

EPIP 2.3
MINOR
Revision 5
01-27-84

UNUSUAL EVENT - OFFSITE AGENCY NOTIFICATION

1.0 GENERAL

The purpose of this procedure is to establish the initial offsite agency notification actions in response to plant conditions classified as an unusual event in accordance with EPIP 1.1, "Initial Classification." Necessary phone numbers are included in form EPIP-23, "Offsite Agency Emergency Call List."

2.0 REFERENCES

None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Obtain the name and title of the person being contacted prior to transmitting any information.

3.2 If unable to contact an individual or agency, continue with the notification of the other individuals or agencies and then attempt to contact the persons or agencies who have not been notified.

3.3 All actions and notifications should be appropriately logged on form EPIP-12 (attached), "Initial Incident Report Form," or on EPIP-23, "Offsite Agency Emergency Call List."

4.0 INITIAL CONDITIONS

4.1 Unusual event emergency conditions exist.

4.2 This procedure should be initiated within one hour of the initial classification.

5.0 PROCEDURE

5.1 Designee

5.1.1 Complete the initial incident report form (form EPIP-12, attached) using the information given by the Shift Superintendent. Examples of emergency response include: shut the unit down, call in additional firefighters or secure doors against high winds.

5.2 Security Lieutenant or Designee

5.2.1 Notify the Manitowoc County Dispatcher by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List"). Read the initial incident report form and ensure that the information is fully understood.

5.2.2 Notify Kewaunee County Dispatcher by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List"). Read the initial incident report form and ensure that the information is fully understood.

5.2.3 Notify the State of Wisconsin Division of Emergency Government by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List"). Read the initial incident report form and ensure that the information is fully understood.

5.2.4 Pick up the NRC Operations Center, Bethesda, dedicated line.

5.2.5 When a response is heard, read the initial inciden report form.

5.2.6 If no response is received, contact the NRC Operations by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List").

5.2.7 Have the Shift Superintendent make an appropriate entry into the NRC Operations Center, Bethesda, phone log.

5.2.8 Attempt to contact the NRC resident inspector (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List"). This courtesy notification is to inform him of the unusual event.

SITE EMERGENCY - IMMEDIATE ACTIONS

1.0 GENERAL

The purpose of this procedure is to provide a series of immediate actions and clear direction to adequately respond to events or conditions classified as a site emergency in accordance with EPIP 1.1, "Initial Classification."

Under the site emergency classification, there is a potential for offsite releases which could have an impact on the public to the extent that protective actions would be required. Therefore, if not already accomplished, the plant will activate the technical support center, the onsite operations support center, the emergency operations facility and possibly the emergency news center. Either limited plant or plant evacuation may become necessary.

The initiation of a site emergency requires prompt notification to State and local authorities so that they may alert key personnel.

The site emergency status will be maintained until an escalation to a general emergency occurs, deescalation to a less severe emergency classification occurs or a closeout is made by informing offsite authorities, and by the completion of an incident report form as contained in EPIP 4.3, "Site Emergency - Offsite Agency Notification."

2.0 REFERENCES

None

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately logged.

3.2 All communication should be concise and accurate.

3.3 When the TSC is manned, classification becomes the responsibility of the TSC (Plant Operations Manager) unless otherwise directed by the Site Manager.

4.0 INITIAL CONDITIONS

4.1 Site emergency has been declared.

5.0 PROCEDURE

5.1 Shift Superintendent or Plant Operations Manager/Designee

5.1.1 Announce the nature and location of the emergency using the Gai-tronics system. Make the announcement at least twice. The announcement should be repeated periodically.

The following example is a guideline for classification announcements:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL. THERE ARE CONDITIONS AT THE PLANT THAT WARRANT A SITE EMERGENCY CLASSIFICATION. THESE CONDITIONS ARE _____."

5.1.2 Evacuate affected areas if necessary to protect personnel by implementation of EPIP 6.1, "Limited Plant Evacuation."

5.1.3 Implement plant operating procedures to place the affected unit/units in a safe condition.

5.1.4 Designate an individual, such as a backup Duty Technical Advisor to establish and maintain communications with the TSC.

5.1.5 Implement EPIP 11.0, "First Aid and Medical Care," as necessary.

5.1.6 Implement EPIP 10.1, "Firefighting," as necessary.

5.1.7 Perform actions of the Plant Operations Manager until properly relieved.

5.1.8 Notify the Energy Information Center (Ext. 246) and have them implement EPIP 6.4, "Energy Information Center Evacuation."

5.2 Operating Supervisor

5.2.1 Report to the control room.

5.2.2 If the Shift Superintendent is incapacitated, assume the responsibility and authority of the Shift Superintendent (until properly relieved by a qualified individual) and coordinate the plant response as outlined in Section 5.1 of this procedure.

5.3 Duty Technical Advisor

5.3.1 Report to the control room to provide advice to the Technical Support Manager and the Shift Superintendent.

5.3.2 Establish a communication link using the dedicated line with the technical support center as soon as practicable.

5.4 Security Lieutenant

5.4.1 Implement EPIP 9.1, "Security," as necessary.

5.4.2 Report to the control room to obtain a completed incident report form.

5.4.3 Implement Section 5.2 of EPIP 4.3, "Site Emergency - Offsite Agency Notification."

5.5 Duty & Call Superintendent

5.5.1 Report to the control room or the technical support center.

5.5.2 Perform a detailed evaluation of the plant condition using EPIP 1.1, "Initial Classification," EPIP 1.2, "Plant Status," EPIP 1.8, "Emergency Offsite Dose Estimation," EPIP, 1.5 "Protective Action Evaluation," and other available information.

5.5.3 Assume role of Plant Operations Manager as necessary.

5.5.4 Reclassify emergency as necessary.

5.5.5 Notify personnel notified in EPIP 4.2, "Site Emergency - Plant and Company Personnel Notification" of reclassification.

5.5.6 Contact the persons and agencies notified in EPIP 4.3, "Site Emergency - Offsite Agency Notification," and provide the information contained in a reclassification notification message using form EPIP-12 attached to EPIP 4.3, "Site Emergency - Offsite Agency Notification."

5.6 Plant Operations Manager (Superintendent - Operations)

5.6.1 Report to the technical support center.

5.6.2 Escalate to a general emergency if necessary by implementation of EPIP 5.1, "General Emergency - Immediate Actions." Complete form EPIP-12, "Initial Incident Report Form."

5.6.3 If the Emergency Support Manager is unavailable, provide recommendations of protective actions for the public to State and local authorities.

5.6.4 Deescalate to a less severe classification if conditions no longer warrant the site emergency classification and complete form EPIP-12, "Initial Incident Report Form," attached to EPIP 4.3, "Site Emergency - Offsite Agency Notification."

5.6.5 Coordinate EPIP 6.0, "Evacuation," if implemented.

5.6.6 Coordinate EPIP 8.1, "Personnel Assembly and Accountability," if implemented.

5.6.7 Coordinate control room, technical support center, onsite operations support center and security procedures.

5.7 Site Manager (Manager - Point Beach Nuclear Plant)

5.7.1 Report to the technical support center and assume overall responsibility for the emergency response and recovery operations.

5.7.2 When the emergency operations facility is to be activated, report to the emergency operations facility and act as the Emergency Support Manager until relieved.

5.8 Technical Support Manager (Superintendent - Technical Services)

5.8.1 Report to the technical support center.

5.8.2 Establish communication links using the dedicated lines with the control room, the emergency operations facility and the onsite operations support center as soon as practicable.

5.8.3 Assure completion of EPIP 4.3, "Site Emergency - Offsite Agency Notification."

5.9 Chemistry/HP Supervisor (Superintendent - Chemistry & Health Physics)

5.9.1 Report to the technical support center.

5.9.2 Implement EPIP 7.0, "CHP Radiological Response and Preparedness," as necessary.

5.9.3 Have Chemistry & Health Physics personnel report to the onsite operations support center and establish a communication link to the technical support center.

5.10 Maintenance Supervisor (Superintendent - Maintenance & Construction)

5.10.1 Report to the technical support center.

5.10.2 Implement EPIP 12.2, "Personnel Exposure and Search and Rescue Team," as necessary.

5.10.3 Have Maintenance personnel report to an appropriate location for assignment.

5.11 Emergency Support Manager (Director, Nuclear Power Department)

5.11.1 Report to the emergency operations facility.

5.11.2 Act as liaison between plant personnel and offsite authorities.

5.12 Designated Plant Supervisory Personnel

(See Figure 5-5 of the Emergency Plan as to who is to report to the technical support center. This includes off-duty Technical Advisors, I & C Supervisor, Core Physics Coordinator, Training Supervisor, and the Maintenance Supervisor).

5.12.1 Report to the technical support center.

5.12.2 If there is a plant evacuation, have personnel report to the onsite operations support center.

5.12.3 If the site emergency occurs outside of normal working hours, have personnel report to the onsite operations support center by way of the emergency operations facility.

5.12.4 If the site emergency occurs during normal working hours and there is not a plant evacuation, have personnel report to an appropriate location.

5.13 HP Director (Health Physicist)

5.13.1 Report to the emergency operations facility.

5.13.2 Form an offsite survey team consisting of qualified Chemistry & Health Physics personnel at the emergency operations facility.

5.13.3 Establish a communication link to the technical support center using the dedicated telephone line as soon as practicable. As soon as the emergency operations facility is manned, establish a communication link using the dedicated telephone line.

5.14 Designated Company Personnel

(See Figure 5-5 of the Emergency Plan as to who is to report to the emergency operations facility. This includes the Rad/Waste Manager, radiation survey communicator, and offsite agency communicator.

5.14.1 Report to the emergency operations facility.

5.15 Emergency News Center Director

5.15.1 Report to the emergency news center if it is established. Otherwise report to the emergency operations facility.

5.15.2 Coordinate and provide periodic press updates.

5.15.3 If required, prepare and coordinate the operation of the Emergency News Center in accordance with EPIP 14.0, "Crisis Communications."

5.16 System Analysis and Procedural Support Coordinator
(Superintendent, Reactor Engineering, Nuclear Engineering Section)

Report to the technical support center.

5.17 Designated Company Personnel

(See Figure 5-5 of the Emergency Plan as to who is to report to the corporate headquarters. This includes the Administrative & Logistics Manager, Design, Construction & Planning Manager, Radwaste Technical Support Coordinator, and the Licensing Support Coordinator.)

5.17.1 Report to the corporate headquarters.

EPIP 5.1
MINOR
Revision 4
01-27-84

GENERAL EMERGENCY - IMMEDIATE ACTIONS

1.0 PURPOSE

The purpose of this procedure is to provide a series of immediate actions and clear direction to adequately respond to events or conditions classified as a general emergency in accordance with EPIP 1.1, "Initial Classification."

Under this classification, there is a greater potential for offsite releases which could have an impact on the public to the extent that protective actions would be required. Therefore, if not already accomplished, the plant will activate the technical support center, the onsite operations support center, the emergency operations facility and the emergency news center. Either plant or limited plant evacuations may become necessary.

The initiation of a general emergency requires prompt notification to State and local authorities so that they may activate their emergency control centers and dispatch key personnel.

The general emergency status will be maintained until a deescalation to a less severe emergency classification occurs or a closeout is made by informing offsite authorities, and by the completion of an incident report form as contained in EPIP 5.3, "General Emergency - Offsite Agency Notification."

2.0 REFERENCES

2.1 NUREG-0654, Revision 1, November, 1980.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately logged.

3.2 All communications should be concise and accurate.

3.3 When the TSC is manned, classification becomes the responsibility of the TSC (Plant Operations Manager) unless otherwise directed by the Site Manager.

4.0 INITIAL CONDITIONS

4.1 EPIP 1.1, "Initial Classification," completed.

5.0 PROCEDURE

5.1 Shift Superintendent or Plant Operations Manager/Designee

5.1.1 Announce the nature and location of the emergency using the Gai-tronics system. Make the announcement at least twice. The announcement should be repeated periodically.

The following example is a guideline for classification announcements;

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL. THERE ARE CONDITIONS AT THE PLANT THAT WARRANT A GENERAL EMRGENCY CLASSIFICATION. THESE CONDITIONS ARE _____."

5.1.2 Sound the evacuation alarm if a plant evacuation is warranted. Evacuate affected areas if necessary by implementation of EPIP 6.0, "Evacuation."

5.1.3 Implement plant operating procedures as required to place the affected unit/units into a safe condition.

5.1.4 Designate an individual, such as a backup Duty Technical Advisor to establish and maintain communications with the TSC.

5.1.5 Implement EPIP 11.0, "First Aid and Medical Care," as necessary.

5.1.6 Implement EPIP 10.1, "Firefighting," as necessary.

5.1.7 Perform actions of the Plant Operations Manager, until properly relieved.

5.1.8 Notify the energy information center and have them implement EPIP 6.4, "Energy Information Center Evacuation."

5.2 Operating Supervisor

5.2.1 Report to the control room.

5.2.2 If the Shift Superintendent is incapacitated, assume the responsibility and authority of the Shift Superintendent (until properly relieved by a qualified individual) and coordinate the plant response as outlined in Section 5.1.

5.3 Duty Technical Advisor

5.3.1 Report to the control room to provide advice to the Technical Support Manager and the Shift Superintendent.

5.3.2 Establish a communication link using the dedicated line with the technical support center as soon as practicable.

5.4 Security Lieutenant

5.4.1 Implement EPIP 9.1, "Security," as necessary.

5.4.2 Report to the control room to obtain a completed incident report form.

5.4.3 Implement Section 5.2 of EPIP 5.3, "General Emergency - Offsite Agency Notification."

5.5 Duty & Call Superintendent

5.5.1 Report to the control room or the technical support center.

5.5.2 Assume role of Plant Operations Manager (POM) as necessary.

5.5.3 Perform a detailed evaluation of the plant condition using EPIP 1.1, "Initial Classification," EPIP 1.2, "Plant Status," EPIP 1.8, "Emergency Offsite Dose Estimation," EPIP 1.5, "Protective Action Evaluation," and other available information.

5.5.4 Reclassify emergency as necessary. Coordinate this duty with the POM when he becomes available.

5.5.5 Notify personnel listed in EPIP 5.2, "General Emergency - Plant and Company Personnel Notification" of reclassification.

5.5.6 Contact the persons and agencies listed in EPIP 5.3, "General Emergency - Offsite Agency Notification," and provide the information contained in a reclassification notification message using form EPIP-12 attached to EPIP 5.3, "General Emergency - Offsite Agency Notification."

5.6 Plant Operations Manager (Superintendent - Operations)

5.6.1 Report to the technical support center.

5.6.2 Coordinate EPIP 6.0, "Evacuation," if implemented.

5.6.3 Coordinate EPIP 8.1, "Personnel Assembly and Accountability," if implemented.

5.6.4 Deescalate to a less severe class if conditions no longer warrant the General Emergency classification and complete of form EPIP-12, "Initial Incident Report Form" attached to EPIP 5.3, "General Emergency - Offsite Agency Notification."

5.6.5 Coordinate control room, technical support center, onsite operations support center and security procedures.

5.7 Site Manager (Manager - Point Beach Nuclear Plant)

5.7.1 Report to the technical support center and assume overall responsibility for the emergency response and recovery operations.

5.7.2 When the emergency operations facility is to be activated, report to the emergency operations facility and act as the Emergency Support Manager until relieved.

5.8 Technical Support Manager (Superintendent - Technical Services)

5.8.1 Report to the technical support center.

5.8.2 Establish communication links using the dedicated lines with the control room, the emergency operations facility and the onsite operations support center as soon as possible.

5.8.3 Assure completion of EPIP 5.3, "General Emergency - Offsite Agency Notification."

5.8.4 If the acting Emergency Support Manager, provide recommendations of protective actions for the public to State and local authorities per EPIP 1.5, "Protective Action Guides."

5.9 Chemistry/HP Supervisor (Superintendent - Chemistry & Health Physics)

5.9.1 Report to the technical support center.

5.9.2 Implement EPIP 7.0, "CHP Radiological Response and Preparedness," as necessary.

5.9.3 Have Chemistry & Health Physics personnel report to the onsite operations support center and establish a communication link to the technical support center using the dedicated line.

5.10 Maintenance Supervisor (Superintendent - Maintenance & Construction)

5.10.1 Report to the technical support center.

5.10.2 Implement EPIP 12.2, "Personnel Exposure and Search and Rescue Team," as necessary.

5.10.3 Have maintenance personnel report to an appropriate location for assignment.

5.11 Emergency Support Manager (Director, Nuclear Power Department)

5.11.1 Report to the emergency operations facility.

5.11.2 Act as liaison between plant and offsite authorities.

5.11.3 Provide recommendations of protective actions for the public to State and local authorities per EPIP 1.5, "Protective Action Guides."

5.12 Designated Plant Supervisory Personnel

(See Figure 5-6 of the Emergency Plan as to who is to report to the technical support center. This includes the Maintenance Supervisor, the off-duty Technical Advisors, the I & C Supervisor, the Core Physics Coordinator, the Training Supervisor and the Shift Support Coordinator.)

5.12.1 Report to the technical support center.

5.12.2 If the general emergency occurs outside of regular working hours, have personnel report to the emergency operations facility on their way to the operations support center.

5.12.3 If the general emergency occurs during regular working hours and there is a plant evacuation, have personnel report to the operations support center.

5.12.4 If the general emergency occurs during regular working hours and there is not a plant evacuation, have personnel report to an appropriate location.

5.13 HP Director (Health Physicist)

5.13.1 Report to the emergency operations facility.

5.13.2 Form an offsite survey team consisting of qualified Chemistry & Health Physics personnel at the emergency operations facility.

5.13.3 Establish a communication link to the technical support center using the dedicated telephone line as soon as possible. As soon as the emergency operations facility is manned, establish a communication link using the dedicated telephone line.

5.14 Designated Company Personnel

(See Figure 5-6 of the Emergency Plan as to who is to report to the emergency operations facility. This includes the Rad/Waste Manager, the radiation survey communicator, and the offsite agency communicator.)

5.14.1 Report to the emergency operations facility.

5.15 Emergency News Center Director

5.15.1 Report to the emergency news center and assume responsibility for release of information about the emergency.

5.15.2 Assure proper communications exist between the emergency news center and the emergency operations facility.

5.15.3 Prepare and coordinate the operation of the emergency news center in accordance with EPIP 14.0, "Crisis Communications."

5.16 System Analysis and Procedural Support Coordinator (Superintendent, Reactor Engineering, Nuclear Engineering Section)

Report to the technical support center.

5.17 Designated Company Personnel

(See Figure 5-6 of the Emergency Plan as to who is to report to the corporate headquarters. This includes the Design, Construction & Planning Manager, the Radwaste Technical Support Coordinator, the Licensing Support Coordinator, the Administrative & Logistics Manager, the Utility Engineering Director, the Architect Engineer Director, the Director of NSS Supply, and the Director of Quality Control.)

5.17.1 Report to the corporate headquarters.

TECHNICAL SUPPORT CENTER & OPERATIONS SUPPORT CENTER ACTIVATION

1.0 PURPOSE

1.1 To provide instructions for the activation of the technical support center after the declaration of an alert, site emergency or general emergency.

1.2 To outline the technical support center ventilation system operation in the event of high airborne activity.

1.3 Operation of the technical support center emergency power supply is also a part of this procedure.

2.0 ACTIVATION OF TECHNICAL SUPPORT CENTER - TECHNICAL SUPPORT MANAGER

2.1 Set up 10 tables as shown on Attachment 6.5-1. They may be obtained from the rooms in the adjacent operations support center and health physics areas of the technical support center.

2.2 Install phones from the technical support center storage cabinets in the appropriate areas as shown on Attachment 6.5-1.

2.3 Confirm that all phones operate by noting if dial tone is present when the receiver is lifted. Confirm that the numbers listed on the face of the phone matches the number on the wall jacks.

2.4 Distribute paper and pencils to each table.

2.5 Distribute a copy of the EPIP's to the table in front of the blackboard and the table near the dose plotting map (see Attachment 6.5-1).

2.6 Obtain a copy of each of the following manuals from the front office area and bring them to the technical support center. They may be obtained from the office of the Manager, General Superintendent, or the training offices.

2.6.1 Operating procedures.

2.6.2 Emergency operating procedures.

2.7 Shift the ventilation system from the normal to the emergency operating mode by implementing Section 4.0.

2.8 Date and time the current charts on the safety parameter chart recorders in the technical support center.

2.9 Dispatch a person with systems training (Duty Technical Advisor) to control room to aid in communications between the TSC and control room.

3.0 ACTIVATION OF TSC PERSONNEL

3.1 Site Manager or Technical Support Manager contact appropriate personnel to fill the following positions in the TSC:

Site Manager	_____
Technical Support Manager	_____
Plant Operations Manager	_____
CHP Supervisor	_____
System Analysis/Procedural Support Coordinator	_____
Core Physics Coordinator	_____

3.2 Formally assume responsibility for offsite radiological assessment, dose projection and offsite protective action recommendation (from the control room) as soon as possible after arriving at the TSC. When the EOF is capable, offsite protective action recommendations and offsite dose projections will be transferred from the TSC to the EOF.

3.3 Assume responsibility from the control room for communications with offsite agencies until relieved by EOF activation.

4.0 DATA LOGGER OPERATION

4.1 Push the start button on the data logger. Enter the correct date and time on the printout from the data logger. The designations for each of the 37 channels are contained in Attachment 6.5-2.

4.2 The conversion of incore thermocouple MV to degrees Fahrenheit with the reference junction at 160° is accomplished by use of the incore thermocouple table (see Attachment 6.5-3).

4.3 The conversion of radiological monitoring point volts to mR/hr or R/hr is accomplished by use of the conversion tables (see Attachments 6.5-4, 6.5-5 and 6.5-6).

5.0 EMERGENCY VENTILATION SYSTEM

5.1 The technical support center heating and ventilating system has a normal and emergency operating mode. Under normal operation the air intake is from the outside air vent on the east wall of the technical support center building. The intake air under normal operation is essentially unfiltered.

In the emergency mode, there are two optional air intake locations. One is adjacent to the normal intake on the east wall of the technical support center building and the other is on the north wall of the Unit 2 turbine halll.

5.2 To shift the heating, ventilating and air conditioning system from the normal to emergency mode:

5.2.1 Turn the auto/off/occupied switch on Panel M-1 to the occupied position. See Attachment 6.5-7 for location of Panel M-1.

5.2.2 Turn the normal/emergency control switch on Panel M-1 to the emergency position.

5.2.3 Select the north or south (east) emergency intake depending on meteorological conditions. Select the upwind intake duct.

6.0 TECHNICAL SUPPORT CENTER AUXILIARY AIR CONDITIONING

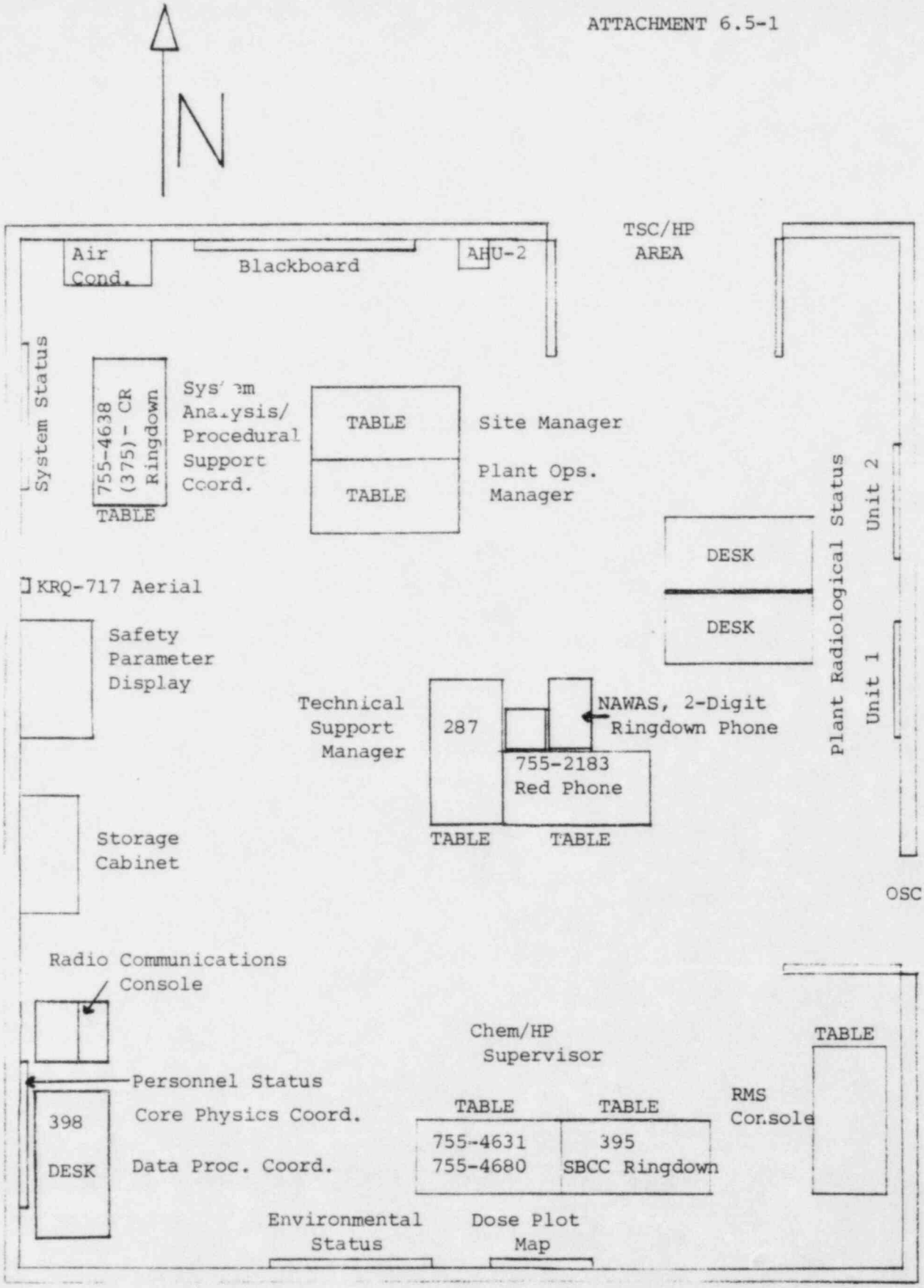
6.1 Turn on compressor CH2 on the west wall of El. 18.5' of the technical support center building (see Attachment 6.5-7).

6.2 Turn on air handling unit AHU2 on the technical support center building room north wall (see Attachment 6.5-1).

7.0 EMERGENCY POWER

7.1 The power source for the technical support center in 1B01 480 V. See Attachment 6.5-8 for the main disconnect location.

7.2 The emergency power source is not operational at this time.


N
Air Cond.
Blackboard
AHU-2
TSC/HP AREA
System Status
755-4638 (375) - CR Ringdown
TABLE
System Analysis/ Procedural Support Coord.
TABLE
TABLE
Site Manager
Plant Ops. Manager
DESK
DESK
Plant Radiological Status
Unit 2
Unit 1
KRQ-717 Aerial
Safety Parameter Display
Technical Support Manager
287
NAWAS, 2-Digit Ringdown Phone
755-2183 Red Phone
TABLE
TABLE
Storage Cabinet
OSC
Radio Communications Console
Chem/HP Supervisor
TABLE
Personnel Status
398
DESK
Core Physics Coord.
Data Proc. Coord.
TABLE
TABLE
755-4631
755-4680
395
SBCC Ringdown
RMS Console
Environmental Status
Dose Plot Map

Data Logger Point Designations

Channel	Unit	Status	Parameter	
0	mV	Active	3)	Unit 1 Incore Thermocouples
1	mV	Active	12) Unit 1 Reference	
2	mV	Active	13) RTD	
3	mV	Active	18) Junction Box "A"	
4	mV	Active	22)	
5	mV	Active	26) Unit 1 Reference	
6	mV	Active	29) RTD	
7	mV	Active	36) Junction Box "B"	
8	mV	Active	3)	Unit 2 Incore Thermocouples
9	mV	Active	12) Unit 2 Reference	
10	mV	Active	13) RTD	
11	mV	Active	18) Junction Box "A"	
12	mV	Active	22)	
13	mV	Active	26) Unit 2 Reference	
14	mV	Active	29) RTD	
15	mV	Active	36) Junction Box "B"	
16	°F	Active	Unit 1 Reference RTD Junction Box "A"	
17	°F	Active	Unit 1 Reference RTD Junction Box "B"	
18	°F	Active	Unit 2 Reference RTD Junction Box "A"	
19	°F	Active	Unit 2 Reference RTD Junction Box "B"	
20	gpm	Active	Unit 1 Auxiliary Feed Flow "A" SG	
21	gpm	Active	Unit 1 Auxiliary Feed Flow "B" SG	
22	gpm	Active	Unit 1 SI Flow Train "A"	
23	gpm	Active	Unit 1 SI Flow Train "B"	
24	ft		Unit 1 Containment Sump Level	
26	V	Active	Unit 1 Containment Purge Stack	RMS-II Ch #3
27	gpm		Unit 2 Auxiliary Feed Flow "A" SG	
28	gpm		Unit 2 Auxiliary Feed Flow "B" SG	
29	gpm	Active	Unit 2 SI Flow Train "A"	
30	gpm	Active	Unit 2 SI Flow Train "B"	
31	ft		Unit 2 Containment Sump Level	
33	V	Active	Unit 2 Containment Purge Stack	RMS-II Ch #4
34	V	Active	Drumming Area Vent Stack	RMS-II Ch #2
35	V	Active	Combined Area Vent Stack	RMS-II Ch #5
36	V	Active	Gas Stripper Building Vent Stack	RMS-II Ch #6
37	V	Active	Auxiliary Building Vent Stack	RMS-II Ch #1

POINT BEACH NUCLEAR PLANT - INCORE T/C TABLE - REFERENCE JUNCTION AT 160. DEG F

MV	DEG F	MV	DEG F	MV	DEG F	MV	DEG F	MV	DEG F	MV	DEG F
0.00	152.	7.60	497.	15.20	824.	22.80	1146.	30.40	1472.	38.00	1811.
0.20	161.	7.80	505.	15.40	833.	23.00	1155.	30.60	1481.	38.20	1821.
0.40	170.	8.00	514.	15.60	841.	23.20	1163.	30.80	1490.	38.40	1829.
0.60	180.	8.20	523.	15.80	850.	23.40	1171.	31.00	1498.	38.60	1839.
0.80	189.	8.40	532.	16.00	858.	23.60	1180.	31.20	1507.	38.80	1848.
1.00	198.	8.60	540.	16.20	867.	23.80	1188.	31.40	1516.	39.00	1857.
1.20	208.	8.80	549.	16.40	875.	24.00	1197.	31.60	1524.	39.20	1867.
1.40	217.	9.00	558.	16.60	883.	24.20	1205.	31.80	1533.	39.40	1876.
1.60	227.	9.20	567.	16.80	892.	24.40	1214.	32.00	1542.	39.60	1885.
1.80	236.	9.40	576.	17.00	901.	24.60	1223.	32.20	1551.	39.80	1894.
2.00	245.	9.60	584.	17.20	909.	24.80	1231.	32.40	1560.	40.00	1904.
2.20	254.	9.80	593.	17.40	918.	25.00	1240.	32.60	1568.	40.20	1913.
2.40	263.	10.00	602.	17.60	926.	25.20	1248.	32.80	1577.	40.40	1922.
2.60	272.	10.20	610.	17.80	935.	25.40	1256.	33.00	1586.	40.60	1932.
2.80	282.	10.40	618.	18.00	943.	25.60	1265.	33.20	1595.	40.80	1941.
3.00	290.	10.60	627.	18.20	951.	25.80	1274.	33.40	1604.	41.00	1950.
3.20	300.	10.80	636.	18.40	960.	26.00	1282.	33.60	1613.	41.20	1960.
3.40	309.	11.00	645.	18.60	968.	26.20	1291.	33.80	1621.	41.40	1969.
3.60	318.	11.20	653.	18.80	977.	26.40	1299.	34.00	1631.	41.60	1979.
3.80	327.	11.40	662.	19.00	985.	26.60	1308.	34.20	1639.	41.80	1988.
4.00	336.	11.60	671.	19.20	993.	26.80	1316.	34.40	1649.	42.00	1998.
4.20	345.	11.80	679.	19.40	1002.	27.00	1325.	34.60	1657.	42.20	2008.
4.40	354.	12.00	688.	19.60	1010.	27.20	1334.	34.80	1666.	42.40	2017.
4.60	363.	12.20	696.	19.80	1019.	27.40	1342.	35.00	1675.	42.60	2026.
4.80	372.	12.40	705.	20.00	1028.	27.60	1351.	35.20	1684.	42.80	2036.
5.00	381.	12.60	714.	20.20	1036.	27.80	1359.	35.40	1693.	43.00	2045.
5.20	390.	12.80	722.	20.40	1045.	28.00	1368.	35.60	1702.	43.20	2055.
5.40	399.	13.00	730.	20.60	1053.	28.20	1377.	35.80	1711.	43.40	2065.
5.60	408.	13.20	739.	20.80	1061.	28.40	1385.	36.00	1720.	43.60	2074.
5.80	417.	13.40	747.	21.00	1070.	28.60	1394.	36.20	1729.	43.80	2084.
6.00	426.	13.60	756.	21.20	1078.	28.80	1403.	36.40	1738.	44.00	2094.
6.20	434.	13.80	765.	21.40	1087.	29.00	1411.	36.60	1748.	44.20	2103.
6.40	444.	14.00	773.	21.60	1095.	29.20	1420.	36.80	1756.	44.40	2113.
6.60	452.	14.20	782.	21.80	1103.	29.40	1429.	37.00	1766.	44.60	2123.
6.80	462.	14.40	790.	22.00	1112.	29.60	1437.	37.20	1775.	44.80	2133.
7.00	470.	14.60	799.	22.20	1120.	29.80	1446.	37.40	1784.	45.00	2142.
7.20	479.	14.80	807.	22.40	1129.	30.00	1455.	37.60	1793.	45.20	2152.
7.40	488.	15.00	816.	22.60	1138.	30.20	1463.	37.80	1802.	45.40	2162.

0.00 MV THRU 45.40 MV REFERENCE JUNCTION AT 160. DEG F

ATTACHMENT 6.5-3

DRUMMING AREA VENT STACK RMS-II CH #2 &
COMBINED AIR EJECTOR DISCHARGE RMS-II CH #5

VOLTAGE TO R/HR CONVERSION TABLE

RANGE 1 to 10^4 R/HR

Volts	Units R/hr
0	0.001
0.1	0.00135
0.2	0.001847
0.3	0.002511
0.4	0.003414
0.5	0.004641
0.6	0.006309
0.7	0.008576
0.8	0.011659
0.9	0.015848
1.0	0.021544
1.1	0.029286
1.2	0.039810
1.3	0.054116
1.4	0.073564
1.5	0.100
1.6	0.135935
1.7	0.184784
1.8	0.251188
1.9	0.341454
2.0	0.464158
2.1	0.630957
2.2	0.857695
2.3	1.165914
2.4	1.584893
2.5	2.154434
2.6	2.928644
2.7	3.981071
2.8	5.411695
2.9	7.356422
3.0	10.0

UNIT 1 RMS-II CH #3 & UNIT 2 RMS-II CH #4
CONTAINMENT PURGE STACKS

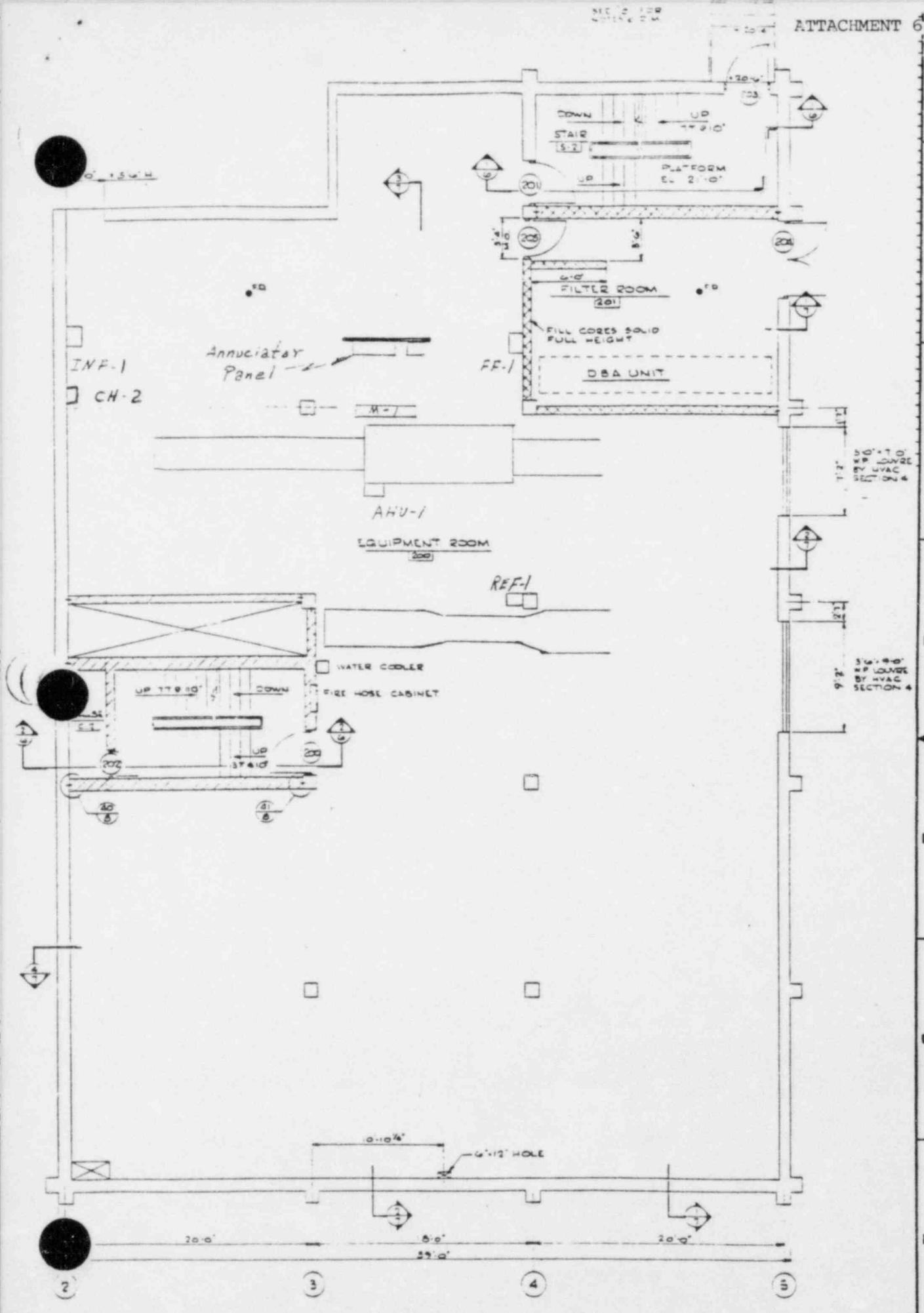
VOLTAGE TO R/HR CONVERSION TABLES
RANGE 10^{-1} TO 10^{3} R/HR

Volts	Units - R/HR
0.	0.1
0.1	.135
0.2	.184
0.3	.251
0.4	.341
0.5	.464
0.6	.630
0.7	.857
0.8	1.165
0.9	1.584
1.	2.154
1.1	2.928
1.2	3.981
1.3	5.411
1.4	7.356
1.5	10.
1.6	13.593
1.7	18.478
1.8	25.118
1.9	34.145
2.	46.415
2.1	63.095
2.2	85.769
2.3	116.591
2.4	158.489
2.5	215.443
2.6	292.864
2.7	398.107
2.8	541.169
2.9	735.642
3.	1000.

AUXILIARY BUILDING VENT STACK RMS-II CH #1 &
GAS STRIPPER BUILDING VENT STACK RMS-II CH #2

VOLTAGE TO R/HR CONVERSION TABLE
RANGE 10^{-2} TO 10^{2} R/HR

Volts	Units - R/HR
0.	0.01
0.1	.013
0.2	.018
0.3	.025
0.4	.034
0.5	.046
0.6	.063
0.7	.085
0.8	.116
0.9	.158
1.	.215
1.1	.292
1.2	.398
1.3	.541
1.4	.735
1.5	1.
1.6	1.35
1.7	1.847
1.8	2.511
1.9	3.414
2.	4.641
2.1	6.309
2.2	8.576
2.3	11.659
2.4	15.848
2.5	21.544
2.6	29.286
2.7	39.810
2.8	54.116
2.9	73.564
3.	100.



EQUIPMENT FLOOR
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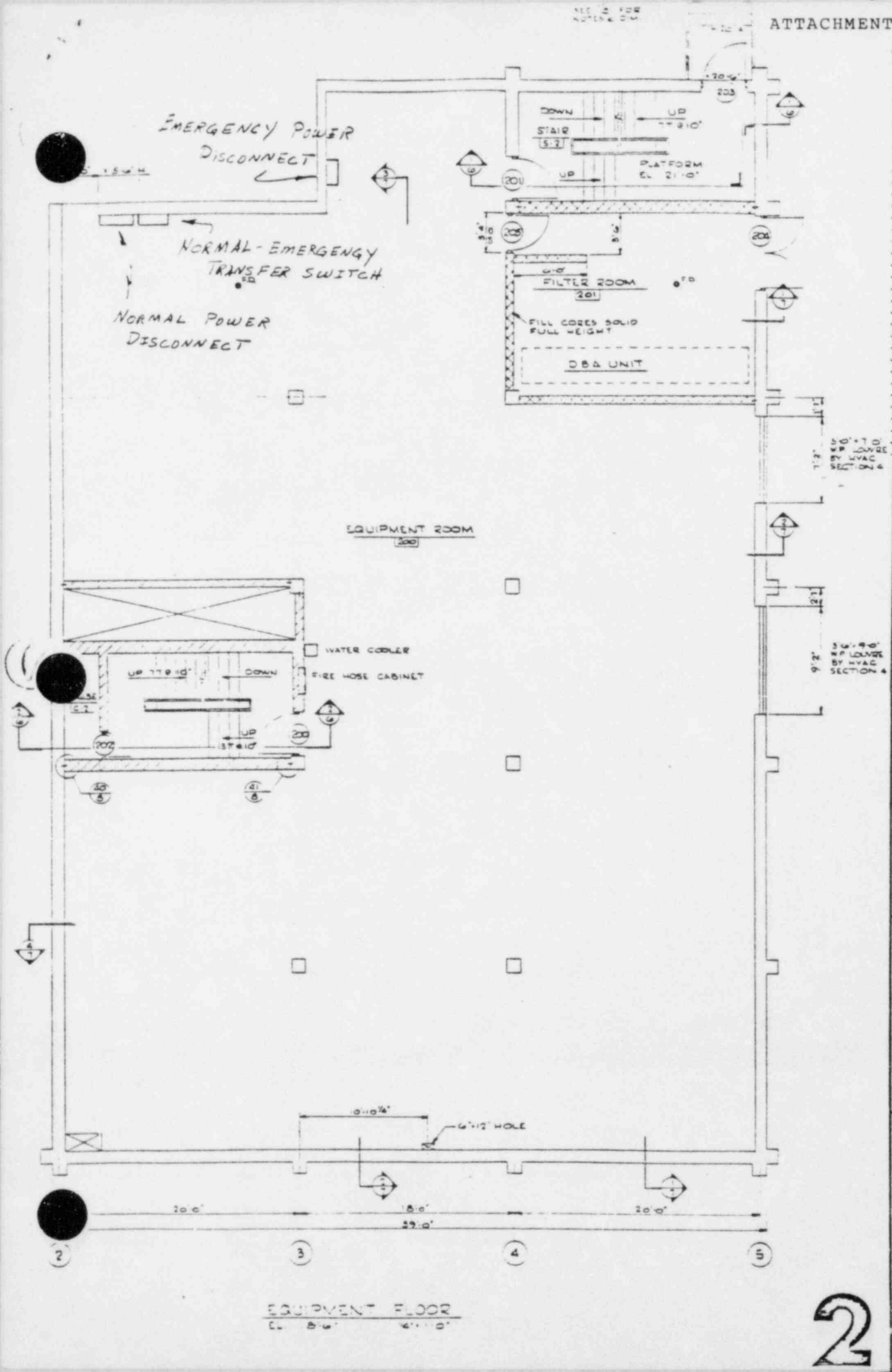
2



EQUIPMENT FLOOR

2

EMERGENCY OPERATIONS FACILITY ACTIVATION

1.0 PURPOSE

1.1 To provide instructions for the activation of the emergency operations facility after the declaration of an alert, site emergency or general emergency.

1.2 To outline the emergency operations facility ventilation system operation in the event of high airborne activity.

2.0 ACTIVATION OF EMERGENCY OPERATIONS FACILITY

2.1 Set up tables as shown on Attachment 6.7-1. They may be obtained from rooms adjacent to the operations area.

2.2 Install phones, which may be found in the NRC office, in the appropriate areas as shown on Attachment 6.7-1.

2.3 Confirm that all phones operate by noting if dial tone is present when the receiver is lifted. Confirm that the numbers listed on the face of the phone matches the number on the wall jacks.

2.4 Distribute paper and pencils to each table.

2.5 Distribute one copy each of the Emergency Plan and EPIP's to the table in front of the chalk board and the table near the dose plotting map (see Attachment 6.7-1).

2.6 Shift the ventilation system from normal to the emergency operating mode per Section 4.2.

3.0 ACTIVATION OF EOF PERSONNEL

3.1 See EPIP 7.2.1, "Activation of Health Physics Facilities at Emergency Operations Facility," for activation of health physics personnel.

3.2 Site Manager

If personnel to fill the following positions have not been contacted, proceed to do so.

Emergency Support Manager _____
Rad/Con Waste Manager _____
2-Duty Technical Advisors _____

3.3 If any followup data is available which may be of help to offsite agencies, have that information relayed to those agencies.

3.4 Emergency Support Manager

Assume responsibility for offsite radiological assessment, dose projection and offsite protective action recommendations as soon as the EOF is staffed sufficiently to take that responsibility.

3.5 Assume responsibility from the TSC, for communications with offsite agencies as soon as able.

3.6 Rad/Con Waste Manager

Provide dose projections, offsite survey direction, and offsite protective action recommendations to the appropriate emergency organization personnel.

4.0 EMERGENCY VENTILATION SYSTEM

4.1 The EOF heating and ventilation system has a normal and emergency operation mode. Under all modes of operation any fresh air is taken in from a vent on the south end of the west wall of the building. The intake air under normal operation is coarsely and electrostatically filtered.

In the emergency mode, a minimum of outside air is taken in and a high efficiency particulate air filter is added to the filter media.

4.2 To shift the heating, ventilating and air conditioning system from normal to emergency mode, manually select the emergency position of switch S-3 on control panel M-1 located on the south wall of the mechanical equipment room. Access to this room is obtained from the men's locker room.

5.0 Power supply to the EOF is obtained from Wisconsin Public Service Corporation distribution feeder. In case of total power failure, call Wisconsin Public Service Corporation. See form EPIP-23, "Offsite Agency Emergency Call List."

6.0 EOF ANNUNCIATOR PANEL

6.1 The annunciator panel monitors 8 parameters in the building. The control room will receive an alarm upon annunciation of any of the 8 alarms.

6.2 Alarms "holding tank high level" and "dosing tank high level" will announce upon tank high level. The holding tank must be pumped by a contractor. The dosing tank has an internal pump which pumps the contents to the mound septic system.

6.3 The "fire detector" annunciates upon the detection of a fire.

6.4 The "emergency mode" window annunciates upon switchover to the emergency mode of the HVAC system.

6.5 The "building temperature low" window lights upon exceeding the setpoint for the building temperature. This usually indicates a heating system failure.

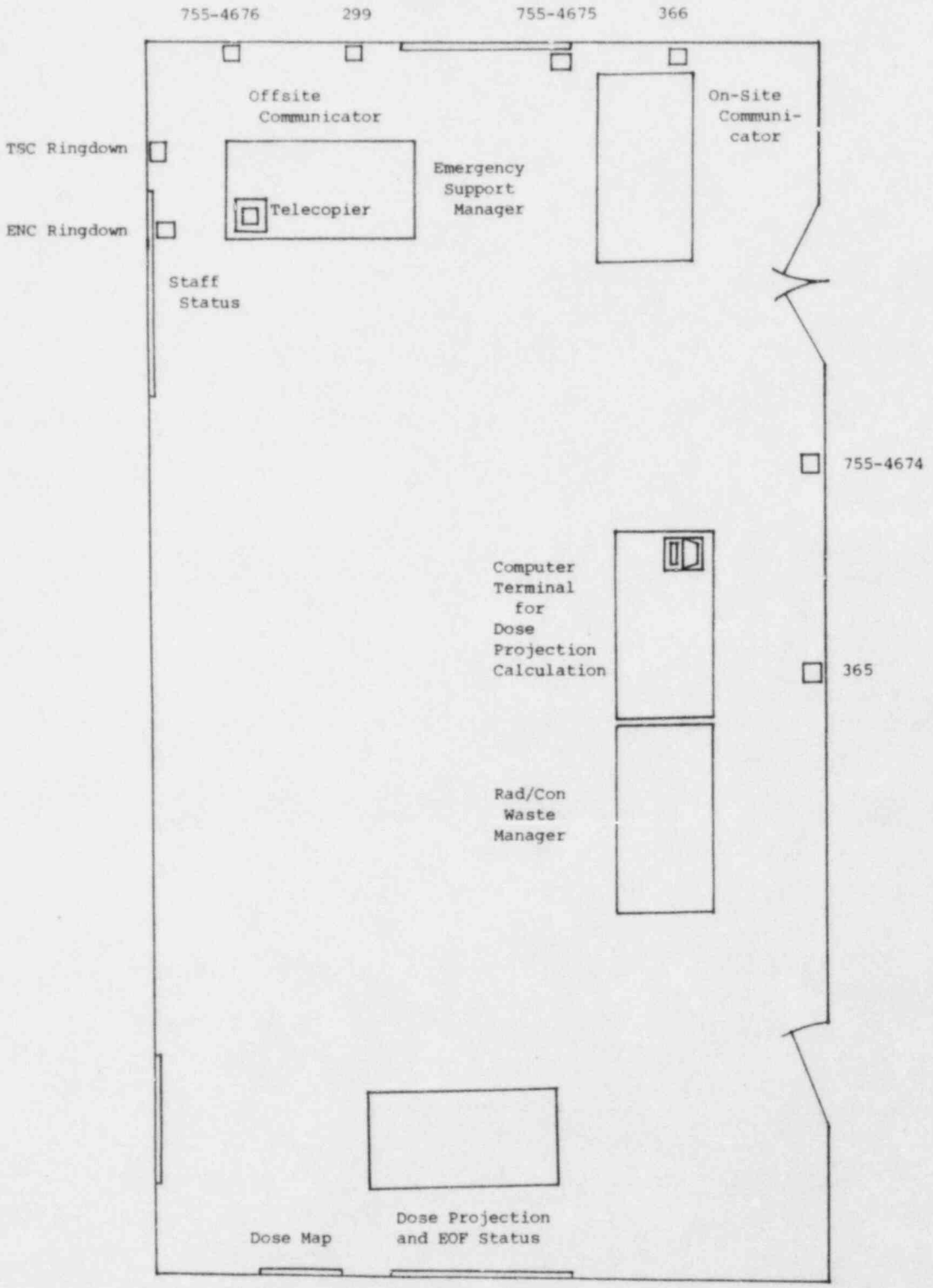
6.6 If a pump has not started after a 30-second delay upon demand from control panel M-1, the "pump failure" window will light.

6.7 The "air filter plugged" window will light when the electrostatic air filter is plugged and the differential pressure across the filter exceeds the setpoint.

6.8 The "compressed air low pressure" window will light when the air pressure in the supply header to the Johnson Control control system falls below the setpoint.

Figure 6.7-1

EMERGENCY OPERATIONS FACILITY



EPIP 7.1.1
MINOR
Revision 4
01-27-84

CHEMISTRY & HEALTH PHYSICS PERSONNEL NOTIFICATION & INITIAL RESPONSE WHEN CHEMISTRY & HEALTH PHYSICS PERSONNEL ARE ON SITE

1.0 PURPOSE

The purpose of this procedure is to establish guidelines for the initial response of Chemistry & Health Physics in support of an alert, site or general emergency which may require Chemistry & Health Physics response during normal duty hours while Chemistry & Health Physics personnel are on site. A rapid and organized response by Chemistry & Health Physics is necessary to facilitate early assessment of site radiological conditions. The three major areas of concern are as follows:

a. The area within the protected area including the plant buildings.

b. The area outside of the protected area but within the exclusion area (site boundary perimeter lines).

c. Those areas off-site (beyond the exclusion area).

2.0 PRECAUTIONS & LIMITATIONS

2.1 Assigned personnel will wear the prescribed protective clothing, dosimetry devices, and other prescribed protective equipment when on their job assignments.

2.2 Whenever possible, standard health physics procedures are to be followed.

2.3 It is to be understood that these are implementation guidelines and that the existing plant and radiological conditions may necessitate changes to these guidelines and/or the sequence in which they are implemented.

3.0 CHEMISTRY & HEALTH PHYSICS GROUP INITIAL RESPONSE

3.1 Upon notification that an alert, site, or general emergency is in effect, all Chemistry & Health Physics personnel on site not already assigned an emergency function will report to the health physics station.

3.2 Upon arrival at the health physics station, the Health Physics Director and Radiochemist will take a roll call of Health Physics and Chemistry personnel, respectively. Personnel not accounted for will be paged. If an evacuation has been ordered, the Shift Lieutenant will be notified of missing personnel.

3.3 The Health Physics Director will assign one Health Physics Supervisor and two Radiation Control Operators to the OSC/TSC to implement EPIP 7.2.2. The Radiochemist will assign one Chemistry Supervisor and two Radiochemical Technicians to the OSC/TSC to help implement EPIP 7.2.2. They should obtain the following equipment:

Dosimeters (0-500 mR)	As available
Dosimeters (0-5000 mR)	25 ea.
Dosimeter Chargers	2 ea.
Teletector	As available
PIC 6A	As available
Other Instruments and Equipment	As available

3.4 Under direction of the Health Physics Director, Health Physics personnel will collect and make ready the following equipment or their equivalents. This is for EOF.

Rad Owl One	1 ea.
Mini-Scaler battery pack	1 ea.
HPI-1010	1 ea.
Bio-Paks	5 ea.
Spare oxygen cylinders (charged)	12 ea.
Sodasorb replacement bags	12 ea.

4.0 CHEMISTRY & HEALTH PHYSICS RESPONSE FOR AN ALERT, SITE OR GENERAL EMERGENCY

4.1 The Health Physics Director will report to the emergency operations facility (EOF). The balance of Chemistry & Health Physics personnel will report as outlined in Steps 4.2 & 4.3.

4.2 The Health Physics Director will assign two (2) Nuclear Plant Specialists - Health Physics and two (2) Radiation Control Operators to report, using personal vehicles, to the EOF to assist the Health Physics Director.

4.3 The Health Physics Director and Radiochemist will assign Chemistry & Health Physics personnel as follows:

OSC/TSC	EOF
Health Physics Supervisor (all)	Rad Control Operators (1/2 of available qualified personnel)
Nuclear Plant Specialist - Chemistry (all)	Nuclear Plant Specialist - Health Physics (all)
Radiochemist (1)	AOT's assigned to HP (all)
Rad Control Operators (1/2 of available qualified personnel)	
Rad/Chem Technician (all)	

4.3.1 Assign one EOF individual to obtain a carryall vehicle (other than the assigned site emergency vehicle), and wait with the vehicle at the west entrance door near Ready Stores. This vehicle will be used to transport equipment to the EOF.

4.3.2 Upon completion of the above procedure guidelines, the Health Physics Director will direct the Health Physics personnel assigned to the EOF to report utilizing private vehicles and/or health physics assigned Company vehicles. Two Company vehicles in addition to the carryall assigned in Step 4.3.1 should be taken to the EOF for use by the mobile survey teams and the Kewaunee/environmental shuttle team.

EPIP 7.1.2
MINOR
Revision 2
01-27-84

CHEMISTRY & HEALTH PHYSICS GROUP PERSONNEL NOTIFICATION AND INITIAL RESPONSE WHEN CHEMISTRY & HEALTH PHYSICS PERSONNEL ARE OFF SITE

1.0 PURPOSE

The purpose of this procedure is to establish guidelines for the initial response of Chemistry & Health Physics in support of an alert (as required), site or general emergency during other than normal duty hours when Chemistry & Health Physics personnel are not on site. A rapid and organized response by Chemistry & Health Physics is necessary to assist in early assessment of plant and site radiological conditions. The three major areas of concern are as follows:

a. The areas located within the protected area including inside of plant buildings.

b. The areas located outside of the protected area but within the exclusion area (site boundary perimeter lines).

c. Those areas off-site located outside of the exclusion area.

2.0 PRECAUTIONS AND LIMITATIONS

2.1 Health physics response team assignments (refer to EPIP 7.2.1) will be made by a Health Physics Supervisor after a preliminary assessment (Section 1.0) of site radiological conditions.

2.2 Assigned personnel will wear the prescribed protective clothing, dosimetry devices, and other prescribed protective equipment when conducting their job assignments.

2.3 Whenever possible, standard health physics procedures are to be followed at all times.

3.0 CHEMISTRY & HEALTH PHYSICS GROUP RESPONSE

3.1 Dependent upon the existing plant radiological conditions, the Chemistry/Health Physics Supervisor, Health Physics Director,

Chemistry & Health Physics Duty & Call Supervisor, or their designated alternates, will determine the necessity for activating the health physics facilities of the EOF and the operations support center as follows.

3.1.1 No Plant Evacuation

Chemistry & Health Physics personnel will proceed to the health physics station and establish controls for entry into the auxiliary building and begin implementation of EPIP 7.1.1, "Chemistry & Health Physics Group Personnel Notification & Initial Response when Chemistry & Health Physics Personnel are On Site."

3.1.2 Plant Evacuation

If plant evacuation is declared, proceed as follows in Section 4.0.

4.0 PLANT EVACUATION DECLARED

4.1 Chemistry & Health Physics Group personnel, upon arrival at the EOF will be directed to begin implementation of EPIP 7.2.1, "Activation of Health Physics Facilities at Emergency Operations Facility."

4.2 Dependent upon habitability, the Chemistry/Health Physics Supervisor or his designated alternate will proceed to the technical support center whenever a second Chemistry & Health Physics Supervisor is available at the EOF.

4.3 As Chemistry & Health Physics personnel become available, the Health Physics Director will assign them as follows:

OSC/TSC	EOF
Health Physics Supervisors (all)	Nuclear Plant Specialists-HP (all)
Nuclear Plant Specialist-Chem (all)	Rad/Con Operators (5)
Radiochemist	AOT's Assigned to HP (all)
Rad/Chem Techs (all)	
Rad/Con Operators (5)	

EPIP 7.1.3
MINOR
Revision 2
01-27-84

HEALTH PHYSICS PROTECTIVE ACTIONS BY OPERATIONS PERSONNEL PRIOR TO ARRIVAL OF CHEMISTRY & HEALTH PHYSICS PERSONNEL

1.0 PURPOSE

The purpose of this procedure is to provide minimum health physics protective guidelines for Operations personnel in the event of an alert, site or general emergency during the hours that Chemistry & Health Physics personnel are not on site. The Duty Shift Superintendent and Operating Supervisor are responsible for ensuring compliance with these guidelines prior to the arrival of Chemistry & Health Physics personnel on site and the establishment of the health physics controls outlined under EPIP 7.0, "Chemistry & Health Physics Radiological Response and Preparedness."

2.0 PRECAUTIONS

2.1 Upon notification of an alert, site or general emergency, and when elevated radiation or airborne radioactivity levels are anticipated, Operations personnel shall equip themselves with high-range (0-5000 mR) dosimeters and respiratory protection equipment, as appropriate, from the health physics station and/or control room supplies.

2.2 Continued work within and/or entry into the controlled zone when high area or airborne radiation levels are suspected will be by expressed approval of the Duty Shift Superintendent and/or Operating Supervisor. Personnel will comply with the health physics protective action responsibilities of this procedure.

2.3 Control room personnel will maintain surveillance of all radiation monitoring system area and process monitors and advise personnel working within the controlled zone of changing radiological conditions that could affect personnel exposure.

2.4 Prior to allowing entries into and/or work to continue within the controlled zone, the Duty Shift Superintendent will review the radiation monitoring system area and process monitors to determine area radiation levels and possible high airborne activity in the auxiliary building. Possible abnormal conditions may be indicated by:

2.4.1 Increased count rates above the alarm setpoint on the auxiliary building vent stack monitor (R14).

2.4.2 The AMS-2 continuous air sampler located at the C59 panel area exceeding the alarm setpoint and indicating a rising trend.

2.4.3 Local area monitors above alarm setpoints.

2.5 The Duty Shift Superintendent will require that respiratory protection (Bio-Pak or SCBA) be worn by all personnel within the controlled zone whenever the indications in Section 2.4 above are positive and/or it is suspected by any other means of determination that there is a possibility of high airborne radioactivity being present.

2.6 Personnnel working within the controlled zone will periodically check the count rate on the AMS-2 continuous air sampler located at the C59 panel area for indications of increasing auxiliary building airborne radioactivity and report all such increases to the Duty Shift Superintendent.

2.7 Operations Division personnel having a necessity to enter any area where a spill or other discharge of reactor coolant to the atmosphere has occurred will wear self-contained (Bio-Pak or SCBA) respiratory protection equipment.

2.8 All entries and/or exit of personnel from the controlled zone will be by way of Checkpoint "Charlie" unless otherwise directed by the Duty Shift Superintendent.

3.0 OPERATIONS PERSONNEL HEALTH PHYSICS PROTECTIVE ACTION REQUIREMENTS FOR ENTERING THE CONTROLLED ZONE

3.1 Respiratory equipment requirements will be determined by the Duty Shift Superintendent prior to authorizing entry.

3.2 Protective Clothing Requirements for Entry

3.2.1 For entry when there is no indicated, known or suspected release of airborne radioactive material or contaminated liquid spills

a. Single coveralls

b. Surgeon's cap

c. Cotton gloves

d. Shoe covers

3.2.2 For entry when there is known, suspected or indications of release of airborne radioactive material.

a. Double coveralls

b. Cloth hood

c. Cotton gloves

d. Shoe covers

e. Respiratory protection equipment

3.2.3 For entry when there is known, suspected or indications of liquid spills or leaks.

a. Single coveralls

b. Plastic suit

c. Cloth hood

d. Cotton and rubber gloves

e. Canvas shoe covers or plastic boots

f. Respiratory protection equipment

3.3 Personnel Monitoring and Accountability

When high area radiation levels are known to exist or are suspected, all personnel shall:

3.3.1 Ensure that self-reading dosimeters are zero or read less than 100 mR. Report any rezeroes to the Duty Shift Superintendent for appropriate logging.

3.3.2 Know the maximum allowable dose accumulation authorized for the entry by the Duty Shift Superintendent and/or Operating Supervisor.

3.3.3 Wear the prescribed protective clothing (Section 3.2).

3.3.4 Equip themselves with a PIC-6A or equivalent high-range survey instrument for continuous exposure monitoring.

NOTE: RECORDS SHALL BE MAINTAINED OF THE RADIATION EXPOSURE LEVELS ENCOUNTERED IN ALL AREAS ENTERED.

3.3.5 Be equipped with portable radios.

3.3.6 Notify the control room at time of entry and exiting of the controlled zone.

NOTE: THE CONTROL ROOM WILL MAINTAIN A RECORD OF ALL ENTRIES BY NAME AND PROVIDE ENTRY AND EXIT TIMES.

4.0 Health physics control of the controlled zone will be assumed by Chemistry & Health Physics personnel upon arrival.

ACTIVATION OF HEALTH PHYSICS FACILITIES AT EMERGENCY OPERATIONS FACILITY

1.0 PURPOSE

The primary purpose of this procedure is to provide guidelines for activating the emergency operations facility (EOF) during an alert, site or general emergency. Modifications to these guidelines may be implemented by the Health Physics Director (Health Physicist) to meet the existing plant and site radiological conditions so as to ensure the continued safety of plant personnel and the general public.

2.0 ACTIVATION OF HEALTH PHYSICS FACILITIES AT EOF

2.1 Health Physics Director

The Health Physics Director or his designated alternate is responsible for directing health physics activities at the EOF and for providing radiation protection assistance as requested by the Chemistry/Health Physics Supervisor. When the Radcon/Waste Manager is available, the Health Physics Director should report to him. Appendix "A," Health Physics Director Duties, provides the specific guidelines for accomplishment of these duties.

2.2 Assistant to the Health Physics Director

When manpower availability allows, the Health Physics Director will assign a Chemistry & Health Physics Supervisor to perform the duties of Assistant to the Health Physics Director. The Assistant Health Physics Director is responsible for directing Chemistry & Health Physics personnel from the EOF and for the coordination of all health physics related activities with the Health Physics Director. Appendix "B" provides the guidelines for accomplishment of these duties.

2.3 The following teams will be manned by personnel as assigned by the Health Physics Director or the Assistant to the Health Physics Director. Team duties are outlined in the respective appendix.

Team	Appendix
Emergency Operations Facility/Radiation Control Team	B
Counting Team	C
Survey Teams	C
Kewaunee/Environmental Shuttle Team	C

APPENDIX "A"

EMERGENCY OPERATIONS FACILITY
HEALTH PHYSICS DIRECTOR RESPONSIBILITIES & DUTIES

1. Obtain environmental data (wind speed, direction and stability class) from the Chemistry/Health Physics Supervisor in the technical support center or the RadCon/Waste Manager as appropriate.

2. Use results from EPIP 1.4, "Radiological Dose Evaluation," and EPIP 1.5, "Protective Action Evaluation," procedures and determine the extent and location for the initial and followup environmental surveys as required.

3. When manpower availability allows, designate a Chemistry & Health Physics Supervisor to perform the duties of Assistant to the Health Physics Director at the EOF (EPIP 7.2.1, Appendix "B"). If manpower is not sufficient, perform the duties listed in Appendix "B."

4. Coordinate with the RadCon/Waste Manager, when available, control and exposure documentation within the exclusion area and off-site.

5. Coordinate with the RadCon/Waste Manager, when available, on the evaluation of environmental radiological survey results, project dose consequences, and make recommendations consistent with the Emergency Plan with respect to the general population (EPIP 1.4 and EPIP 1.5).

6. Coordinate off-site surveys with RadCon/Waste Manager when available.

7. Assist in evaluating medical emergencies and coordinate use of the site emergency vehicle with the Chemistry/Health Physics Supervisor.

8. Establish access controls to coordinate access to the operations support center and the protected area. Ensure that all personnel entering or exiting the site are properly accounted for and are equipped with the necessary dose evaluation devices.

APPENDIX "B"

EMERGENCY OPERATIONS FACILITY
HEALTH PHYSICS RESPONSIBILITIES
ASSISTANT TO THE HEALTH PHYSICS DIRECTOR

1. Direct the available Chemistry & Health Physics personnel in setting up and making available for use all EOF health physics equipment. Verify the availability and operational status of equipment after it is checked out.

2. Designate Chemistry & Health Physics personnel to man the following radiation control teams as personnel become available for duty.

   a. EOF/radiation support team (remaining Radiation Control Operators and Auxiliary Operator Trainees).

   b. Kewaunee/environmental shuttle team.

3. Initiate health physics radio communications radio check (Channel 3 of FM radios).

4. Receive environmental radiological survey instructions from the Health Physics Director and direct survey team leader to conduct the surveys.

5. Coordinate all environmental radiological surveys. Ensure that all surveys are properly logged and identified.

EMERGENCY OPERATIONS FACILITY
HEALTH PHYSICS RESPONSIBILITIES
EMERGENCY OPERATIONS FACILITY/RADIATION CONTROL TEAM

1. Set up and verify operational status of personnel friskers.

2. Monitor personnel and equipment for contamination and perform decontamination as necessary.

3. Implement control and documentation of personnel entering or exiting the exclusion area.

4. Implement controls for dosimetry issue, use, and documentation of personnel exposure and control of exposure data.

5. Coordinate all health physics activities with the Assistant to the Health Physics Director.

6. Perform other duties as directed.

APPENDIX "C"

EMERGENCY OPERATIONS FACILITY
HEALTH PHYSICS RESPONSIBILITIES
SURVEY TEAM

1. Set up and verify the operational status of the EOF air sampling and radiological survey equipment.

2. Conduct all radiological surveys and air sampling. Record all air sample data and radiological survey results.

3. Ensure that all air samples and radiological surveys are properly logged and identified prior to turning them over to the shuttle team.

4. Perform other duties as directed.

EMERGENCY OPERATIONS FACILITY
HEALTH PHYSICS RESPONSIBILITIES
KEWAUNEE/ENVIRONMENTAL SHUTTLE TEAM

1. Transport samples to Kewaunee Nuclear Plant for analysis as directed by the Assistant to the Health Physics Director.

2. Retrieve samples from mobile survey teams and transport to TSC for analysis.

3. Document results of analysis and report results to the Health Physics Director by radio or telephone.

4. Perform other duties as directed.

EPIP 7.2.2
MINOR
Revision 4
01-27-84

ACTIVATION OF CHEMISTRY & HEALTH PHYSICS AT TECHNICAL SUPPORT CENTER/OPERATIONS SUPPORT CENTER

1.0 PURPOSE

1.1 The purpose of this procedure is to establish guidelines for activating the Chemistry & Health Physics facilities at the technical support center/operations support center (TSC/OSC) in support of an emergency situation.

1.2 The Chemistry/Health Physics Supervisor and certain designated members of Chemistry & Health Physics are responsible for activating the health physics equipment at the TSC/OSC The extent and sequence of implementation of these guidelines will be outlined in EPIP 7.1.1.

2.0 ACTIVATION OF HEALTH PHYSICS FACILITIES AT TSC/OSC

2.1 For emergency conditions during which a plant evacuation is not required, the Chemistry/Health Physics Supervisor and Health Physics Director will determine to what extent, if any, health physics coverage will be provided at the TSC/OSC.

2.2 For emergency conditions which require plant evacuation, EPIP 7.1.1 should be followed. The sequence for implementation of depends upon whether Chemistry & Health Physics personnel are on or off-site when notification is received (EPIP 7.1.1 and EPIP 7.1.2).

3.0 HEALTH PHYSICS RESPONSIBILITIES FOR TSC/OSC/RAD SUPPORT TEAM

3.1 When Chemistry & Health Physics Personnel are On-Site (EPIP 7.1.1)

3.1.1 Obtain five (5) PIC-6A survey instruments.

3.1.2 Proceed to the TSC/OSC and:

a. Move the AMS-2 continuous air sampler (cart-mounted) into the TSC/OSC hallway and set up for operation.

b. Place the Vamp area monitor at the south gate in operation.

c. Set up and place into operation the south gate low volume air sampler.

d. Proceed to the TSC/OSC and begin preparation to provide health physics support as described under OSC/HP equipment activation, Section 3.3 of this procedure.

3.1.3 Set up the Nuclear Chicago counter-scaler in the TSC.

3.2 Notification When Chemistry & Health Physics Personnel are Off-Site (EPIP 7.1.2)

3.2.1 Upon receipt of instruction to activate the TSC/OSC, the TSC/rad support team will set up and place into operation the Vamp area monitor and the low volume air sampler at the south gate.

3.2.2 Proceed to the TSC/OSC and move the AMS-2 continuous air sampler (cart-mounted) into the TSC/OSC hallway; set up and place the AMS-2 into operation.

3.2.3 Begin preparation to provide health physics coverage as described under TSC/HP equipment activation, Section 3.3 of this procedure.

3.3 TSC/HP Equipment Activation

3.3.1 Prepare the health physics equipment from the emergency locker for use.

3.3.2 Prepare red radio for communications check.

3.3.3 Prepare the Nuclear Chicago counter-scaler for use.

3.3.4 Provide health physics support as required at the TSC/OSC and in-plant support as requested by the Chemistry/Health Physics Supervisor.

3.3.5 Assist in response to medical emergencies within the protected area (EPIP 11.0).

3.3.6 Coordinate with the Chemistry/Health Physics Supervisor at the TSC/OSC on in-plant personnel exposure and documentation.

3.3.7 Verify that all personnel who are departing from the TSC are certain as to details of their approved assignments and are complying with all health physics requirements. Whenever practicable, entries into high radiation or airborne areas will be made under the radiation work permit system.

3.3.8 Determine contaminated area access point and set up SOP and control point at TSC/OSC entrance to Unit 1 turbine hall.

EPIP 7.3.1
MINOR
Revision 4
01-27-84

AIRBORNE SAMPLING & DIRECT DOSE RATE SURVEY GUIDELINES

1.0 PURPOSE

The purpose of this procedure is to establish guidelines for (1) the collection of various air samples, and (2) the performance of direct plume and ground deposition surveys for use in verifying the initial dose rate estimates obtained in EPIP 1.4, "Radiological Dose Evaluation."

2.0 PRECAUTIONS AND LIMITATIONS

2.1 Personnel assigned to survey teams shall wear the prescribed protective clothing, dosimetry devices, and other protective equipment as required when conducting surveys.

2.2 Survey teams shall be aware of the exposure authorized for a specific job assignment and shall not exceed the maximum authorized exposure.

2.3 Survey teams shall carry survey instruments and continuously monitor the areas they are entering.

2.4 Standard health physics procedures are to be followed if and when radioactive contaminated material is being handled.

3.0 GENERAL INFORMATION

3.1 To accomplish the objectives of this procedure, with a minimum of delay, survey teams will be designated by the Health Physics Director and/or Assistant Health Physics Director (EPIP 7.2.1). These survey teams will obtain airborne (particulate, iodine, noble gas) and direct plume and ground deposition beta-gamma and beta dose rate surveys as directed from specific locations within the exclusion zone and, if deemed necessary, from specified off-site locations.

3.2 To facilitate identification of sample locations, the area surrounding the plant has been identified by quadrants radiating outward at 22.5 degree angles. Each quadrant has been identified by a letter of the alphabet starting with the letter "A" and radiating clockwise from due north. To avoid confusion, the letters "I" and "O" are not used. The Health Physics Director or Assistant Health Physics Director will indicate the designated survey locations to the survey team leader on appropriate survey maps (EPIP-01 and EPIP-02).

3.3 The attached partial listing of Maximum Permissible Concentrations (MPC) in air of selected isotopes will aid in determining exposure limits to airborne materials. For isotopes not listed, refer to Table 1, Column 1, of 10 CFR 20.

4.0 AIR SAMPLING INSTRUCTIONS

4.1 Standard health physics air sampling procedures will normally be utilized whenever possible. The following samples will be collected at each location unless otherwise directed. Record all airborne sample data on EPIP-01.

Type Sample	Sample Volume
Air particulate	1 E 6 cc (1)
Iodine	1 E 6 cc (1)(3)
Noble gas	1,075 cc (2)

Note 1: Air sampler flow rates vary depending upon the type of sampler used. The battery-powered air samplers normally provide the lowest flow rates (4 cfm). To obtain the suggested minimum sample volume a sample time of 10 minutes should be used. For sample flow rates less than 4 cfm the total sample time should be extended.

Note 2: One liter (1,075 cc) polybottles will be used to collect noble gas samples.

Note 3: If significant noble gas is suspected, silver zeolite filter cartridges will be used for iodine collection.

4.2 When collecting air samples, the following precautions should be observed.

4.2.1 The air sampler should be placed approximately four to five feet above the ground so as to sample the breathing zone. DO NOT place the air sampler on the ground.

4.2.2 During inclement weather it is necessary to shield the filters from rain or snow. This may be accomplished by operating the sampler inside of an open vehicle or by providing other methods of shielding.

5.0 DIRECT RADIATION PLUME SURVEYS

5.1 Direct radiation surveys within the plume area provide a means of determining whole body gamma dose rates and for estimating beta dose rates to the skin. Since most beta-gamma survey instruments are sensitive to the higher beta energies only, it is necessary that a thin window detector be used for plume beta dose rate estimations. To obtain estimated beta dose rates using the Eberline Rad Owl instruments, proceed as follows.

5.1.1 Hold the instrument (Rad Owl One or Two) approximately four to five feet above the ground with the detector facing upwards in the suspected direction of the plume and obtain a gamma dose rate (beta shield covering the detector window). In the event that dose rates from the plume are low, use the integrating mode on the Eberline Rad Owl One and obtain a timed integrated dose rate. This should be accomplished for both the beta-gamma and gamma dose rate. (The HP-1010 survey instrument may also be used to obtain a gamma integrated dose rate.) Record results on form EPIP-02. Then, holding the instrument at approximately the same position, remove the beta shield and obtain a beta-gamma dose rate. Record results.

5.1.2 Estimate beta dose rate as follows. Subtract the gamma dose rate from the beta-gamma dose rate. Multiply the result by 1.5, an empirically determined correction factor suitable for Xe-133 betas, to determine an estimate of the beta dose rate. Record results.

NOTE: RADIO THE RESULTS OF THESE DIRECT EXPOSURE MEASUREMENTS TO THE EMERGENCY OPERATIONS FACILITY AS SOON AS THEY ARE AVAILABLE.

5.2 Isotopic Determination of Beta-Gamma Skin Dose Rates from Noble Gases

5.2.1 Upon completion of multi-channel analysis of the noble gas samples collected in Section 4.1 above, the true beta-gamma skin dose rate may be calculated using form EPIP-03, or determined by use of Table 2 (attached).

5.3 Thyroid Exposure Calculations

The dose to the thyroid from airborne concentrations of radioiodine can be estimated using plume gamma whole body dose rates and Section 5.3 of EPIP 1.4. It is emphasized that thyroid dose rates derived in this manner greatly overestimate actual conditions. They should only be used until measurements of airborne iodine concentrations can be obtained by multi-channel analysis of plume iodine samples.

6.0 GROUND DEPOSITION SURVEYS AND CALCULATION

6.1 Ground contamination by radioactive material from the plume may be determined by direct radiation dose rate surveys as follows.

6.1.1 An Eberline Rad Owl type instrument should be used for obtaining ground deposition dose rates.

6.1.2 With the beta shield in place and the detector facing the ground (held in a vertical position), obtain the beta-gamma dose rates at positions of one foot and three feet above the surface of the ground. Record results on form EPIP-02.

NOTE: THE FOLLOWING CALCULATIONS OF ESTIMATED GROUND DEPOSITION TAKE INTO CONSIDERATION THAT THE DETECTOR IS AFFECTED BY RADIOACTIVE MATERIAL EVENLY DEPOSITED OVER THE ENTIRE AREA WITHIN ABOUT 10 FEET OR SO OF THE DETECTOR. INSURE THAT THE DETECTOR IS NOT SHIELDED BY BUILDINGS, VEHICLES, ETC., WHEN OBTAINING THE SURVEY READINGS.

6.1.3 Calculate the estimated ground deposition at three feet as follows:

$$\text{Ground Deposition in } \mu Ci/m^2 = \text{Gamma Dose Rate at 3 ft. in mR/hr.} \times 2.6E2 \frac{\mu Ci - hr.}{m^2 - mR}$$

6.1.4 Calculate estimated ground deposition at one foot as follows:

$$\text{Ground Deposition in } \mu Ci/m^2 = \text{Gamma Dose Rate at 1 ft. in mR/hr.} \times 1.5E2 \frac{\mu Ci - hr.}{m^2 - mR}$$

6.1.5 Record results in Column "G" of EPIP-02 on "Ground Survey Results."

NOTE: CALCULATIONS ARE BASED ON AN AVERAGE OF 0.7 MEV AND PROVIDE A REASONABLE ESTIMATE OF GROUND DEPOSITION OF MIXED FISSION PRODUCTS.

6.2 It should be noted that smear surveys for determining ground contamination must be taken with care. The surface being smeared should be relatively smooth (vehicles, metal, mail boxes, etc.) with a hard surface.

6.2.1 In the event smear surveys are not feasible, vegetation type samples may be obtained. For this type of sample, carefully

collect the vegetation (grass, leaves, etc.) from an area of approximately 100 cm^2. Package in plastic bags and record the necessary sample data.

6.2.2 Ground scrapings may also be used to determine ground contamination. When obtaining this type of sample, care should be used to collect only the surface material from an area of approximately 100 cm^2. Package in plastic bags and record the necessary sample data.

7.0 ROUTING OF AIR SAMPLES AND SURVEYS FOR COUNTING AND EVALUATION

7.1 Complete documentation of all airborne and direct dose rate surveys is very important. Insure that sample locations are properly identified and that all required information is entered on the air sample (EPIP-01) or survey (EPIP-02) forms.

7.2 Samples will then be directed to the operations support center (OSC) or the Kewaunee Nuclear Plant for multi-channel analyzer (MCA) counting as required. Direct radiation dose rate surveys will be reported to the Health Physics Director for further evaluation.

7.3 The Kewaunee/environmental shuttle team members will normally be utilized for transportation of samples between the field sampling locations and the OSC.

TABLE 1

MAXIMUM PERMISSIBLE CONCENTRATIONS - AIR

The following table is a partial listing of isotopes from Table 1, Column 1, of 10 CFR 20. Where different values are listed for both soluable and insoluable forms, only the most restrictive concentration is listed.

Noble Gases	MPC µCi/cc
Ar-41	2.0E-6
Kr-85m	6.0E-6
Kr-85	1.0E-5
Kr-87	1.0E-6
Kr-88	1.0E-6
Xe-131m	2.0E-5
Xe-133	1.0E-5
Xe-133m	1.0E-5
Xe-135	4.0E-6

Iodines	MPC µCi/cc
I-131	9.0E-9
I-132	2.0E-7
I-133	3.0E-8
I-134	5.0E-7
I-135	1.0E-7

Alpha Emitters	
Isotope	MPC µCi/cc
Unknown	6.0E-13

Other Isotopes	MPC µCi/cc
Sb-124	2.0E-8
Sb-125	3.0E-8
Ba-140	4.0E-8
Bi-212	1.0E-7
Cd-109	5.0E-8
Ce-141	2.0E-7
Ce-144	6.0E-9
Cs-134	1.0E-8
Cs-136	2.0E-7
Cs-137	1.0E-8
Cs-138	1.0E-6
Cr-51	2.0E-6
Co-57	2.0E-7
Co-58	5.0E-8
Co-60	9.0E-9
F-18	3.0E-6
H-3	5.0E-6
Fe-59	5.0E-8
La-140	1.0E-7
Pb-212	2.0E-8
Mn-54	4.0E-8
Mo-99	2.0E-7
Ni-59	5.0E-7
Nb-95	1.0E-7
Rb-88	1.0E-6
Ru-103	8.0E-8
Ru-106	6.0E-9
Na-22	9.0E-9
Na-24	1.0E-7
Te-132	1.0E-7

TABLE 2

DOSE FACTORS FOR NOBLE GASES
(Rem/Hour per μCi/cc)

Isotope	β-Skin(1)	ϒ-Skin(2)	Total Skin(3)	ϒ-Whole Body(4)
Kr-83m	Negligible	2.45	2.45	0.00863
Kr-85m	167.00	156.00	323.00	134.00
Kr-85	153.00	2.18	155.00	1.84
Kr-87	1110.00	782.00	1892.00	676.00
Kr-88	271.00	1926.00	2197.00	1678.00
Kr-89	1153.00	2192.00	3345.00	1895.00
Kr-90	832.00	2065.00	2897.00	1781.00
Xe-131m	54.3	19.8	74.1	10.4
Xe-133m	114.00	41.4	155.4	28.7
Xe-133	34.9	44.7	79.6	33.6
Xe-135m	81.2	426.00	507.00	356.00
Xe-135	212.00	243.00	455.00	207.00
Xe-137	1393.00	191.00	1584.00	162.00
Xe-138	471.00	1167.00	1638.00	1008.00
Ar-41	307.00	1178.00	1485.00	1009.00

(1) Beta dose to skin takes credit for absorption in outer dead layer of skin, 7 mg/cm.

(2) Gamma dose to skin is calculated from gamma dose to air by multiplying by 1.11, the average tissue/air energy absorption coefficient.

(3) Total skin dose is the sum of (1) and (2).

(4) Gamma dose to the whole body takes credit for absorption in the first 5 cm of tissue.

c) Sample Calculation

Assume an air sample analysis indicates a total noble gas activity of 4.6E-04 μCi/cc composed of 95% Xe-133 and 5% Kr-85:

(1) Skin Dose Calculation

Xe-133

0.95 (4.5E-04) = 4.37E-04 μCi/cc

Beta: 4.37E-04 (34.9) = 1.53E-02 Rem/hour (a)

Gamma: 4.37E-04 (44.7) = 1.95E-02 Rem/hour (b)

Table 2 continued ...

Kr-85

0.05 (4.6E-04) = 2.3E-05 µCi/cc

Beta: 2.3E-05 (153) = 3.52E-02 Rem/hour (c)

Gamma: 2.3E-05 (2.18) = 5.01E-05 Rem/hour (d)

Total Skin Dose = (a) + (b) + (c) + (d) = 7.01E-02 Rem/hour

= 70.1 mRem/hour

ATTACHMENT 7.3.1-1

ATMOSPHERIC RADIOACTIVE IODINE SAMPLE COLLECTION AND COUNTING

1.0 GENERAL

In the event of a plant emergency requiring initiation of the Point Beach Nuclear Plant Emergency Plan, air sampling is necessary to determine the habitability of the operations support center (OSC), the technical support center (TSC), the emergency operations facility (EOF) and manned areas inside of the plant. In addition, it is necessary to determine airborne radioactivity concentrations at designated points around the plant site, as determined by the Health Physics Director, to facilitate entry into the plant and to determine the risk involved from the standpoint of health and safety of the public and/or plant personnel. This procedure does not cover the mechanics of air sampling, but is specifically directed towards the processing of radioiodine filter cartridges once the sample has been collected. This procedure recognizes that masking of radioiodine peaks may occur during multichannel analysis (MCA) if the radioiodine charcoal filter is contaminated by radioactive air particulates, external contamination and/or radioactive noble gases. The purpose of this procedure is to outline specific steps to be taken to prevent charcoal filter contamination and thereby reduce this masking effect.

2.0 PROCEDURE

2.1 When sampling for radioiodine, an air particulate filter will be placed in front of the charcoal filter to collect particulate matter and prevent charcoal filter contamination. The air particulate filter will be processed for MCA counting and any radioiodine collected will be added to the total concentration of iodine on the charcoal filter.

2.2 Prior to MCA analysis of the charcoal filter for radioiodine, the filter must be purged with nonradioactively contaminated air to displace the radioactive noble gases that may have accumulated in the filter. This purge may be accomplished through the use of plant service air (verify that service air is not contaminated) if access to the plant is possible. It may be accomplished by placing the filter in another air sampler and operating it in an area outside of

the known radioactive airborne area. If an air sampler is used for purging, a clean particulate filter will be used to prevent charcoal filter particulate contamination.

NOTE: (1) THIS SHOULD BE ACCOMPLISHED INSIDE A CHEM LAB HOOD OR IN AN OPEN AREA AWAY FROM PERSONNEL TO PREVENT UNNECESSARY EXPOSURE TO THE POTENTIAL NOBLE GASES.

(2) PURGE UNTIL CONTACT READING ON FILTER IS <5 mR/HOUR.

2.3 All handling and transfer of the various filter media should be done so as not to externally contaminate it. Samples should be handled with clean gloves and individually placed in plastic bags to prevent any cross contamination.

2.4 The charcoal air particulate filter and sample forms will be set up for delivery to the OSC for multichannel analysis is to be performed.

NOTE: ROUTINE PROCEDURES FOR HANDLING RADIOACTIVE CONTAMINATED MATERIAL WILL BE FOLLOWED AT ALL TIMES.

2.5 Upon completion of counting, the Health Physics Director or his designated alternate will be notified of the results of all air sample analyses. He will be responsible for determining the habitability of the area sampled and respiratory equipment requirements.

EPIP 12.4
MINOR
Revision 1
01-27-84

PERSONNEL EXPOSURE GUIDELINES

1.0 GENERAL

The purpose of this procedure is to establish personnel exposure guidelines and responsibilities for exposure control in the event activation of the Point Beach Nuclear Plant Emergency Plan makes it necessary to deviate from normal operating procedures.

2.0 REFERENCES

2.1 Point Beach Nuclear Plant Emergency Plan

2.2 10 CFR 20, Standards for Protection Against Radiation

2.3 Health Physics Manual

3.0 PRECAUTIONS

3.1 All personnel performing emergency evaluation or recovery activities where the potential exists for exposure to ionizing radiation will be provided with personnel monitoring devices consisting of thermo-luminescent dosimeters (TLD) and the self-reading dosimeters (SRD).

3.2 All personnel will ensure that their SRD is set to zero when picked up at the issuing station.

3.3 All personnel will verify that they have the correct TLD (their own) when it is picked up at the issue station.

3.4 Each individual worker will ensure that exposures authorized under this procedure are not exceeded and that all SRD rezeros are documented for entry into the individual exposure accounting records.

4.0 EMERGENCY PERSONNEL EXPOSURE GUIDELINES

4.1 Point Beach Nuclear Plant Administrative Exposure Limits

During a plant emergency condition, the administrative exposure limits to ionizing radiation will apply unless suspended by the Site Manager or his designated alternate upon recommendation of the Health Physics Director or Chemistry/Health Physics Supervisor or their designated alternates.

4.1.1 In the event of a major radiation emergency, circumstances may require exposures in excess of the PBNP administrative limits. Under these circumstances, the following guidelines apply.

a. When circumstances allow for detailed planned actions to be taken, the expressed approval of the Health Physics Director or Chemistry/Health Physics Supervisor and the Site Manager or their designated alternate will be obtained prior to allowing emergency workers to exceed the PBNP administrative exposure limits.

b. When circumstances do not allow for detailed planned actions due to the urgency of the situation, an attempt should be made to obtain approval from the Duty Shift Superintendent and a senior manager prior to allowing emergency workers to exceed the PBNP administrative limits.

NOTE: SEE TABLE 1 FOR A SUMMARY OF THE PBNP ADMINISTRATIVE LIMITS.

4.2 10 CFR 20 Exposure Limits

Upon suspension of the PBNP administrative exposure limits as outlined in Section 4.1, the exposure limitations of 10 CFR 20.101 and 103 will apply.

4.2.1 In the event of a major radiation emergency, circumstances may require exposures in excess of the established limits of 10 CFR 20.101 and 103. Under these circumstances, the following guidelines apply.

a. When circumstances allow for detailed planned actions to be taken, the expressed approval of the Health Physics Director or Chemistry/Health Physics Supervisor and the Site Manager or their designated alternates will be obtained prior to allowing emergency workers to exceed the 10 CFR 20.101 and 103 exposure limits.

b. When circumstances do not allow for detailed planned actions due to the urgency of the situation, an attempt should be made to obtain approval from the Duty Shift Superintendent and a senior manager prior to allowing emergency workers to exceed the exposure limits of 10 CFR 20.101 and 103.

c. Where necessary, for the protection of personnel or the substantial protection of plant property, the management personnel noted in paragraphs (a) and (b) above may authorize individual exposures in excess of 3 Rem whole body but less than 25 Rem whole body.

4.2.2 Lifesaving Exposure Limits

Lifesaving exposures in excess of 25 Rem but less than 100 Rem whole body may be authorized on a volunteer basis only. The decision to authorize exposures in this type of situation will be left to the judgement of the Health Physics Director and the Chemistry/Health Physics Supervisor, if available. If the above are not available, approval should be obtained from the Duty Shift Superintendent and a senior manager.

a. Volunteers will be made aware that whole body exposures in the order of 100-200 Rem may result in radiation sickness and that whole body exposures in excess of 200 Rem involve a risk of fatality.

b. Volunteers should avoid risk where the victim's exposure is known to be at a fatal level or where it is known that the victim is already fatally injured.

NOTE: SEE TABLE 1 FOR A SUMMARY OF 10 CFR 20 EXPOSURE LIMITS.

5.0 LOCATION OF PERSONNEL MONITORING DEVICES

Personnel monitoring devices (thermoluminescent dosimeters (TLD) and self-reading dosimeters (SRD)) are available for use by emergency workers at the following locations.

	Location	Type Available
1.	South gate	TLD and SRD
2.	Emergency operations facility	TLD and SRD
3.	Operations support center	SRD
4.	Technical support center	SRD
5.	Control room	SRD

	Location	Type Available
6.	Health physics station	SRD
7.	Emergency vehicle	TLD
8.	Two Rivers Hospital (Nuclear First Aid Room)	SRD

6.0 LOCATION OF PERSONNEL EXPOSURE SUMMARIES

In addition to the individual copies of the Weekly Dosimeter Summary provided to each group head, complete copies are maintained at the following locations:

6.1 Health physics station

6.2 Operations support center

6.3 Main office files

6.4 Health physics office (extension building)

6.5 South gate (current daily dosimeter summary sheets)

7.0 EXPOSURES IN EXCESS OF ADMINISTRATIVE GUIDELINES

7.1 Personnel who have received whole body exposures in excess of 25 Rem shall be removed from emergency duty and referred to a physician for medical evaluation.

7.2 Personnel who have received whole body exposures in excess of 3 Rem shall be removed from normal work activities in the control area. Although it is extremely unlikely that there will be any detectable health effects, the Site Manager may refer the exposed person to a physician.

7.3 Any medical evaluation should be forwarded to the Company Medical Department.

TABLE 1

EMERGENCY PLAN EXPOSURE LIMITS

ADMINISTRATIVE EXPOSURE LIMITS (1)				
CATEGORY	WHOLE BODY[4]	SKIN[5]	EXTREMITIES[6]	AIRBORNE
DAILY LIMIT[2]	300 mRem (100 mRem)[3]	600 mRem	1500 mRem	
WEEKLY LIMIT[2]	600 mRem	1200 mRem	3000 mRem	40 MPC-HOURS
10 CFR 20.101 AND 103 EXPOSURE LIMITS				
"A" QUARTERLY LIMIT[7]	1250 mRem	7500 mRem	18750 mRem	40 MPC-HOURS
"B" QUARTERLY LIMIT[8]	3000 mRem	7500 mRem	18750 mRem	40 MPC-HOURS
EMERGENCY EXPOSURE LIMITS (PBNP EMERGENCY PLAN)				
PROTECTION OF PERSONNEL OR PLANT PROPERTY[9]	3000 but < 25000 mRem			1200 MPC-HOURS[10]
LIFESAVING[11]	25000 but < 100,000 mRem			1200 MPC-HOURS[10] 10000 MPC-HOURS[10]

NOTES:

(1) Limits are derived from the Health Physics Administrative Control Policies and Procedures Manual.

(2) Exposures in excess of the daily or weekly administrative limits require the approval of the Health Physicist or his designated alternate.

(3) Exposure in excess of the 100 mRem daily limit require the approval of the group supervisor.

(4) Whole body exposure is defined as exposure to the whole body, head and trunk, blood forming organs, lens of eyes and gonads.

(5) Skin exposure is defined as exposure to the skin of the whole body.

(6) Extremeties include the hands, forearms, feet and ankles.

(7) May be authorized after receiving signed statement that individual has received no exposure during the current quarter. Otherwise, one-fourth (1/4) of these values apply for non-plant employees.

(8) May be authorized when the dose to the whole body, when added to the accumulated occupational dose to the whole body, will not exceed 5(N-18) Rems and the individual's accumulated occupational dose to the whole body has been determined on NRC Form-4 or similar document containing the same information.

(9) Requires the approval of the Health Physics Director or Chemistry/Health Physics Supervisor and the Site Manager or his designated alternate when circumstances allow time for planned actions. Otherwise, in urgent circumstances, an attempt should be made to obtain approval from a group supervisor or Duty Shift Supervisor who is trained in Health Physics Procedures and a senior manager prior to authorizing exposures in excess of 10 CFR 20.101 and 103.

(10) Integrated exposures of 10,000 MPC-hours for nuclides with less than 8 day effective half-lives, are approximately equivalent to 25,000 mRem of whole body exposure. Integrated exposures of 1,200 MPC-hours for nuclides with greater than 8 day effective half-lives are approximately equivalent to 3000 mRem or whole body exposures.

(11) a. Lifesaving exposures in excess of 25 Rem but less than 100 Rem shall be on a volunteer basis and left to the judgement of the Health Physics Director and the Chemistry/Health Physics Supervisor, if available.

b. Volunteers should be made aware that whole body doses in the order of 100-200 Rem may result in radiation sickness and that whole body doses in excess of 200 Rem involve a risk of fatality.

c. Volunteers should avoid risk where the victim's exposure is known to be at a fatal level or where it is known that the victim's already fatally injured.

CRISIS COMMUNICATIONS

1.0 GENERAL

This procedure describes the steps to be taken if crisis communications are deemed necessary.

2.0 PRECAUTIONS & LIMITATIONS

2.1 All actions and notifications should be appropriately logged on Attachment 13.1-1.

2.2 Maintain phone lines.

3.0 INITIAL CONDITIONS

3.1 Site emergency or general emergency has been declared.

3.2 Notification has been received from system operations center, Duty & Call Superintendent, emergency support center, or Emergency Support Manager that crisis communications are necessary.

4.0 PROCEDURE

4.1 Designee (Public information representative)

4.1.1 Contact Vice President Communications, Superintendent of Public & Employee Information, Joint Public Information Center Director or their designates to alert them of events and possible implementation of the Crisis Communications Plan.

4.1.2 Contact Director of Point Beach Energy Information Center or designee with instructions to open the Joint Public Information Center (emergency news center).

4.1.3 Report to the communications center in the Public Service Building or JPIC as instructed by the Superintendent of Public & Employee Information.

4.2 Vice President Communications

4.2.1 Contact Emergency Support Manager. Together determine if it is necessary to open the JPIC.

4.2.2 Contact JPIC director to confirm need to open JPIC. Indicate which JPIC location will be utilized.

4.2.3 Contact the Superintendent of Public & Employee Information. Advise him to call appropriate personnel required to staff the communications center at the PSB and JPIC.

4.2.4 Report to PSB.

4.3 Superintendent of Public & Employee Information

4.3.1 Contact personnel necessary to staff the communications center in the Public Service Building.

4.3.2 Contact personnel necessary to staff the JPIC.

4.3.3 Report to the communications center in the PSB.

4.3.4 Coordinate communications between the JPIC and the communications center in the PSB.

4.3.5 Assist JPIC Director in coordination of all communications with media and offsite agencies. Releases should be identical and may be released simultaneously from the JPIC, the communications centers in the PSB, and the Madison office of the State Division of Emergency Government.

4.4 Joint Public Information Center Director

4.4.1 Report to the JPIC.

4.4.2 Contact Emergency Support Manager at the emergency support center (ESC) to discuss status of the plant and information to be released to the media.

4.4.3 Contact communications center in the PSB to confirm the operation of the JPIC and coordinate any media release.

4.4.4 Oversee and direct operation of the JPIC.

4.5 Director - Point Beach Energy Information Center

4.5.1 Contact the Director - Two Rivers Community House (or director of designated alternate) and request that the facility be made available to Wisconsin Electric Power Company as an emergency news center.

4.5.2 If the Two Rivers Community House is to be used as the JPIC, contact General Telephone and request that they implement their Radiological Emergency Response Plan for that facility.

4.5.3 Contact other Energy Information Center staff and request that they report to the JPIC bringing with them listed emergency supplies.

4.5.4 Report to the JPIC.

4.5.5 Contact emergency support center (ESC) to confirm telephone communications capability. Request that a technical advisor be dispatched to the JPIC.

4.5.6 Contact the communications center at the PSB to confirm telephone communications.

4.5.7 Contact the Two Rivers Police Department and request that security officers be dispatched to the JPIC.

4.5.8 Under the direction of the JPIC director, perform administrative duties as required.

ATTACHMENT 13.1-1

PUBLIC COMMUNICATIONS EMERGENCY CALL LIST

	Company Extension	Home Phone	Time Notified
System Operations Center	544-7104		_____
Communications Department Hotline	271-7117	271-7117	_____
Carlyle W. Fay - Emergency Support Manager	277-2811	377-5788	_____
John Speaker - Vice President Communications	277-2888	784-4959	_____
William Wilson - Assistant to the Vice President--Communications	277-2890	332-2277	_____
Neil Palmer - Senior Public Affairs Coordinator	277-2898	259-7875	_____
Dennis Kois - Superintendent of Public & Employee Information	277-2869	332-5383	_____
Lauretta Krcma - Energy Information Center Coordinator	755-4334	776-1787	_____
Off-Site Agencies			
Howard Perry - Director, Two Rivers Community Center	793-5592	793-2182	_____
James Grassman - City Manager, City of Two Rivers	793-1191	793-2923	_____
General Telephone Company - Phone Service at Two Rivers Community House		1-715/842-0441	_____
R. F. Plantico - Superintendent of Schools, Kewaunee	388-3230	388-4462	_____
City of Two Rivers Police Department, Chief Thome	793-5511 793-5507	911	_____

EPIP 14.2
MINOR
Revision 1
01-27-84

PAGING SYSTEM OPERATION

1.0 GENERAL

The purpose of this procedure is to list the steps necessary for proper communication over the paging system.

2.0 PRECAUTIONS & LIMITATIONS

2.1 This procedure applies to pushbutton telephones only. If you have a rotary dial telephone, have the control room make the page.

2.2 Maximum message length is 30 seconds when using the telephone.

3.0 PROCEDURE

3.1 Paging From the Site

3.1.1 Dial 334 or 335 on a PBX telephone.

3.1.2 Listen for a relatively loud beep.

3.1.3 Dial the desired group or individual number (see Attachment 14.2-1).

3.1.4 Listen for the beeping tone.

3.1.5 Wait approximately 3 seconds after the tone then state your message and hang up.

3.1.6 Personnel directed to come to the site should be told to place their paging unit in the monitor (thunderbolt) position.

NOTE: THIS WILL ALLOW LONG MESSAGES TO BE TRANSMITTED BY USING CHANNEL 3 ON THE RED FM RADIOS WHICH THE PAGING UNIT SHOULD RECEIVE.

3.2 Paging from Offsite

3.2.1 Call the plant.

3.2.2 Ask for Ext. 334 or 335.

3.2.3 Repeat Steps 3.1.2 through 3.1.6.

ATTACHMENT 14.2-1

PAGER NUMBERS

Group No.	
Duty & Call Superintendents	501
Duty Technical Advisors	510 & 520
I&C	520
Maintenance	530
Chemistry & Health Physics	540 & 530

Duty & Call Superintendents (501)

Name	Number
J. C. Reisenbuechler	502
G. J. Maxfield	504
R. E. Link	505
J. J. Zach	800
T. J. Koehler	801

Duty Technical Advisors (510 & 520)

Name	Number
T. L. Fredrichs	512
W. B. Fromm	513
T. R. Branam	514
J. G. Schweitzer	515
P. N. Kurtz	516
M. J. Logan	517
T. G. Staskal	518
G. R. Sherwood	519
N. L. Hoefert	524
G. L. Rau	525
E. H. Wellenstein	810
S. M. Barkhahn	526
R. R. Winget	527
J. E. Knorr	811
W. A. Hennig	821

E

Attachment 14.2-2 (Cont'd.)

Administration (520)

Name	Number
F. A. Flentje	529

I&C (520)

Name	Number
A. J. Pohl	521
Duty	523

Maintenance (530)

Name	Number
W. J. Herrman	531
M. E. Crouch	534
Duty	532

Chemistry & Health Physics (540 & 530)

Name	Number
P. J. Skramstad	840
R. S. Bredvad	841
L. D. Epstein	541
E. J. Manos	542
M. L. Braun	543
D. P. LeQuia	545
E. J. Lange	546
R. A. Neustadter	547
T. L. Slack	548
K. R. Rathgaber	830
H. J. Gleason	539
D. C. Peterson	537
J. V. Moniot	538
M. D. Moseman	535

POINT BEACH NUCLEAR PLANT

RMS SYSTEM STATUS
(Release Point Monitors)

Date _____

Time _____

DAM No.	Channel No.	RMS No.	Location	Range	Reading
003	5	1RE-215	U1 air ejector	10^{-5}-10^{-1} µCi/cc	_____
	9	1RE-231	Steam line monitor "A" SG	10^{-4}-10^{-1} µCi/cc	_____
004	5	2RE-215	U2 air ejector	10^{-4}-10^{-1} µCi/cc	_____
	9	2RE-231	Steam line monitor "A" SG	10^{-4}-10^{-1} µCi/cc	_____
005	2	1RE-232	Steam line monitor "B" SG	10^{-4}-10^{-1} µCi/cc	_____
	7	RE-221	Drumming area vent	10^{-8}-10^{-4} µCi/cc	_____
	8	RE-226	High range combined air ejector	10^{-2}-10^{1} µCi/cc	_____
006	2	2RE-232	Steam line monitor SG "B"	10^{-4}-10^{-1} µCi/cc	_____
	6	RE-224	Gas stripper building vent	10^{-9}-10^{-5} µCi/cc	_____
	9	RE-235	Noble gas in control room	10^{-7}-10^{-4} µCi/cc	_____
007	1	RE-225	Low range combined air ejector	10^{-5}-10^{-1} µCi/cc	_____
	4	RE-214	Auxiliary building vent	10^{-9}-10^{-5} µCi/cc	_____
021	--	--	U1 containment purge exhaust SPING		
	5	1RE-305	Low range gas	10^{-8}-10^{-4} µCi/cc	_____
	7	1RE-307	Mid range gas	10^{-3}-10^{4} µCi/cc	_____
	9	1RE-309	High range gas	10^{-1}-10^{4} µCi/cc	_____

DAM No.	Channel No.	RMS No.	Location	Range	Reading
022	--	--	U2 containment purge exhaust SPING		
	5	2RE-305	Low range gas	10^{-8}-10^{-4} µCi/cc	_____
	7	2RE-307	Mid range gas	10^{-3}-10^{6} µCi/cc	_____
	9	2RE-309	High range gas	10^{-1}-10^{6} µCi/cc	_____
023	--	--	Auxiliary building vent SPING		
	5	RE-315	Low range gas	10^{-8}-10^{-4} µCi/cc	_____
	7	RE-317	Mid range gas	10^{-3}-10^{6} µCi/cc	_____
	9	RE-319	High range gas	10^{-1}-10^{6} µCi/cc	_____
024	--	--	Drumming area vent SPING		
	5	RE-325	Low range gas	10^{-8}-10^{-4} µCi/cc	_____
	7	RE-327	Mid range gas	10^{-3}-10^{4} µCi/cc	_____
	11		DA vent stack velocity		_____

POINT BEACH NUCLEAR PLANT

RMS SYSTEM STATUS
(Area Type Monitors)

Date _____

Time _____

DAM No.	Channel No.	RMS No.	Location	Range	Reading
001	1	1RE-104	U1 charging pump	10^{-1}-10^{4} mR/hr	_____
	4	1RE-211B	U1 facade El. 52'	10^{0}-10^{6} cpm	_____
	6	1RE-216B	Slightly south C59	10^{-2}-10^{2} mR/hr	_____
	7	1RE-222	U1 facade El. 26'	10^{-1}-10^{4} mR/hr	_____
	8	1RE-136	U1 sample room	10^{2}-10^{7} mR/hr	_____
	9	1RE-107	U1 seal table	10^{-2}-10^{6} mR/hr	_____
002	1	2RE-104	U2 charging pump	10^{-1}-10^{4} mR/hr	_____
	4	2RE-211B	U2 facade El. 52'	10^{0}-10^{6} cpm	_____
	6	2RE-216B	Slightly north C59	10^{-2}-10^{2} mR/hr	_____
	7	2RE-222	U2 facade El. 26'	10^{-1}-10^{4} mR/hr	_____
	8	2RE-136	U2 sample room	10^{2}-10^{7} mR/hr	_____
	9	2RE-107	U2 seal table	10^{2}-10^{7} mR/hr	_____
003	3	1RE-229B	U1 El. 8' PAB	10^{-2}-10^{1} mR/hr	_____
	4	1RE-106	U1 sample room	10^{-1}-10^{4} mR/hr	_____
	8	1RE-134	U1 charging pump	10^{-2}-10^{7} mR/hr	_____
004	1	2RE-102	U2 cont. El. 66'	10^{2}-10^{7} mR/hr	_____
	3	2RE-229B	U2 aux. feed TB El. 8'	10^{-2}-10^{2} mR/hr	_____
	4	2RE-106	U2 sample room	10^{-1}-10^{4} mR/hr	_____
	8	2RE-134	U2 charging pump area	10^{0}-10^{6} mR/hr	_____

DAM No.	Channel No.	RMS No.	Location	Range	Reading
005	4	1RE-219B	Outside U1 sample room	10^{-2}-10^{2} mR/hr	
	5	RE-116	Letdown valve gallery	10^{-1}-10^{2} mR/hr	
	6	RE-103	Chem Lab	10^{-1}-10^{4} mR/hr	
	9	RE-140	SI pump room El. 8' PAB	10^{2}-10^{7} mR/hr	
006	4	2RE-219B	Outside U2 sample room	10^{-2}-10^{2} mR/hr	
	5	RE-105	SFP El. 66' PAG	10^{-1}-10^{4} mR/hr	
	8	RE-234B	Turbine hall El. 74'	10^{0}-10^{6} cpm	
	9	RE-235	Control room noble gas	10^{-7}-10^{-4} µCi/cc	
007	3	RE-218B	U2 PAB El. 8'	10^{-2}-10^{2} mR/hr	
	6	RE-220B	PAB El. 46'	10-10^{6} mR/hr	
	7	RE-108	El. 26' PAB DA	10^{-1}-10^{4} mR/hr	
	8	RE-114	CVCS holding tank El. 26' PAB	10^{0}-10^{5} mR/hr	
	9	RE-101	Control room	10^{-1}-10^{4} mR/hr	
008	1	RE-113	El. -19' PAB	10^{-1}-10^{4} mR/hr	
	3	RE-230B	U2 TA El. 8' WT Area	10^{-2}-10^{2} mR/hr	
	4	RE-112	El. 8' PAB central	10^{0}-10^{5} mR/hr	
	6	RE-223B	CCW HX El. 46' PAB	10^{-2}-10^{2} mR/hr	
	7	RE-111	C59	10^{0}-10^{5} mR/hr	
	8	RE-135	SFP - high range	10^{2}-10^{7} mR/hr	
	9	RE-110	SI Pump area El. 8' PAB	10^{-1}-10^{4} mR/hr	

Completed By _____ _____ Date _____

Reviewed By _____ Date _____

POINT BEACH NUCLEAR PLANT

RMS SYSTEM STATUS
(Process Monitors)

Date _____

Time _____

DAM No.	Channel No.	RMS No.	Location	Range	Reading
001	3	1RE-212	Cont. noble gas	10^{-8}-10^{6} µCi/cc	_____
	5	1RE-216	Cont. fan coolers	10^{-8}-10^{6} µCi/cc	_____
	7	1RE-222	BD tank outlet U1	10^{-2}-10^{1} mR/hr	_____
002	3	2RE-212	Cont. noble gas	10^{-8}-10^{4} µCi/cc	_____
	5	2RE-216	Cont. fan coolers	10^{-9}-10^{-6} µCi/cc	_____
	7	2RE-222	BD tank outlet U2	10^{-2}-10^{1} mR/hr	_____
003	2	1RE-229	Service water discharge	10^{-8}-10^{6} µCi/cc	_____
	6	1RE-217	Component cooling water	10^{-8}-10^{-4} µCi/cc	_____
004	2	2RE-229	Service water discharge	10^{-8}-10^{6} cpm	_____
	6	2RE-217	Component cooling water	10^{-8}-10^{-4} µCi/cc	_____
005	3	1RE-219	SG blowdown U1	10^{0}-10^{6} cpm	_____
006	3	2RE-219	SG blowdown U2	10^{9}-10^{-5} µCi/cc	_____
	9	RE-235	Control room noble gas	10^{-8}-10^{-4} µCi/cc	_____
007	2	RE-218	Waste disposal system	10^{0}-10^{6} µCi/cc	_____
	5	RE-220	SFP liquid monitor	10^{-9}-10^{-5} µCi/cc	_____
008	2	RE-230	Liquid retention pond	10^{-8}-10^{6} µCi/cc	_____
	5	RE-223	Waste distillate	10^{0}-10^{6} µCi/cc	_____

OFFSITE AGENCY EMERGENCY CALL LIST

FEDERAL AGENCIES:

1. United States Nuclear Regulatory Commission

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
NRC Operations Center	All hours	Red Phone or 1-202/951-0550			
NRC Office of Inspection and Enforcement, Region III	All hours (Ask for Duty Officer)	1-312/790-5500			

NRC Resident Inspectors:	Plant Ext.	Home		
a. R. L. Hague	294	388-2856		
b. B. E. Fitzpatrick	294	794-8272		

2. United States Department of Energy

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Chicago Operations Center, Region V (Radiological Assistance Team)	Weekdays (8AM-5PM)	1-312/972-4800			
	All other hours	1-312/972-5731			

3. United States Coast Guard

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
MSO, Milwaukee		1-291-3788			
USCG, Sturgeon Bay	All hours	1-743-3366			
USCG, Two Rivers	All hours	793-1304			

4. United States National Weather Service

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
NWS, Green Bay	All hours	NAWAS			
		1-433-3876			

STATE AGENCIES:

1. State of Wisconsin

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Wisconsin Dept. of Health and Social Services, Section of Radiation Protection	Weekdays (9AM-5PM)	1-608/266-7464			
Lawrence J. McDonnell, Chief Section of Radiation Protection		Home phone 1-608/873-5483			
Wisconsin Division of Emergency Government	All hours	1-608/266-3232 or NAWAS			
Wisconsin State Patrol	All hours	1-921-0448 1-921-0442 or NAWAS			

COUNTY AGENCIES:

1. Manitowoc County

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Manitowoc County Sheriff, County Traffic	All hours	683-4200 or NAWAS or radio			

2. Kewaunee County

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Kewaunee County Dispatcher	All Hours	1-388-3100 or NAWAS			

PRIVATE AGENCIES:

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Kewaunee Nuclear Power Plant	All hours	793-2229			
Institute of Nuclear Power Operations	All hours	1-404/953-0904			
American Nuclear Insurers	All hours	1-203/677-7305			
Westinghouse Electric Corp. Operating Plant Regional Mgr.	Office	1-412/256-5858			
(E. Somers)	Home	1-412/856-6927			
	Voice Beeper	1-412/765-4318			
1st Alternate	Home	1-412/256-5409			
(C. Spurmont)	Office	1-412/462-4509			
2nd Alternate	Home	1-412/256-5855			
(C. Rowland)	Office	1-412/478-3535			
Stone & Webster Engineering Corp.	All hours	1-617/973-0008			
Bechtel Power Corporation	All hours	1-415/768-3840			
University of Wisconsin - Milwaukee Seismic Center (D. Willis)	Office	1-414/963-4974 or 1-414/963-4561 Home 355-6823			
Wisconsin Public Service Corp. (EOF Power)		793-4561			

FIRE AND MEDICAL AGENCIES

1. Fire Emergency

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Two Creeks Fire Department	All hours	684-0133 (Emergency line)	_____	_____	_____

2. Medical Assistance

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Doctors Clinic, Ltd. S. Lawrence Kaner, M.D. Stephen L. Weld, M.D.		793-2281	_____	_____	_____
University Hospital, Madison					
Emergency Room	All hours	1-608/262-2398	_____	_____	_____
Frank C. Larson, M.D.		1-608/262-2718	_____	_____	_____
Robert F. Schilling, M.D.		1-608/262-3188	_____	_____	_____
Robert R. Radtke, Ph.D. (Health Physicist)		1-608/262-8769	_____	_____	_____
Two Rivers Emergency Vehicle	All hours	793-1151 or 1152	_____	_____	_____
Community Hospital, Two Rivers	All hours	793-1178	_____	_____	_____