September 10, 1982

USNRC - Washington (10 Sets)

POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURES

The following new and revised procedures are attached and should be inserted into your manual. Please destroy all revisions removed from your manual.

1. EPIP 1.1, "Initial Classification," Revision 3, dated 09-10-82.

2. EPIP 1.3, "Estimation of Source Term," Revision 3, dated 09-10-82.

3. EPIP 1.4, "Radiological Dose Evaluation," Revision 6, dated 09-10-82.

4. EPIP 1.5, "Protective Action Evaluation," Revision 4, dated 09-10-82.

5. EPIP 1.7, "Evaluation of Core Damage," Revision 1, dated 09-10-82.

6. EPIP 1.8, "Emergency Off-Site Dose Estimations," Revision 2, dated 09-10-82.

7. EPIP 2.1, "Unusual Event - Immediate Actions," Revision 1, dated 09-10-82.

8. EPIP 2.3, "Unusual Event - Off-Site Agency Notification," Revision 2, dated 09-10-82.

9. EPIP 3.1, "Alert - Immediate Actions," Revision 2, dated 09-10-82.

10. EPIP 3.3, "Alert - Off-Site Agency Notification," Revision 1, dated 09-10-82.

11. EPIP 4.1, "Site Emergency - Immediate Actions," Revision 2, dated 09-10-82.

12. EPIP 4.3, "Site Emergency - Off-Site Agency Notification," Revision 1, dated 09-10-82.

13. EPIP 5.1, "General Emergency - Immediate Actions," Revision 2, dated 09-10-82.

14. EPIP 5.3, "General Emergency - Off-Site Agency Notification," Revision 1, dated 09-10-82.

15. EPIP 6.5, "Technical Support Center & Operations Support Center Activation," Revision 0, dated 09-10-82.

16. EPIP 7.3.2, "Post-Accident Sampling & Analysis of Potentially High Level Reactor Coolant," Revision 4, dated 09-10-82.

Wisconsin Electric POWER COMPANY
231 W. MICHIGAN, P.O. BOX 2046, MILWAUKEE, WI 53201

10/4

September 10, 1982

Mr. H. R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. NUCLEAR REGULATORY COMMISSION
Washington, D. C. 20555

Attention: Mr. R. A. Clark, Chief
Operating Reactor, Branch 3

Gentlemen:

DOCKET NOS. 50-266 AND 50-301
EMERGENCY PLAN IMPLEMENTING PROCEDURES
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Enclosed are ten copies of the following revisions to the Point Beach Nuclear Plant Emergency Plan Implementing Procedures:

PROCEDURES

1. EPIP 1.1, "Initial Classification", Revision 3, dated 09-10-82.

2. EPIP 1.3, "Estimation of Source Term", Revision 3, dated 09-10-82.

3. EPIP 1.4, "Radiological Dose Evaluation", Revision 6, dated 09-10-82.

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17. EPIP 7.3.3, "Post-Accident Sampling of Containment Atmosphere", Revision 4, dated 09-10-82.

18. EPIP 7.4.1, "Routine Check, Maintenance, Calibration & Inventory Schedule for Health Physics Emergency Plan Equipment", Revision 6, dated 09-10-82.

19. EPIP 7.4.2, "Emergency Plan Equipment Routine Check, Maintenance & Calibration Instructions", Revision 4, dated 09-10-82.

20. EPIP 11.1, "On-Site First Aid Assistance", Revision 3, dated 09-10-82.

21. EPIP 11.3, "Hospital Assistance", Revision 2, dated 09-10-82.

22. EPIP 13.1, "Crisis Communications", Revision 2, dated 09-10-82.

23. EPIP 15.4, "Emergency Preparedness Review", Revision 0, dated 09-10-82.

FORMS

1. EPIP-04 (09-82), "Status Report on Plant Systems & Controls for Affected Unit", (attach to EPIP 1.2).

2. EPIP-07 (09-82), "For X/Q Determination", (attach to EPIP 1.4).

3. EPIP-08 (09-82), "Estimated Whole Body & Thyroid Projected Doses", (attach to EPIP 1.4).

4. EPIP-09 (09-82), "Estimated Whole Body Dose Calculation Worksheet for Specific Noble Gas Releases", (attach to EPIP 1.4).

5. EPIP-10 (09-82), "Estimated Ground Deposition Calculation Worksheet for Particulate Radionuclide Releases", (attach to EPIP 1.4).

6. EPIP-10a (09-82), "Estimated Population Dose", (attach to EPIP 1.8).

7. EPIP-11 (09-82), "Summary of Radiological Dose Evaluation Calculations", (attach to EPIP 1.4).

8. EPIP-12 (09-82), "Initial Incident Report Form", (attach to EPIP's 2.3, 3.3, 4.3, 5.3).

9. EPIP-13 (09-82), "Status Update Form", (attach to EPIP's 2.3, 3.3, 4.3, 5.3).

10. EPIP-22 (09-82), "Plant & Company Emergency Call List", (place after the Call List tab).

11. EPIP-23 (09-82), "Off-Site Agency Emergency Call List", (place after the Call List tab).

12. EPIP-24a (09-82), "Site Boundary Control Center Emergency Plan Inventory Checklist", (attach to EPIP 7.4.1).

13. EPIP-24b (09-82), "TSC, ESC, South Gate & OSC Emergency Plan Inventory Checklist", (attach to EPIP 7.4.1).

14. EPIP-24f (09-82), "Emergency Plan First Aid Kit Inventory Checklist", (attach to EPIP 7.4.1).

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16. EPIP-24h (09-82), "Emergency Plan First Aid Room Inventory", (attach to EPIP 7.4.1).

17. EPIP-24i (09-82), "Emergency Plan Stretcher Inventory", (attach to EPIP 7.4.1).

18. EPIP-24j (09-82), "Emergency Trauma Kit Inventory", (attach to EPIP 7.4.1).

19. EPIP-25c (09-82), "Quarterly Emergency Plan Checklist", (attach to EPIP 7.4.2).

20. EPIP-25d (09-82), "Semiannual & Annual Emergency Plan Checklist", (attach to 7.4.2).

21. EPIP-33 (09-82), "Estimation of Core Damage", (attach to EPIP 1.7).

22. EPIP-34 (09-82), "Calculation of Xe-133 Equivalent Release Rates", (attach to EPIP 1.8).

23. EPIP-35 (09-82), "Dose Calculations", (attach to EPIP 1.8).

24. EPIP-37 (09-82), "Medical Assistance Call List", (attach to EPIP 11.1).

MISCELLANEOUS

1. "Table of Contents" dated 09-10-82.

2. "Table of EPIP Forms" dated 09-10-82.

These revisions consist of page changes which should be filed in your copies of the Emergency Plan Implementing Procedures in accordance with the attached instructions. Please return the receipt form for these ten copies to:

Wisconsin Electric Power Company
Point Beach Nuclear Plant
6610 Nuclear Road
Two Rivers, Wisconsin 54241

Very truly yours,

C. W. Fay

Assistant Vice President

C. W. Fay

Enclosures

Copies to NRC Resident Inspector (1)
Incident Response Center, Region III (3)

September 10, 1982

USNRC - Washington (10 Sets)

POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURES

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23. EPIP 15.4, "Emergency Preparedness Review," Revision 0, dated 09-10-82.

The following new and revised forms are attached for insertion into your manual. Please attach the form to the indicated procedure and destroy all revisions removed from your manual.

1. EPIP-04 (09-82), "Status Report on Plant Systems & Controls for Affected Unit," (attach to EPIP 1.2).

2. EPIP-07 (09-82), "For X/Q Determination," (attach to EPIP 1.4).

3. EPIP-08 (09-82), "Estimated Whole Body & Thyroid Projected Doses," (attach to EPIP 1.4).

4. EPIP-09 (09-82), "Estimated Whole Body Dose Calculation Worksheet for Specific Noble Gas Releases," (attach to EPIP 1.4).

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19. EPIP-25c (09-82), "Quarterly Emergency Plan Checklist," (attach to EPIP 7.4.2).

20. EPIP-25d (09-82), "Semi-Annual & Annual Emergency Plan Checklist," (attach to EPIP 7.4.2).

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22. EPIP-34 (09-82), "Calculation of Xe-133 Equivalent Release Rates," (attach to EPIP 1.8).

23. EPIP-35 (09-82), "Dose Calculations," (attach to EPIP 1.8).

24. EPIP-37 (09-82), "Medical Assistance Call List," (attach to EPIP 11.1).

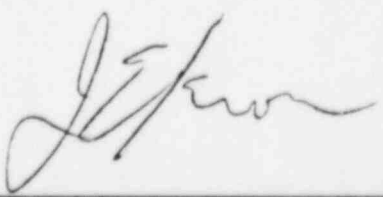
EPIP-14 and EPIP-15 have been deleted. Please destroy copies removed from EPIP 4.3 and EPIP 5.3.

Also attached is a revised listing of the Table of Contents to be inserted into your manual. Please destroy the old revision.

Also attached is a revised Table of EPIP Forms. Please insert this table into your manual. Please destroy the old revision.

Please fill out the attached receipt form and return it to Ms. F. A. Zeman at the Point Beach Nuclear Plant.

J. E. Knorr



September 10, 1982

NSNRC (10 Sets)

POINT BEACH NUCLEAR PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURES
09-10-82

I hereby acknowledge receipt of EPIP 1.1, EPIP 1.3, EPIP 1.4, EPIP 1.5, EPIP 1.7, EPIP 1.8, EPIP 2.1, EPIP 2.3, EPIP 3.1, EPIP 3.3, EPIP 4.1, EPIP 4.3, EPIP 5.1, EPIP 5.3, EPIP 6.5, EPIP 7.3.2, EPIP 7.3.3, EPIP 7.4.1, EPIP 7.4.2, EPIP 11.1, EPIP 11.3, EPIP 13.1 and EPIP 15.4 and have inserted them into my manual.

_____

Date _____

TABLE OF CONTENTS

TABLE OF EPIP FORMS

EPIP Form	Title	EPIP Procedure
01	Emergency Plan Airborne Radiation Survey Record Site Boundary Control Center (03-81)	7.3.1
02	Emergency Plan Survey Record Site Boundary Control Center (09-81)	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 (09-82)	1.2
05	Worksheet for Status Report on Radiation Monitoring System for Unit (03-81)	1.2
06	Worksheet for Status Report on Radiation Monitoring System for Plant (03-81)	1.2
07	For X/Q Determination (09-82)	1.4
08	Estimated Whole Body & Thyroid Projected Doses (09-82)	1.4
09	Estimated Whole Body Dose Calculation Worksheet for Specific Noble Gas Releases (09-82)	1.4
10	Estimated Ground Deposition Calculation Worksheet for Particulate Radionuclide Releases (09-82)	1.4
10a	Estimated Population Dose (09-82)	1.8
11	Summary of Radiological Dose Evaluation Calculations (09-82)	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	Drill/Exercise Scenario (03-81)	15.3
20	Drill/Observation Sheet (03-81)	15.3
21	Drill/Exercise Evaluation Report (03-81)	15.3
22	Plant & Company Emergency Call List (09-82)	Call List Tab
23	Offsite Agency Emergency Call List (09-82)	Call List Tab
24a	Site Boundary Control Center Emergency Plan Inventory Checklist (09-82)	7.4.1
24b	TSC, ESC, South Gate & OSC Emergency Plan Inventory Checklist (09-82)	7.4.1
24c	Emergency Plan Health Physics Supplies at Two Rivers Community Hospital Inventory Checklist (09-81)	7.4.1
24d	Control Room Emergency Plan Equipment Inventory Checklist (06-82)	7.4.1
24e	Emergency Vehicle Inventory Checklist (04-82)	7.4.1
24f	Emergency Plan First Aid Kit Inventory Checklist (09-82)	7.4.1

EPIP Forms	Title	EPIP Procedure
24g	Emergency Plan Burn Kit Inventory (09-82)	7.4.1
24h	Emergency Plan First Aid Room Inventory (09-82)	7.4.1
24i	Emergency Plan Stretcher Inventory (09-82)	7.4.1
24j	Emergency Trauma Kit Inventory Checklist (09-82)	7.4.1
25a	Emergency Vehicle Checklist (06-82)	7.4.2
25b	Monthly Health Physics Instrument & Air Sampler Functional Test Checklist (06-82)	7.4.2
25c	Quarterly Emergency Plan Checklist (09-82)	7.4.2
25d	Semi-Annual & Annual Emergency Plan Checklist (09-82)	7.4.2
26	Quarterly Communications Test (03-81)	14.1
27	Monthly Communications Test (03-81)	14.1
28	Emergency Plan Instrument Calibration Schedule (06-82)	7.4.2
29	Emergency Plan Counting Equipment & Frisker Calibration Schedule (06-82)	7.4.2
30	Reactor Coolant Post-Accident Sampling Analysis Report (09-81)	7.3.2
31	Containment Atmosphere Post-Accident Sampling Analysis Report (12-81)	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 (09-82)	1.8
35	Dose Calculations (09-82)	1.8
36	Unused	
37	Medical Assistance Call List (09-82)	11.1

INITIAL CLASSIFICATION

1.0 GENERAL

The purpose of this procedure is to provide a means of classifying an event or condition at the Point Beach Nuclear Plant into one of four emergency classifications as described in the Point Beach Nuclear Plant Emergency Plan. Each emergency classification requires emergency organization notifications, mobilizations, and actions to be performed in order to appropriately react to the situation and provide for the health and safety of plant and public personnel. They are listed in order of increasing severity.

1.1 Unusual Event

An unusual plant condition which either has occurred or might occur. This condition could possibly lead to a degradation in overall safety. This condition does not represent a significant radioactivity release, involves no offsite response, and may require no augmentation of plant personnel. In spite of the above, prompt notification of the counties and state is required.

1.2 Alert

Plant conditions in which events are in progress or have occurred which involve an actual or potential degradation of plant safety. Radiation releases are not likely to cause an offsite hazard. Prompt offsite notification is necessary and the plant organization may have to be augmented.

1.3 Site Emergency

Plant conditions in which events are in progress or have occurred which involve actual or probable major failures of plant functions. Potential radioactive releases may have an impact on offsite people. Prompt notification of offsite agencies is required. The plant organization must be augmented and the technical support center, onsite operations support center, and emergency support center will be operational. An evacuation may be necessary.

1.4 General Emergency

Plant conditions in which events are in progress or have occurred which involve actual or imminent substantial core degradation and a potential for loss of containment integrity. Potential radioactive releases may have an impact on offsite people. Prompt notification

of offsite agencies is required. The plant organization must be augmented and the technical support center, onsite operations support center, and emergency support center will be operational. An evacuation may be necessary. The emergency news center will be opened.

The Shift Supervisor has the responsibility and authority to take immediate action to mitigate the consequences of the emergency. He will consult with the Duty & Call Superintendent and assign the appropriate emergency classification and initiate the necessary Emergency Plan implementing procedures.

2.0 REFERENCES

2.1 Nuclear Regulatory Commission NUREG-0654, Revision 1, published November, 1980.

2.2 Point Beach Nuclear Plant Emergency Plan Sections 4.1 and 5.1.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 All actions and notifications should be appropriately logged.

3.2 Emergency Plan implementing procedures are not to be used to respond to security threats. One hour notification of the NRC is required using the red phone for security threats.

3.3 Certain events require notification to the NRC within one hour. These items are included on Table 1-1. Those items which are noted as "NRC Only" means that there is no classification for the events and no notification other than the NRC is required. These notifications are not considered as starting the Emergency Plan.

3.4 The "Indications Used" in Table 1-1 are those which one may expect if that level of emergency occurs very quickly. For more slowly developing situations, other indications may be judged appropriate. For example, a primary system leak rate of 40 gpm is an Unusual Event. Subsequently, charging may be lost and, in addition, the leak may worsen. One may not see charging flow 50 gpm greater than letdown flow when in fact an Alert should be declared.

3.5 For classification purposes where radiological dose is the primary parameter leading to a classification, use EPIP 1.8, "Emergency Off-Site Dose Estimation" for determination of dose.

4.0 INITIAL CONDITIONS

None.

NOTE: APPENDIX 1 OF NUREG-0654 (PAGE 1-3) CONTAINS THIS SENTENCE: "THE TIME IS MEASURED FROM THE TIME AT WHICH OPERATORS RECOGNIZE (EMPHASIS ADDED) THAT EVENTS HAVE OCCURRED WHICH MAKE DECLARATION OF THE EMERGENCY CLASS APPROPRIATE.

5.0 PROCEDURE

5.1 Call the Duty & Call Superintendent for consultation to establish the initial classification. If he is unavailable, the Shift Supervisor is responsible for classification.

5.2 Select affected categories related to plant events or conditions at this time. Check (✓) all applicable categories.

Category				Refer to Page in Table 1-1
1.	_____	_____	_____ Safety System Functions	1
2.	_____	_____	_____ Abnormal Primary Leak Rate	1
3.	_____	_____	_____ Abnormal Coolant Temperature/ Pressure	2
4.	_____	_____	_____ Abnormal Primary/Secondary Leak	2
5.	_____	_____	_____ Core Fuel Damage	3
6.	_____	_____	_____ Secondary Coolant Anomaly	4
7.	_____	_____	_____ Abnormal Effluent	5
8.	_____	_____	_____ Major Electrical Failures	5
9.	_____	_____	_____ Control Room Evacuation	6
10.	_____	_____	_____ Fire	6
11.	_____	_____	_____ Plant Shutdown Function	7
12.	_____	_____	_____ Abnormal Radiation Levels at Site Boundary	8
13.	_____	_____	_____ Fuel Handling Accident	8
14.	_____	_____	_____ Serious or Fatal Injury	9
15.	_____	_____	_____ Security Threat	9
16.	_____	_____	_____ Hazards to Plant Operations	9
17.	_____	_____	_____ Natural Events	10
18.	_____	_____	_____ Reactivity Transient	10

Category				Refer to Page in Table 1-1
19.	_____	_____	_____ Load Transient	11
20.	_____	_____	_____ Other	11

5.3 Beginning at the indicated page in Table 1-1 (attached), review initiating conditions for all categories checked above.

5.4 Record most severe emergency classification at this time.

_____ _____ _____

5.5 Record date/time of initial classification (subsequent columns for reclassification at a later date and time are provided if reclassification is required).

Initial Date/Time	Subsequent Date/Time	Subsequent Date/Time
_____	_____	_____

NOTE: IF THE SHIFT SUPERVISOR CANNOT COMMUNICATE WITH A DUTY & CALL SUPERINTENDENT, THE SHIFT SUPERVISOR MUST NOTIFY THE STATE AND TWO COUNTIES WITHIN 15 MINUTES OF THE DECLARATION OF ANY CLASS OF EMERGENCY.

5.6 If events or conditions are classified as an Unusual Event, perform EPIP 2.1, "Unusual Event - Immediate Actions."

5.7 If events or conditions are classified as an Alert, perform EPIP 3.1, "Alert - Immediate Actions."

5.8 If events or conditions are classified as a Site Emergency, perform EPIP 4.1, "Site Emergency - Immediate Actions."

5.9 If events or conditions are classified as a General Emergency, perform EPIP 5.1, "General Emergency - Immediate Actions."

NOTE:

"One hour" refers to the requirement to notify NRC within one hour (10 CFR 50.72).

"One hour - Open line" refers to the requirement to notify NRC within one hour and maintain an open line for continuous communication (10 CFR 50.72).

Notes: - Duty & Call Superintendent
DSS - Duty Shift Supervisor
FSAR - Final Safety Analysis Report
MASP - Modified Amended PBNP Security Plan

TABLE 1-1

EMERGENCY CLASSIFICATION

Category	Initiating Condition	Indication Used	Emergency Classification
1. Safety System Functions	Unplanned initiation of emergency core cooling with injection to the primary system	Any of the following first-out reactor trip panel annunciation with indicator confirmation noted: 1. "Containment press hi", [PI-945, PI-947, PI-949 (2/3 >5 psig)] 2. "Steam line loop A lo-lo press" [PI-468, PI-469, PI-482 (2/3 <530 psig)] 3. "Steam line loop B lo-lo press" [PI-478, PI-479, PI-483 (2/3 <530 psig)] 4. "Pressurizer lo press SI" [PI-429, PI-430, PI-431 (2/3 <1735 psig)] 5. Wide range pressure <1500 psig	Unusual Event 1-Hour (7)
	Loss of containment integrity requiring shutdown by Technical Specifications	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)
	Loss of engineered safety feature requiring shutdown by Technical Specifications	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)
	Loss of fire protection system function requiring shutdown by Technical Specifications (i.e., both fire pumps inoperable) and no backup fire suppression system	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)
2. Abnormal Primary Leak Rate	Exceeding Technical Specification primary system leak rate (10 gpm)	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)

Category	Initiating Condition	Indication Used	Emergency Classification
	Leak rate >50 gpm	All of the following: 1. "Volume control tank level hi-lo" [LI-141 and/or LI-112 <8%] 2. Decreasing pressurizer level [LI-426, LI-427, LI-428] 3. "Charging pump speed hi" 4. Charging line flow (FI-128) >50 gpm more than letdown flow (FI-134)	Alert
	Leak rate in excess of available pump capacity including charging, high head SI and low head SI	All of the following: 1. "Volume control tank level hi-lo [LI-141 and/or LI-112 <8%] 2. No pressurizer level indicated [LI-426, LI-427, LI-428] 3. All available pumps running as indicated by the red light at the switch 4. Increasing core exit T/C temp as indicated by P-250 and confirmed on local readout.	Site Emergency
3. Abnormal Coolant Temperature/Pressure	Unexpected decrease in subcooling margin	Both of the following: 1. Alarm on P-250, if operable 2. Confirmation by manual calculation	Unusual Event
	Pressure >2735 psig DNBR <1.30	Pressure >2735 psig on PR-420 and "Code, safety or PORV not closed"	NRC only 1-hour open line (2)
4. Abnormal Primary/ Secondary Leak	Exceeding Technical Specification primary-secondary leak rate	When shutdown commences as determined by DSS and DCS	Unusual Event 1-Hour (5)

Category	Initiating Condition	Indication Used	Emergency Classification
	Gross failure of 1 SG tube (>400 gpm) & loss of offsite power (FSAR 14.2.4)	All of the following first-out reactor panel annunciation with confirmation indication: 1. "Pressurizer Lo Press SI," [PI-429, PI-430, PI-431 (2/3 <1735 psig)] 2. a. "Steam generator A level hi" [LI-461, LI-462, LI-463 (2/3 >70%)] or b. "Steam generator B level hi" [LI-471, LI-472, LI-473 (2/3 >70%)] 3. a. "4.16 kv bus undervoltage" & 0 volts on A03 & A04 voltmeters. b. X04 to A03 ammeter on CO2 (0 amps) c. X04 to A04 ammeter on CO2 (0 amps) 4. SI flow >400 gpm indicated by FI-924 & FI-925 and pump discharge pressure corresponding to flow.	Alert
	Rapid failure of >10 SG tubes (4000 gpm) with or without offsite AC	All of the following first-out reactor panel annunciation with confirming indication: 1. "Pressurizer lo press SI" [PI-429, PI-430, PI-431 (2/3 <1735 psig)] 2. a. "Steam generator A level hi" [LI-461, LI-462, LI-463 (2/3 >70%)] or b. "Steam generator B level hi" [LI-471, LI-472, LI-473 (2/3 >70%)] 3. SI flow >4,000 gpm indicated by FI-626, FI-928, FI-924 & FI-925	Site Emergency
5. Core Fuel Damage	Gross fuel damage in core indicated	Both of the following: 1. Letdown line radiation monitor (R9) (sample line R109) 100 x alarm setpoint. 2. Sustained offscale & chemical analysis shows fission product concentration increase by 100X.	Unusual Event

Category	Initiating Condition	Indication Used	Emergency Classification
	Massive fuel damage	300 µCi/cc iodine-equivalent as determined by by chemical analysis	Alert
	1. Massive loss of fuel clad integrity 2. With simultaneous loss of primary system integrity 3. With potential loss of containment integrity	Initiating Conditions Nos. 1, 2, 4 & 5 exist and No. 3 is possible: 1. 300 µCi/cc iodine-equivalent determined by chemical analysis 2. Primary system leak >1000 gpm indicated by SI flow >1000 gpm (FI-924 & FI-925) and pump discharge pressure corresponding to flow 3. Minimum containment pressure suppression equipment is not available (any of the following): a. No fan cooler operating and <2 spray pumps. b. No spray pump operating and <4 fan coolers c. <2 fan coolers running with 1 spray pump 4. "Containment press hi" [PI-945, PI-947, PI-949 (2/3 >5 psig)] 5. "Containment spray" with 2/3 + 2/3 >25 psig [PI-945, PI-947, PI-949] [PI-946, PI-948, PI-950]	General Emergency 1-Hour open line (3)
6. Secondary Coolant Anomaly	Reduction in feedwater enthalpy incident (FSAR 14.1.7)	1. a. Decreasing feedwater temp indicated by TO-418A & TO-438A on P-250 and b. confirmed by local temperature indicator on outlet of No. 5 feedwater heater. 2. Unexpected increasing power on excore nuclear instrumentation	Unusual Event
	Steam line break with primary to secondary leak rate in excess of 10 gpm (FSAR 14.2.5)	All of the following first-out reactor trip panel annunciation with confirmation: 1. Either: a. "Steam line loop A Lo-Lo press" [PI-468, PI-469, PI-482 (2/3 <530 psig)] or b. "Steam line loop B Lo-Lo press" [PI-478, PI-479, PI-483 (2/3 <530 psig)]	Alert 1-Hour open line (3)

Category	Initiating Condition	Indication Used	Emergency Classification
		2. Confirmed primary-to-secondary leak rate of at least 10 gpm. 3. Either: a. "Steam line loop A isol channel alert" [FI-464, FI-465 (1/2 >3.9x10^6 lb/hr)] or b. "Steam line loop B isol channel alert" [FI-474, FI-475 (1/2 >3.9x10^6 lb/hr)]	
Secondary Coolant Anomaly	Transient initiated by loss of feedwater, followed by loss of auxiliary feedwater for >1 hour (FSAR 14.1.11)	All of the following: 1. Decreasing SG levels - "A" SG [LI-461, LI-462, LI-463] "B" SG [LI-471, LI-472, LI-473] 2. No auxiliary feedwater flow - [FI-4002, FI-4007, FI-4014] [FI-4036, FI-4037]	General Emergency 1-Hour open line (3)
7. Abnormal Effluent	Radiological effluent Technical Specification limits exceeded but <10 times the limit (FSAR 14.2.3)	Airborne effluents only	Unusual Event 1-Hour (8)
	Radiological effluent Technical Specification limits exceeded (FSAR 14.2.2)	Liquid effluents only	Unusual Event 1-Hour (8)
	Radiological effluents >10 times Technical Specification instantaneous limits. (An instantaneous rate which, if continued for >2 hours, would result in a dose of about 1 mR at the site boundary under average meteorological conditions.)	Airborne effluents only	Alert 1-Hour (8)
8. Major Electrical Failures	Sustained loss of offsite power >15 minutes (FSAR 14.1.2)	All of the following: 1. "4.16 kv bus undervoltage" & 0 volts on A03 & A04 voltmeters. 2. X04 to A03 ammeter on CO2 (0 amps). 3. X04 to A04 ammeter on CO2 (0 amps)	Unusual Event

Category	Initiating Condition	Indication Used	Emergency Classification
	Sustained loss of onsite AC power capability (>15 minutes)	Both of the following: 1. "4.16 kv bus undervoltage" & 0 volts on A05 and A06 voltmeters 2. "Emergency Diesel Starting System Disabled" for both Diesels	Unusual Event 1-Hour (5)
	Loss of all vital onsite DC power >15 minutes	Both of the following: 1. "Annunciator power failure" on C01, C02, C03, and C04 2. <100 volts on the voltmeters for all batteries	Site Emergency
	Loss of offsite power and loss of all onsite AC power for >15 minutes	All of the following: 1. "4.16 kv bus undervoltage" 0 volts on A03, A04, A05, A06 & "Emerg Diesel starting system disabled" for both Diesels 2. X04 to A03 ammeter on C02 (0 amps) 3. X04 to A04 ammeter on C02 (0 amps)	Site Emergency
	Loss of offsite and all onsite AC power with loss of all auxiliary feedwater for >2 hours	All of the following: 1. Unit aux MW meter X02 on C02 (0 MW) 2. Station aux MW meter X04 on C02 (0 MW) 3. X04 to A03 ammeter on C02 (0 amps) 4. X04 to A04 ammeter on C02 (0 amps) 6. X02 to A01 ammeter on C02 (0 amps) 7. a. No auxiliary feedwater flow [FI-4036, FI-4037] b. Decreasing SG level - "A" SG [LI-461, LI-462, LI-463] "B" SG [LI-471, LI-472, LI-473]	General Emergency
9. Control Room Evacuation	Evacuation of control room >15 minutes & no control at remote shutdown station	As required by DSS	Site Emergency 1-Hour open line (3)
10. Fire	Fire in vital area or on the controlled side of plant lasting >10 minutes after initial use of fire extinguishing equipment.	As reported by Fire Brigade Chief	Unusual Event

Category	Initiating Condition	Indication Used	Emergency Classification
	Fire affecting 1 train of safety systems.	As reported by Fire Brigade Chief	Alert
	Fire affecting 2 trains of safety systems	As reported by Fire Brigade Chief	Site Emergency
II. Plant Shutdown Function	Nonfunctional indications or alarms in the control room on primary system parameters requiring plant	Both of the following: 1. "Annunciator power failure" on C04. 2. Failed indication as determined by DSS.	Unusual Event 1-Hour (5)
	Turbine mechanical failure with consequences	1. Annunciator "Turbine supervisory." 2. Indication on TR-6019 of bearing vibration >7 mils. 3. Bearing vibration alarm on back of C03. 4. Visual confirmation of turbine housing penetration by a blade or disc.	Unusual Event
	Significant loss of effluent monitoring capability & meteorological instruments which impairs ability to perform emergency assessment. Loss of effluent monitoring may/may not require plant shutdown.	1. Loss of LW16 (RE223) during a release or 2. Loss of R18 (RE218) during a release or 3. a. Loss of wind speed indication or wind direction indication and b. Loss of R14 (RE214) and RMS II Channel 1 (RE315, RE317, RE319) or c. Loss of R15 (RE215) and CR9 and RMS II Channel 5 (RE225, RE226) or d. Loss of R21 (RE221) and RMS II Channel 2 (RE325, RE327) or e. Loss of GW112 (RE224) and RMS II Channel 6	Unusual Event
	Failure of reactor protection system to complete a trip which brings reactor subcritical	All of the following: 1. Unplanned first out annunciator on C04 with confirmation from associated indicator 2. Intermediate range detector output not decaying 3. >1 RCC RPI indicates fully withdrawn	Alert 1-Hour open line (3)

Category	Initiating Condition	Indication Used	Emergency Classification
	All alarms (annunciators) lost >15 minutes while unit is not in cold shutdown	1. "Annunciator power failure" on C01, C02 & 1(2)C03, 1(2)C04	Alert
	Loss of functions needed for cold shutdown for >4 hours while at cold shutdown	Any of the following: 1. Loss of service water Unit 1 = south & west header Unit 2 = north & west header 2. Loss of both trains of RHR 3. Loss of component cooling	Alert
12. Abnormal Radiation Levels at Site	a. Effluent monitors detect levels corresponding to any of the following: (1) >50 mR/hr for ½ hour (2) >250 mR/hr for ½ hour for the thyroid (3) >500 mR/hr whole body for 2 minutes (4) >2500 mR/hr to the thyroid for 2 minutes at the site boundary for adverse meteorology	Airborne effluents only	Site Emergency
	b. Any of the above doses measured in the environs	As reported to DSS by HP Supervisor	
	c. Any of the dose rates projected, based on plant parameters		
	a. Effluent monitors detect levels corresponding to either: (1) 1 R/hr whole body (2) 5 R/hr thyroid at the site boundary under actual meteorological conditions	Airborne effluents only	General Emergency
	b. Either of the above doses measured in environs	As reported to DSS by HP Supervisor	
	c. Either of above dose rates projected based on other plant parameters		
13. Fuel Handling Accident	Major damage to irradiated fuel in containment	Both of the following: 1. As reported to DSS by Core Loading Supvr. 2. Alarm on Victoreen on manipulator & alarm on R211	Alert

Category	Initiating Condition	Indication Used	Emergency Classification
	Fuel damage accident with release of radioactivity to auxiliary building (FSAR 14.2.1)	Both of the following: 1. As reported to DSS by Supvr in charge of fuel handling & drumming area vent (R221) 2. Alarm on Victoreen on spent fuel pit bridge.	Alert
14. Serious or Fatal Injury	Transportation of seriously or fatally injured individual from site to hospital (Reference EPIP 11.1)	Reported as judged by DSS (expect hospitalization for at least 48 hours)	Unusual Event
15. Security Threat	Security threat or attempted sabotage or Ongoing security compromise	Per MASP	Per MASP & Appendices 1-Hour Red Phone Only (Open Line) (4)
16. Hazards to Plant Operation	Unusual aircraft activity over facility	Visual observation of Operations Supervisor or security force	Unusual Event
	Near or onsite explosion or flammable or toxic gas release	As reported to DSS by plant personnel making visual observation	Unusual Event
	Missile impacts from any source on facility	Visual observation by Operations Supervisor	Alert
	Missile impact causing damage to two trains of safety systems	Visual observation by Operations Supervisor	Site Emergency
	Aircraft crash in protected area (within the fence)	Visual observation by Operations Supervisor	Alert
	Known explosion damage to facility affecting plant operation. Toxic or flammable gases in facility environment excluding normal process gases	Visual observation by Operations Supervisor	Alert
	Toxic or flammable gases entering into vital areas (control room, auxiliary building, etc.) excluding normal process gases	Visual observation by Operations Supervisor	Site Emergency

Category	Initiating Condition	Indication Used	Emergency Classification
17. Natural Events	Any earthquake	Activation of ≥2 accelerographs and verified by actual physical ground shaking or by contacting Dr. David Willis, University of Wisconsin, Milwaukee Seismic Center at 1-414/963-4602.	Unusual Event
	Any tornado visible from site	Verification by Operations Supervisor	Unusual Event
	Low Lake Michigan water level	With no CW pumps running, water level is 3.9' below 0' on surge chamber level & confirmed by measuring forebay level at 10.9' below pumphouse floor (7' level)	Unusual Event
	Earthquake greater than operating basis earthquake	Earthquake with attendant structural damage of containment or spent fuel pit	Alert
	Any tornado striking the facility	Visual observation by Operations Supervisor	Alert
	Seiche near design level	>6" of water in turbine hall	Alert
	Winds in excess of design levels	Wind speed indicated as >100 mph	Alert
	Wind with damage	Structural damage to containment	Site Emergency
	Failure of protection for vital equipment at low levels (i.e., caused by seiche > design levels)	Any of the following: 1. >3' water in both EDG rooms. 2. >2' water in vital switchgear room. 3. >2' water in auxiliary feed pump room.	Site Emergency
18. Reactivity Transient	Uncontrolled rod withdrawal (FSAR 14.1.1 & 14.1.2)		Unusual Event
	CVCS Malfunction (FSAR 14.1.5)		Unusual Event
	Accidental Criticality		NRC Only (3)

Category	Initiating Condition	Indication Used	Emergency Classification
19. Load Transient	Loss of Electrical Load (FSAR 14.1.10)		Unusual Event
20. Other	Condition that warrants State and/or local official awareness	DCS & DSS concurrence	Unusual Event
	Condition that warrants establishment of technical support center & emergency support center	DCS & DSS concurrence	Alert
	Condition that warrants use of monitoring teams	DCS & DSS concurrence	Alert
	Personnel contamination	Health Physicist & DCS concurrence	NRC-only 1-hour (10)
	Any unplanned reactor trip	DCS & DSS concurrence	NRC-only 1-Hour (7)
	Strike by employees or guard force	DCS & DSS concurrence	NRC-only 1-Hour (12)
	Loss of red phone (ENS)	DCS & DSS concurrence	NRC-only 1-Hour (13)
	Personnel or procedural error	DCS & DSS concurrence	NRC-only 1-Hour (6)
	10 CFR 20.403	DCS & DSS concurrence	NRC-only 1-Hour (11)

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 (GSBVNT)

1.4 Combined Air Ejector Decay Duct (CAE)

1.5 Main Steam Safety Valves and Atmospheric Dump Valves

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 (R9) may be unusually high or offscale.

3.1.2 The containment radiation monitors (R11 and R12) may be unusually high or offscale.

3.1.3 The containment area monitors (R2 and R7) may be unusually high or offscale.

3.1.4 The charging pump area monitor (R4) 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 1.3-14, 15, 16 & 17.

5.1.2 Enter the meter readings and flow rates in the appropriate columns 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 II data is not available and the main steam header by performing Section 5.2 of this procedure if required.

NOTE: IF STEP 5.1.3 NEEDS TO BE COMPLETED BECAUSE EBERLINE RMS II DATA IS NOT AVAILABLE, OR IF A STEAM GENERATOR TUBE RUPTURE IS BELIEVED TO HAVE OCCURRED WHICH PRODUCES THE POTENTIAL FOR RELEASES, OR RELEASES ARE IN PROGRESS FROM THE MAIN STEAM HEADER OR THE ATMOSPHERIC STEAM DUMP, 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 gross Xe-133 equivalent release rate estimate.

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 SUPERVISOR 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 attached conversion curves for each of the plant effluent vent to convert the chosen vent stack readout, (cpm or R/hour) and flow rate, from Step 5.3.1 to an Xe-133 equivalent release rate in Curies/second and record the value on Worksheet No. 1, Part D, 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 conversion curves flow rate, a ratio of:

$$\frac{\text{Actual Flow Rate}}{\text{Conversion Curve Flow Rate}}$$

should be applied to determine the release rate.

(Ratio) X Conversion Curve = Adjusted Xe-133 5 Release Rate
= Equiv. Release Rate

2. If the main steam header vent release rate needs to be determined, the following steps must be applied.

a. Obtain from the Shift Supervisor 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. At 1000 psia, specific volume is 0.446 $ft.^3/lbm$. At 500 psia, specific volume is 0.928 $ft.^3/lbm$.

_____ lbm/hr x v $\frac{ft.^3}{lbm}$ x 7.86 $\frac{cc}{ft.^3}$ $\frac{hr.}{sec.}$

b. Convert contact reading obtained at the main steam header to µCi/cc using the appropriate attached conversion curve (Attachment 1.3-13) for the main steam header.

_____ µCi/cc

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 (7) on Worksheet No. 1, Part D, 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 Supervisor and the Technical Support Manager.

WORKSHEET NO. 1

Xe-133 EQUIVALENT RELEASE RATE

A. LOW RANGE OPERATIONAL VENT STACK READOUTS

Vent	Meter Reading (cpm)	Flow Rate (cfm)	Conversion Curve Attachment No.
Auxiliary Building R14		61400	1.3-1
Drumming Area R21		43100	1.3-2
Gas Stripper Building GW-112		13000	1.3-3
Combined Air Ejector Decay CR-9		25	1.3-4

B. EBERLINE RMS - II VENT STACK READOUTS

NOTE: THESE READINGS ARE ALSO AVAILABLE ON THE TECHNICAL SUPPORT CENTER DATA LOGGER. ATTACHMENTS 1.3-14, 15, 16 & 17.

Vent	Meter Reading (R/hour)	Flow Rate (cfm)	Conversion Curve Attachment No.
Auxiliary Building Ch. #1		61400	1.3-5
Drumming Area Ch. #2		43100	1.3-6
Gas Stripper Building Ch. #6		13000	1.3-7
Combined Air Ejector Decay Ch. #5		25	1.3-8

C. PLANT EFFLUENT VENT STACK CONTACT READINGS

Vent	Meter Reading (mr/hr or R/hr)	Flow Rate (cfm)	Conversion Curve Attachment No.
Auxiliary Building		61400	1.3-9
Drumming Area		43100	1.3-10
Gas Stripper Building		13000	1.3-11
Combined Air Ejector Decay		25	1.3-12
Main Steam Header		(See Se E)	1.3-13

D. ACTUAL VERSUS CONVERSION CURVE FLOW RATE RATIO

$$\frac{\text{Actual Flow Rate}}{\text{Curve Flow Rate}} \times \text{Conversion Curve Value} = \text{Adjusted Releast Rate}$$

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

E. STEAM HEADER CONTACT READING CALCULATION

1. lbm/hr X specific volume ft^3/lbm X 7.86 cc hr/ft^3 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 hr/ft^3 sec

   = _____ cc/sec

2. Contact reading conversion from Attachment 1.3-13:

   _____ R/hr = _____ µCi/cc

3. Steam header release rate:

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

   $\underset{(1)}{\_\_\_\_\_}$ cc/sec X $\underset{(2)}{\_\_\_\_\_}$ µCi/cc = _____ µCi/sec

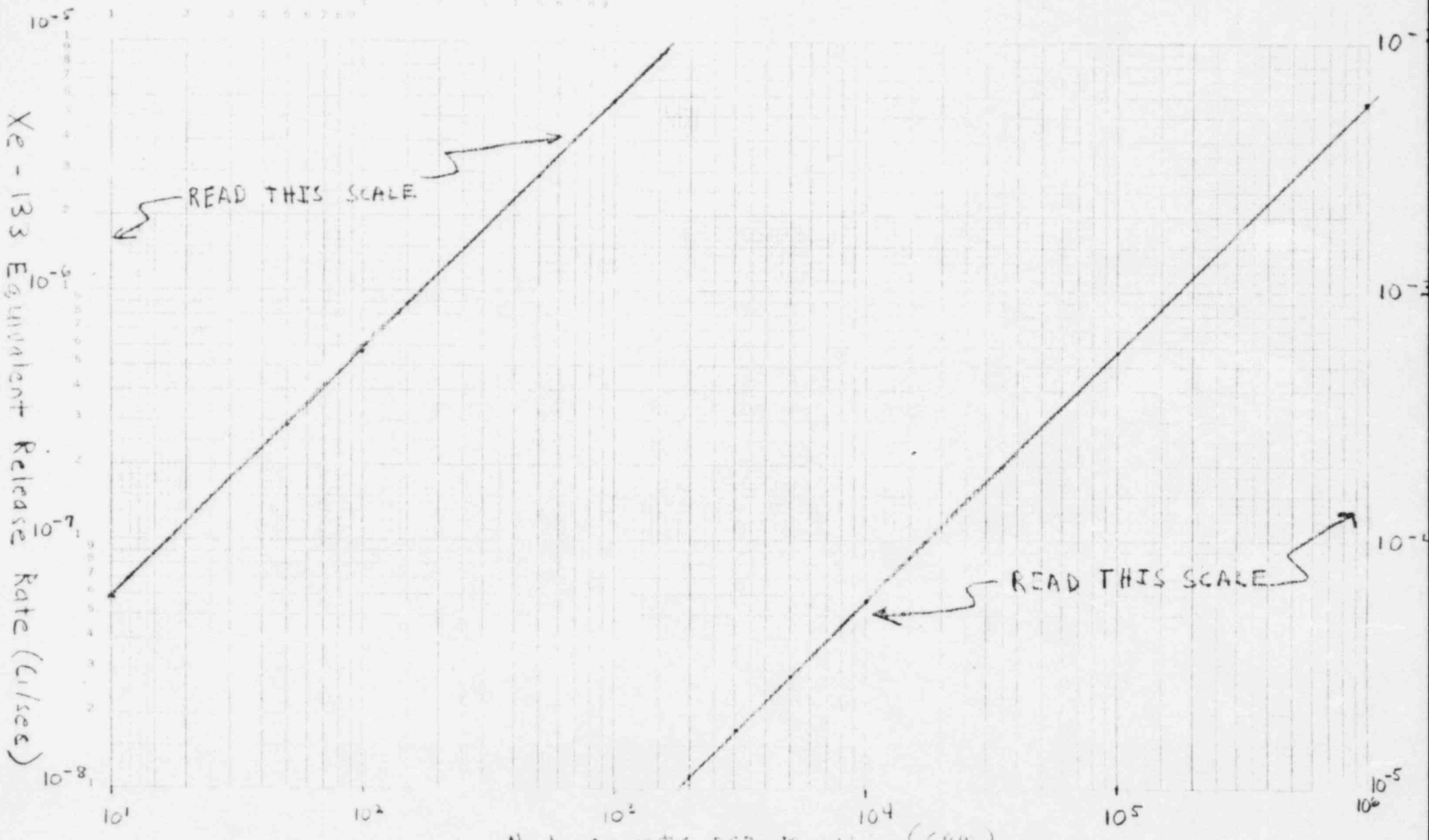
F. ESTIMATE OF GROSS Xe-133 EQUIVALENT RELEASE RATE

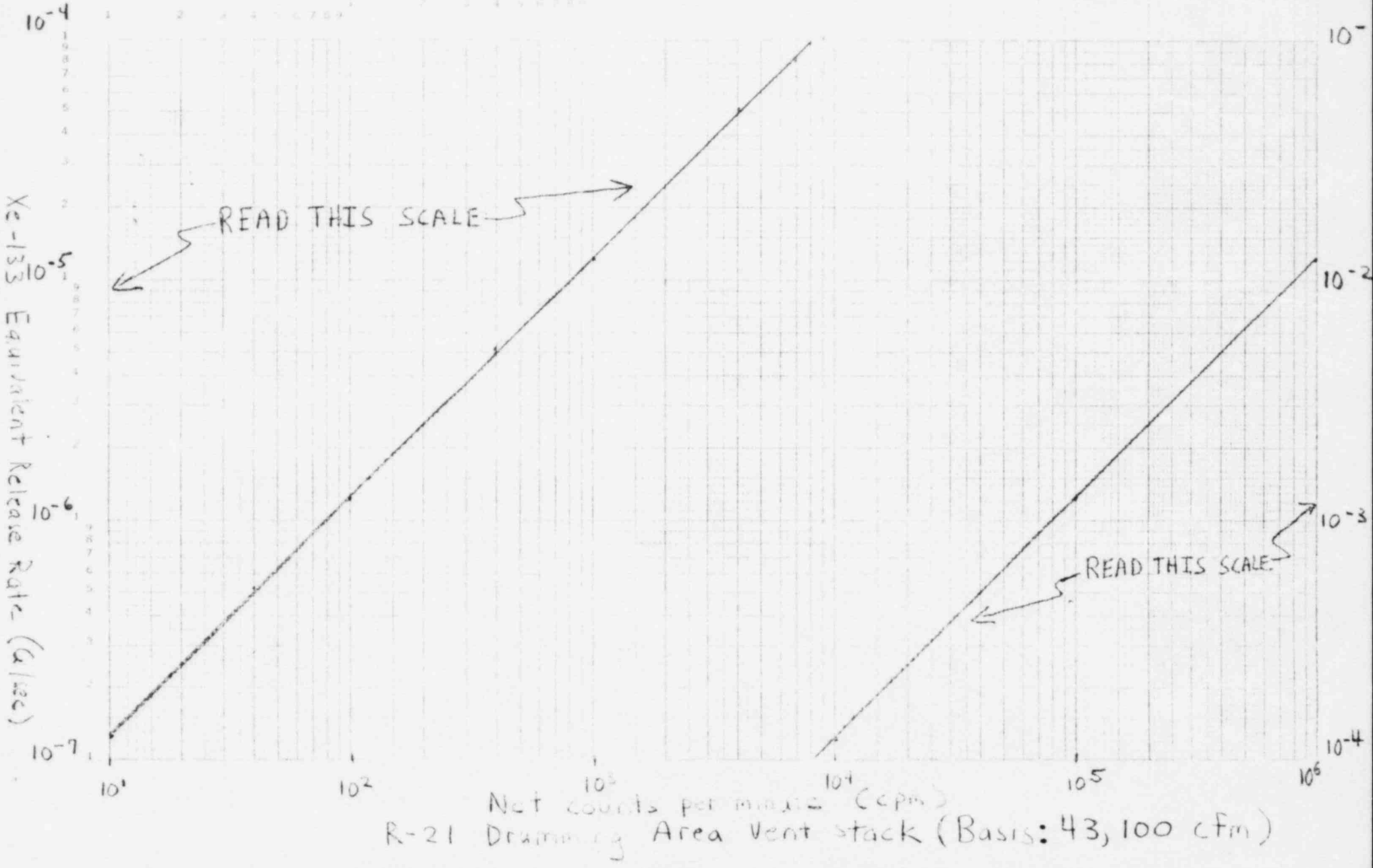
Vent	Xe-133 Equivalent Release Rate (Curies/Sec.)
1. Auxiliary Building	
2. Drumming Area	
3. Gas Stripper Building	
4. Combined Air Ejector Decay Duct	
5. Main Steam Header	
6. Sum	(Gross Xe-133 Equiv. Release Rate)

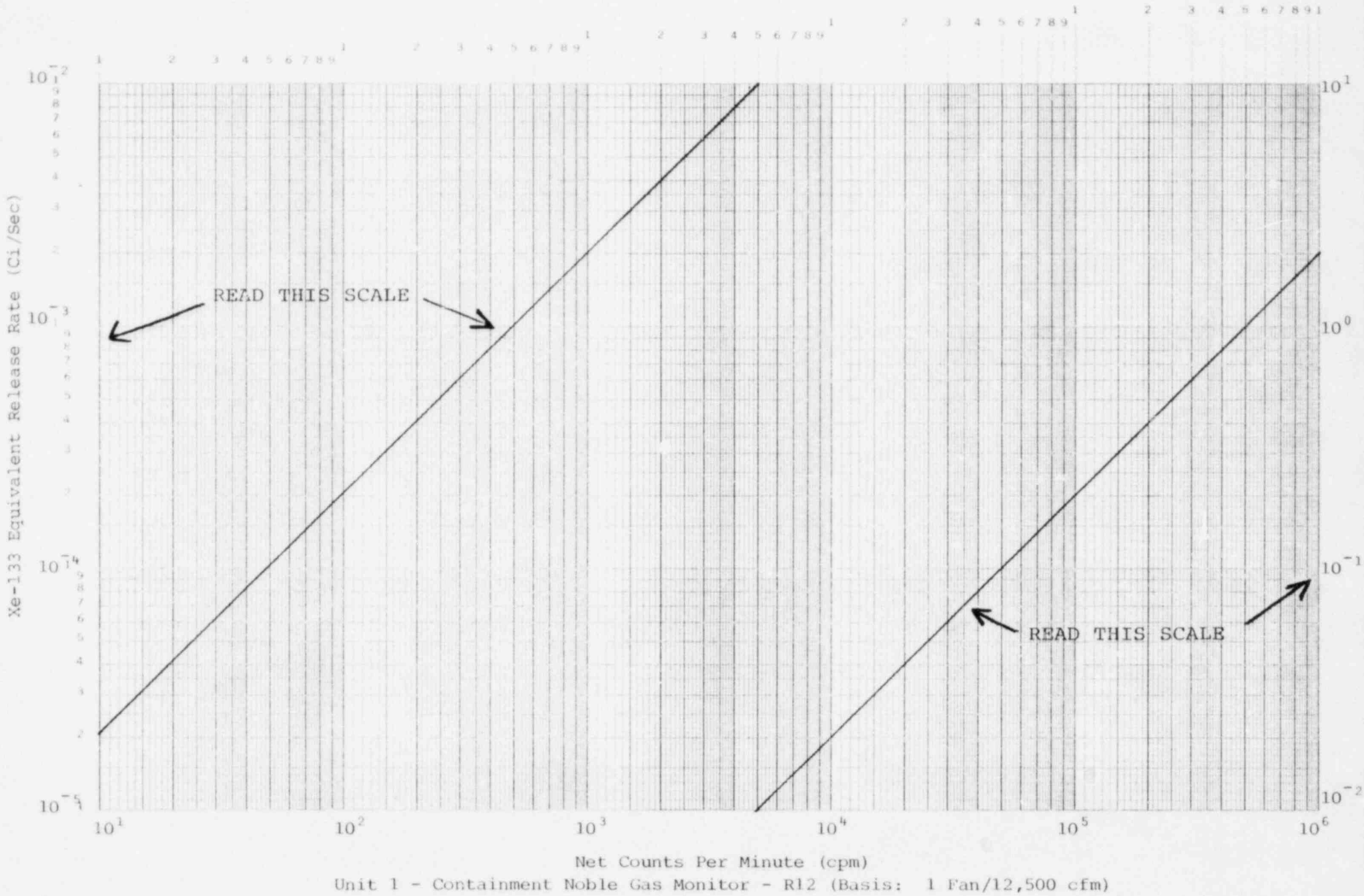
OR

7. Grab Sample Results = _____ Ci/sec.

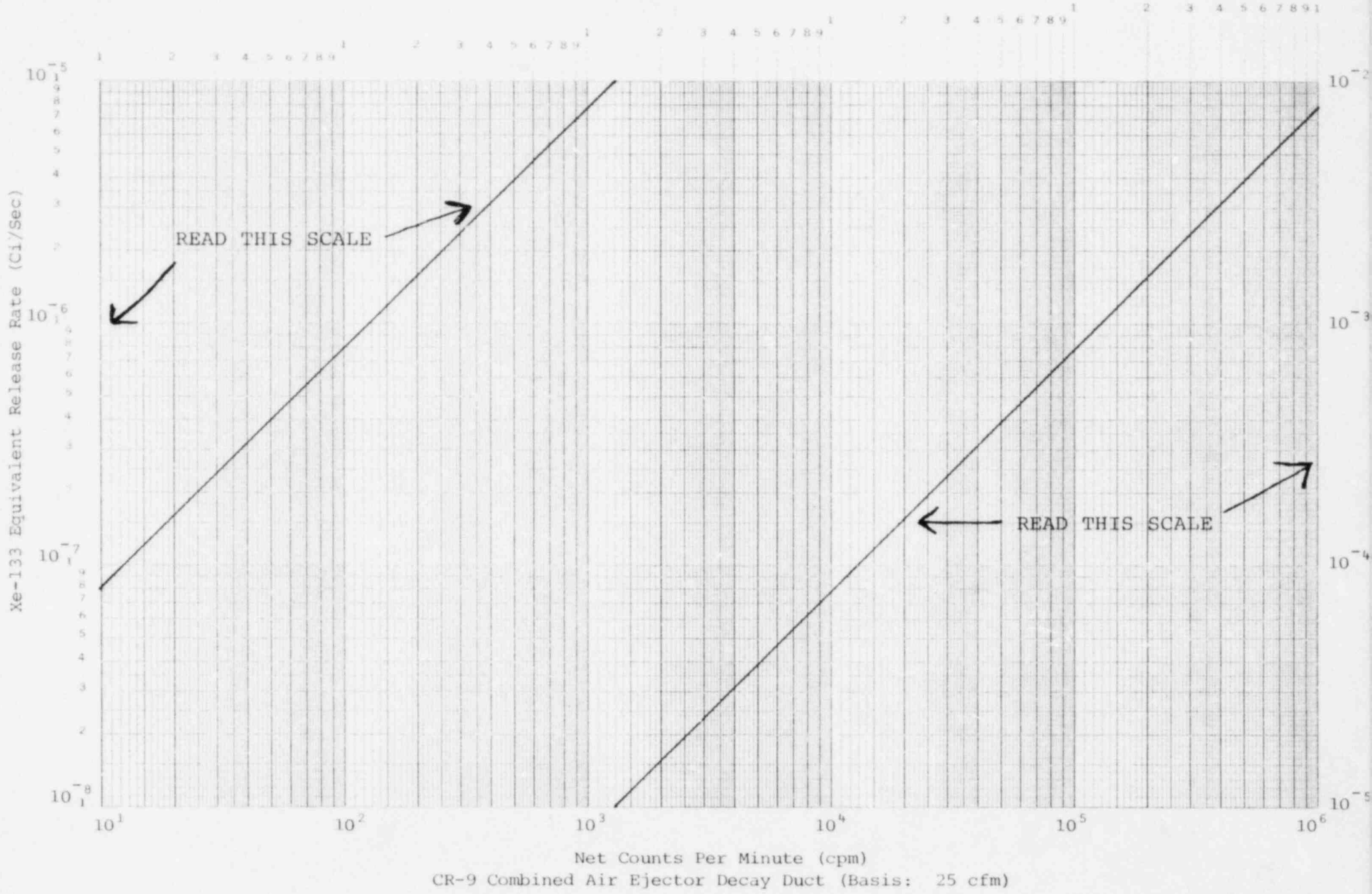
Completed By _____ Time _____
Date _____

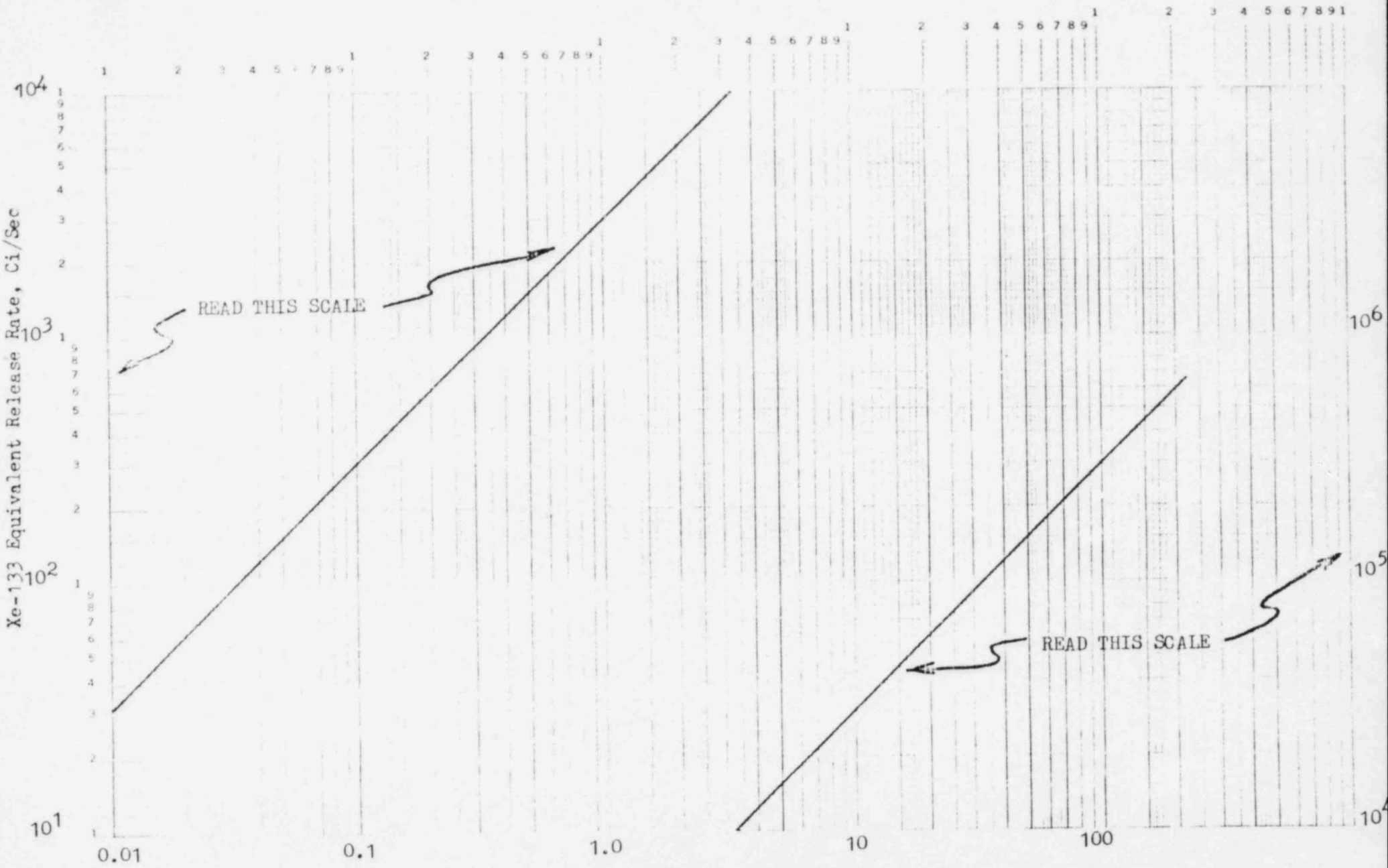

READ THIS SCALE
READ THIS SCALE
Xe - 133 Equivalent Release Rate (Ci/sec)
Net counts per minute (cpm)
R14 Auxiliary Building Vent Stack (Basis: 61,400 cfm)


READ THIS SCALE
READ THIS SCALE
Xe-133 Equivalent Release Rate (Ci/sec)
Net counts per minute (cpm)
R-21 Draining Area Vent stack (Basis: 43,100 cfm)

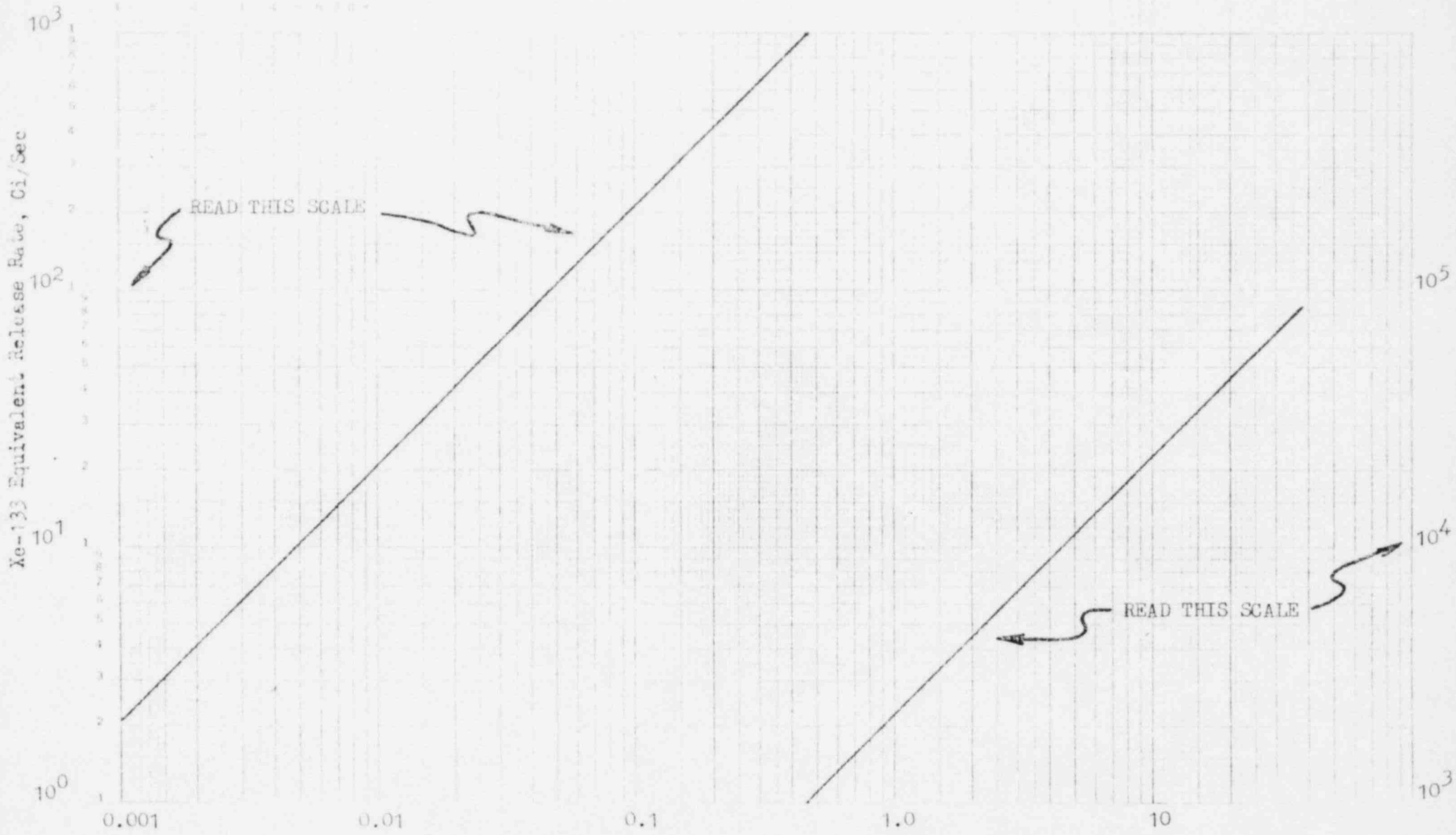


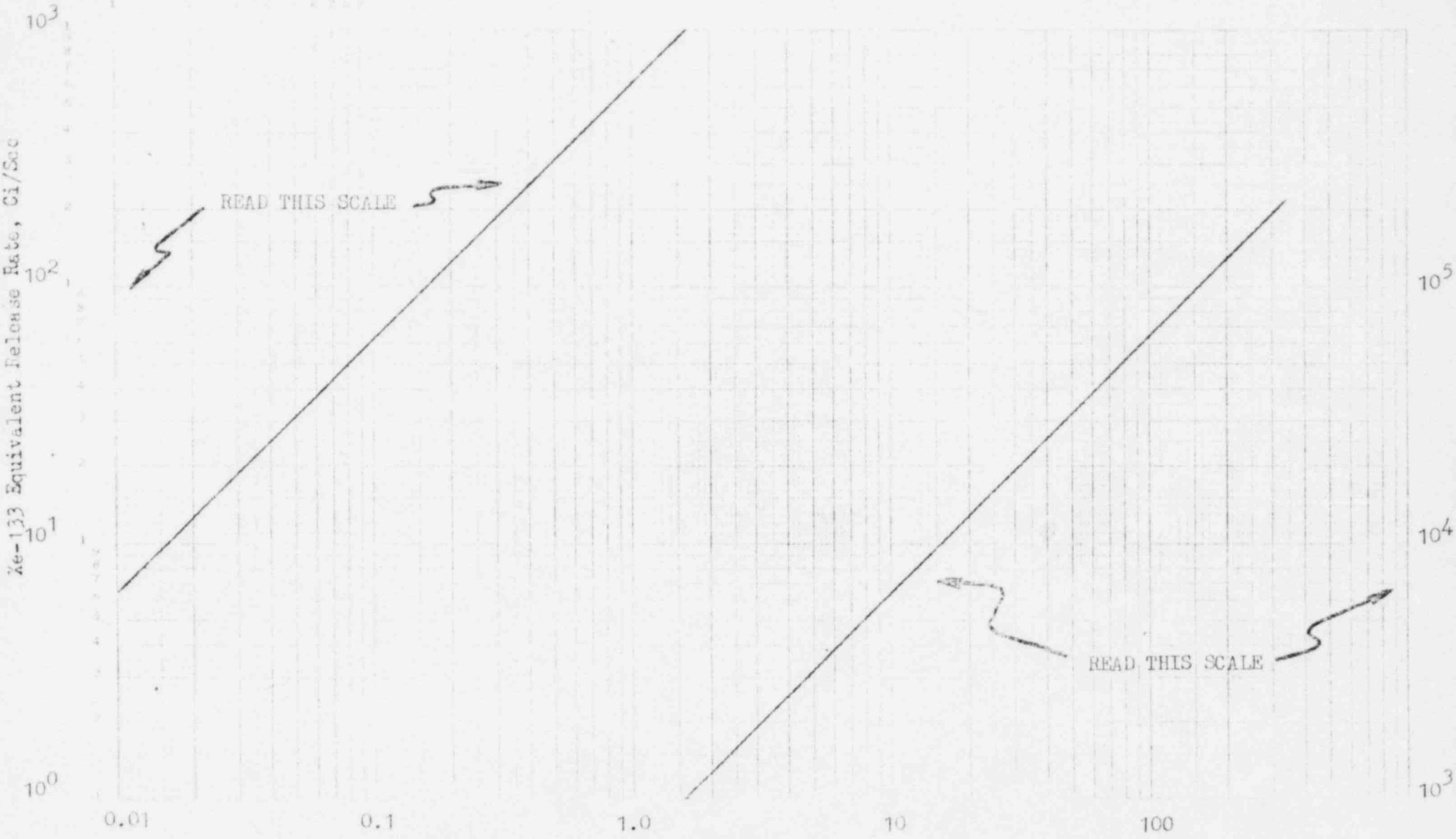
Unit 1 - Containment Noble Gas Monitor - R12 (Basis: 1 Fan/12,500 cfm)

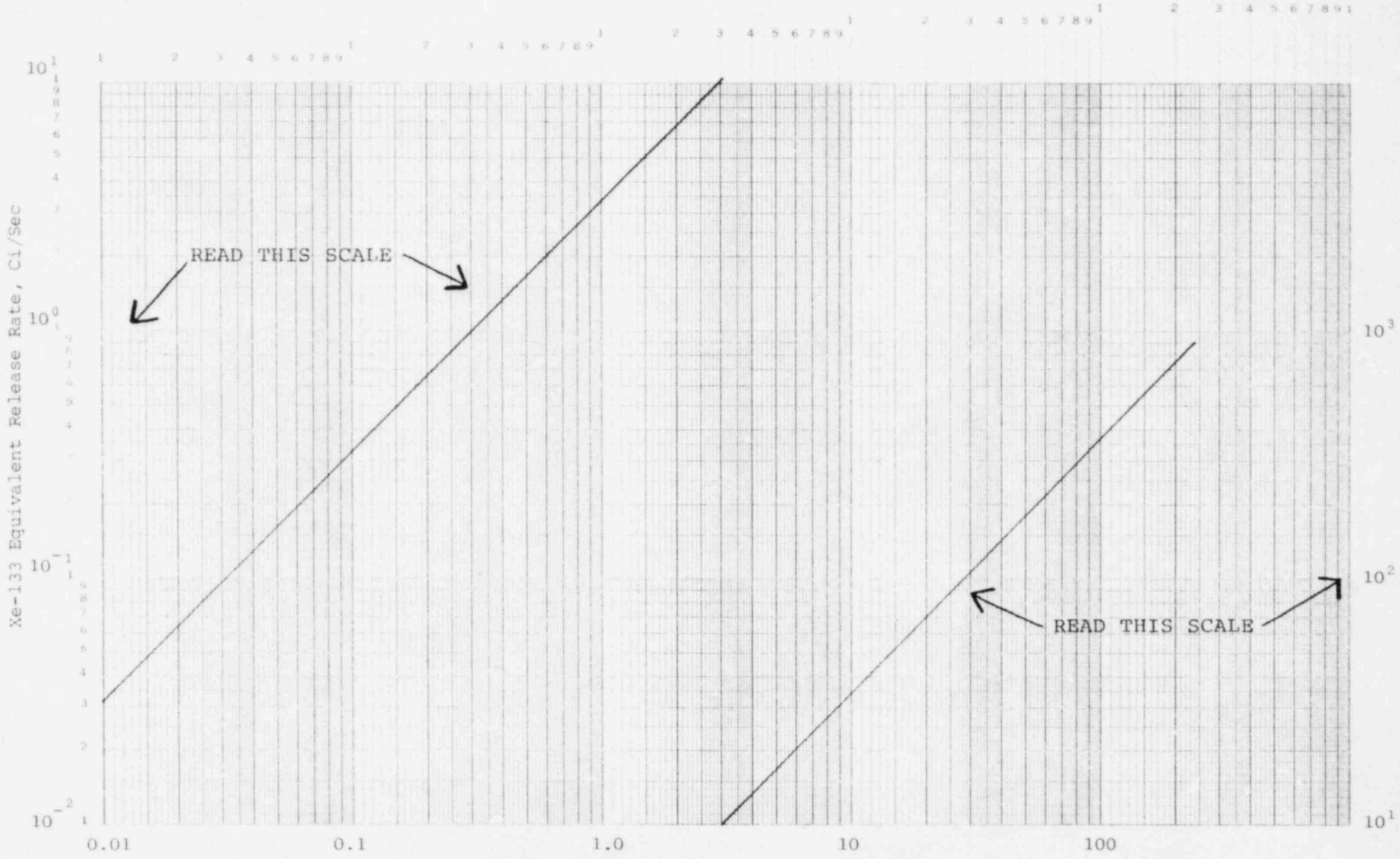




Auxiliary Building Stack (61,400 cfm)
(Measurement at RADECO Pallet with an 8" x 8" x 9" Expansion Chamber)

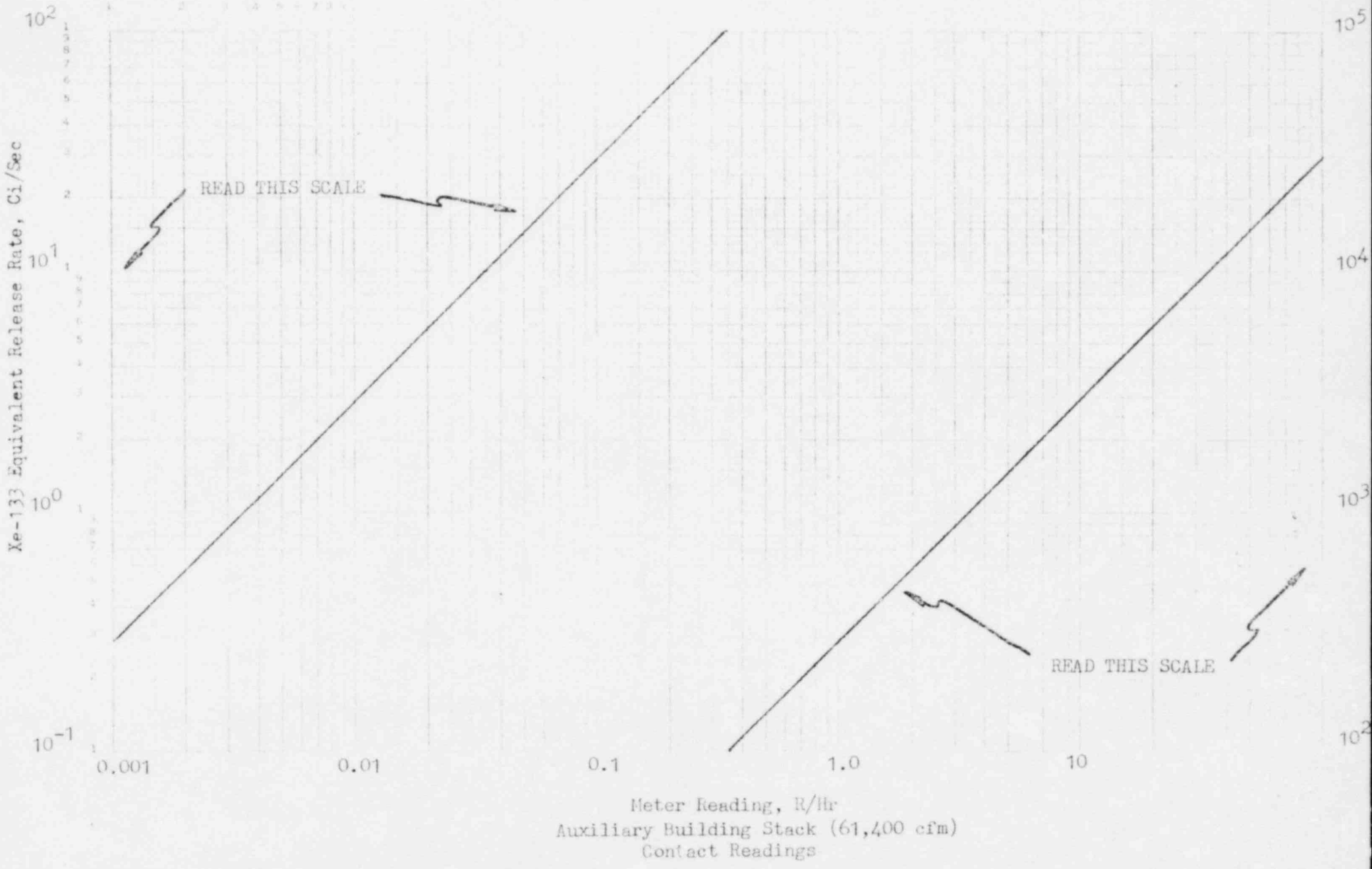

Xe-133 Equivalent Release Rate, Ci/Sec
10^3
10^2
10^1
10^0
READ THIS SCALE
10^5
10^4
10^3
READ THIS SCALE
0.001
0.01
0.1
1.0
10
Meter Reading, R/Hr
Drumming Area Stack (43,100 cfm)
(Measurement at RADECO Pallet with an 8" x 8" x 9" Expansion Chamber)

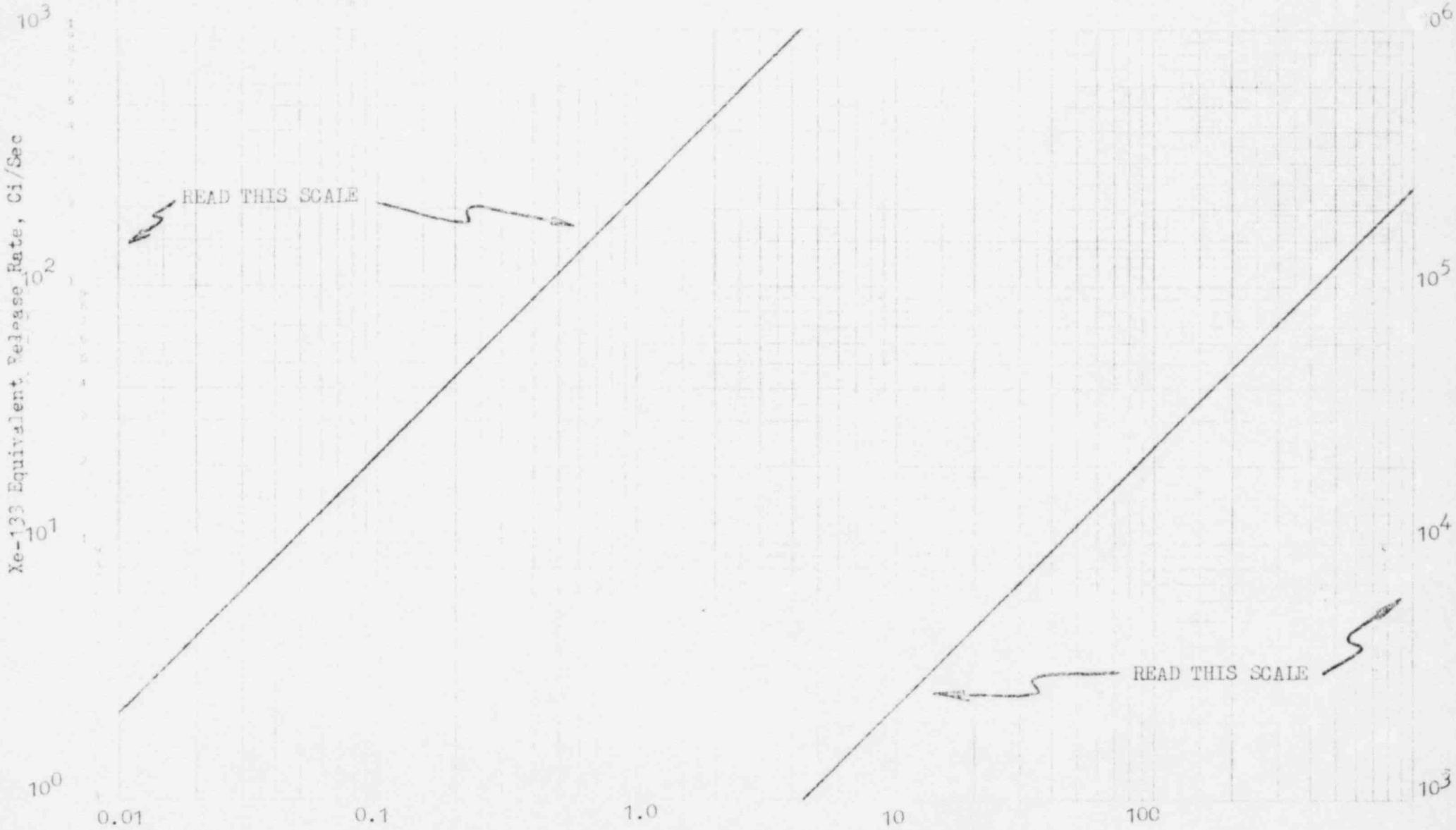

Xe-133 Equivalent Release Rate, Ci/Sec
10^3
10^2
10^1
10^0
READ THIS SCALE
10^5
10^4
10^3
READ THIS SCALE
0.01
0.1
1.0
10
100
Meter Reading, R/Hr
Gas Stripper Stack (13,000 cfm)
(Measurement at RADECO Pallet with an 8" x 8" x 9" Expansion Chamber)



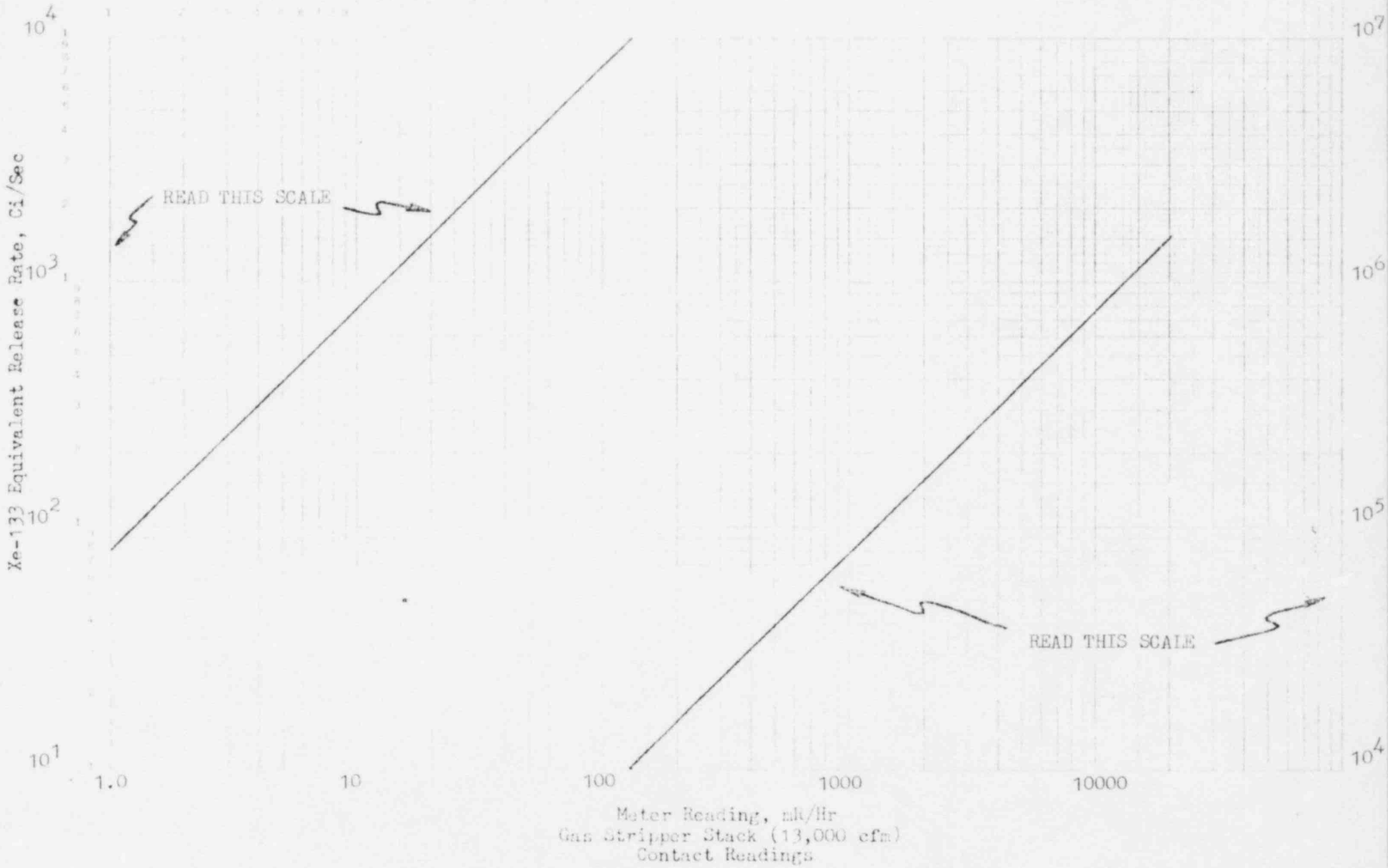
Combined Air Ejector Decay Duct (25 cfm) (Measurement at 4" SCH 40 Exhaust Pipe)

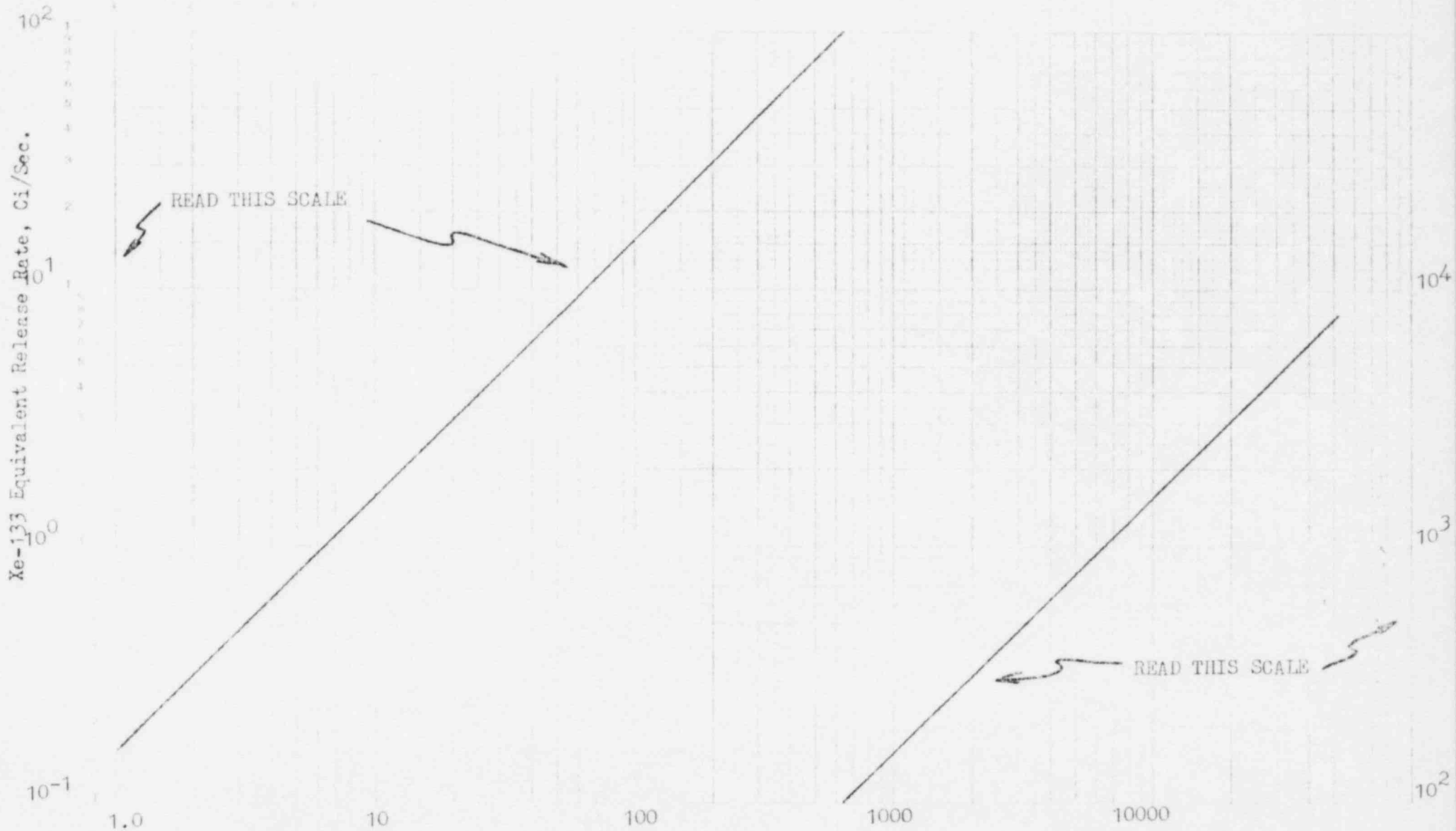
(If the measured flow is different, a ratio of ($\frac{\text{Measured Flow}}{25 \text{ cfm}}$) should be applied)


Xe-133 Equivalent Release Rate, Ci/Sec
10^2
10^1
10^0
10^{-1}
10^5
10^4
10^3
10^2
READ THIS SCALE
READ THIS SCALE
0.001
0.01
0.1
1.0
10
Meter Reading, R/Hr
Auxiliary Building Stack (61,400 cfm)
Contact Readings



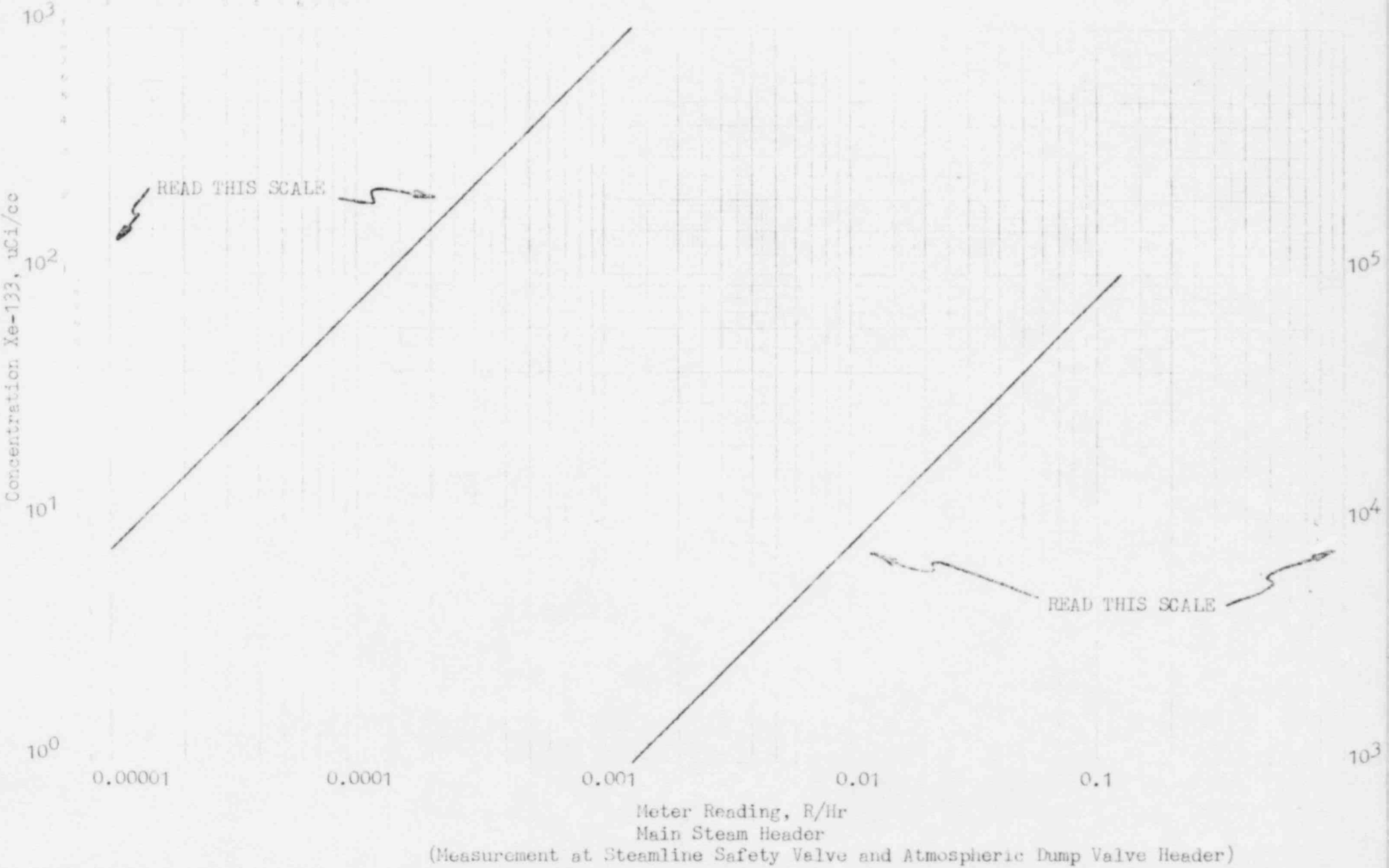
Meter Reading, R/Hr
Drumming Area Stack (43,100 cfm)
Contact Readings


Xe-133 Equivalent Release Rate, Ci/Sec
10^4
10^3
10^2
10^1
10^7
10^6
10^5
10^4
READ THIS SCALE
READ THIS SCALE
1.0
10
100
1000
10000
Meter Reading, mR/Hr
Gas Stripper Stack (13,000 cfm)
Contact Readings



Combined Air Ejector Decay Duct (25 cfm) Contact Readings

(If the measured flow is different a ratio of ($\frac{\text{measured flow}}{25 \text{ cfm}}$) should be applied)


Concentration Xe-133, uCi/cc
10^3
10^2
10^1
10^0
READ THIS SCALE
10^5
10^4
10^3
READ THIS SCALE
0.00001
0.0001
0.001
0.01
0.1
Meter Reading, R/Hr
Main Steam Header
(Measurement at Steamline Safety Valve and Atmospheric Dump Valve Header)

RADIOLOGICAL DOSE EVALUATION

1.0 GENERAL

The purpose of this procedure is to provide a method to quickly estimate (1) X/Q using meteorological overlays, (2) thyroid and whole body dose using X/Q and (3) ground deposition using an approximation of D/Q.

2.0 REFERENCES

2.1 U. S. NRC Regulatory Guide 1.109, Calculation of Annual Doses to Man from Routine Release of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50, Appendix I, Revision 1," October 1977.

2.2 U. S. EPA, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," EPA-520/1-75-001, September 1975. See Appendix D "Technical Bases for Methods that Estimate the Projected Thyroid Dose and Projected Whole Body Gamma Dose from Exposure to Airborne Radioiodines and Radioactive Noble Gases."

2.3 U. S. NRC Regulatory Guide 1.4, "Assumptions used for Evaluating the Potential Radiological Consequences of a Loss-of Coolant Accident for Pressurized Water Reactors," Revision 2, June 1976.

2.4 TID 14844, "Calculation of Distance Factors for Power and Test Reactor Sites," March 23, 1962.

3.0 PRECAUTIONS & LIMITATIONS

3.1 For classification purposes where radiological dose is the primary parameter leading to a classification, use EPIP 1.8, "Emergency Off-Site Dose Estimation" for determination of dose.

3.2 Ensure that all PBNP maps to be used by this procedure and their corresponding meteorological overlays are based on the same scale.

3.3 This procedure will be accomplished in the technical support center by a person designated by the Shift Supervisor or the Technical Support Manager. It will usually be done in conjunction with the Chemistry/Health Physics Supervisor when available.

3.4 This procedure will also be accomplished in the ESC by a person designated by the RadCon/Waste Manager.

3.4 Wind speed and wind direction must be average values obtained from the analog recorders in the control room.

NOTE: DO NOT USE INSTANTANEOUS VALUES.

3.5 If the radiological release duration is unknown, assume a duration of 8 hours.

3.6 If the meteorological parameters cannot be obtained from the control room, obtain the data from the following priority backup list.

3.6.1 Kewaunee Nuclear Power Plant.

3.6.2 National Weather Service in Green Bay. Ask for Two Rivers Coast Guard information, if available.

4.0 INITIAL CONDITIONS

4.1 A release of airborne radioactivity has occurred or a release is anticipated.

4.2 An emergency or potential emergency condition is anticipated to have offsite dose consequences.

5.0 PROCEDURE/CHEMISTRY & HEALTH PHYSICS SUPERVISOR OR DESIGNEE

5.1 Determination of X/Q, Atmospheric Dispersion Factor

5.1.1 Obtain the following information from the indicated source and enter this data in the appropriate space on form EPIP-07 (attached).

Source	Data
EPIP-04	(a) wind speed in-mph
EPIP-04	(b) wind direction
EPIP-04	(c) time of reactor shutdown
EPIP-04	(d) time of release to containment
EPIP-04	(e) time of release from the plant
Health Physics or Operating logs or projected estimate	(f) duration or estimated duration of the release in-hours (see note)
EPIP 1.3 results	(g) gross Xe-133 equivalent release rate in Ci/sec
EPIP-04	(h) Stability Class in $\sigma\theta$ degrees

NOTE: IF RELEASE DURATION IS UNKNOWN, ASSUME 8 HOURS.

5.1.2 Determine stability class by use of the $\sigma\theta$ chart recorder in the control room and Attachment 1.4-1. Enter the stability class (h) on form EPIP-07.

5.1.3 Backup stability class determination. Visually check cloud cover and incoming solar radiation. With this information, use Attachment 1.4-3 to ascertain the appropriate stability class. Enter the stability class (h), on form EPIP-07.

NOTE: IF INCOMING SOLAR RADIATION IS STRONG AND WINDS ARE FROM THE EAST OR SOUTHEAST, IT IS A POSSIBILITY THE WIND IS PRODUCED BY A LAKE EFFECT. CALL THE GREEN BAY NATIONAL WEATHER SERVICE FOR AID IN THIS DETERMINATION. IF A LAKE BREEZE IS SUSPECTED, OFFSITE SURVEY TEAMS MUST BE REMINDED TO PAY CLOSE ATTENTION TO WIND DIRECTION.

5.1.4 Place the overlay corresponding to the stability class on the map. Using the plant location as a pivot point, align the centerline of the overlay to the downwind direction from the plant.

NOTE: THE "TICK" MARKS ON THE CENTERLINE OF THE OVERLAYS ARE ONE MILE APART.

5.1.5 Determine the distance (i) to the dose projection location if different from the standard centerline distances listed on form EPIP-07. Note the location description, sector, and distance on form EPIP-07.

Enter the Xu/Q value (j) for the distances of site boundary, two miles, five miles, and ten miles on EPIP-07. The Xu/Q values (j) can be obtained from the overlay in the table in the lower righthand corner of the overlay. If a possible location other than the standard specified location is on a line, enter the Xu/Q (j) value for that line from the overlay on form EPIP-07. If the location is not on a line, move to the next inner-most line (toward the centerline) and enter the Xu/Q (j) value for that line on form EPIP-07.

Example:

Class "C" Xu/Q for 5 miles equals 1.21×10^{-6} m^{-2}

5.1.5 Calculate the X/Q value from the Xu/Q value by using the equation:

$$\frac{X}{Q}\ \frac{sec.}{m^3} = \frac{2.24(sec./m)}{(hrs./mi)} \times \frac{Xu/Q\ (m^{-2})}{\text{Wind Speed (mi/hr.)}}$$

Enter the X/Q values on form EPIP-07.

5.2 Whole Body Dose Estimate

NOTE: IF THE NOBLE GAS SOURCE TERM IS DETERMINED BY GRAB SAMPLE RESULTS WHICH GIVES AN INVENTORY OF SPECIFIC NUCLIDES, THEN A CONSERVATIVE WHOLE BODY DOSE ESTIMATE CAN BE MADE BY COMPLETING FORM EPIP-09.

5.2.1 Enter the gross Xe-133 equivalent release rate (g) on form EPIP-08 from form EPIP-07.

5.2.2 Enter the estimated release duration, ERD, in hours (f) on form EPIP-08 from form EPIP-07.

5.2.3 Calculate the projected whole body dose on form EPIP-08 by using the equation:

$$D(\text{Rem}) = X/Q\ (\text{sec/m}^3)_{(k)} \times Q\ (\text{Ci/sec})_{(g)} \times Kr\ (\text{Rem m}^3/\text{Ci - Hrs}) \times \text{ERD (Hrs)}$$

where:

D = whole body dose (Rem)

X/Q = atmospheric dispersion coefficient determined in Step 5.1.5 (sec/m^3) (k)

Q = release rate (Ci/sec) (g)

Kr = Dose Factor ($\frac{\text{rem m}^3}{\text{Ci hrs}}$) Attachment 1.4-2

ERD = Estimated Release Duration (Hours) (f)

5.3 Thyroid Dose Estimate

5.3.1 Calculate the projected thryoid dose by using the whole body dose calculated in Section 5.2 of this procedure.

5.3.2 Record the projected whole body dose on form EPIP-08 in Section 2.

5.3.3 Choose the appropriate figure based upon the type of accident which has occurred.

a. Loss of Coolant Accident (LOCA) - Figure 1.4-1.

b. Gap Activity Accident - Figure 1.4-4.

c. Fuel Handling Accident - Figure 1.4-4.

d. Steam Generator Tube Rupture - Figure 1.4-5.

NOTE: IF THE TYPE OF ACCIDENT IS UNKNOWN, USE THE LOCA FIGURES.

5.3.4 Obtain the ratio factor that relates the whole body dose to a thyroid dose from the figure chosen with the corresponding appropriate time after the accident and record on form EPIP-08, Section 2.

5.3.5 Calculate the projected thyroid dose my multiplying the whole body dose by the ratio factor obtained in Step 5.3.4 on form EPIP-08, Section 2.

5.4 Radionuclide Ground Deposition Estimation

NOTE: FORM EPIP-10 CAN BE COMPLETED ONLY IF IODINE GRAB SAMPLE RESULTS OR PARTICULATE RELEASE RATES ARE AVAILABLE. IF FORM EPIP-10 CANNOT BE COMPLETED, PROCEED WITH STEP 5.4.5 OF THIS SECTION.

5.4.1 Enter the Xe-133 equivalent release rate or the specific particulate release rate on form EPIP-10 from grab sample results or from environmental monitoring results.

5.4.2 Enter the estimated duration of release (f) from form EPIP-07 on form EPIP-10.

5.4.3 Enter the value of X/Q (k) on form EPIP-10 as determined in Step 5.1.5.

5.4.4 Complete Section 2 of form EPIP-10 to calculate the ground deposition using the equation:

$$\text{Dep } (\mu Ci/m^2) = F \times .05 \text{ (m/sec)} \times 3600 \text{ (sec/hr)} \times 10^6 \text{ } (\mu Ci/Ci) \times X/Q \text{ (sec/m}^3\text{)} \times Q \text{ (Ci/sec)} \times ERD \text{ (hrs)}$$

$$\text{Dep} = F \times 1.8 \times 10^8 \times \underset{(k)}{X/Q} \times \underset{(g)}{Q} \times \underset{(f)}{EIP}$$

Dep = ground deposition ($\mu Ci/m^3$)

X/Q = atmospheric dispersion factor from Step 5.1.5 (sec/m^3) (k)

Q = radionuclide release rate (Ci/sec) (g)

ERD = estimated release duration (hrs) (f)

F = fraction of isotope subject to deposition (unitless)

3600 = conversion (sec/hr)

10^6 = conversion ($\mu Ci/Ci$)

0.05 = assumed deposition velocity (m/sec)

5.4.5 Complete form EPIP-11 from available data and calculations just performed.

5.4.6 Enter the date and time of these calculations and sign form EPIP-11.

5.4.7 Forward completed attachments to the Technical Support Manager for review. The Technical Support Manager will relay results to the Site Manager.

5.5 Population Exposure

5.5.1 Calculate projected population exposure by using form EPIP-10a.

5.5.2 Enter from EPIP-08 whole body dose from center line on form EPIP-10a.

5.5.3 Enter population figures from Figure 1.4-6. Use population number corresponding to the quadrant and distance categories for dose.

5.5.4 Total population dose from each radius to find total population dose.

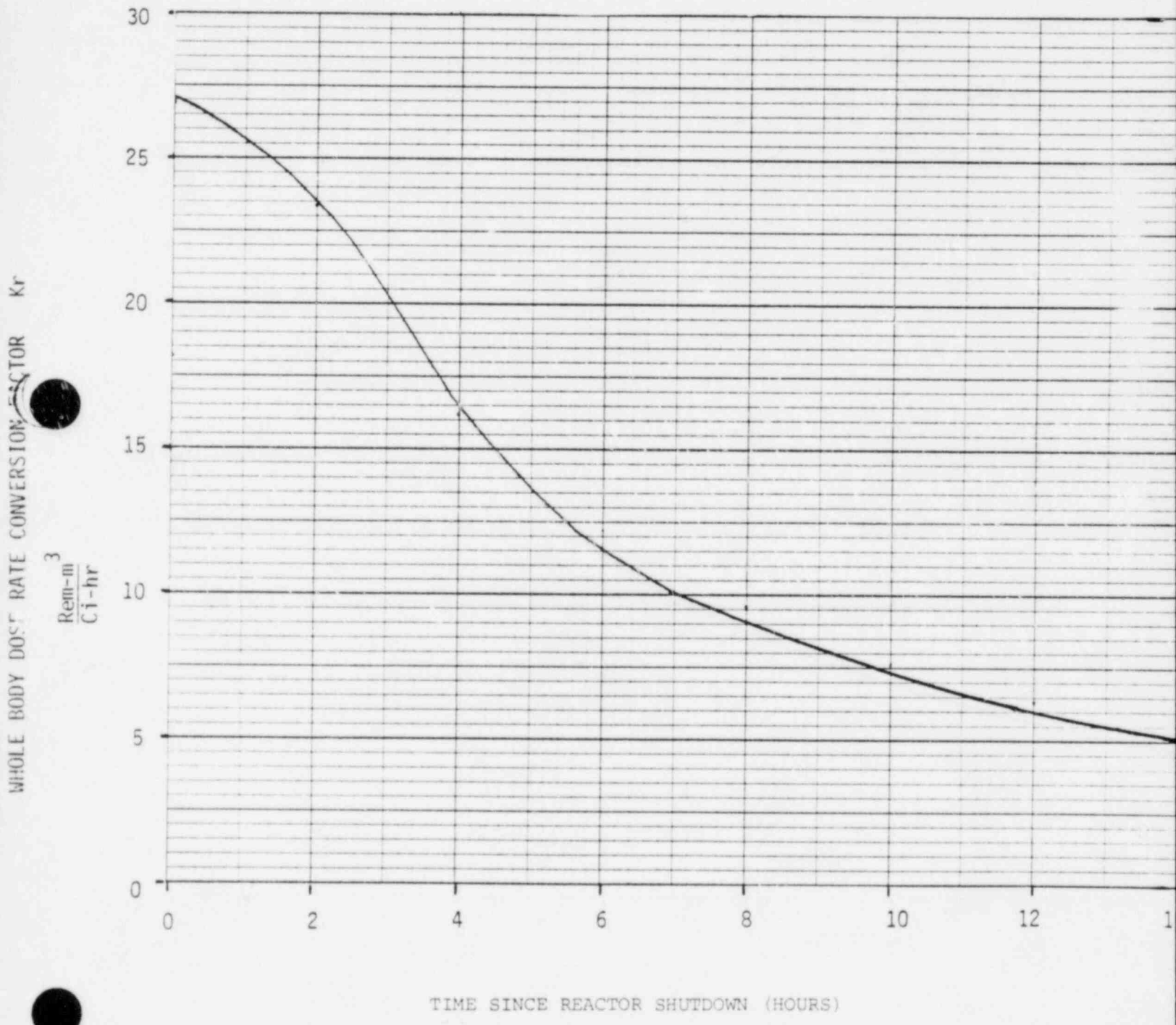
ATTACHMENT 1.4-1

CLASSIFICATION OF ATMOSPHERIC STABILITY BY SIGMA THETA

Stability Classification	Pasquill Categories	$\sigma\theta$ (degrees)
Extremely unstable	A	$\sigma\theta \geqq 22.5$
Moderately unstable	B	$22.5 > \sigma\theta \geqq 17.5$
Slightly unstable	C	$17.5 > \sigma\theta \geqq 12.5$
Neutral	D	$12.5 > \sigma\theta \geqq 7.5$
Slightly stable	E	$7.5 > \sigma\theta \geqq 3.8$
Moderately stable	F	$3.8 > \sigma\theta \geqq 2.1$
Extremely stable	G	$2.1 > \sigma\theta$

ATTACHMENT 1.4-2

WHOLE BODY DOSE RATE CONVERSION FACTORS



ATTACHMENT 1.4-3

BACKUP DETERMINATION OF ATMOSPHERIC STABILITY CLASS

Surface Wind Speed, (at 50 meters) mph	Day			Night	
	Incoming Solar Radiation			Thinly Overcast	
	Strong	Moderate	Slight	> 1/2 low cloud	< 1/2 cloud
< 4	A	A-B	B		
4-7	A-B	B	C	E	F
7-11	B	B-C	C	D	E
11-13	C	C-D	D	D	D
>13	C	D	D	D	D

The neutral class D, should be assumed for overcast conditions during day or night.

"Strong" incoming solar radiation corresponds to a solar altitude greater than 60° with clear skies; "slight" incoming solar radiation corresponds to a solar altitude from 15°-35° with clear skies. Cloudiness will decrease incoming solar radiation and should be considered along with solar altitude when determining solar radiation. Incoming radiation that would be strong with clear skies can be expected to reduce to moderate with broken (5/8 to 7/8 cloud cover) middle clouds and to slight with broken low clouds. Night refers to the period from one hour before sunset to one hour after sunrise.

ATTACHMENT 1.4-6

EMERGENCY PLANNING ZONE POPULATION DATA

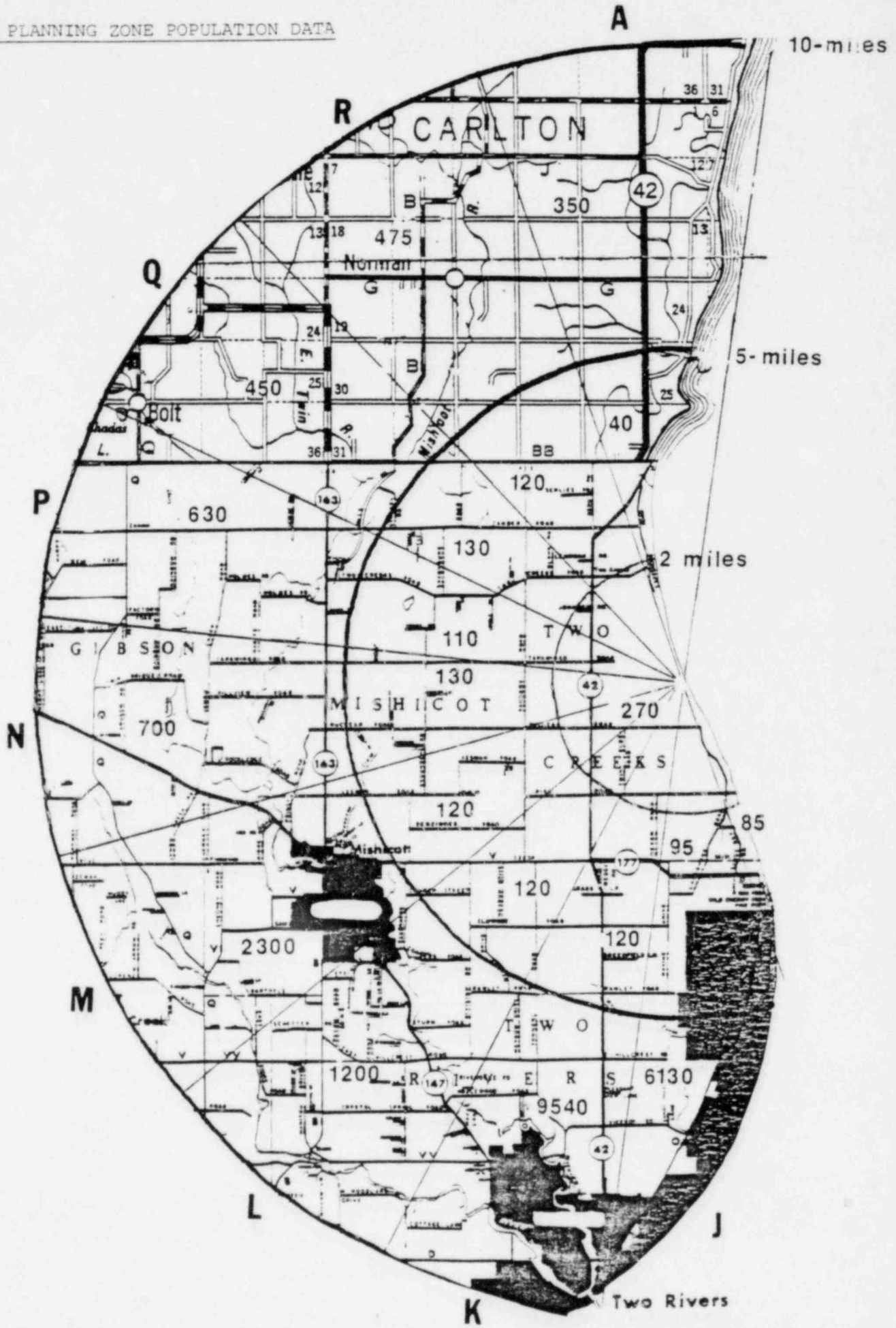
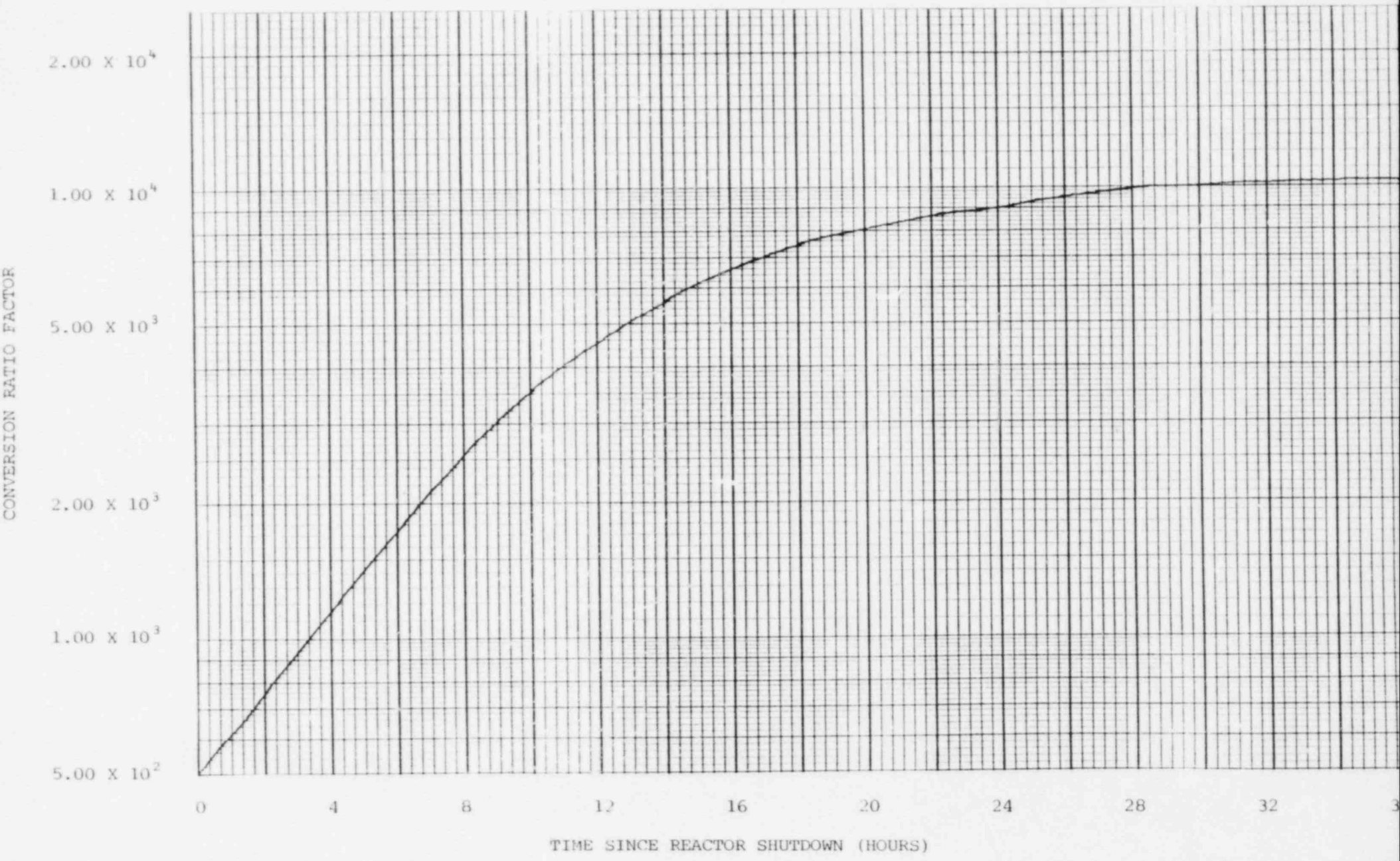


FIGURE 1.4-1

THYROID DOSE RATIO FACTOR LOSS OF COOLANT ACCIDENT



FIGURES 1.4-2 AND 1.4-3 HAVE BEEN DELETED

FIGURE 1.4-4
THYROID DOSE CONVERSION FACTOR
FUEL HANDLING ACCIDENT
OR GAP ACTIVITY ACCIDENT

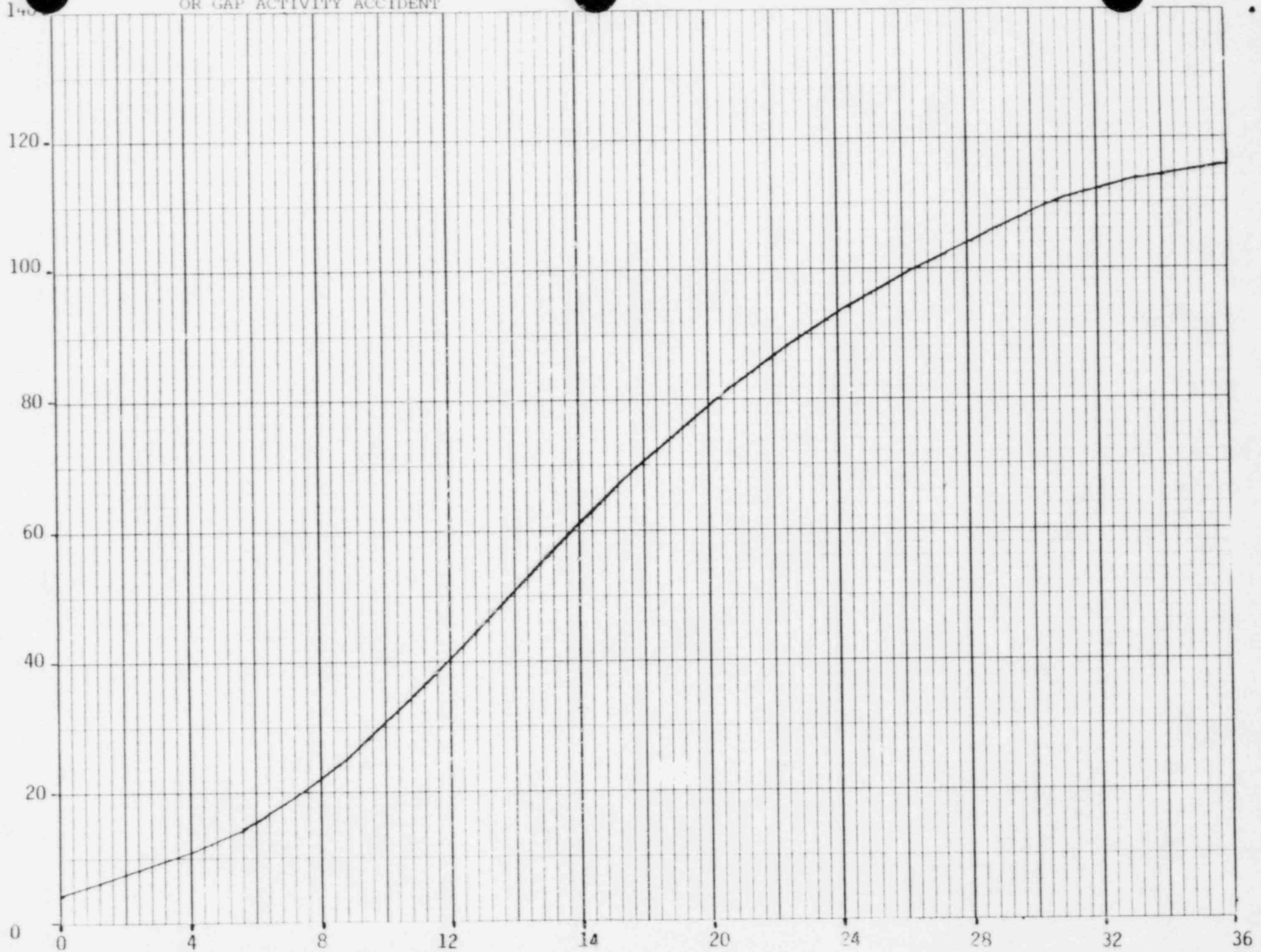
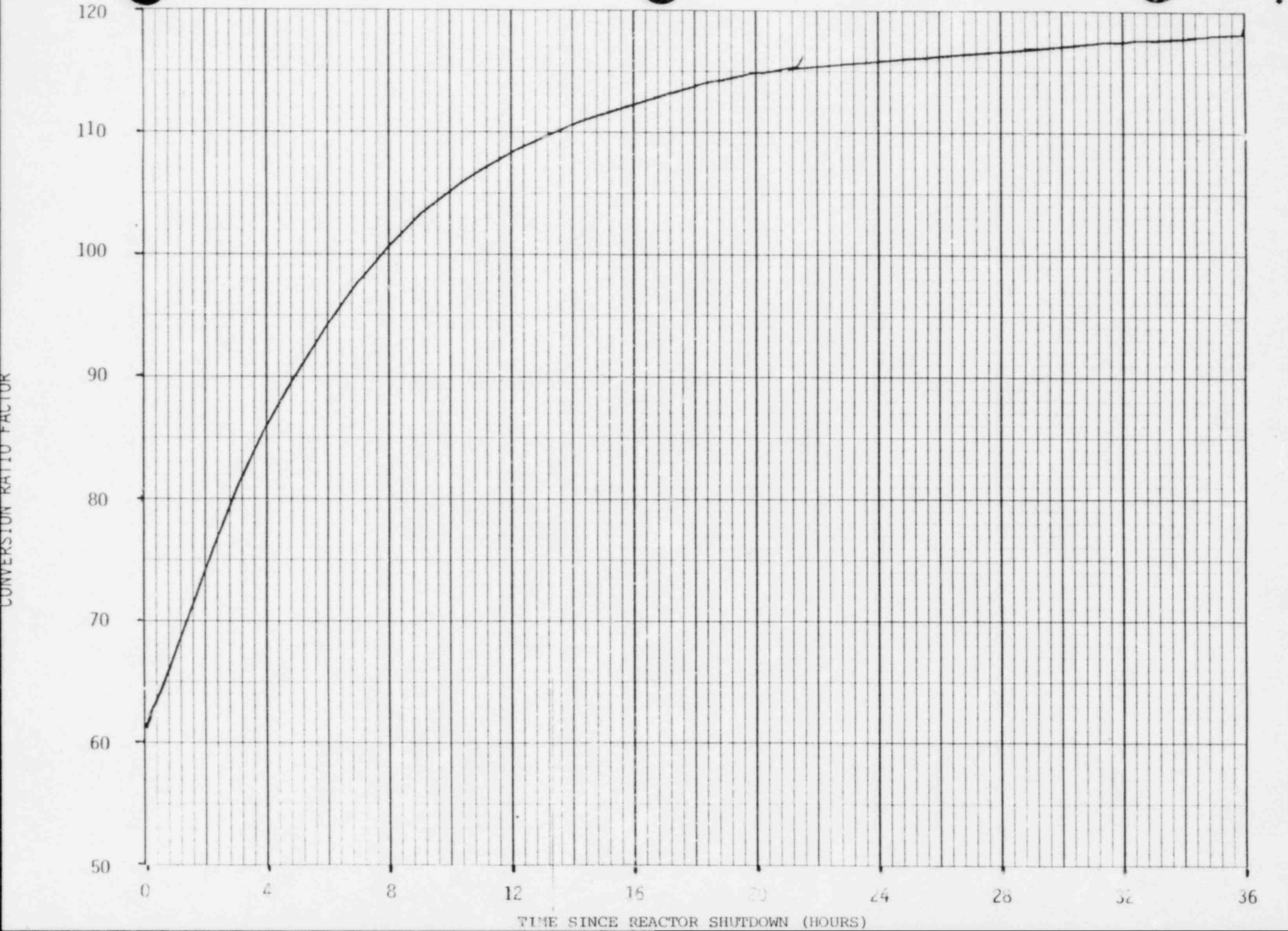


FIGURE 1.4-5
THYROID DOSE RATIO FACTOR
STEAM GENERATOR TUBE RUPTURE



EPIP 1.5
MINOR
Revision 4
09-10-82

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 AND 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 and 1.5-2.

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.

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.

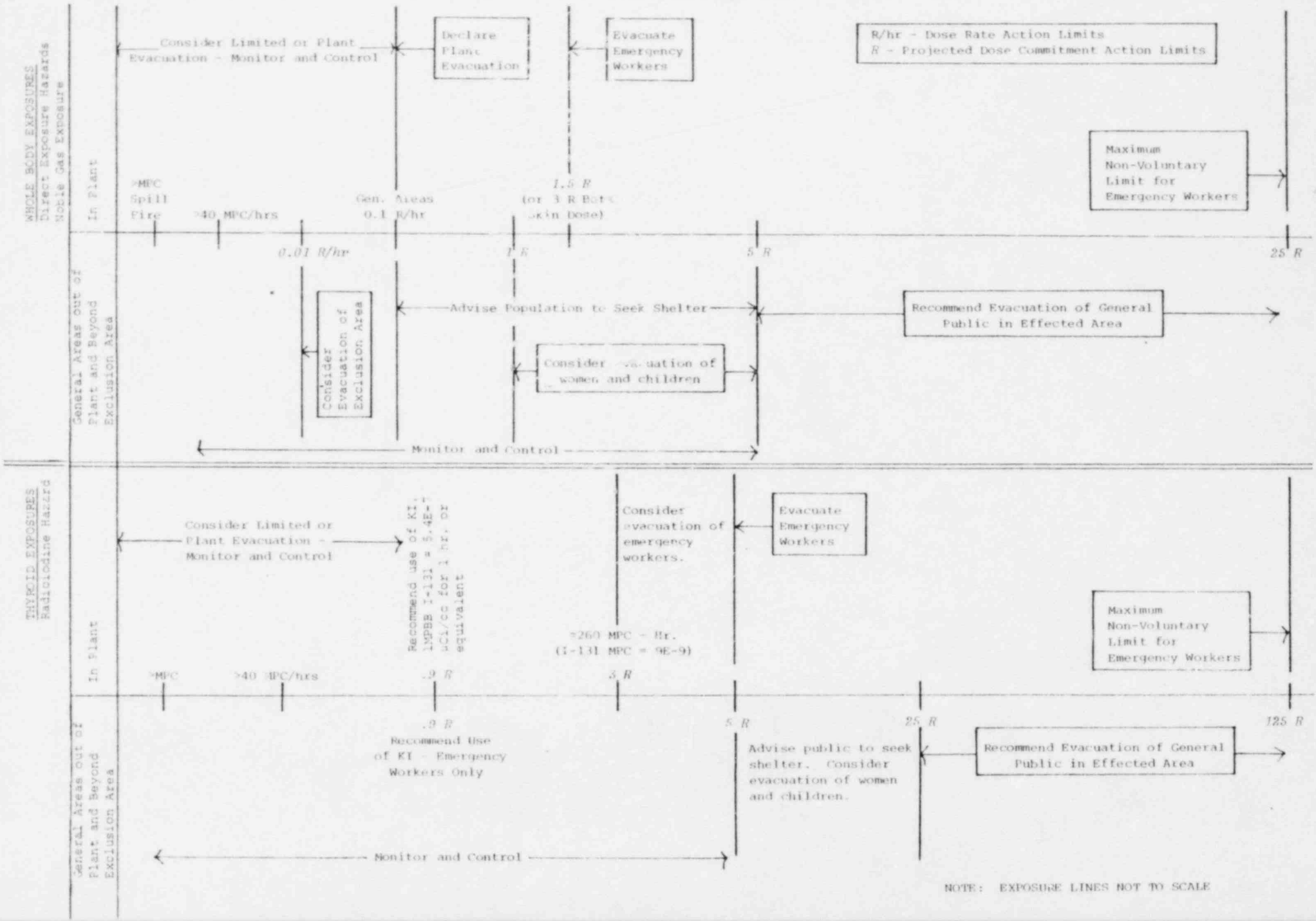
(a) These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take into consideration existing conditions and the dangers associated with certain protective actions.

(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

EVALUATION OF CORE DAMAGE

1.0 PURPOSE

The purpose of this procedure is to estimate core damage using a mathematical model based on an actual primary coolant sample activity, estimated volume introduced into the primary system through safety injection and a correction factor based on the time since reactor shutdown. This evaluation should be performed by the Core Physics Coordinator or a Duty Technical Advisors and routed to the Technical Support Manager and Site Manager.

2.0 REFERENCE

Calculations performed by the Nuclear Engineering Section of Wisconsin Electric Power Company documented in a report to G. A. Reed dated October 5, 1981 "C & HP Items Related to NUREG-0737."

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 (R9) may be unusually high or offscale.

3.1.2 The containment radiation monitors (R11 & R12) may be unusually high or offscale.

3.1.3 The containment area monitors (R2 & R7) may be unusually high or offscale.

3.2 Health Physics procedures and requirements must be followed when applicable (e.g., when 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 to take a primary sample.

4.0 INITIAL CONDITIONS

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

4.2 A reactor coolant sample has been taken and a contact reading of the sample bomb has been taken or a final total sample activity has been completed by implementing EPIP 7.3.2 "Post-Accident Sampling & Analysis of Potentially High Level Reactor Coolant."

4.3 A contact reading of the sample bomb in R/hr was taken and listed on form EPIP-30 or an actual sample activity has been received from lab analysis.

5.0 PRIMARY COOLANT SAMPLE ACTIVITY ESTIMATE PROCEDURE

5.1 Note the time of the sample contact reading taken in Section 4.3 on form EPIP-33.

5.2 Determine the amount of time since reactor shutdown to sample contact reading using the equation:

Reactor Shutdown Time - Contact Reading Time = Time Since Shutdown

5.3 Convert the R/hr reading obtained using the teletector to Ci/ml using Attachment 1.7-1.

5.4 Enter the conversion factor from Section 5.3 on form EPIP-33.

5.5 Determine the estimated Sample Activity using the equation:

Estimated Sample Activity (Ci/ml) =

Sample Bomb Contact Reading* (R/hr) x Conversion Factor $\frac{\text{Ci/ml}}{\text{R/hr}}$

*Contact reading is on shielded sample bomb which incorporates 3 inches of external solid lead shielding.

5.6 Enter the estimated Sample Activity on form EPIP-33.

6.0 EXAMPLE

Coolant Sample Activity Estimate (Shielded Bomb)

Teletector reading = 2.75 R/hr

Reading time = 1700

Reactor Shutdown Time = 0900

Time since shutdown: 1700 hours - 0900 hours = 8 hours

$$2.75 \text{ R/hr} \times 5.93 \times 10^{-2} \frac{\text{Ci/ml}}{\text{R/hr}} = 1.63 \times 10^{-1} \text{ Ci/ml}$$

7.0 CORE DAMAGE ESTIMATE PROCEDURE

7.1 Calculate the estimated percentage of core damage using the following formula and table of correction factors. Interpolate correction factors for times between those listed. Use best estimate for safety injection volume.

7.1.1 Estimated Sample Activity (ESA) _____ Ci/ml

7.1.2 Estimated Safety Injection Volume (ESIV) _____ gallons

Available safety injection dilution sources are:

Accumulators: 2 at 1,000 gallons each

Refueling water storage tank: 275,000 gallons

Boric acid storage tank: 1 of 3 at 5,000 gallons each

Spray additive tank: 2,574 gallons

7.1.3 Correction Factor for Time Since Shutdown [CF(t)] _____ hours

7.1.4 Enter the values from Sections 7.1.1, 7.1.2, and 7.1.3 on form EPIP-33. Calculate the percent core damage using the following formula and Attachment 1.7-2 and enter the result on form EPIP-33.

$$\text{Percent Core Damage (\%)} = \frac{\text{ESA} \times (32{,}500 + \text{ESIV})}{\text{CF(t)}}$$

7.1.5 Route form EPIP-33 to the Site Manager and Technical Support Manager.

8.0 EXAMPLE

Percentage Core Damage Estimate

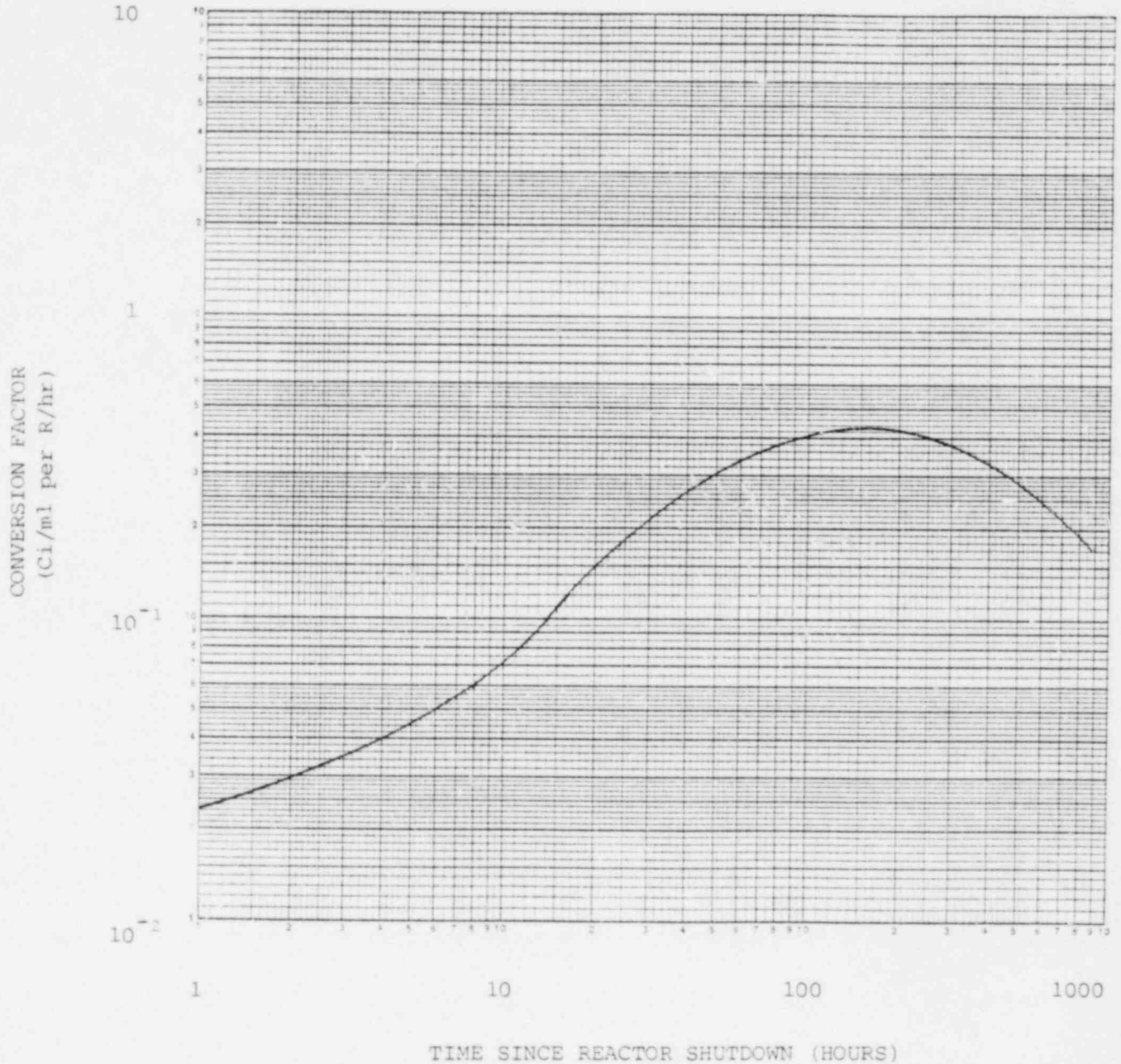
Estimated Sample Activity = 1.63×10^{-1} Ci/ml

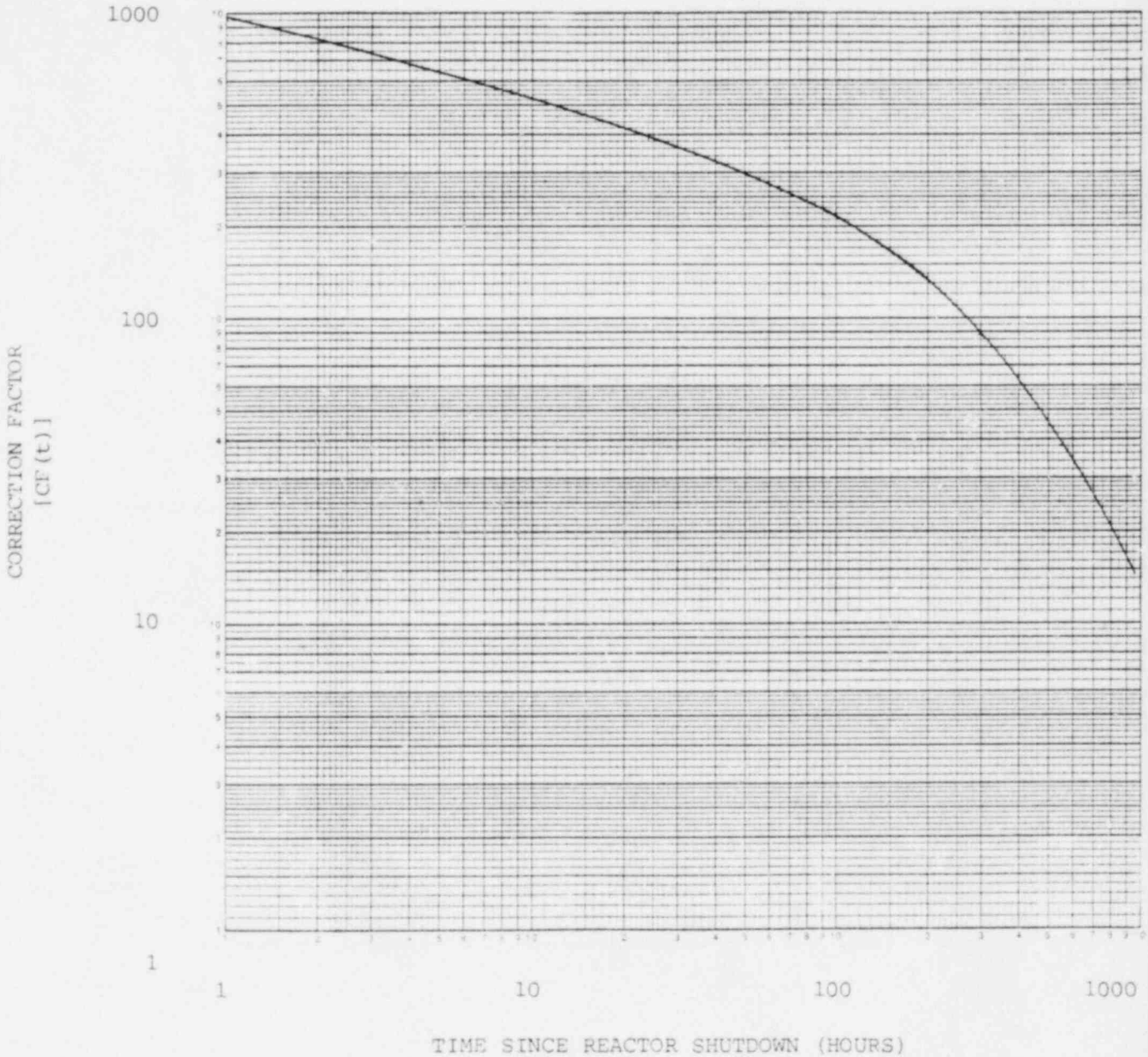
Time since shutdown = 8 hours

Estimated safety injection volume = 2,000 gallons

$$\text{Percentage core damage (\%)} = \frac{1.63 \times 10^{-1} \text{ Ci/ml} \times (32{,}500 + 2{,}000)}{547}$$

Percentage core damage (%) = 9%


10
1
10^{-1}
10^{-2}
CONVERSION FACTOR
(Ci/ml per R/hr)
1
10
100
1000
TIME SINCE REACTOR SHUTDOWN (HOURS)


1000
100
10
1
CORRECTION FACTOR
[CF(t)]
1
10
100
1000
TIME SINCE REACTOR SHUTDOWN (HOURS)

EMERGENCY OFF-SITE DOSE ESTIMATIONS

1.0 GENERAL

The purpose of this procedure is to provide a method for the expeditious classification of an accident or event based on estimated off-site doses. The procedure provides a methodology to quickly estimate (1) stack release rates (source terms) and (2) off-site whole body and thyroid doses.

2.0 REFERENCES

2.1 U. S. NRC Regulatory Guide 1.109, Calculation of Annual Dose to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50 Appendix I, Revision 1, October, 1977

2.2 U. S. EPA "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," EPA-520/1-75-001, September 1975, Appendix D

2.3 TID 14844 "Calculation of Distance Factors for Power and Test Reactor Sites," March 23, 1982

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

2.5 Point Beach Nuclear Plant, Final Safety Analysis Report (FSAR)

3.0 PRECAUTIONS & LIMITATIONS

3.1 This procedure is intended for use in the control room by a person designated by the Shift Supervisor such as the Duty Technical Advisor.

3.2 This procedure is to be used only for immediate initial dose projections. The initial dose projections are to be refined using EPIP 1.3 and 1.4 once more data becomes available, i.e., meteorological data, air samples, and off-site survey dose measurements.

3.3 It is recognized that the RadCon/Waste Manager, in conjunction with the Chemistry & Health Physics Supervisor, is ultimately responsible for off-site dose assessments. However, the initial projections will normally be done by the Shift Supervisor or designee for purposes of classifying the event.

4.0 INITIAL CONDITIONS

4.1 An emergency or potential condition which is anticipated to have off-site dose consequences.

4.2 A release of airborne radioactivity has occurred, or a release is anticipated, requiring a conservative estimate of the off-site dose consequences.

5.0 PROCEDURE

5.1 Calculation of Xe-133 Equivalent Release Rates (Source Terms)

5.1.1 Airborne effluents may be discharged from PBNP through the following vent stacks:

a. Auxiliary building vent (ABVNT)

b. Drumming area vent (DAVNT)

c. Unit 1 containment purge vent (Cont. 1)

d. Unit 2 containment purge vent (Cont. 2)

e. Gas stripper building vent (GSBVNT)

f. Combined air ejector decay duct (CAE)

g. Main steam safety valves and atmospheric dump valves

5.1.2 The source terms (vent release rate in Ci/second) may be estimated by using any of the following monitoring systems.

a. Low range operational stack monitors (designed to monitor low-level releases).

b. Eberline RMS II radiation monitoring system (designed to monitor high-level releases).

c. Contact readings using a hand-held survey meter (to be used when other monitor systems are non-operable).

5.1.3 The decision as to which monitoring system is to be used to estimate the source terms is dependent on the level of release and the operability of the monitor.

5.1.4 Meter readings are to be entered in the appropriate column on EPIP-34. If meter readings are "off-scale" or "inoperable," enter the appropriate comment in the meter reading column on EPIP-34. A source term estimate must be made for each vent which is exhibiting readings above normal operating readings.

5.1.5 Direct contact readings using a hand-held survey meter are required under the following conditions:

a. Meter readings from the low range monitoring system or the RMS II system are not available.

b. A steam generator tube rupture has occurred necessitating a hand-held meter reading at the main steam header.

5.1.6 Direct contact readings using a hand-held survey meter are not to be initiated until the following conditions are accomplished:

a. An evaluation of the radiological hazards must be completed prior to any attempt to enter the auxiliary building or facade to take survey readings on any stack or vent.

b. Before the surveys are done, the proper survey meter and the most direct and desirable route to the stack to be monitored must be chosen.

c. The surveys will be accomplished under the direction of the Health Physics Supervisor. The surveys must be approved by the Site Manager, Duty & Call Health Physics Supervisor, and the Duty Shift Supervisor.

5.1.7 For surveying the main steam safety valves and atmospheric dump valves, the reading will be taken in contact with the centerline of the main steam header, three feet from the main steam line. The survey probe is to be shielded with a minimum of 0.25 inches of lead on the side of the probe facing the main steam line and the containment.

5.1.8 The following data should be obtained from the Shift Supervisor in order to estimate release rates from the main steam header:

a. Estimated flow rate of steam through the main steam header in lbs/hr.

b. Specific volume of the steam in ft^3/lb. At 1000 psia, specific volume of 0.446 ft^3/lb. At 500 psia, specific volume is 0.928 ft^3/lb.

Enter this data on the appropriate column in Section 3.0 of EPIP-34.

5.1.9 Sum the values on EPIP-34, Section 4.0, to determine the gross Xe-133 equivalent release rate.

5.2 Whole Body Dose Projections

5.2.1 Off-site whole body dose rates may be calculated at the site boundary using the following equation:

$$D\left(\frac{REM}{HR}\right) = X/Q \times Q \times Kr$$

Where:

D = whole body dose rate (Rem/hr)
X/Q = atmospheric dispersion coefficient (sec/m^3)
Q = gross Xe-133 equivalent release rate (Ci/sec.)

Kr = Dose Factor $\frac{(rem\text{-}m^3)}{Ci\text{-}hrs}$

Projected off-site dose rates may be calculated by entering the total Xe-133 equivalent release rate calculated on EPIP-34 in the appropriate column on EPIP-35 and multiplying the variables in the equations.

5.2.3 Enter the estimated release duration in the appropriate column on EPIP-35. (A dose per hour is calculated by entering an exposure period of one (1) hour.)

NOTE: THE X/Q VALUES LISTED ON EPIP-35 ARE ESTIMATED BASED ON CALCULATED ACCIDENT METEROLOGY FOR 0-2 HRS. AS GIVEN IN THE FSAR. IF REAL TIME METEOROLOGICAL DATA IS AVAILABLE, X/Q VALUES CAN BE CALCULATED AS OUTLINED IN EPIP 1.4 SECTION 5.1. REFINEMENT OF THE PROJECTED OFF-SITE DOSES MAY BE ACCOMPLISHED BY SUBSTITUTING THE REAL TIME X/Q CALCULATED VALUE FOR THE ESTIMATED X/Q ON EPIP-35.

5.3 Thyroid Dose Projection

5.3.1 Calculate the projected thyroid dose at the site boundary on Section 2.0 of EPIP-35 by using the following equation:

Thyroid Dose = Whole Body Dose x Conversion Factor

5.3.2 The conversion factor is dependent on the type of accident which has occurred. Conversion factors are tabulated for the following accidents:

a. Loss of coolant accident (LOCA)

b. Gap activity accident

c. Fuel handling accident

d. Steam generator tube rupture

5.3.3 Choose the appropriate type accident and calculate the thyroid dose in Section 2.0 of EPIP-35 by multiplying the whole body dose calculated in Sectin 1.0 by the conversion factor.

NOTE: IF THE TYPE OF ACCIDENT IS NOT KNOWN, USE THE LOSS OF COOLANT CONVERSION FACTOR.

5.4 Classification of the Event Based on Estimated Off-Site Doses

5.4.1 The event is to be classified as a Site Emergency if the projected off-site doses meet any of the following criteria:

a. Effluent monitors detect levels corresponding to any of the following doses at or beyond the site boundary:

(1) >50 mR/hr whole body for ½ hour

(2) >250 mR/hr for ½ hour for the thyroid

(3) >500 mR/hr whole body for 2 minutes

(4) >2500 mR/hr to the thyroid for 2 minutes

b. Any of the above dose rates are projected, based on plant parameters.

5.4.2 The event is to be classified as a General Emergency if the projected off-site doses meet any of the following criteria:

a. Effluent monitors detect levels corresponding to any of the following doses at or beyond the site boundary:

(1) ≥1 R/hr whole body

(2) ≥5 R/hr thyroid

b. Either of above dose rates are projected based on plant parameters.

5.5 Protective Action Recommendation

5.5.1 Due to the conservative nature of the calculations in this procedure, use EPIP 1.4 to calculate dose projections for protective action recommendations unless it is apparent there is no time to use EPIP 1.4.

5.5.2 Enter dose rates and release duration estimate on EPIP-35. If duration of release is unknown, use a release duration of 8 hours.

5.5.3 Recommend one of the following offsite protective actions based on results of EPIP-35 calculations.

Whole Body Dose

a. <1 R - No planned protective actions.

b. 1 to <5 R - Seek shelter as a minimum. Consider evacuation.

c. >5 R - Conduct evacuation in area affected and public within 2 miles of the plant.

Thyroid Dose

a. <5 R - No planned protective actions.

b. 5 to <25 R - Seek shelter as a minimum. Consider evacuation.

c. >25 R - Conduct evacuation in area affected and public within 2 miles of the plant.

UNUSUAL EVENT - 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 in accordance with EPIP 1.1, "Initial Classification," as an Unusual Event.

An Unusual Event can lead to a degradation in overall safety. The situation may be one in which time is available to take precautionary and constructive steps to prevent a more serious event or to mitigate any consequences that may occur. No significant release of radioactive material is expected and, therefore, offsite radiological response is not expected to be necessary. No formal activation of the various centers, such as the technical support center, is anticipated, although the room may be used for communications, debriefing, and meetings.

The Unusual Event status will be maintained until escalation in emergency classification is declared or a closeout of the event is made by informing offsite authorities, and by the completion of an incident report form as contained in EPIP 2.3, "Unusual Event - 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.

4.0 INITIAL CONDITIONS

4.1 EPIP 1.1, "Initial Classification," completed.

5.0 PROCEDURE

5.1 Shift Supervisor/Designee

5.1.1 If the emergency affects any manned area of the plant other than the control room, announce the nature and location of the emergency using the Gai-tronics system. Make the announcement at least twice. Evacuate affected areas if necessary to protect personnel by implementation of EPIP 6.1, "Limited Plant Evacuation."

5.1.2 Implement plant operating procedures as required to place the affected unit/units in a safe condition as the emergency warrants.

5.1.3 Designate an individual, such as the Duty Technical Advisor or Duty & Call Superintendent, to perform Section 5.1 of EPIP 2.3, "Unusual Event - Offsite Agency Notification."

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

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

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

5.1.7 Implement EPIP 8.1, "Personnel Assembly and Accountability," as necessary.

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

5.1.9 Determine the need for additional personnel. Implement EPIP 2.2, "Unusual Event - Plant and Company Personnel Notification," as required.

5.1.10 Reevaluate emergency as conditions change by repeating Steps 5.1 through 5.5 of EPIP 1.1, "Initial Classification," and escalate to a more severe class if necessary by repeating Steps 5.7 through 5.9 of EPIP 1.1, "Initial Classification."

5.2 Operating Supervisor

5.2.1 Report to the control room.

5.2.2 If the Shift Supervisor is incapacitated, assume the responsibility and authority of the Shift Supervisor (until properly relieved by a qualified individual and coordinate the plant response as outlined in Section 5.5 of this procedure).

5.3 Duty Technical Advisor

5.3.1 Report to the control room and assume an appropriate advisory role.

5.3.2 Assist the Shift Supervisor as assigned in communications with the technical support center.

5.4 Security Lieutenant

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

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

5.4.3 Implement Section 5.2 of EPIP 2.3, "Unusual Event - Offsite Agency Notification" as directed.

5.5 Duty & Call Superintendent

5.5.1 Report to the control room or the technical support center as required depending upon the availability of other senior management personnel.

5.5.2 Assume role of Plant Operations Manager as necessary.

5.5.3 Review the plant condition and the Emergency Classification status. Review and perform as necessary EPIP 1.2, "Plant Status," EPIP 1.8, "Emergency Offsite Dose Estimation," and EPIP 1.5, "Protective Action Evaluation."

5.5.4 Reclassify emergency as necessary and complete Section 1 of form EPIP-12, "Incident Report Form" attached to EPIP 2.3, "Unusual Event - Offsite Agency Notification."

5.5.5 Escalate to a more severe classification if necessary by implementation of EPIP 3.1, "Alert - Immediate Actions," EPIP 4.1, "Site Emergency - Immediate Actions," or EPIP 5.1, "General Emergency - Immediate Actions."

5.5.6 Provide recommendations of any required protective actions for the public to State and local authorities.

5.5.7 Terminate the unusual event classification if plant conditions warrant that action by completing Section 1 of form EPIP-12, "Incident Report Form," attached to EPIP 2.3, "Unusual Event - Offsite Agency Notification."

5.5.8 Contact by telephone the persons and agencies notified of the emergency and provide the information contained in the notification message of Section 1.

5.5.9 Assure completion of EPIP 2.3, "Unusual Event-Offsite Agency Notification."

5.6 Plant Supervisory Personnel

5.6.1 Report to assigned location and wait for further instructions.

5.7 Deactivation

5.7.1 If conditions no longer warrant the Unusual Event classification, provide a verbal summary of events to personnel notified in accordance with EPIP 2.2, "Unusual Event - Plant and Company Personnel Notification," and 2.3, "Unusual Event - Offsite Agency Notification."

5.7.2 Notify plant personnel of the Unusual Event closeout as required.

5.7.3 Complete the incident report form contained in EPIP 2.3, "Unusual Event - Offsite Agency Notification."

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), "Unusual Event Incident Report Form," Sections 1, 2 and 3 and/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 as soon as possible after the initial classification and must be initiated within one hour of the initial classification.

5.0 PROCEDURE

5.1 Designee

5.1.1 Complete Section 1 of the incident report form (form EPIP-12, attached) using the information given by the Shift Supervisor. 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 Section 1 of the 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 Section 1 of the 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 Section 1 of the 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 Section 1 of the incident 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") and repeat Step 5.1.3.

5.2.7 Have the Shift Supervisor 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.

ALERT - 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 an Alert in accordance with EPIP 1.1, "Initial Classification."

In this plant condition, the potential exists for limited releases of radioactivity in excess of Technical Specification limits. However, it is unlikely that an offsite hazard will be created. Limited plant evacuation of certain plant areas may become necessary. Prompt notification and followup information is to be given to Federal, State and local authorities although it is anticipated that no response by them is required. The technical support center may be activated as a center for communications, debriefing and meetings. Since a plant evacuation is not required, the only other center that might be activated would be the emergency support center.

The Alert status will be maintained until an escalation to a Site or General Emergency occurs or a deescalation or closeout is made by informing offsite authorities, and by the completion of an Incident Report Form as contained in EPIP 3.3, "Alert - 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 Communication should be concise and accurate.

4.0 INITIAL CONDITIONS

4.1 EPIP 1.1, "Initial Classification," completed.

5.0 PROCEDURE

5.1 Shift Supervisor/Designee

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

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

5.1.3 Perform Section 5.1 of EPIP 3.2, "Alert - Plant and Company Personnel Notification."

5.1.4 Designate an individual, such as the Duty Technical Advisor or Duty & Call Superintendent to perform Section 5.1, of EPIP 3.3, "Alert - Offsite Agency Notification."

5.1.5 Announce the nature and location of the emergency using the Gaitronics system. Make the announcement twice.

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

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

5.1.8 Perform actions of the Plant Operations Manager (POM) and the Technical Support Manager until properly relieved.

5.1.9 Notify the Energy Information Center (Ext. 246) and ask them to 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 Supervisor is incapacitated, assume the responsibility and authority of the Shift Supervisor (until 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 Shift Supervisor.

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 3.3, "Alert - Offsite Agency Notification" as directed.

5.5 Duty & Call Superintendent

5.5.1 Report to the control room or the technical support center as required depending upon the availability of other senior management personnel. If other senior management are unavailable, report to 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," and EPIP 1.5, "Protective Action Evaluation."

5.5.3 Assume role of Plant Operations Manager as necessary.

5.5.4 Assure completion of EPIP 3.3, "Alert - Offsite Agency Notification".

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

5.6 Plant Operations Manager (POM) (Superintendent - Operations)

5.6.1 Report to the technical support center.

5.6.2 Escalate to a more severe classification if necessary by implementation of EPIP 4.1, "Site Emergency - Immediate Actions," or EPIP 5.1, "General Emergency - Immediate Actions." Complete Section 1 of form EPIP-12, "Alert Incident Report Form."

5.6.3 Provide recommendations of any required protective actions for the public to State and local authorities if the Emergency Support Manager is unavailable.

5.6.4 Deescalate to a less severe classification if conditions no longer warrant the Alert classification and complete Section 1 of form EPIP-12, "Incident Report Form," attached to EPIP 3.3, "Alert - Offsite Agency Notification."

5.6.5 Notify personnel notified in EPIP 3.2, "Alert - Plant and Company Personnel Notification."

5.6.6 Contact the persons and agencies notified in EPIP 3.3, "Alert - Offsite Agency Notification," and provide the information contained in deescalation notification message using Section 1 of EPIP-12 attached to EPIP 3.3, "Alert - Offsite Agency Notification."

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

5.6.8 Coordinate EPIP 6.1," Limited Plant Evacuation," if implemented.

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

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 support center is to be activated, report to the emergency support center 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 a communication link using the dedicated line with the control room as soon as practicable.

5.8.3 Determine the need for additional personnel. Implement EPIP 3.2, "Alert-Plant and Company Personnel Notification," as required.

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 their work station 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 Designated Plant Supervisory Personnel

(See Figure 5-4 of the Emergency Plan as to who is to report to the technical support center. This includes the off duty Technical Advisors, Training Supervisor, I & C Supervisor, and Health Physics Director if not assigned to the site boundary control center.)

5.11.1 Report to the technical support center.

EPIP 3.3
MINOR
Revision 1
09-10-82

ALERT - OFFSITE AGENCY NOTIFICATION

1.0 PURPOSE

The purpose of this procedure is to establish the initial offsite agency notification responsibilities in response to plant conditions classified as an Alert 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 in form EPIP-23, "Offsite Agency Emergency Call List," or form EPIP-13 (attached), Sections 1, 2, and 3.

4.0 INITIAL CONDITIONS

4.1 Alert emergency conditions exist.

4.2 This procedure should be initiated as soon as possible after the initial classification and must be initiated within one hour of the initial classification.

5.0 PROCEDURE

5.1 Designee

5.1.1 Complete Section 1 of the incident report form (form EPIP-12, attached) using the information given by the Shift Supervisor. Examples of emergency response include: shut the unit down, call in additional firefighters, and secure the doors against high wind.

5.2 Security Lieutenant or Designee

5.2.1 Pick up the NAWAS handset and make the following transmission:

THIS IS POINT BEACH CALLING WARNING CENTER 2, MANITOWOC COUNTY, AND KEWAUNEE COUNTY. THIS IS POINT BEACH CALLING WARNING CENTER 2, MANITOWOC COUNTY AND KEWAUNEE COUNTY.

NOTE: THE THREE CENTERS SHOULD RESPOND. NOTE ANY CENTERS NOT RESPONDING AND PROCEED WITH THE PROCEDURE.

_____

_____

5.2.2 Transmit Section 1 of the incident report form over the NAWAS system. Ensure that the three centers fully understand the transmission.

5.2.3 Contact by telephone, the centers (noted in Step 5.1.2 of this procedure) which were unable to be contacted over the NAWAS system (phone numbers listed on EPIP-23, "Offsite Agency Emergency Call List").

5.2.4 Read Section 1 of the incident report form. Ensure that the information given is fully understood.

5.2.5 Pick up the NRC Operations Center, Bethesda, dedicated line. When a response is heard, read Section 1 of the incident report form.

5.2.6 If no response is heard, contact the NRC Operations by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List") and repeat the applicable portion of Step 5.1.2.

5.2.7 Have the Shift Supervisor 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 EPIP-23, "Offsite Agency Emergency Call List"). Inform him of the Alert emergency condition.

5.2.9 Notify Kewaunee Nuclear Power Plant (telephone number listed on EPIP-23, "Offsite Agency Emergency Call List"). Inform them of the alert emergency condition.

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 support center, the site boundary control center, 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.

4.0 INITIAL CONDITIONS

4.1 Site Emergency has been declared.

5.0 PROCEDURE

5.1 Shift Supervisor/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. Evacuate affected areas if necessary to protect personnel by implementation of EPIP 6.1, "Limited Plant Evacuation."

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

5.1.3 Designate an individual, such as the Duty Technical Advisor or Duty & Call Superintendent to perform Section 5.1 of EPIP 4.3, "Site Emergency - Offsite Agency Notification."

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

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

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

5.1.7 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 Supervisor is incapacitated, assume the responsibility and authority of the Shift Supervisor (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 Supervisor.

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 3.3, "Alert - 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 Section 1 of 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 Section 1 of form EPIP-12, "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 Section 1 of form EPIP-12, "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 support center is to be activated, report to the emergency support center 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 support center 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 support center.

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 site boundary control center.

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 site boundary control center.

5.13.2 Form an offsite survey team consisting of qualified Chemistry & Health Physics personnel at the site boundary control center.

5.13.3 Establish a communication link to the emergency support center using the dedicated telephone line as soon as practicable.

5.14 Designated Company Personnel

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

5.14.1 Report to the emergency support center

5.15 Emergency News Center Director

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

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.

SITE EMERGENCY - OFFSITE AGENCY NOTIFICATION

1.0 PURPOSE

The purpose of this procedure is to establish the initial offsite agency notification responsibilities for response to plant conditions classified as a Site Emergency in accordance with EPIP 1.1, "Initial Classification." Necessary telephone 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 in form EPIP-23, "Offsite Emergency Call List," and form EPIP-14 (attached), Sections 1, 2, and 3.

4.0 INITIAL CONDITIONS

4.1 Site Emergency conditions exist.

4.2 This procedure must be initiated within 15 minutes of the initial classification as a Site Emergency.

5.0 PROCEDURE

5.1 Designee A

5.1.1 Complete Section 1 of the incident report form (form EPIP-12, attached) using the information supplied by the Shift Supervisor. Examples of emergency response include unit shutdown and limited plant evacuation.

5.2 Security Lieutenant or Designee

5.2.1 Pick up the NAWAS handset and make the following transmission:

THIS IS POINT BEACH CALLING WARNING CENTER 2, STATE PATROL IN FOND DU LAC, MANITOWOC COUNTY, AND KEWAUNEE COUNTY. THIS IS POINT BEACH CALLING WARNING CENTER 2, STATE PATROL IN FOND DU LAC, MANITOWOC COUNTY, AND KEWAUNEE COUNTY.

NOTE: THE FOUR CENTERS SHOULD RESPOND. NOTE ANY CENTERS NOT RESPONDING AND PROCEED WITH THE PROCEDURE.

NOTE: IN THE EVENT OF AN EXERCISE OR DRILL, THE ABOVE MESSAGE MUST BEGIN AND END WITH THE PHRASE "THIS IS A DRILL, REPEAT, THIS IS A DRILL."

5.2.2 Transmit Section 1 of the incident report form over the NAWAS system. Ensure that the four centers fully understand the transmission.

5.2.3 Contact by telephone, the centers (noted in Step 5.1.4 of this procedure) which are unable to be contracted over the NAWAS system (telephone numbers listed on form EPIP-23, "Offsite Agency Emergency Call List").

5.2.4 Read Section 1 of the incident report form. Ensure that the information given is fully understood.

5.2.5 Pick up the NRC Operations Center, Bethesda, dedicated line. When a response is heard, read Section 1 of the incident report form.

5.2.6 If no response is heard, contact the NRC Operations by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List") and repeat the applicable portion of Step 5.1.2.

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

5.2.8 Attempt to notify the NRC Resident Inspector (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List"). Inform him of the Site Emergency.

5.3 Designee B

5.3.1 Complete Section 1 of the incident report form (form EPIP-12) using the information supplied by the Shift Supervisor. Examples of emergency response include unit shutdown and limited plant evacuation.

5.3.2 Determine with the Site Manager or designated representative which of the additional agencies listed on form EPIP-23, "Offsite Agency Emergency Call List," should be notified at this time.

5.3.3 Contact, by telephone the agencies identified above and read Section 1 of the incident report form.

5.3.4 Ensure that the information given is fully understood.

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 support center, the site boundary control center, 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.

4.0 INITIAL CONDITIONS

4.1 EPIP 1.1, "Initial Classification," completed.

5.0 PROCEDURE

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

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

5.1.3 Designate an individual, such as the Duty Technical Advisor or Duty & Call Superintendent, to perform Section 5.1 of EPIP 5.3, "General Emergency - Offsite Agency Notification".

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

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

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

5.1.7 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 Supervisor is incapacitated, assume the responsibility and authority of the Shift Supervisor (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 Supervisor.

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 3.3, "Alert - 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 Section 1 of 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 Section 1 of form EPIP-12, "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 support center is to be activated, report to the emergency support center 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 support center, 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 support center.

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 site boundary control center 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 site boundary control center.

5.13.2 Form an offsite survey team consisting of qualified Chemistry & Health Physics personnel at the site boundary control center.

5.13.3 Establish a communication link to the emergency support center using the dedicated telephone line as soon as possible.

5.14 Designated Company Personnel

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

5.14.1 Report to the emergency support center.

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 support center.

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.

GENERAL EMERGENCY - OFFSITE AGENCY NOTIFICATION

1.0 PURPOSE

The purpose of this procedure is to establish the initial offsite agency notification responsibilities for response to plant conditions classified as a General Emergency 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 in form EPIP-23, "Offsite Agency Emergency Call List," and form EPIP-15 (attached), Sections 1, 2, and 3.

4.0 INITIAL CONDITIONS

4.1 General Emergency conditions exist.

4.2 This procedure must be initiated within 15 minutes of the initial classification as a General Emergency.

5.0 PROCEDURE

5.1 Designee A

5.1.1 Complete Section 1 of the incident report form (form EPIP-12, attached) using the information supplied by the Shift Supervisor.

5.2 Shift Lieutenant or Designee

5.2.1 Pick up the NAWAS handset and make the following transmission:

THIS IS POINT BEACH CALLING WARNING CENTER 2, STATE PATROL IN FOND DU LAC, MANITOWOC COUNTY AND KEWAUNEE COUNTY. THIS IS POINT BEACH CALLING WARNING CENTER 2, STATE PATROL IN FOND DU LAC, MANITOWOC COUNTY AND KEWAUNEE COUNTY.

NOTE: THE FOUR CENTERS SHOULD RESPOND. NOTE ANY CENTERS NOT RESPONDING AND PROCEED WITH THE PROCEDURE.

_____ _____
_____ _____

NOTE: IN THE EVENT OF AN EXERCISE OR DRILL, THE ABOVE MESSAGE MUST BEGIN AND END WITH THE PHRASE "THIS IS A DRILL, REPEAT, THIS IS A DRILL."

5.2.2 Transmit Section 1 of the incident report form over the NAWAS system. Ensure that the four centers fully understood the transmission.

5.2.3 Contact by telephone, the centers (noted in Step 5.1.4 of this procedure) which were unable to be contacted over the NAWAS system (phone numbers listed in form EPIP-23, "Offsite Agency Emergency Call List").

5.2.4 Read Section 1 of the incident report form. Ensure that the information given is fully understood.

5.2.5 Pick up the NRC Operations Center, Bethesda, dedicated line. When a response is heard, read Section 1 of the incident report form.

5.2.6 If no response is heard, contact the NRC Operations Center, Bethesda, by telephone (telephone number listed on form EPIP-23, "Offsite Agency Emergency Call List") and repeat the applicable portion of Step 5.1.6.

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

5.2.8 Attempt to notify the NRC Resident Inspector (phone number listed in form EPIP-23, "Offsite Agency Emergency Call List"). Inform him of the General Emergency.

5.2.10 Notify the Kewaunee Nuclear Power Plant.

5.3 Designee B

5.3.1 Complete Section 1 of the incident report form (form EPIP-12) using the information supplied by the Shift Supervisor.

5.3.2 Determine with the Site Manager or designated representative which of the additional agencies listed on form EPIP-23, "Offsite Agency Emergency Call List," should be notified at this time.

5.3.3 Contact by telephone, the agencies identified above and read Section 1 of the incident report form.

5.3.4 Ensure that the information given is fully understood.

5.3.5 Complete form EPIP-16 (attached).

5.3.6 Form EPIP-16 will be used as a basis for follow-up messages to offsite technical personnel such as NSSS vendors and corporate engineering staff.

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

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.

3.0 DATA LOGGER OPERATION

3.1 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.

3.2 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).

3.3 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).

4.0 EMERGENCY VENTILATION SYSTEM

4.1 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.

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

4.2.1 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.

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

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

5.0 TECHNICAL SUPPORT CENTER AUXILIARY AIR CONDITIONING

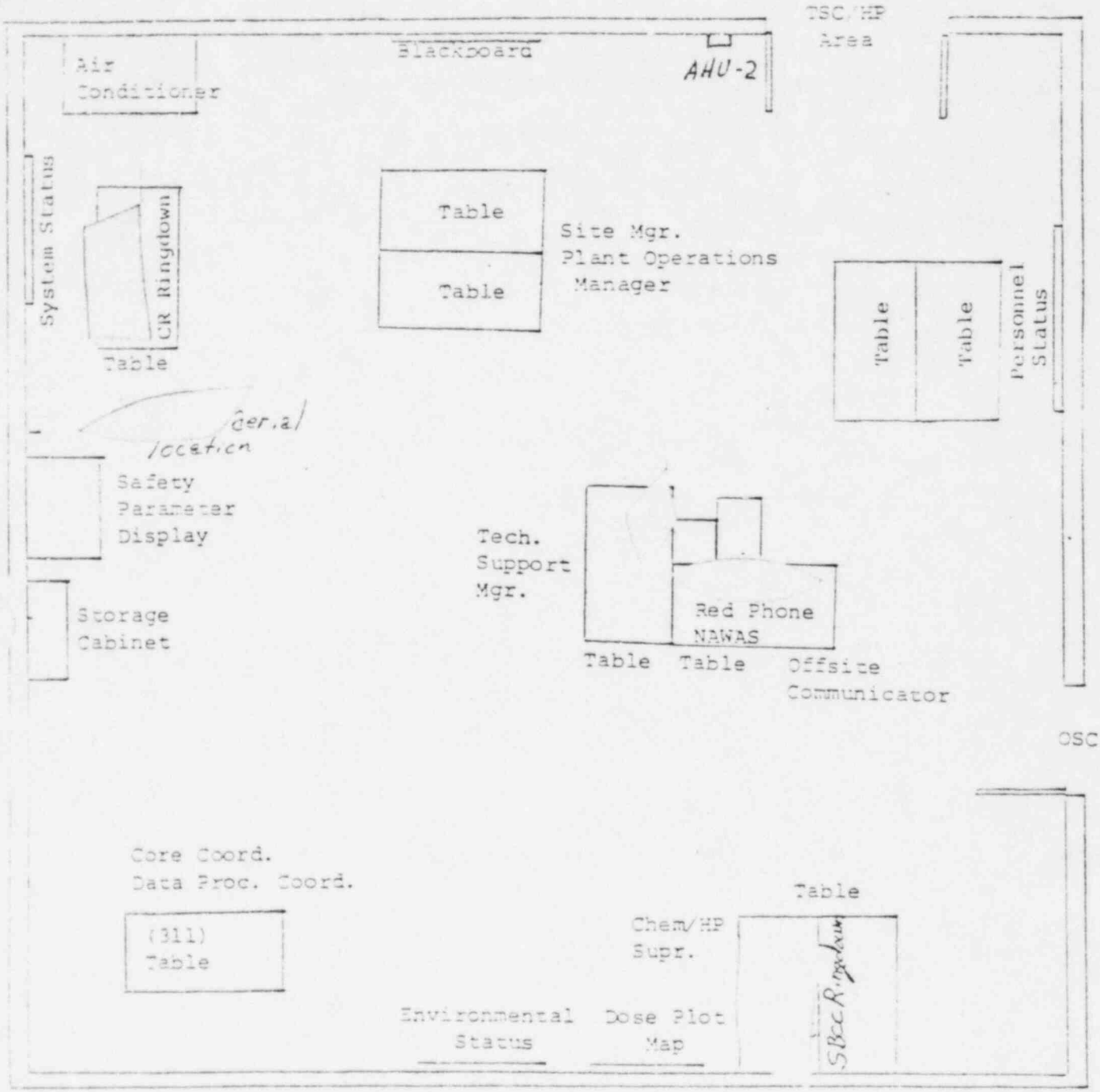
5.1 Turn on compressor CH2 on the west wall of El. 18.5' of the technical support center building (see Attachment 6.5-7).

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

6.0 EMERGENCY POWER

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

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



TECHNICAL SUPPORT CENTER

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	
25	---		Unit 1 Containment High Range RMS	
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	
32	---		Unit 2 Containment High Range RMS	
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	153.	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 AND
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.	.001
0.1	.001.35
0.2	.001.847
0.3	.002.511
0.4	.003.414
0.5	.004.641
0.6	.006.309
0.7	.008.576
0.8	.011.659
0.9	.015.848
1.	.021.544
1.1	.029.286
1.2	.039.810
1.3	.054.116
1.4	.073.564
1.5	.100
1.6	.135.935
1.7	.184.784
1.8	.251.188
1.9	.341.454
2.	.464.158
2.1	.630.957
2.2	.857.695
2.3	1.165.914
2.4	1.584.893
2.5	2.154.434
2.6	2.928.644
2.7	3.981.071
2.9	5.411.695
2.9	7.356.422
3.	10.000

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

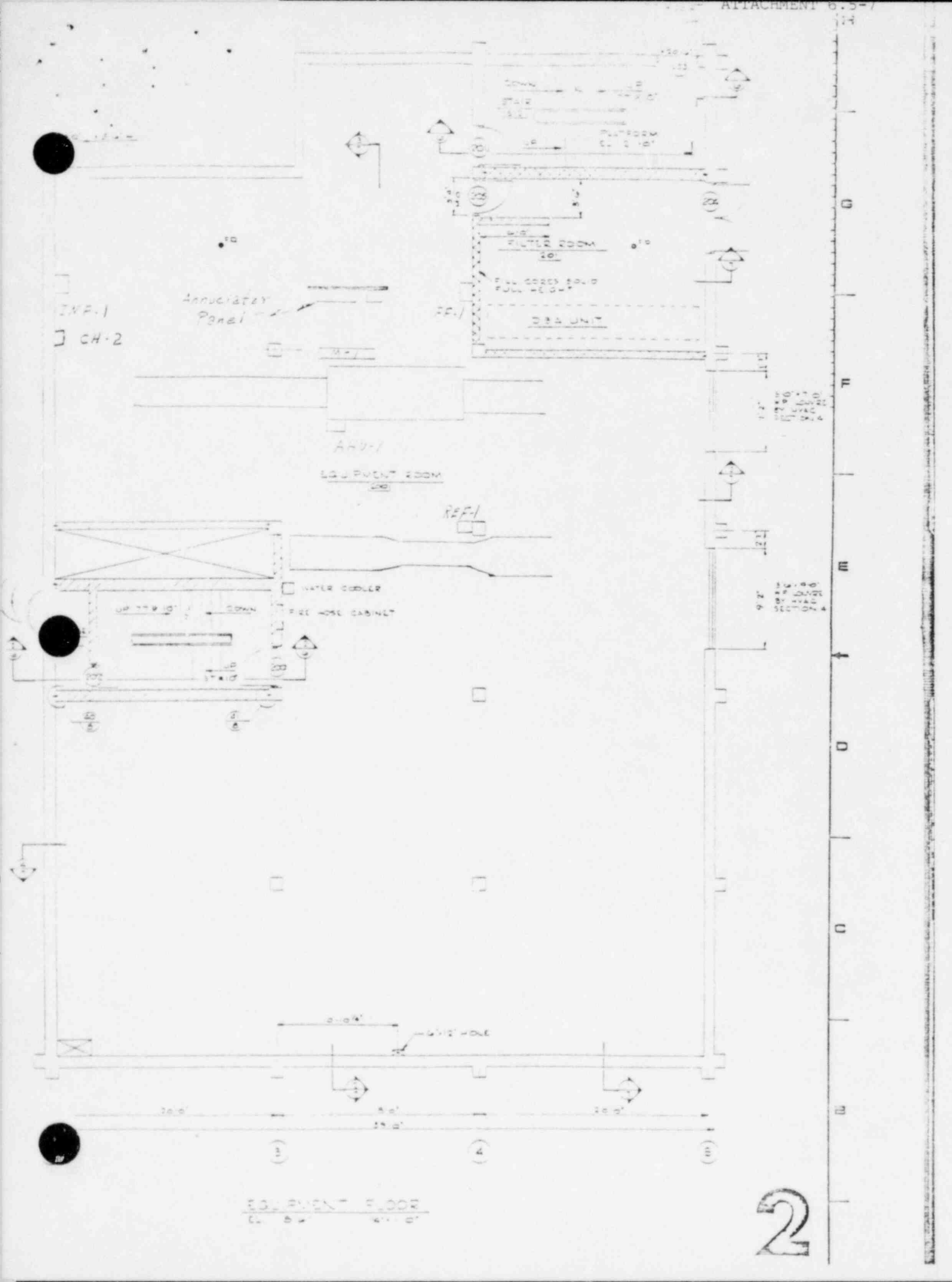
VOLTAGE TO R/HR CONVERSION TABLES
RANGE 10^{-1} TO 10^{3} R/HR

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.

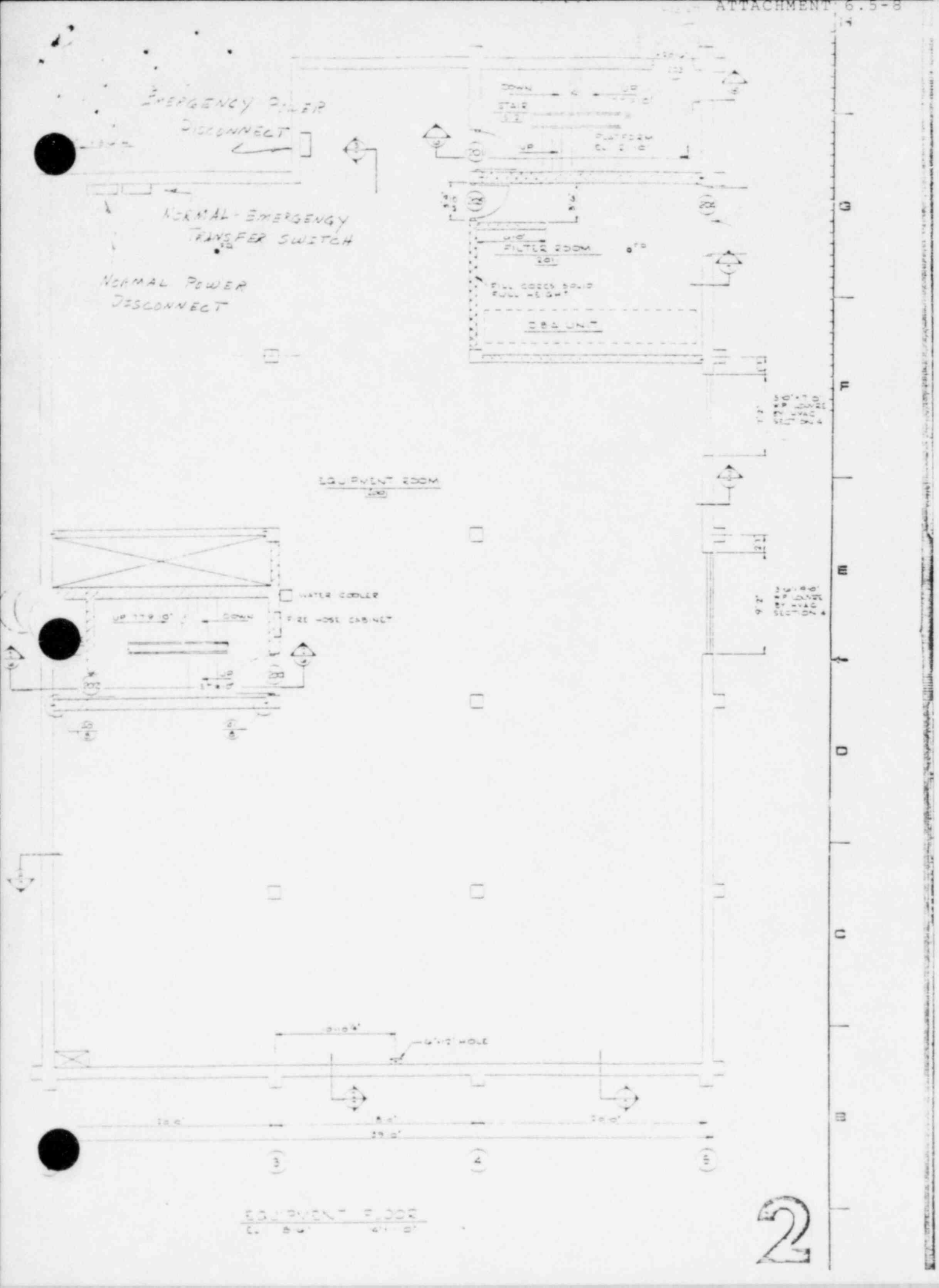
AUXILIARY BUILDING VENT STACK RMS-II CH #1 &
GAS STRIPPER BUILDING VENT STACK RMS-II CH #2

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.


INF-1
CH-2
Annunciator Panel
FF-1
AHU-1
REF-1
WATER COOLER
FIRE HOSE CABINET
FILTER ROOM
DBA UNIT
EQUIPMENT ROOM
EQUIPMENT FLOOR

2


EMERGENCY POWER DISCONNECT
NORMAL-EMERGENCY TRANSFER SWITCH
NORMAL POWER DISCONNECT
DOWN
STAIR
PLATFORM
FILTER ROOM
201
FULL GRID BELOW
CBA UNIT
EQUIPMENT ROOM
200
WATER COOLER
FIRE HOSE CABINET
6'-0" HOLE
EQUIPMENT FLOOR
3
4
5
A
B
C
D
E
F
G

POST-ACCIDENT SAMPLING AND ANALYSIS OF POTENTIALLY HIGH LEVEL REACTOR COOLANT

1.0 INTRODUCTION

1.1 This procedure outlines the steps necessary to collect, handle and analyze a high level reactor coolant sample which could result from gross fuel failure.

1.2 Equipment List

Set up the following in the primary sample hood prior to collecting your sample:

1.2.1 The equipment detailed in Figures 2A and 2B, with the exception of the sample bomb.

1.2.2 Two magnetic stirrers and two 50 ml poly beakers and a 50 ml beaker.

1.2.3 A pH/mv meter, pH probe and chloride/reference electrodes.

1.2.4 A piston burette.

1.2.5 A lead brick wall of sufficient size to store residue from analysis.

1.2.6 Chemical transfer pump.

1.2.7 Remote handling tools located in the cabinet below the hood.

1.2.8 Prepare a 1.0 liter sidearm flask with a correctly sized solid stopper and rubber septum over the sidearm.

1.2.9 Gas syringe

The following equipment is also necessary for this procedure and need to be made ready.

1.2.10 The gas partitioner for H_2 analysis.

1.2.11 The special cart used for transport of the sample bomb.

1.2.12 Tools for connecting and disconnecting sample bomb; i.e., 11/16" open end wrench or equivalent.

1.2.13 Remote valve turning tool. This tool as well as those mentioned in Step 1.2.12 are necessary for sampling and should be taken along and placed on the sample bomb transport cart.

The following reagents are also necessary and need to be prepared.

1.2.14 0.1N NaOH for boron. Obtain a supply from normal boron analysis.

1.2.15 2.0M HNO_3 for chloride analysis.

1.2.16 Manitol for boron analysis.

1.3 Preliminary Steps — Initials

1.3.1 Standardize the pH meter. _____

1.3.2 Organize as much of the equipment as possible behind lead brick walls in an arrangement that allows for unobstructed view of all operations with the aid of the convex mirror. (See Figure 2.) _____

1.3.3 Put new rubber septum on gas bomb. _____

1.3.4 Condition and check out chloride/reference electrodes. _____

1.3.5 Check out and prime the piston burette with fresh 0.1N NaOH solution. _____

1.3.6 Check out the operation and calibration of the chemical transfer pump by pumping chloride free deionized water through the pump. _____

2.0 PRELIMINARY EVALUATION

NOTE: THIS EVALUATION SHALL BE COMPLETED PRIOR TO ANY ATTEMPT TO ENTER THE AUXILIARY BUILDING OR SAMPLE ROOM TO OBTAIN A REACTOR COOLANT SAMPLE UNDER EMERGENCY CONDITIONS.

2.1 Possible Indication of Fuel Damage — Initials

Some or all of the following would be present if fuel damage had occurred:

2.1.1 The letdown radiation monitor (R9) would be unusually high or offscale. _____

2.1.2 The containment radiation monitors (R11 and R12) would be unusually high or offscale. _____

2.1.3 The containment area monitors (R2 and R7) would be reading unusually high or offscale. _____

2.1.4 The auxiliary building stack monitor (R14) would show a significant increase due to auxiliary building airborne activity from the letdown and charging pump areas. _____

2.1.5 Evaluation of Sample Room Conditions

a. The sample room area monitor (R6) and charging pump area monitor (R4) would give an indication of conditions in the auxiliary building and sample room. _____

b. After evaluation of the radiation monitoring system readouts, Health Physics will determine what airborne and radiation surveys would be appropriate before auxiliary building entry. _____

c. Verify the requirements for auxiliary building sample room entry, i.e., (1) RWP requirements, (2) clothing requirements, (3) respiratory requirements, and (4) dosimetry requirements including extremity dose monitoring requirements, and (5) health physics coverage requirements including timekeeping. _____

3.0 REACTOR COOLANT SAMPLING PROCEDURE

NOTE: THIS PROCEDURE SHALL NOT BE INITIATED UNTIL THE EVALUATIONS DISCUSSED IN SECTION 2.0 HAVE BEEN COMPLETED AND REVIEWED BY DUTY & CALL SUPERINTENDENT (COORDINATOR), DUTY HEALTH PHYSICS SUPERVISION AND THE DUTY SHIFT SUPERVISOR, AND THEIR APPROVAL HAS BEEN GRANTED.

3.1 Collecting a Pressurized Sample (Refer to Figure 1) — Initials

NOTE: THE FOLLOWING STEPS WILL BE ACCOMPLISHED UNDER THE DIRECTION OF HEALTH PHYSICS SUPERVISION AND ONLY AFTER COMPLETING SECTION 1.0 OF THIS PROCEDURE.

3.1.1 The following steps (a through f) must be accomplished before opening the incontainment sample isolation valve 955 (Step 3.1.2) and the hot leg sample isolation valve 966C (Step 3.1.3). _____

a. Verify that the demineralized water header pressure is approximately 100 to 120 psi. _____

NOTE: THIS STEP MAY BE DELETED IF REACTOR MAKEUP WATER IS USED FOR THE FLUSH.

b. Proceed to the sample room and install the shielded sample bomb on the outside wall of the sample room using the fittings provided.

CAUTION: BEFORE REMOVING THE SWAGE LOCK CAPS TO INSTALL THE BOMB, OPEN VALVES 939, 940 AND 941 TO RELIEVE SYSTEM PRESSURE. CLOSE VALVES 939, 940 AND 941. PLACE A WASTE BUCKET DIRECTLY UNDER THE BOMB. USE A PAPER TOWEL SHIELD AND RUBBER GLOVES WHEN REMOVING CAPS.

After installing the bomb verify that the demineralized water line is connected from valve 945 to the demineralized water manifold. Open demineralized H_2O valves 945, 947, and 948 and check for leaks on the bomb fittings. Shut valves 945, 947, and 948. _____

c. Enter the sample room and close the following valves on the sample panel.

1. 961C - Normal hot leg sample bomb inlet. _____

2. 964C - normal hot leg sample bomb outlet. _____

3. 965C - normal hot leg sample bypass. _____

4. 968 - normal hot leg return valve. _____

5. 971 - normal hot leg sink sample valve. _____

d. Open the following valves on the sample panel.

1. 969A - sample system purge to volume control tank. _____

2. 956C - normal hot leg sample supply valve. _____

3. 990 - residual heat removal sample supply valve. _____

e. Open valve 938 (high level hot leg sample valve) located on the wall behind the sample panel. _____

f. Leave the sample room and open the following valves on the sample room wall.

1. 939 - sample bomb inlet. (Wide Open) _____

2. 940 - sample bomb bypass. (Wide Open) _____

3. 941 - sample bomb outlet. (Wide Open) _____

NOTE: FOR DRILLS AND PRACTICE OPEN VALVE 941 ONLY ONE-QUARTER TURN TO ELIMINATE N-16 GAMMAS.

3.1.2 Open the incontainment hot leg sample isolation valve (valve 955) and the residual heat removal sample isolation valve (valve 959) by means of the switches located outside the No. 1 pipeway for Unit 1 or No. 4 pipeway for Unit 2. _____

If the valve No. 955 will not open because of containment isolation, perform the following steps (1 through 3). _____

1. Request that the Control Room reset the containment isolation signal. _____

2. Turn the local control switch positions for valves 951, 953, and 955 to the "close" position. _____

3. Turn the local control switch for valve 955 to the "open" position. _____

NOTE: SECTION 3.1.2 MUST BE ACCOMPLISHED BEFORE SAFETY INJECTION RECIRCULATION HAS BEGUN.

3.1.3 Leave the area and request control room supervision to open the hot leg sample isolation valve (966C). _____

3.1.4 Verify sample flow by radiation level. _____

3.1.5 After a recirc time of 30 minutes, return to the sample station and using the remote valve operating tool, fully open valves 9B and 9A and 8A and 8B. _____

a. Slowly and completely close valve 940. _____

b. Leave the primary auxiliary building. _____

NOTE: THE VALVE OPERATING TOOL SHOULD BE USED TO OPERATE ALL VALVES EXCEPT 945, 946, 947 AND 948 (FLUSH VALVES).

3.1.6 After 15 additional minutes, return to collect the sample. Close valves 9B and 9A and then valves 8B and 8A using the remote valve operating tool. Make note of the sample collection time. _____

NOTE: DO NOT DISCONNECT THE SAMPLE BOMB UNTIL SAMPLE FLOW IS SECURED AND THE DI FLUSH IS COMPLETE AS EVIDENCED BY REDUCTION IN RADIATION LEVELS.

3.1.7 Request control room supervision to immediately close the hot leg sample isolation valve 966C. _____

NOTE: IT IS VERY IMPORTANT THAT THE HOT LEG SAMPLE ISOLATION VALVE 966C IS CLOSED PRIOR TO STARTING THE DI FLUSH. WAIT FOR CONFIRMATION FROM THE CONTROL ROOM.

4.0 SAMPLE LINE FLUSHING

4.1 Leave valve 939 open, and fully open valves 940 and 941 Open valves 945 and 946. Allow the lines to flush for at least 15 minutes. Do not remain in the area of the sample station during this flush. _____

4.2 After about 15 minutes return and measure radiation levels. If a Chemistry & Health Physics Supervisor determines that the levels are satisfactory, close whitey valve 946 and using the remote valve tool, close valve 939. Then open valve 947 and valve 948 and allow about a 15-minute DI flush. _____

4.3 After about 15 minutes, close valves 940 and 941 with the remote valve tool and then close valves 945, 947, and 948. Disconnect valve 945 from the demineralized water manifold and cap both ends. Disconnect the sample bomb from the fittings using a paper towel to prevent spraying. Remove the shielded sample bomb from its support. Remove excess liquid from the top and bottom bomb fittings with a syringe and dispose behind lead shielding. Replace the Swagelok caps on the wall fittings and on the bomb. Transport the bomb, remote valve tool and wrenches to the chemistry lab on a cart. _____

NOTE: AFTER DRILLS AND PRACTICE RUNS, RETURN ALL EQUIPMENT AND VALVE LINEUPS TO NORMAL AS FOLLOWS:

CLOSE VALVES:

1. 966C - Containment hot leg sample isolation valve _____
2. 961C - Normal hot leg sample bomb inlet _____
3. 964C - Normal hot leg sample bomb outlet _____
4. 965C - Normal hot leg sample bypass _____
5. 971 - Normal hot leg sink sample valve _____
6. 938 - High level hot leg sample valve _____
7. 939 - High level sample bomb inlet _____
8. 940 - High level sample bomb bypass _____
9. 941 - High level sample bomb outlet _____
10. 945, 946, 947, 948 - Demineralized water flush valves _____

NOTE: DISCONNECT VALVE 945 FROM THE DEMINERALIZED WATER MANIFOLD. ADVISE CONTROL TO REDUCE DEMINERALIZED WAIER HEADER PRESSURE TO NORMAL.

OPEN VALVES:

1. 956C - Normal hot leg sample supply valve _____

2. 968 - Normal hot leg return valve _____

3. 969A - Sample system purge to volume control tank _____

5.0 SEPARATION OF THE PRESSURIZED SAMPLE AND ANALYSIS OF THE GASEOUS AND LIQUID COMPONENT (Refer to Figures 2A and 2B)

5.1 Collecting the Gaseous Sample From the Pressurized Sample

5.1.1 Place the shielded sample bomb in the sample holder in the primary sample hood. _____

5.1.2 Connect the sample bomb to the shielded gas collection bomb by means of the fittings provided. Place lead bricks in the area of this connection for shielding. _____

5.1.3 Connect the valve manifold to the opposite end of the sample bomb and verify that valve 11 on the manifold is open. _____

5.1.4 Make sure that the vacuum line is attached to the gas collection bomb at the valve 1 location. Open valves 1 and 2. Secure valve 3. Evacuate the gas bomb and connecting lines. With vacuum still on, secure valve 1. Secure vacuum. _____

5.1.5 Before proceeding, make sure no inleakage has occurred into the gas bomb by observing the vacuum gauge reading. Using the remote valve tool, fully open valves 9A and 9B. Open valve 8A one-quarter turn. Crack open valve 8B and control degassing by throttling valve 8B. Allow the system to degas for 5 minutes. Check that valves 9A and 9B, 8A and 8B are fully open. Close valve 2. _____

NOTE: OBSERVE THE VACUUN GAUGE. IT SHOULD RISE VERY SLOWLY. IF THE RISE IS TOO RAPID, CLOSE VALVE 8B SLIGHTLY. RISE SHOULD BE 5" HG/MIN.

5.2 Analysis of Gaseous Sample

5.2.1 Hydrogen

Use a syringe to draw a 1 cc sample. Use the injection port on the gas partitioner for this analysis. _____

5.2.2 Radioactive Noble Gas

Use a syringe to draw a 1/2 cc sample and inject this into the flask prepared in Section 1.2.8.* Allow 30 minutes for thermal mixing. Draw a 1/2 cc sample of this dilution and proceed as normal. _____

*Additional dilution should be performed if the contact reading is >1 mr/hour.

NOTE: SEE SECTIONS 7.0 AND 8.0.

5.3 Collecting the Liquid Sample From the Pressurized Sample

5.3.1 Add one drop of 2 M nitric acid (per 10 ml of sample) to the chloride beaker for pH adjustment. _____

NOTE: IT IS EXTREMELY IMPORTANT TO VERIFY THAT VALVE 2 HAS BEEN CLOSED BEFORE PROCEEDING.

5.3.2 Open valve 3 slowly. Allow the liquid sample to drain into the 50 ml beaker. Direct a slow stream of air through the vent line on valve 3 if necessary to recover the total liquid sample. _____

5.3.3 Close valves 8A and 8B, 9A and 9B, and valve 3. _____

5.4 Analysis of Liquid Samples

5.4.1 Boron/pH Analysis

a. Transfer a 5 ml sample using the chemical transfer pump into a 50 ml poly beaker containing a stir bar. _____

NOTE: OBSERVE THE TRANSFER PUMP OPERATION. WHEN SAMPLE BEGINS TO ENTER THE BEAKER, THE TRANSFER RATE IS 0.5 ML/SECOND OR 10 SEC = 5 ML.

b. After transfer is complete, record the pH. _____

c. Plug in the magnetic stirrer, add mannitol, and proceed with the boron analysis. _____

NOTE: IF THE PRIMARY SYSTEM HAS BEEN BORATED, 5 ML OR MORE OF TITRANT MAY BE NEEDED TO REACH AN ENDPOINT.

NOTE: AFTER DRILLS AND PRACTICE RUNS, THE BORON TITRATOR MUST BE FLUSHED WITH DEIONIZED WATER AND PUT IN DRY LAY-UP. ALL ELECTRODES SHOULD BE PLACED IN LAYUP SO THEY ARE CONDITIONED FOR IMMEDIATE USE.

5.4.2 Chloride Analysis

Transfer the remainder of the sample to the second poly beaker containing the chloride electrode. Start the stirring action and record the potential. Use the calibration curve for the chloride electrode to determine chloride concentration.

NOTE: CHLORIDE SAMPLE MUST BE pH ADJUSTED. SEE STEP 5.3.1.

NOTE: HIGH LEVELS OF RADIOACTIVE IODINE IN THE COOLANT WILL INTERFERE WITH THE CHLORIDE ANALYSIS. REFER TO THE ATTACHED IODINE/ CHLORIDE CORRECTION CURVE (ATTACHMENT 7.3.2-1) TO MAKE THE PROPER ADJUSTMENT TO THE CHLORIDE ELECTRODE ANALYSIS.

5.4.3 Iodine Analysis and Gamma Scan

Using the specially prepared 2 cc syringe, withdraw 0.3 cc of the sample from the poly beaker used for the chloride analysis and inject this sample into a 1000 ml poly bottle containing demineralized water. Make additional dilutions in the same manner.* Count as normal.

*Additional dilution should be performed until the contact reading is <1 mr/hour.

NOTE: SEE SECTIONS 7.0 AND 8.0.

5.5 Reporting of Results

Complete and forward Reactor Coolant Post-Accident Sampling Analysis Report (EPIP-30).

6.0 SAMPLE RESIDUE

Place all sample residue in the specially prepared lead pig for disposal.

7.0 SAMPLES TAKEN TO KEWAUNEE NUCLEAR PLANT FOR COUNTING

Reference: Post-accident counting agreement with Wisconsin Public Service, Kewaunee Nuclear Plant.

Kewaunee Nuclear Plant does not utilize the 5 cc glass vial and 1 cc test tube geometries. Therefore, "normal" samples will have to be diluted and placed in one liter poly bottles if they are sent to the Kewaunee Nuclear Plant for analysis.

8.0 LABELING OF SAMPLES

Label all chloride, noble gas, iodine and gamma scan samples with all pertinent information such as: sample number, name of sample, date and time of sampling, sample volume and dilution(s).

ATTACHMENT 7.3.2-1

CORRECTION FOR REACTOR COOLANT IODINE
INTERFERENCE WITH CHLORIDE ELECTRODE RESPONSE

1.0 INTRODUCTION

Chloride as determined by the chloride specific ion electrode is subject to interference caused by the presence of high levels of other halogens, specifically iodine. The following procedure outlines the method used to estimate the correction for this interference.

2.0 PROCEDURE

2.1 Measure the chloride concentration using the chloride specific ion electrode.

2.2 Perform the iodine analyses as outlined in Section 5.4.3 of this procedure.

2.3 Convert the iodine concentration to ppm using the following conversion factors.

Isotope	µCi/cc → ppm Conversion Factor
I-130	2.54×10^{-5}
I-131	3.85×10^{-4}
I-132	4.71×10^{-6}
I-133	4.23×10^{-5}
I-134	1.78×10^{-6}
I-135	1.38×10^{-5}

2.4 Sum the concentration, in ppm, of each iodine isotope and use the attached curve to determine the estimated chloride concentration correction factor.

3.0 EXAMPLE

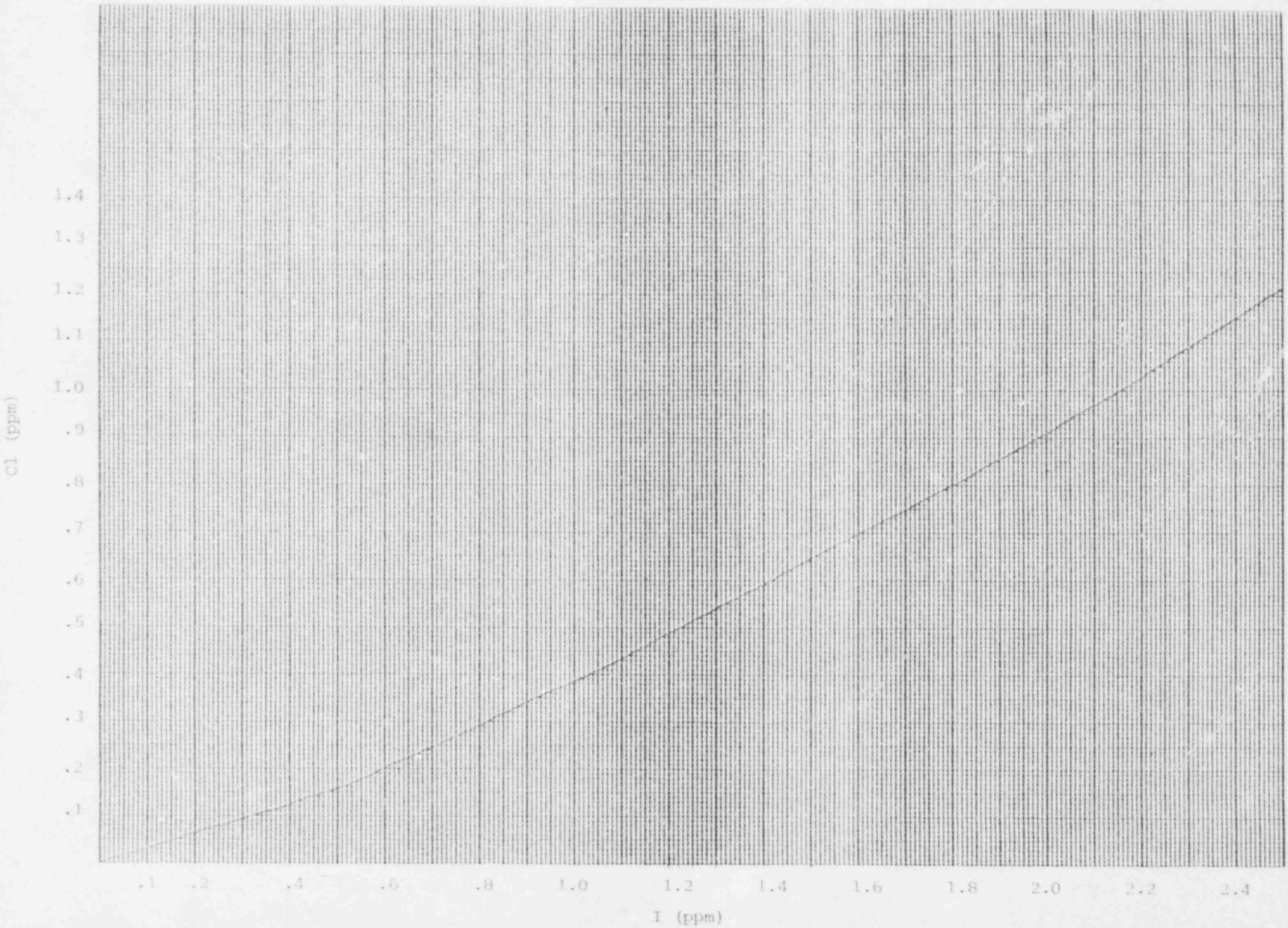
Reactor Coolant Analysis

Isotope	Concentration (µCi/cc)		Conversion Factor	Estimated Concentration (ppm)
I-131	2.56×10^{2} µCi/cc	X	3.85×10^{-4}	9.86×10^{-2}
I-133	1.45×10^{2} µCi/cc	X	4.23×10^{-5}	6.13×10^{-3}
I-135	5.65×10^{3} µCi/cc	X	1.38×10^{-5}	7.80×10^{-2}
TOTAL				1.07 ppm

Chloride concentration from correction curve (ppm) = 0.42 ppm

Subtract this value from the chloride concentration determined by the chloride electrode.

CHLORIDE ELECTRODE IODINE INTERFERENCE
CORRECTION CURVE



CALCULATION SHEET

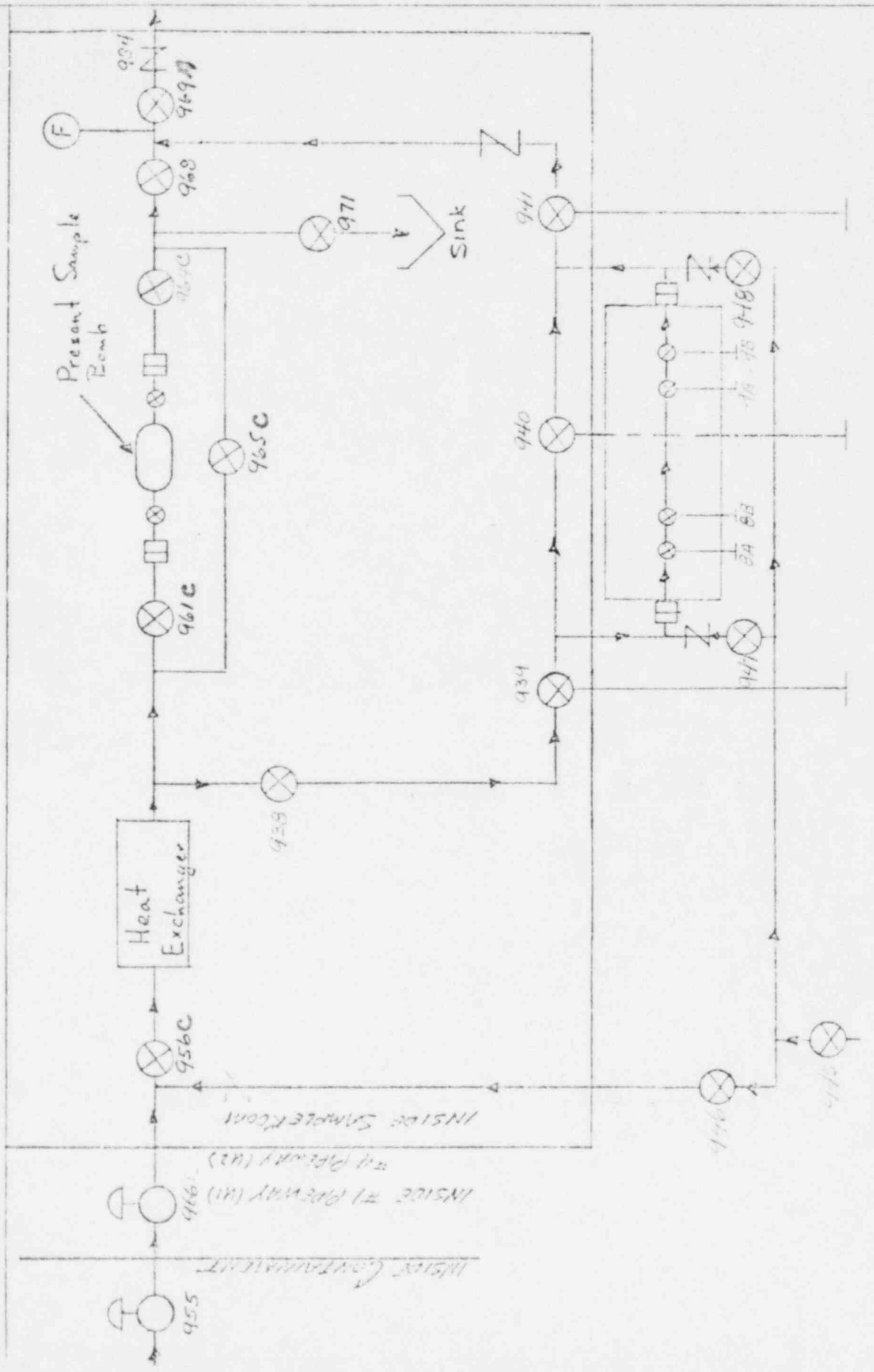
SHEET ____ OF ____

FILE No. REV 1

High Level Coolant Sampling Flow Diagram

MADE BY PJS DATE 1/3/80

CHKD. BY CHH DATE 1/3/80



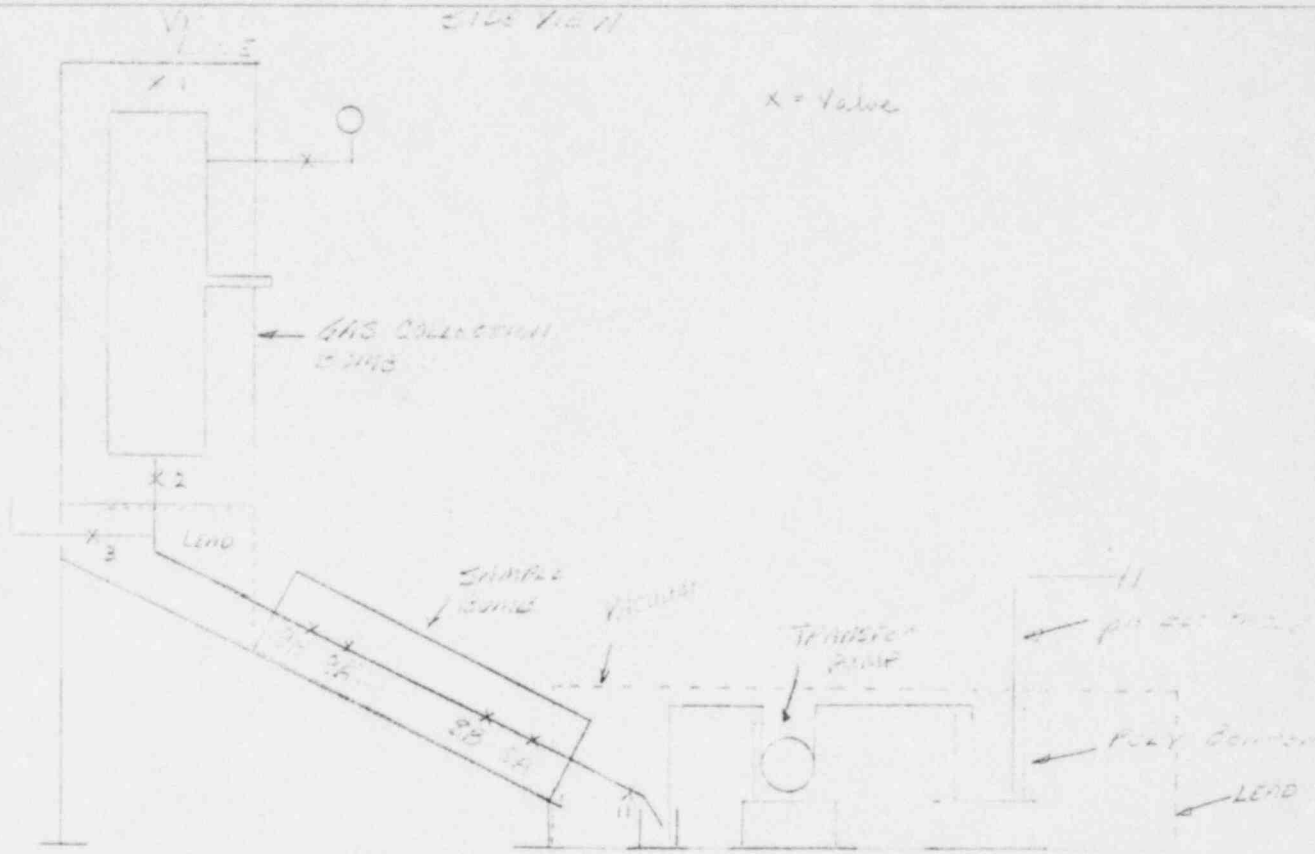
CALCULATION SHEET

SHEET _____ OF _____

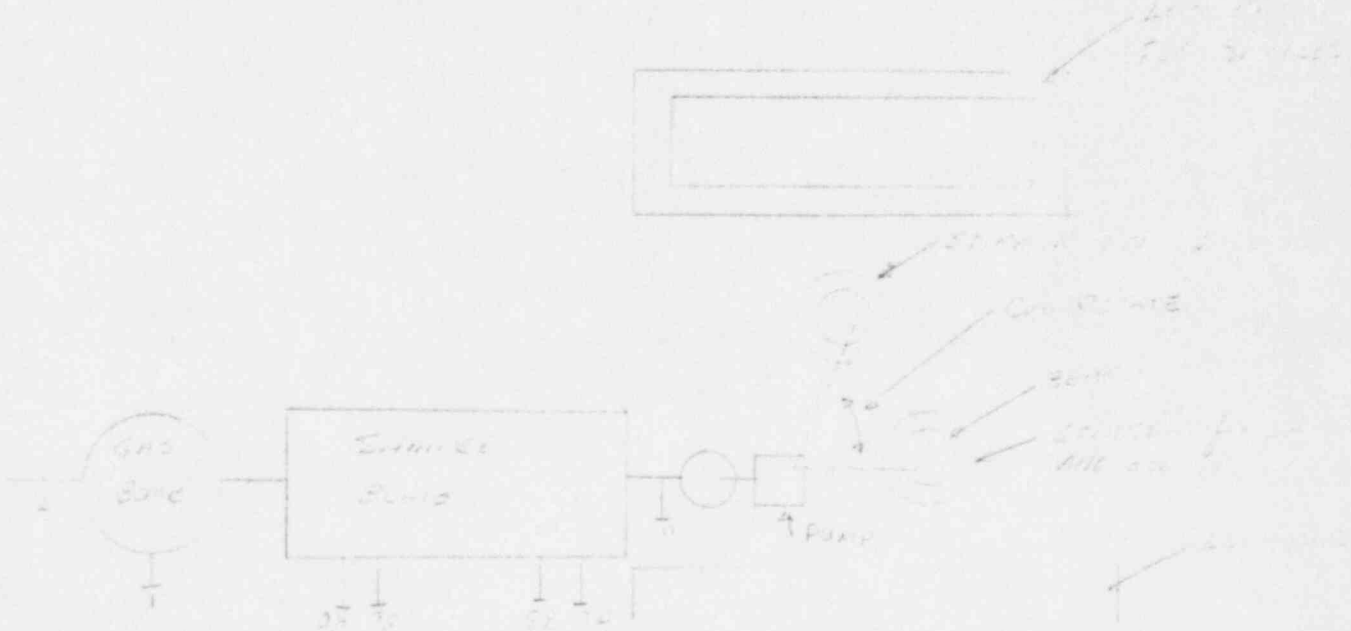
FILE No. _____

JT FIGURE 2A MADE BY _____ DATE _____

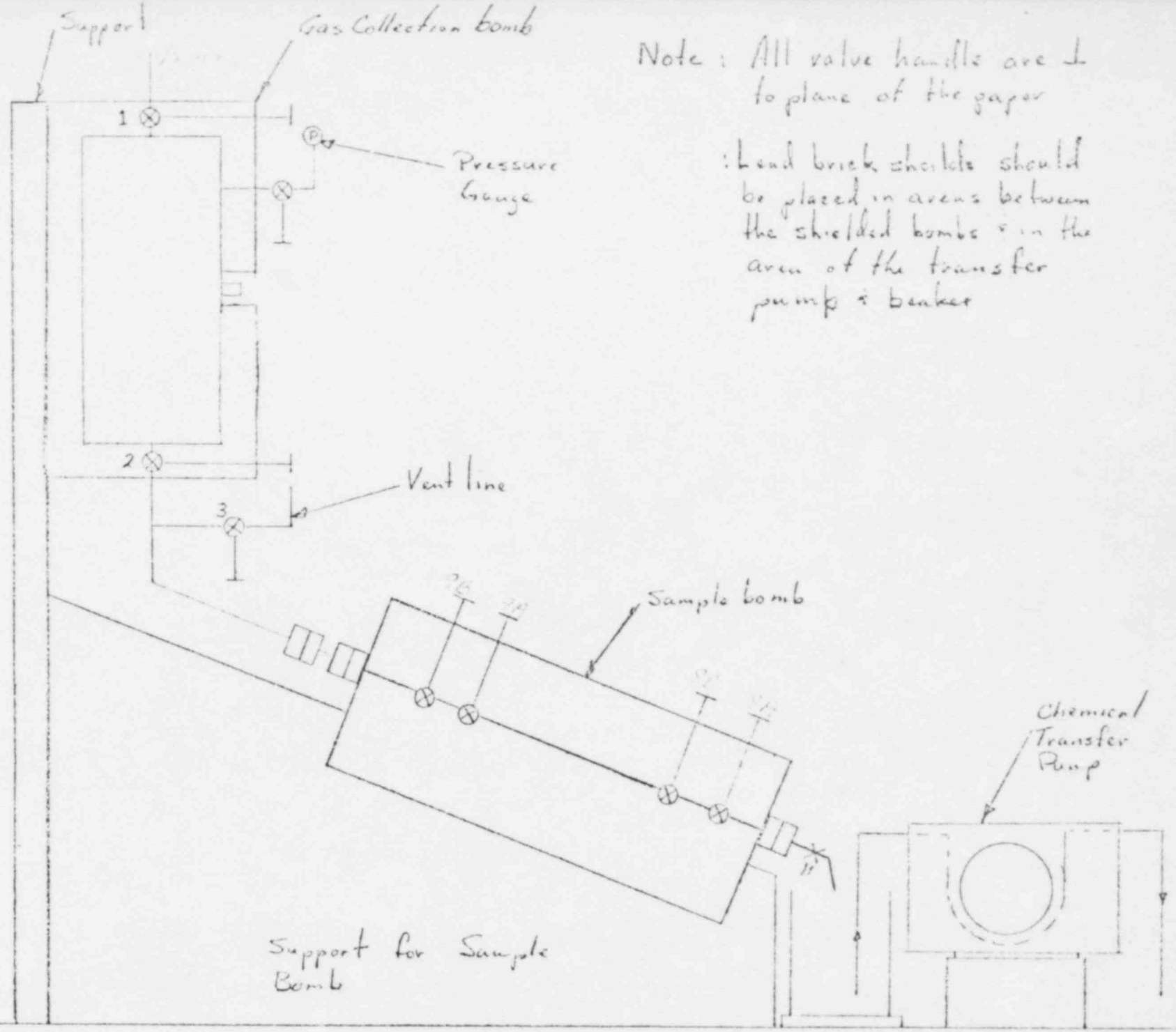
CHKD. BY _____ DATE _____



TOP VIEW

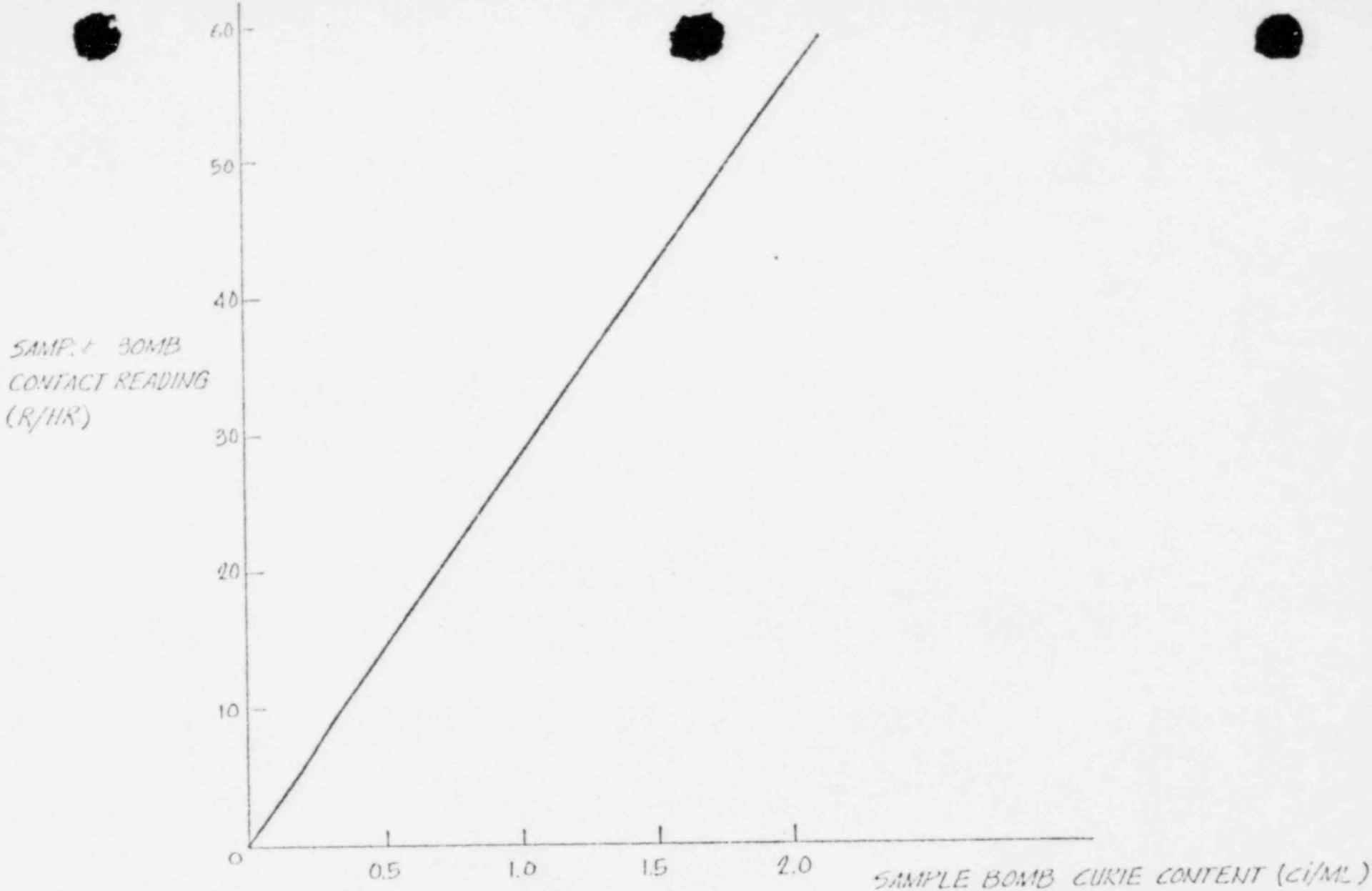


Sample Bomb Laboratory
Set up



Note: All value handle are ⊥ to plane of the paper

: Lead brick shields should be placed in areas between the shielded bombs & in the area of the transfer pump & bunker



REV.	DATE	REVISIONS	BY	REV'D	APPR'D
A	12-31-74	INITIAL ISSUE PRELIMINARY	HK	NPM	

eids nuclear

SAMPLE BOMB CURIE CONTENT VS. CONTACT READING - ONE EOS DILUTION, NO RECIRCULATION
POINT BEACH NUCLEAR PLANT
UNIT 1+2
WISCONSIN ELECTRIC POWER CO.
MILWAUKEE, WISCONSIN

SCALE N.T.S.
JOB NO. 0870-001
DRAWING NO. FIGURE 1 F.S.A.R. | REV. A
SHEET 1 OF 1

POST-ACCIDENT SAMPLING OF CONTAINMENT ATMOSPHERE

1.0 INTRODUCTION

This procedure outlines the steps necessary to collect, handle and analyze a potentially high radioactive containment atmosphere sample resulting from gross fuel failure and loss of reactor coolant system integrity to determine hydrogen and radioactive gas concentrations.

2.0 PRELIMINARY EVALUATION

NOTE: THE FOLLOWING EVALUATION SHALL BE COMPLETED PRIOR TO ANY ATTEMPT TO ENTER THE FACADE OR R11/R12 CUBICLE TO PERFORM A VALVE LINEUP OR COLLECT A CONTAINMENT ATMOSPHERE SAMPLE.

2.1 Indications of Possible Fuel Damage

Some or all of the following would be present if fuel damage or loss of reactor coolant system integrity had occurred:

2.1.1 The letdown radiation monitor (R9) would be unusually high or offscale.

2.1.2 The containment radiation monitors (R11 and R12) would be unusually high or offscale.

2.1.3 The containment area monitors (R2 and R7) would be unusually high or offscale.

2.1.4 The automatic actions of EOP-1A have caused containment isolation.

2.2 Evaluation of Radiological Hazards in Access Areas Required for Sampling

Initials

2.2.1 After evaluation of the radiation monitoring system readouts, verify with Health Physics that the appropriate airborne and radiation surveys have been made before entering the facade. _____

2.2.2 Verify the requirements for facade and R11/R12 cubicle entry.

a. Radiation work permit requirements

b. Clothing requirements

c. Respiratory requirements

d. Dosimetry requirements including extremity dose monitoring

e. Health physics coverage requirements including timekeeping

3.0 CONTAINMENT ATMOSPHERE SAMPLING PROCEDURE

NOTE: THE FOLLOWING PROCEDURE SHALL NOT BE INITIATED UNTIL THE EVALUATION DISCUSSED IN SECTION 2.0 HAS BEEN COMPLETED. THE DUTY & CALL SUPERINTENDENT (COORDINATOR), THE DUTY AND CALL HEALTH PHYSICS SUPERVISOR AND THE DUTY SHIFT SUPERVISOR SHALL APPROVE THE IMPLEMENTATION OF THIS PROCEDURE. THE FOLLOWING STEPS WILL BE ACCOMPLISHED UNDER THE DIRECTION OF HEALTH PHYSICS SUPERVISION.

3.1 Valve Lineups

3.1.1 The containment atmosphere sample will be collected using the R11/R12 sampling system.

3.1.2 Entry to the facade shall be from the potable water room (Unit 1) or the non-nuclear room (Unit 2).

NOTE: FOR THE PURPOSES OF RCT TRAINING, DO NOT USE THE POTABLE WATER ROOM OR THE NON-NUCLEAR ROOM FOR SERVICE AIR HOOKUPS. THIS PRESENTS UNNECESSARY DEMANDS ON SECURITY. USE SERVICE AIR HOOKUPS ON CONTROLLED SIDE FACADE WALL AT EL. 66' FOR BOTH UNITS.

3.1.3 Verify with the control room that the containment isolation valve is secured and the AOV's (3200A&B) in the R11/R12 cubicle are closed and the pump is secured.

3.1.4 Enter the R11/R12 cubicle: (Refer to Figure 1.)

a. Open valves 3200J and 3200L and close 3200M.

b. Verify that the continuous vent valve 3200S and 3200W is closed. _____

c. Close valve 3200K. _____

3.1.5 Hook the 100' service air hose to the Chicago fitting on the elevator side of the R11/R12 cubicle established for sampling line purging. Verify that valve 3200Y is closed. _____

NOTE: THE 100' HOSE IS STORED INSIDE THE UNIT 1 R11/R12 CUBICLE ALONG WITH THE PRESSURE REGULATOR.

3.1.6 Return to the room mentioned in Step 3.1.2 with the air hose and pressure regulator.

3.1.7 Hook up the service air hose to an available outlet in the turbine hall using the pressure regulator designed for this procedure. Use suitable pins to lock the Chicago fitting in place. _____

3.1.8 Verify with the control room that the R11/R12 monitor is lined up to monitor and discharge to containment atmosphere. _____

3.1.9 Request control room supervision to open the suction and discharge (AOV's) isolation valves and start the pump. _____

3.1.10 Verify sample flow by increased radiation levels. _____

3.1.11 Allow five minutes for sample recircing. Request control room supervision to stop the pump and close all suction and discharge (AOV) isolation valves. _____

3.2 Sample Collection

3.2.1 Enter the facade and proceed to the sample point. Take along two 2 cc gas syringes in a hollowed-out lead brick. _____

CAUTION: CONTAINMENT PRESSURE COULD THEORETICALLY BE AS HIGH AS 60 PSIG. HOLD THE SYRINGE PLUNGER SECURELY. ALSO, LOCK THE GAS SYRINGES BEFORE WITHDRAWING FROM THE SAMPLING SEPTUM, USING THE BUILT-IN LOCKING DEVICE ON THE SYRINGE.

3.2.2 Remove the set screw and take one 1/2 cc and one 1 cc gas sample. Place the syringes in the lead brick. _____

3.2.3 Replace the set screw and open valve 3200Y. _____

3.2.4 Leave the facade and return to the room mentioned in Section 3.1.2. _____

3.3 Sample Line Purging

3.3.1 Open service air valve and adjust the pressure to a setting of 10 psig greater than measured containment pressure. _____

3.3.2 Request control room supervision to open the pump discharge isolation valve (3200A). _____

3.3.3 Request control room supervision to start the R11/R12 pump. _____

3.3.4 Verify purge effectiveness by measuring the reduction in radiation levels after approximately 15 minutes of purging. _____

3.3.5 Request control room supervision to close the pump discharge isolation valve, secure the pump, and open the pump suction isolation valves. _____

3.3.6 Continue the purge for 10 more minutes. _____

3.3.7 Request control room supervision to close all pump discharge and suction isolation valves and secure the pump. _____

3.3.8 Secure the service air valve. _____

NOTE: AFTER DRILLS AND PRACTICE RUNS, RETURN ALL EQUIPMENT AND VALVE LINEUPS TO AS FOUND CONDITION.

4.0 CONTAINMENT ATMOSPHERE ANALYSIS

4.1 Volume Adjustments

4.1.1 Before proceeding with the hydrogen, radioactive nobel gas and radioactive iodine analyses, the sample contents of both syringes must be brought to atmospheric pressure. Use the shielded sacrificial glass bomb for this purpose.

4.1.2 Insert the syringe through the rubber septum of the glass bomb. Unlock the syringe locking device and let the syringe and bomb equilibrate for approximately 30 seconds. Relock the syringe and withdraw from the septum. Store the syringe in the lead brick.

4.1.3 Repeat Step 4.1.2 for the other syringe.

4.2 Hydrogen

Assuming normal equipment setup and preparations are complete, use the sample injection port on the gas partitioner, inject a 1 cc gas sample and proceed using normal hydrogen analysis procedures.

4.3 Radioactive Noble Gases and Iodines

4.3.1 Couple the silver zeolite column and the evacuated glass bomb as shown in Figure 2.

4.3.2 Inject the 1/2 cc containment atmosphere sample into the column through the septum. Remove the syringe and store in the lead brick.

4.3.3 Using a second syringe tip (without the plunger) puncture the column septum and fully insert the syringe tip.

4.3.4 Crack open the upper glass bomb valve between the bomb and the column. Allow air to slowly bleed through the column to the bomb. Flow can be verified by observing the gentle reflux of the siver zeolite surface. When flow has ceased, momentarily open the upper valve wide open and then close completely.

4.3.5 Remove the column from the bomb and store the bomb behind shielding in the hood.

Iodines

4.3.6 Remove the septum from the column and pour the silver zeolite into a counting test tube and cap.

4.3.7 If the silver zeolite/iodine sample is less than one mR/hr contact, count the sample directly on the MCA using the test tube geometry and a multiplying factor of two.

4.3.8 If the iodine activity is too high to count directly, determine the radiation level in mR/hr at one foot. Also, determine the percent isotopic composition using the MCA and attenuating the sample if necessary.

Determine the total iodine activity using the following equation:

$$C_{(Ci)} = \frac{R/hr\ @\ 1'}{6E_T}$$

The following table can be used as an aid in determining the "Total Average Energy/γ" (E_T) for the above equation.

Isotope	(1) Average γ Energy	(2) % Composition (Fraction)	(1) x (2) Weighted γ Energy
I^{131}	0.380		
I^{132}	0.731		
I^{133}	0.530		
I^{134}	0.857		
I^{135}	1.238		

Total Energy/γ (E_T) _____

Each individual iodine isotopic concentration (μCi/cc) is calculated as follows:

$$\mu Ci/cc\ I_{(i)} = C_{(Ci)} \times 2 \times 10^{+6} \times (\text{Fractional \% Composition})$$

Noble Gases

4.3.9 Withdraw a 1/2 cc gas sample from the glass bomb in Step 4.3.5. If the contact reading on the syringe is less then one mR/hr, inject the sample into a 5 cc vial and count as normal. If the contact reading is greater than one mR/hr, further dilutions are necessary.

Dilution procedure: Inject the 1/2 cc sample into a one liter poly bottle and allow to equilibriate. Withdraw 1/2 cc from the poly bottle. If the contact reacing is less then one mR/hr, inject into a 5 cc vial and count as normal. If the contact reading is greater than one mR/hr, dilute further.

NOTE: FOR EACH DILUTION, USE A NEW SYRINGE OR MAKE CERTAIN THE OLD SYRINGE IS COMPLETELY PURGED. LABLE NOBLE GAS SAMPLES AND IODINE SAMPLES WITH ALL PERTINENT INFORMATION SUCH AS: SAMPLE NUMBER, NAME OF SAMPLE, DATE AND TIME OF SAMPLE, SAMPLE VOLUME AND DILUTION(S).

5.0 CALCULATIONS

5.1 Pressure and Temperature Correction

Ask control room supervision for the temperature and pressure in containment (psig and °F). Determine atmospheric pressure (mm Hg) and

temperature (°F) from the barometer in the laboratory. Convert this to psia. Apply the following correction factor to all results:

Initials

Concentration (μCi/cc) X $\frac{(P \quad + 14.7)}{P_{lab}}$ $\frac{T \quad + 459}{T_{lab} + 459}$ _____

$P_{lab\ (psia)} = 14.7\ psi \times \frac{P \quad (mm\ Hg)}{760\ mm\ Hg}$

5.2 Complete and forward Containment Atmospheric Post-Accident Sampling Analysis Report (EPIP-31).

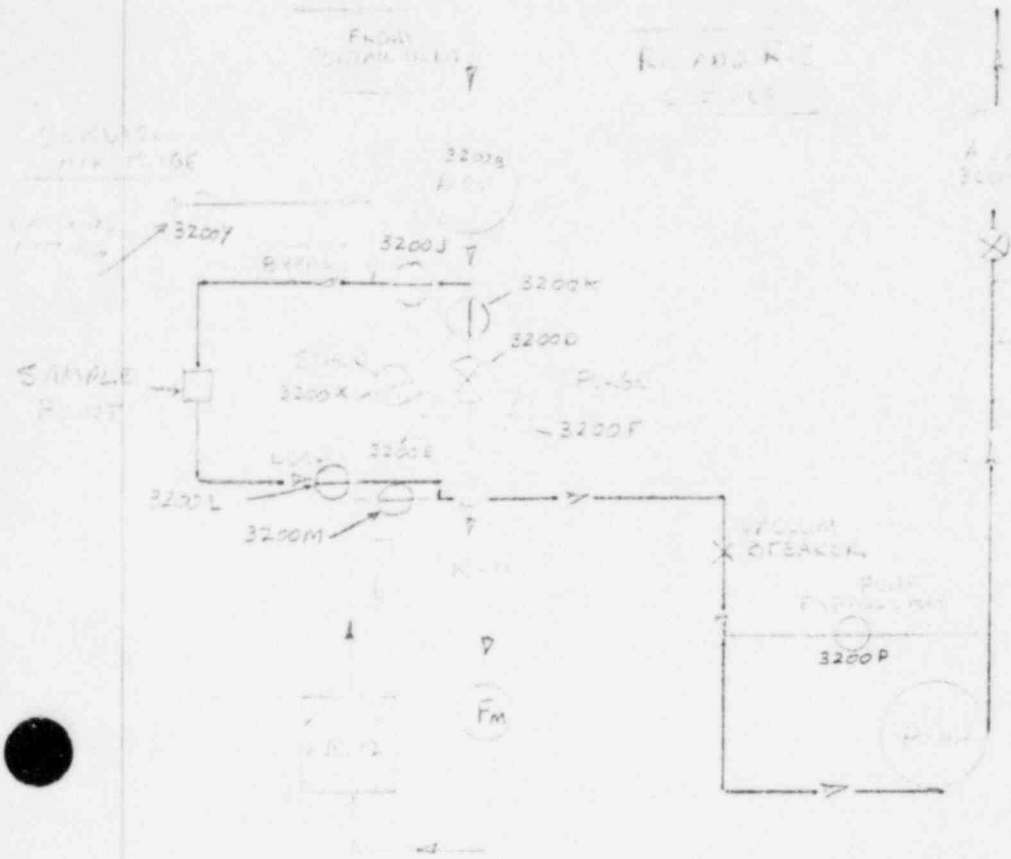
CALCULATION SHEET

SHEET _____ OF _____

FILE No. _____

'ECT _____ MADE BY _____ DATE _____

CHKD. BY _____ DATE _____



SAMPLE FLOW PATH _____

SAMPLE POINT

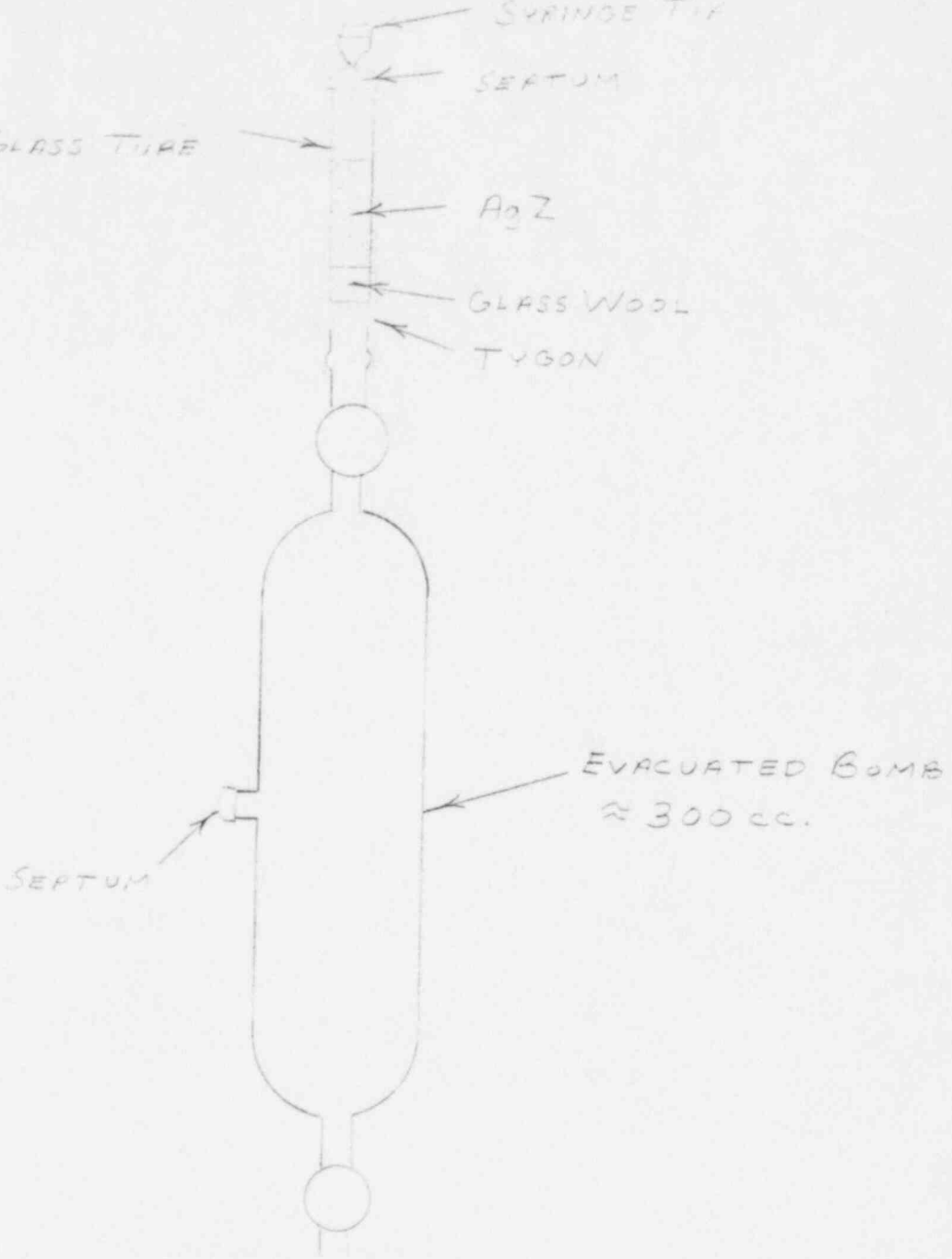

SYRINGE TIP
SEPTUM
GLASS TUBE
Ag Z
GLASS WOOL
TYGON
EVACUATED BOMB
≈ 300 cc.
SEPTUM

FIG. 2

ROUTINE CHECK, MAINTENANCE, CALIBRATION & INVENTORY SCHEDULE FOR HEALTH PHYSICS EMERGENCY PLAN EQUIPMENT

1.0 PURPOSE

The purpose of this procedure is to establish the routine checks, maintenance, calibration and inventory schedules for health physics related material and equipment applicable to the Emergency Plan.

2.0 EMERGENCY PLAN EQUIPMENT STORAGE LOCATIONS

2.1 Emergency Plan equipment is normally maintained in a state of operational readiness at the following locations.

2.1.1 Health physics station

2.1.2 Technical support center (TSC)

2.1.3 Emergency support center (ESC)

2.1.4 Operations support center (OSC)

2.1.5 Site boundary control center (SBCC)

2.1.6 Control room

2.1.7 Two Rivers Community Hospital (NFAR and triage area)

2.1.8 Point Beach Nuclear Plant first aid room (see EPIP 11.0)

2.1.9 South gatehouse.

2.1.10 Other items of Emergency Plan equipment such as first aid kits, burn kits, trauma kits, stretchers, and the emergency vehicle are maintained at specified locations throughout the plant.

3.0 ROUTINE CHECK, MAINTENANCE AND CALIBRATION SCHEDULES

Routine checks, maintenance and calibration of Emergency Plan equipment will be consistent with the schedule outlined in Attachment "A" and the instructions contained in EPIP 7.4.2, "Emergency Plan Equipment Routine Check, Maintenance & Calibration Instructions."

4.0 INVENTORY SCHEDULE

4.1 Inventory of health physics related Emergency Plan equipment will be consistent with the schedules provided in Attachment "A".

4.2 Inventory of Emergency Plan equipment will be accomplished utilizing the inventory checklists listed below and attached to this procedure. Missing or deficient items noted by the inventory will be promptly replaced by personnel assigned to accomplish the inventory. The results of all inventories will be reviewed by the Health Physics Supervisor who will ensure that all discrepancies are corrected. The completed inventory forms will then be forwarded to the Superintendent - Technical Services and the Health Physicist.

4.2.1 Inventory Checklists

a. Site boundary control center (form EPIP-24a)*

b. OSC, ESC, and South Gatehouse (form EPIP-24b)*

c. Two Rivers Community Hospital (form EPIP-24c)*

d. Control room (form EPIP-24d)*

e. Emergency vehicle (form EPIP-24e)

f. First aid kits (form EPIP-24f)

g. Burn kits (form EPIP-24g)

h. PBNP first aid room (form EPIP-24h)*

i. Stretchers (form EPIP-24i)

j. Trauma kits (form EPIP-24j)

*The form needs to be filled out with an item by item count on an annual basis. Quarterly checks can be accomplished by verification of administrative controls such as seals.

ATTACHMENT "A"

EMERGENCY PLAN EQUIPMENT ROUTINE CHECK, MAINTENANCE, CALIBRATION AND INVENTORY SCHEDULE

	Cross Reference	Weekly	Monthly	Quarterly	Semi-Annual	Annual
1. Emergency Vehicle						
a. Radio operational test		X				
b. Vehicle visual inspection and engine start		X				
c. Emergency equipment inventory			X			
d. Vehicle test drive		X[1]	X[2]			
1. November through March						
2. April through October						
2. First Aid Kits, Burn Kits, Trauma Kits and Stretchers						
a. Inventory				X[3]		
3. January, April, July, September						
3. Vamp Portable Area Monitors						
a. Functional check			X			
b. Calibration					X	
4. Emergency Center Air Samplers (115 V AC)						
a. Functional test			X			
b. Preventive maintenance (where applicable)					X	
c. Flow rate calibration					X	
5. SBCC Air Sampler (Battery 12 V DC)						
a. Functional test			X			
b. Flow rate calibration					X	

	Cross Reference	Weekly	Monthly	Quarterly	Semi-Annual	Annual
6. AC Generator (Gasoline Powered)						
a. Functional test				X		
b. Spare gasoline changed					X	
c. Maintenance						X
7. Batteries - Replacement						
a. Traffic warning lights						X
b. Survey/counting instruments						X
c. Flashlights						X
d. Portable radios (KRQ 717)						X
e. Dosimeter chargers						X
4. Alkaline type batteries to be used where possible and to be replaced yearly. Standard carbon cells, if used, to be load tested for 5 minutes quarterly and replaced yearly or as load test dictates.						
8. Potable Water (Stored)						
a. Water changed					X	
9. Counting Instruments						
a. Functional test			X			
b. Calibration					X	
c. Counting efficiency determination					X	
10. Frisker Type Instruments						
a. Functional test			X			
b. Calibration					X	
c. Efficiency determination					X	
11. Portable Survey Instruments						
a. Functional test			X			
b. Calibration					X	

No.	Item	Cross Reference	Weekly	Monthly	Quarterly	Semi-Annual	Annual
12.	Pocket Dosimeters and TLD's						
	a. Dosimeter drift/response check					X	
	b. TLD's changed					X	
13.	Respirators						
	a. Inspection				X		
14.	MSC SCBA Units						
	a. Inspection				X		
	b. Functional test				X		
15.	Bio-Paks (Oxygen Rebreathers)						
	a. Inspection				X		
	b. Functional test					X	
	c. Periodic maintenance					X	
16.	Inventory of Emergency Plan Equipment - Complete				X[5]		
	5. This inventory includes all equipment listed for each center on forms EPIP-24a, b, c, d and h.						
17.	Portable Radio (KRQ 717) Functional Check				X		
18.	Traffic Warning Light Functional Check				X		
19.	Technical Support Center AMS-2/RM-14 Air Monitoring System						
	a. Calibration						X
20.	Silver Zeolite (AgZ) Moisture Indicator Check						X

EMERGENCY PLAN EQUIPMENT ROUTINE CHECK, MAINTENANCE AND CALIBRATION INSTRUCTIONS

1.0 PURPOSE

The purpose of this procedure is to provide instructional guidelines for the performance of routine checks, maintenance, calibration and inventory of health physics related Emergency Plan equipment.

2.0 PRECAUTIONS

2.1 Personnel handling radioactive sources or other radioactive material will use remote handling equipment, shielding as appropriate and common sense to prevent unnecessary personal exposure.

2.2 A calibrated survey meter will be used when working with sources of radioactive material.

2.3 Appropriate personnel monitoring devices (TLD, high and low range dosimeters) will be worn.

2.4 General safety precautions will be adhered to at all times.

3.0 GENERAL INSTRUCTIONS

3.1 Shortages of material or equipment found during inventory will be noted on the appropriate inventory form. Restocking of all missing items will be accomplished expeditiously as possible and noted on the inventory record.

3.2 Items of equipment requiring repair or calibration by other than Health Physics requires the initiation of a maintenance request. The words "Emergency Plan Equipment" will be written in bold letters in the "Defect/Request" block of the maintenance request form.

3.3 Equipment removed from an Emergency Plan location for other than short periods (one day) for calibration or routine maintenance will be replaced with a similar item from the health physics station unless otherwise directed by the Health Physics Supervisor.

4.0 PORTABLE SURVEY INSTRUMENTS AND AREA MONITORS (VAMP)

4.1 Portable survey instruments and area monitors normally assigned for Emergency Plan use (forms EPIP-24a-h) are scheduled for routine calibration consistent with HP 13.2, "Portable Survey Instruments and Calibration Procedures," and form EPIP-28, "Emergency Plan Instrument Calibration Schedule."

4.2 Functional checking and testing of portable survey instruments and vamp area monitors will consist of response testing each instrument with a radioactive source placed in a known and consistent geometry. Results are recorded on form EPIP-25b.

4.3 Functional Check and Test

4.3.1 Eberline PIC-6A, Rad Owl Two, Radector III, Mini-Rad, HPI-1010 and VAMP Area Monitors

These instruments do not have an installed check source. A small Cs-137 check source, serial number CS-11, will be utilized for response testing of these instruments.

5.0 FRISKER-TYPE SURVEY INSTRUMENTS

5.1 Frisker-type survey instruments normally assigned for Emergency Plan usage (form EPIP-24a-h) are scheduled for routine calibration and efficiency determinations consistent with HP 13.3, "Personal Friskers and Portal Monitor Description and Calibration," and form EPIP-29, "Emergency Plan Counting Equipment and Frisker Calibration Schedule."

5.2 Functional checking and testing of frisker-type instruments will consist of exposing the instrument to a known source in a consistent geometry. Results are recorded on form EPIP-29.

5.3 Functional Check and Test

5.3.1 Install fresh batteries and verify that the battery check position operates where applicable.

5.3.2 Thyac III, Model 490

Retract the beta shield and expose the GM tube detector. Place the detector opening directly over the uranium beta source that is attached to the instrument case. Record the results.

5.3.2 GSM-5

Attach a HP-210 detector to the GSM-5 and place the detector on the SH-4 holder for reproducible geometry. Use the Sr-90 check source, serial number S-23, for the response check. Record the results.

5.3.3 RM-3C

Attach an HP-210 detector to the RM-3C and place the detector on the SH-4 holder for reproducible geometry. Use the Sr-90 check source, serial number S-23, for the response check. Record the results.

6.0 COUNTING INSTRUMENTS

6.1 Counting equipment normally assigned for Emergency Plan use (form EPIP-24a-h) are scheduled for routine calibration and efficiency determinations on form EPIP-29, "Emergency Plan Counting Equipment and Frisker Calibration Schedule," and will be completed consistent with HP 13.5, "Counting Equipment Efficiency Determinations."

6.2 Functional checking and testing of counting equipment will consist of response testing each instrument with a known radioactive source in a consistent geometry. Results are recorded on form EPIP-29.

6.3 Functional Check and Test

6.3.1 Nuclear Chicago Counter Scaler

Attach an HP-210 detector to the instrument and place the detector on the SH-4 holder for reproducible geometry. Use the Sr-90 check source, serial number S-23, for the response check. Record the results.

7.0 AIR SAMPLERS

7.1 Air samplers normally assigned for Emergency Plan usage (form Nos. EPIP-24a-h) will be maintained and flow calibrated using the procedures in HP 13.6, "Maintenance and Calibration of RAP-1 and RAS-1 Air Samplers," and HP 13.10, "Maintenance and Calibration of High Volume Air Samplers." Record results on applicable forms listed in the above procedures.

7.2 Functional checking and testing of the various types of air samplers is described below. Record results on form EPIP-25b.

7.3 Functional Check and Test

7.3.1 115 V AC Power Air Samplers

Install filters and operate air samplers for five minutes.

7.3.2 Battery (12 V DC) Powered Air Samplers

a. Check electrical leads for damage. The battery clips should not be bent and should engage the battery terminals firmly.

b. Install air filters and connect the electrical leads to a vehicle battery and operate the vehicle engine at a fast idle rate.

c. Operate the air sampler for approximately two minutes. Any overheating of the sampler is an indication of a problem.

8.0 DOSIMETRY DEVICES

8.1 Dosimeters normally assigned for Emergency Plan use will be drift and response checked consistent with HP 10.1.3, "Dosimeter Calibration/ Response and Drift Check Procedure." Note the required entry on form EPIP-25d.

9.0 RESPIRATORY EQUIPMENT

Respiratory protection equipment assigned for Emergency Plan use will be inspected, tested and maintained consistent with HP 12.1, "Respiratory Protection." Note required entry on form EPIP-25c, and d.

10.0 FIRST AID KITS, BURN KITS, AND STRETCHERS

10.1 First aid and burn kits found with the lead seal intact do not have to be physically inventoried. Kits found with the lead seal broken will be inventoried and the missing items replaced. Note required entries on EPIP-24f, "First Aid Kit Inventory Checklist," form EPIP-24g, "Emergency Burn Kit Inventory," and EPIP 24-i, "Stretchers."

11.0 EMERGENCY VEHICLE

Visual inspection of the emergency vehicle will be accomplished per form EPIP-25a, "Emergency Vehicle Checklist". The test run, when required, should follow the route from the plant to Highway 42 via Nuclear Road, then right to Tapawingo Road and return to the plant. The radio operational check between the vehicle and the control room will be made from Highway 42.

12.0 SILVER ZEOLITE FILTER MOISTURE CHECK

Visual inspection of the moisture indicating devices should be performed annually. Check each filter's indicator. If it is blue, the filter has no moisture in it. If it is pink, moisture is present and the filter should have the excess moisture driven off. (Reference file HP 9.6, RadeCo Company letter to R. S. Bredvad from Francis S. Smith, dated 5-29-81, for procedure.)

13.0 GASOLINE POWERED AC GENERATOR

13.1 Functional Test

13.1.1 Check oil level at full mark.

13.1.2 Ensure all loads are disconnected from the alternator and install grounding stake.

13.1.3 Add a small amount of gasoline to the fuel tank.

13.1.4 Open the fuel valve.

13.1.5 Make sure the stop switch is away from the spark plug.

13.1.6 Choke the engine.

13.1.7 Start, by pulling the starter cord.

13.1.8 Run for at least 30 minutes, place a small load on the unit during the test (high volume or low volume air sampler).

13.1.9 Remove the load from the unit and shut the fuel valve. Allow the unit to stop on loss of fuel.

13.2 Maintenance

Annual maintenance to be done according to Maintenance callup procedure by Maintenance group.

14.0 CARBON CELL POWERED EQUIPMENT

14.1 Traffic warning lights equipped with carbon cell batteries are to be load tested and documented on EPIP-25c in the following manner:

14.1.1 Ensure correct battery installation.

14.1.2 Turn on light and allow to operate for 5 minutes.

14.1.3 If the light appears to be bright and not diminishing in intensity after the 5-minute test, battery is suitable for continued use.

14.1.4 If the light fades or goes dead after 5 minutes, replace the battery in storage with a new one.

14.1.5 Carbon cells are to be replaced once per year.

ON-SITE FIRST AID ASSISTANCE

1.0 INTRODUCTION AND PURPOSE

1.1 General Industrial Safety and First Aid Practices

General industrial safety and first aid practices adopted for use in conventional plants are in effect at Point Beach Nuclear Plant. Since personal injuries or emergencies may or may not involve radioactivity, the possibility of radioactive contamination of an injured person is addressed throughout this procedure.

1.2 First Aid

The Point Beach organization includes persons experienced in first aid procedures who will be called in the event of injury. The plant is provided with an emergency shower for use with a severely contaminated but less severely injured person, and a complete first aid room equipped with facilities and medical instruments suitable for physical examinations. On-site first aid facilities are further described in Section 4.0 of this procedure.

1.3 Hospital Assistance

EPIP 11.3, "Hospital Assistance," outlines specific procedures to be used in the event of serious personal injury or illness at Point Beach Nuclear Plant. Since the possibility exists that treatment and transportation of a patient may be complicated by radioactive contamination, a fully equipped controlled access treatment room (the nuclear first aid room) has been provided at Two Rivers Community Hospital, Two Rivers, Wisconsin. A list of radiation and contamination control materials in the treatment room is given in EPIP 11.3.

1.4 Emergency Vehicle

An emergency vehicle is available at all times and contains emergency first aid and oxygen breathing equipment (described in Section 4.0). This vehicle is normally parked in the extension building garage. In addition, arrangements have been made for backup assistance by the City of Two Rivers Fire Department emergency vehicle in case of multiple need. This backup ambulance planning is described in EPIP 11.3.

1.5 Plant Personnel Responsibility

It is the responsibility of involved plant personnel to become familiar with this procedure and specifically with instructions with regard to their individual actions required.

1.6 Telephone Contacts

Telephone contacts required by this procedure can be found in Attachment 11.1-1.

2.0 REFERENCES

2.1 PBNP 8.8, "Injuries, Accident Reporting, and Industrial Safety."

2.2 SSO 1, "Procedures for Using Accident Report Forms Related to Accidents at Point Beach Nuclear Plant."

2.3 HP 10.2, "Use of Personnel Monitoring Devices During an Emergency."

2.4 EPIP 12.2, "Search and Rescue."

2.5 EPIP 11.2, "Injured Person's Immediate Care."

2.6 EPIP 11.3, "Hospital Assistance."

3.0 DEFINITIONS

The following definitions are used, in addition to Section 2 of the Emergency Plan, to define terms used in this procedure.

3.1 First Aid Representative

An individual certified by the American Red Cross (or an equivalent program) to administer first aid to the injured.

3.2 Personal Injury

An injury which requires either first aid or professional medical attention and may involve lost time.

3.3 Disabling Injury

An injury which requires professional medical attention and involves lost time, but would not be a life threatening injury.

3.4 Serious Injury

An injury which requires professional medical attention and could result in a fatality or permanent disability.

3.5 Personal Injury Report, Forms 1032 & 1033

The Wisconsin Electric injury report used to report personal injuries.

3.6 Disabling Injury Report

Same as personal injury report.

3.7 Motor Vehicle Accident Report, Form No. 1020

The Wisconsin Electric report used to report every accident involving Company-owned vehicles or a privately owned car used on Company business.

3.8 Attending Physician's Report

The Wisconsin Electric report which is required when a doctor provides care to a Company employee for a work-related injury.

3.9 First Aid

Immediate and temporary care given the victim of an accident or serious illness until the services of a physician can be obtained.

4.0 ON-SITE FIRST AID ASSISTANCE

4.1 General

On-site medical preparedness programs are the responsibility of the Point Beach Nuclear Plant Industrial Safety Coordinator. First aid training programs are carried out in accordance with Company Medical Department and Company Safety Department requirements and applicable regulatory requirements.

4.2 First Aid Room Location and Equipment

The Point Beach first aid room is located in the extension building on the second level. It is equipped as follows: basic furniture (desk, chairs, table, cabinets); sink; examination table; examination cabinet; examination equipment; scale; first aid supplies including assorted bandages and gauze dressings, tape, splints, bandage scissors, splinter forceps, portable burn kit, and portable first aid kit.

4.2.1 Responsibility

The Company Medical Director is responsible for determining the equipment for the first aid room. The Point Beach Industrial Safety Coordinator is responsible for maintaining the supply inventory.

4.3 Emergency Vehicle Description

A Company-owned vehicle is provided and will be used to transport seriously injured personnel. The vehicle is equipped as follows: stretcher, blanket and pillow; first aid kit; burn kit; oxygen breathing unit.

4.3.1 Responsibility

Specifying emergency vehicle equipment is the responsibility of the Company Medical Director. Maintenance of equipment and supplies is the responsibility of the Point Beach Industrial Safety Coordinator.

4.4 Other On-Site First Aid Provisions

Most first aid supplies are located on the uncontaminated or "clean" side of the plant. If, for emergency reasons, it is necessary to transfer first aid supplies to the controlled area, the unused supplies will be retained in the Health Physics Station for ultimate disposal or release to the "clean" side. Supplies are available at the following locations:

4.4.1 Gatehouse

a. First aid kit

4.4.2 Turbine Building

a. One stretcher, first aid kit, and burn kit; located south of the control room.

b. One stretcher, first aid kit, and burn kit; located in the Unit 1 truck access at the 8' level.

c. First aid kit located in the control room.

d. Burn kit located in the control room.

e. Trauma kit located in the control room.

4.4.3 Switchyard

a. First aid kit

b. Burn kit

4.4.4 Unit 1 and Unit 2 Facades

a. Stretcher, first aid kit, and burn kit; located on 66' and 26' levels outside each containment's personnel hatch.

4.4.5 Site Boundary Control Center

a. First aid kit

b. Burn kit

4.4.6 Checkpoint Charlie (entrance to controlled area)

a. First aid kit

b. Burn kit

c. Scoop stretcher

d. Oxygen breathing unit

e. Trauma kit

4.4.7 Technical Support Center

a. First aid kit

b. Burn kit

c. Trauma kit

d. Stretcher

4.5 General Administrative Responsibilities in Case of Injury (see EPIP 11.2 for procedures)

4.5.1 Employee Responsibilities

a. Personal Injury and/or Disabling Injury

1. Report injury to supervisor and first aid representative.

2. Ensure that the attending physician receives a "Physician's Release for Return to Work" to complete. If unable to do so due to extent of injuries, this form will be transmitted by a person on behalf of the injured employee. A supply of these forms is available in the emergency vehicle.

b. Vehicle Accident

1. Report all vehicle accidents promptly to supervisor and control room.

4.5.2 Employee's Supervisor's Responsibilities

a. Personal Injury and/or Disabling Injury

(1) Ensure that first aid coverage is provided by a qualified First Aid Representative when needed. A list of qualified First Aid Representatives is available in the control room, first aid station, technical support center and Checkpoint "Charlie."

(2) Prepare the "Employee Personal Injury Accident Report."

(3) Indicate safety rule violation, if any, on the employee "Personal Injury Accident Report."

(4) Investigate and make preliminary recommendations on the employee "Personal Injury Accident Report" for corrective measures which could prevent recurrence of the accident.

(5) Submit a copy of prepared "Personal Injury Accident Reports" to the appropriate group head, within eight working hours.

(6) Ensure that the "Attending Physician's Report" is completed and returned to the Industrial Safety Coordinator whenever a doctor is consulted regarding a work-related injury.

(7) A serious injury or fatality is an "unusual event" and must be reported to the NRC within one hour (EPIP 1.1). A fatality must also be reported to the Point Beach Industrial Safety Coordinator. If the serious injury or fatality is the result of a boiler or pressure vessel failure (refer to PBNP 3.23.2), the State of Wisconsin Department of Industry, Labor and Human Relations must also be notified within 24 hours (see Attachment 11.1-1 for telephone number).

(8) In the absence of the Group Head, report the personal injury accident or the vehicle accident to the Accident Investigation Committee or the acting Committee Chairman.

b. Vehicle Accident

(1) Prepare the "Motor Vehicle Accident Report."

(2) Indicate appropriate comments and recommendations on the "Motor Vehicle Accident Report."

(3) Submit a copy of the "Motor Vehicle Accident Report" to the appropriate group head, within eight working hours.

4.5.3 Injured Employee's Group Head's Responsibilities

a. Receive and review all personal injury and vehicle accident reports and promptly forward them to the Industrial Safety Coordinator.

b. Report vehicle accidents that are major or serious in nature or result in lost time personal injury to the Accident Investigation Committee Chairman.

c. Report personal injuries that result in lost time or death and near miss experiences which could have resulted in serious injury to the Accident Investigation Committee Chairman or the acting Committee Chairman.

d. Report all lost time (disabling) injuries to the Accident Prevention Department, Milwaukee Public Service Building (see Attachment 11.1-1). This will require reporting of the initial day lost and the day the employee returned to work.

e. Request medical followup, if needed, from the Company Medical Director (see Attachment 11.1-1).

f. Establish sufficient liaison with the injured to maintain an up-to-date knowledge of his medical status.

g. Determine any special needs of the injured man's family and advise the Manager - Point Beach Nuclear Plant.

HOSPITAL ASSISTANCE

1.0 INTRODUCTION

As outlined in EPIP 11.1, this procedure specifies plans to be used in the event of serious personal injury or illness at Point Beach. Since the possibility exists that treatment of an injured person may be complicated by radioactive contamination, a fully equipped, isolated, and controlled access treatment room, the Nuclear First Aid Room or NFAR, has been provided at Two Rivers Community Hospital in Two Rivers, Wisconsin. This room is equipped with filtered ventilation, sink, decontamination supplies, protective clothing, signs, radiation monitoring equipment, and other necessary equipment. The Health Physicist and the Company Medical Director are responsible for the training and retraining of hospital and plant personnel involved in offsite medical plans.

2.0 PROCEDURE FOR HANDLING SERIOUSLY INJURED PERSONS

2.1 General Description (Detailed instructions and responsibilities in subsequent subsections)

2.1.1 Injury or Sickness Resulting in Loss of Consciousness or Mobility in the Clean Area

Control room personnel and the Shift Supervisor will be notified of the apparent nature and extent of the injury and location of the injured person. If an injury occurs in a "clean area"; i. e., an area free of contamination, first aid should be administered by trained plant personnel and the injured person should be transported for medical treatment as necessary.

2.1.2 Injury or Sickness Resulting in Loss of Consciousness or Mobility in the Controlled Area

Although [illegible] injury in a contaminated area is not likely to involve [illegible] radioactive contamination, special procedures are [illegible] for handling an injured and potentially contaminated person. The Shift Supervisor is to direct first aid measures and have the injured person moved to the health physics station where, if call out time allows, health physics professionals will take charge. The

circumstances of the injury and the condition of the injured influence action with respect to decontamination of the injured, removal of protective clothing, and transport to the hospital.

In any case where a victim sustains serious injury, medical aid takes precedence over decontamination procedures.

2.1.3 Subsequent Action

NOTE: IF THE TSC IS ACTIVATED, THE MAINTENANCE SUPERVISOR SHOULD ASSUME THE DUTY SHIFT SUPERVISOR RESPONSIBILITIES FROM BELOW.

a. The Duty Shift Supervisor is to assign an individual to drive the emergency vehicle to transfer the injured person to the hospital. He will inform the driver as to which entrance to use. If the victim is contaminated, the west entrance at the NFAR will be used. Otherwise the regular emergency entrance will be used. An employee trained in first aid should accompany the injured person in the emergency vehicle.

b. The health physics professionals are to be notified and proceed to the Two Rivers Community Hospital to assist in decontamination procedures as required. They should arrive before the victim, if possible, to facilitate organization of the NFAR.

NOTE: IF THERE IS MORE THAN ONE SERIOUS INJURY COMPLICATED BY CONTAMINATION, THE FIRST VICTIM TO ARRIVE AT THE HOSPITAL SHOULD BE DIRECTED TO THE NFAR. SUBSEQUENT VICTIMS SHOULD BE DELIVERED TO THE NORMAL EMERGENCY ROOM ENTRANCE.

c. The Shift Supervisor is to notify the Two Rivers Community Hospital (see Attachment 11.1-1 to EPIP 11.1) of the nature of the emergency, if contaminated or clean, and expected time of arrival at the hospital.

d. The Shift Supervisor will notify the Site Manager of the injury.

e. The Site Manager or his designated alternate should notify the injured person's family.

f. PBNP 8.8, "Injuries, Accident Reporting & Industrial Safety" should be used for documentation and followup of the injury.

2.1.4 Responsibility of Hospital Personnel

Upon being notified that a seriously injured, contaminated person is being transferred, hospital personnel in charge of emergencies will assure that a physician and sufficient personnel are available, evacuate the NFAR of all persons and materials not deemed necessary and assist in moving the injured person upon arrival. Any person or item leaving the treatment room will be monitored for radioactive contamination. All items leaving the treatment room will be contained in sealed plastic bags if found to be contaminated.

2.1.5 Following Emergency Treatment

After emergency treatment is completed, the patient will be decontaminated with the assistance of Point Beach Health Physics personnel. The NFAR and all supplies and equipment involved will be thoroughly decontaminated by Point Beach personnel. In addition, surveys will be made in areas nearby to ensure that radioactive contamination has not occurred. All liquid and solid wastes accumulated as a result of treatment and decontamination will be transferred to the Point Beach Nuclear Plant for disposal in the plant waste disposal facilities.

2.2 Person Discovering the Injured Person

2.2.1 Immediately notify the Duty Shift Supervisor of the injury and the location of the patient.

2.2.2 If the patient is in a radiation field greater than 25 Rem/hour, or if serious airborne contamination is present, move the patient to an area with lower radiation dose rates, if possible.

NOTE 1: IN ALL CASES ANY ACTIONS TAKEN SHOULD MINIMIZE THE POSSIBILITY OF FURTHER INJURY TO THE PATIENT. IF MOVING THE PATIENT WILL CAUSE EVEN MORE SERIOUS INJURY TO THE PATIENT, THE RADIATION EXPOSURE IS OF SECONDARY IMPORTANCE. GET ADDITIONAL HELP BEFORE MOVING THE PATIENT.

NOTE 2: IF THE PATIENT IS IN AN EXTREMELY HIGH RADIATION FIELD (500 REM/HOUR OR GREATER) MOVE THE PATIENT IMMEDIATELY, REGARDLESS OF HIS INJURIES.

2.2.3 Remain with the patient. Perform emergency first aid and assist in transferring him to the emergency vehicle as directed by the Duty Shift Supervisor.

2.2.4 Accompany the patient to the hospital and assist the emergency vehicle driver in radiation control and monitoring if required.

2.3 Duty Shift Supervisor

2.3.1 If the injury occurs on day shift, notify the Point Beach Industrial Safety Coordinator or a Chemistry & Health Physics supervisor of the injury and the patient's location.

2.3.2 Assign an emergency vehicle driver from available Operations personnel or from the Chemistry & Health Physics Group and dispatch the driver and vehicle to a suitable exit.

NOTE: IF THE PLANT EMERGENCY VEHICLE IS NOT AVAILABLE, CONTACT THE TWO RIVERS FIRE DEPARTMENT FOR ASSISTANCE. NOTIFY THE PLANT GUARD AND DIRECT THE TWO RIVERS VEHICLE TO THE APPROPRIATE BUILDING EXIT UPON ITS ARRIVAL. SEE ATTACHMENT 11.1-1 FOR TELEPHONE NUMBER. VERIFY APPROPRIATE USE OF PERSONNEL MONITORING DEVICES AS SET FORTH IN SECTION 4.2.

2.3.3 Assure that first aid coverage is provided and instruct the person administering first aid to accompany the patient to the hospital.

2.3.4 Notify the Two Rivers Community Hospital and inform them of:

a. Nature of the injury or illness, if known.

b. Condition of the patient.

c. Whether or not patient is radioactively contaminated.

d. Means of transportation and expected time of arrival.

REFER TO ATTACHMENT 11.1-1 FOR TELEPHONE NUMBER.

2.3.5 If patient is radioactively contaminated, notify Health Physics personnel.

2.3.6 Assure that radiation monitoring instruments are placed in the emergency vehicle if the patient is radioactively contaminated.

NOTE: FIRST CHOICE INSTRUMENTS ARE THE EBERLINE PIC-6A AND THE EBERLINE RM-14 WITH HP210 PANCAKE PROBE.

2.3.7. Notify the Duty & Call Superintendent.

2.4 Emergency Vehicle Driver

2.4.1 Upon being assigned, obtain the necessary radiation monitoring instruments from the Health Physics Station, if required.

2.4.2 Stand by with the vehicle at the designated building exit and assist persons in handling the patient.

2.4.3 After receiving the patient, proceed directly to the Two Rivers Community Hospital.

a. Noncontaminated patients will be taken to the emergency ambulance entrance.

b. Contaminated patients will normally be taken to the entrance on the west end of the hospital.

2.4.4 Enroute to the hospital, call the control room via the vehicle radio to establish contact for relaying information on changes in the patient's condition or other pertinent information.

2.4.5 Upon arrival, assist in transferring the injured person to the treatment room and if the patient is radioactively contaminated, maintain radiation control and monitoring until relieved by Health Physics personnel.

2.5 Health Physics Personnel

2.5.1 Upon notification, proceed to the Two Rivers Community Hospital to assist in patient decontamination procedures. Arrive in advance of the emergency vehicle carrying the victim, if possible.

2.5.2 Upon arrival, identify yourselves to hospital personnel and provide assistance as requested.

2.5.3 Insure that radioactive contamination is not being spread into hallways of the hospital or outside the entrance door. Maintain restricted areas and post as necessary.

2.5.4 Monitor hospital personnel (refer to Section 4.3) and equipment entering and leaving the restricted area.

NOTE: POINT BEACH NUCLEAR PLANT PERSONNEL SHOULD REMEMBER THAT THE ATTENDING PHYSICIAN'S ORDERS MUST BE OBEYED AND ONLY THE PHYSICIAN IS IN DIRECT CHARGE OF THE SITUATION.

2.5.5 Following the emergency treatment, monitor the patient prior to transferring to another area.

2.5.6 Monitor equipment and personnel and decontaminate as required.

2.5.7 Bag all disposable or radioactively contaminated items and place bags in the plant emergency vehicle. Note items of hospital-owned equipment which may require replacement.

2.5.8 Decontaminate the treatment room and adjoining areas as necessary.

2.6 Health Physicist

As soon as possible following the emergency, the Health Physicist will have the treatment room surveyed and insure that decontamination of any hospital facilities used is complete.

2.7 Duty & Call Superintendent

2.7.1 Notify the Manager - Nuclear Operations Section of the emergency.

2.7.2 If the Two Rivers Fire Department emergency vehicle was used to transport a radioactively contaminated patient, notify the Fire Department and request that the vehicle remain at the hospital until plant personnel check for radioactive contamination of the vehicle and/or its equipment.

3.0 PROCEDURE FOR HOSPITAL PERSONNEL

The information obtained from the Point Beach Nuclear Plant Duty Shift Supervisor will determine the actions of hospital personnel.

3.1 Patient Not Contaminated by Radioactive Material

These patients will be handled by standard Two Rivers Community Hospital emergency procedures.

3.2 Patient Contaminated by Radioactive Material

3.2.1 The hospital will assure that a qualified physician and sufficient qualified personnel are available to administer treatment to the injured person.

3.2.2 The NFAR will be evacuated of all personnel not involved in the treatment of the incoming patient.

3.2.3 Those hospital personnel needed for treatment or handling of the injured will don protective clothing.

3.2.4 After the victim is in the NFAR, all persons exiting, and items being removed from, the NFAR will be monitored for contamination.

3.2.5 All contaminated items will be sealed in plastic bags and deposited in the NFAR for further disposition.

3.2.6 After treatment has been completed, the patient will be transferred to another location. Point Beach Health Physics personnel will then decontaminate the NFAR and transfer all contaminated material to Point Beach Nuclear Plant for ultimate disposal.

NOTE: ALL ITEMS SUCH AS PROTECTIVE CLOTHING, ABSORBENT PAPER, ETC., NECESSARY FOR USE BY HOSPITAL PERSONNEL IN TREATMENT OF CONTAMINATED PATIENTS WILL BE SUPPLIED BY WISCONSIN ELECTRIC POWER COMPANY AND WILL BE KEPT IN THE NFAR.

4.0 MONITORING OF MEDICAL PERSONNEL

Assisting personnel will be provided with monitoring devices whenever contamination is involved or whenever such personnel are required on site or within any evacuated area.

4.1 Plant Emergency Vehicle

Use of plant emergency vehicle with plant personnel in attendance requires no additional personnel monitoring devices during the transient from the plant to the hospital.

4.2 Two Rivers Fire Department Emergency Vehicle

Use of the Two Rivers Fire Department emergency vehicle with Fire Department personnel in attendance requires personnel monitoring devices for all non-plant personnel. A self-reading pocket dosimeter and a TLD badge will be issued from the unused TLD supply stored at the south gatehouse. A Visitor TLD Badge Issue Report will be completed as soon as practicable. Upon releasing these personnel, their pocket dosimeters will be read and recorded on the Visitor TLD Badge Issue Report. The TLD badges will be retrieved and processed as soon as possible.

4.3 Hospital Personnel

Self-reading pocket dosimetry devices and TLD badges will be issued to all hospital personnel assisting in the treatment of an injury which has been further complicated with significant radioactive contamination that could pose as a source of exposure to those personnel. These devices will be obtained from the supply stored at the south gatehouse and taken directly to the NFAR at the Two Rivers Community Hospital by the Health Physics personnel dispatched to the hospital. A Visitor's TLD Badge Issue Report will be completed as soon as practicable. As soon as hospital personnel have completed their treatment of the injured person, the pocket dosimeter will be read and recorded on the Visitor TLD Badge Issue Report and the TLD will be retrieved and processed as soon as possible.

4.4 Additional Facilities

If there are requirements to transport an injured employee with significant radioactive contamination to additional hospital facilities or to another hospital, all personnel in the proximity of the injured person will be issued self-reading pocket dosimetry devices and TLD badges. These devices will be retrieved and processed as soon as practicable.

4.5 High Whole Body Exposure Incidents

For those incidents where personnel may be transferred to the hospital due to a high whole body exposure (greater than 25 R), personnel monitoring for non-plant personnel is not necessary unless the high whole body exposure is complicated by radioactive contamination. In this case, personnel monitoring devices would be issued as outlined in preceding sections.

5.0 ARRANGEMENTS FOR OFFSITE MEDICAL ASSISTANCE FOR SERIOUS INJURIES OR CONTAMINATED INJURIES

5.1 Two Rivers Community Hospital

Arrangements have been made with the hospital for treatment of Point Beach Nuclear Plant patients. Hospital personnel have been instructed and trained with regard to potentially radioactive patients and contamination. Hospital personnel are periodically retrained by plant personnel and Company medical representatives. Refer to Attachment 11.1-1 for telephone numbers.

The following health physics supplies are available in the nuclear first aid room at the Two Rivers Community Hospital.

Item	NFAR Quantity	Triage Area
Absorbent paper	50 feet	--
Bags, plastic, assorted sizes (need garbage can size)	50	50
Bucket, plastic	1	1
Decontamination supplies:		
Cotton applicators, pkg.	1	1
Decon soap, 1 qt. bottle	1	1
Hand brush	2	2
Potassium permanganate, 7 cap. pkg.	1	1
Sodium bisulfite, 7 cap. pkg.	1	1
Filter paper for smear surveys, pkg. and envelopes	2	2
Gloves:		
Cotton pail bearers, pair	8	8
Rubber, pair	8	8
Half-face respirators with particulate filters	4	4
Marking pens, pkg.	1	1
Mops, sponge, with spare sponge	2	2
Protective clothing:		
Lab coats	6	6
Surgeon's cap	6	6
Plastic shoe covers	25	25
Medical Assistance Plan	1	1
Emergency Call List	1	1
Radiation warning signs and tags, assorted	10	10
Radiation warning tape, roll	1	1
Tape, masking:		
1" roll	2	2
2" roll	2	2
Victoreen Thyac survey meter with end window, GM probe	1	1
D-cell batteries, box	1	1
Masslinn mop	1	1
Barrier tape	1	1
Dosimeters:		
0-500 mRem	10	--
0-2 Rem	5	--
Mini-rad survey instrument	1	1
Scissors	1	1
Tuck tape, rolls	2	2
Miscellaneous forms		
CHP-21, Survey Form (Blank)	1 pad	--
CHP-34, Dosimetry Rezero Sheet	5	5
CHP-39, Personnel Contamination Report	5	5
CHP-82, Quarterly Inventory Hospital	5	5
CHP-83, High-Range Dosimeter Issue Sheet	5	5

5.2 Area Physicians

At least two area physicians have taken radiological health instruction courses under full or partial sponsorship of the Company and are on the Two Rivers Community Hospital staff.

5.3 Two Rivers Fire Department Emergency Vehicle

Arrangements have been made for the City of Two Rivers emergency vehicle to respond in the event of injury to persons at the Energy Information Center or in the event the plant emergency vehicle is already in use. Refer to Attachment 11.1-1 for telephone numbers.

5.4 Backup Hospital - University of Wisconsin Hospital, Madison

Arrangements have been made with the University of Wisconsin Hospital in Madison, Wisconsin, to provide backup services in the event that the services of Two Rivers Community Hospital become temporarily unavailable or that additional services are required. The University Hospital provides its own training and equipment; Point Beach Nuclear Plant has no maintenance obligations in these areas.

CRISIS COMMUNICATIONS

1.0 GENERAL

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

2.0 PRECAUTIONS AND LIMITATIONS

2.1 All actions and notifications should be appropriately logged and documented 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 (Duty Public Information representative)

4.1.1 Contact Vice President Communications, Superintendent of Public Information, and Emergency News Center Director or their designates and take steps to open the emergency news center.

4.1.2 Contact Director of Point Beach Energy Information Center or designee and take the steps to open the emergency news center.

4.1.3 Report to the communications center in the Public Service Building.

4.2 Emergency News Center Director

4.2.1 Report to the emergency news center.

4.2.2 On arrival at the emergency news center, discuss with Superintendent of Public Information the staffing needs for the emergency news center.

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

4.2.4 Contact communications center in the Public Service Building to confirm the operation of the emergency news center and coordinate any media release.

4.2.5 Contact the joint public information center at the State Division of Emergency Government and coordinate any media release (form EPIP-23, "Off-Site Agency Emergency Call List").

4.3 Director - Point Beach Energy Information Center

4.3.1 Contact the Director - Two Rivers Community House and request that he make the Community House available to Wisconsin Electric Power Company as an emergency news center.

4.3.2 Contact General Telephone and request that they implement their Radiological Emergency Response Plan for the Two Rivers Community House.

4.3.3 Report to the emergency news center.

4.3.4 Contact emergency support center and communications center at the Public Service Building to confirm telephone communications capability.

4.3.5 Coordinate administrative requirements for emergency news center as required with Emergency News Center Director.

4.4 Superintendent of Public Information

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

4.4.2 Report to the communications center in the Public Service Building.

4.4.3 Coordinate communications between the emergency news center and the communications center in the Public Service Building.

4.4.4 Assist Emergency News Center Director in coordination of all communications with the State Division of Emergency Government and the NRC. All releases should be identical and simultaneous from the emergency news center (joint public information center) in Two Rivers, the communications

center in the Public Service Building, and the joint public information center at the Madison office of the State Division of Emergency Government.

ATTACHMENT 13.1-1

PUBLIC COMMUNICATIONS EMERGENCY CALL LIST

	Company Ext.	Home Phone	Time Notification
System Operations Center			
John Speaker - Vice President Communications			
Dennis Kois - Superintendent Public Information			
William Wilson - Superintendent Information Services			
Caryle W. Fay - Emergency Support Manager			
Rick Janka - Supervisor of Public Information			
Lauretta Krcma - Information Center Director			
Steve Krings - Information Center Assistant			
Communications Department Hot Line			(direct to answering service)
Off-Site Agencies			
Howard Perry - Director, Two Rivers Community Center			
James Grassman - City Manager, City of Two Rivers			
General Telephone Company - Phone Service at Two Rivers Community House			
R. F. Plantico - Superintendent of Schools, Kewaunee			
Donald Keenan - High School Principal, Kewaunee			

EMERGENCY PREPAREDNESS REVIEW

1.0 GENERAL

This procedure summarizes the frequency scope and depth of the audit of the Point Beach Nuclear Plant Emergency Plan and Emergency Plan Implementing Procedures (EPIP's).

2.0 RESPONSIBILITIES & AUTHORITIES

Responsibility for an audit of the Emergency Plan and EPIP's is assigned to the OSRC by Technical Specification 15.6.5.3.8. The audit can be carried out by the OSRC or by another group as directed by the Committee. The Chairman is responsible for ensuring the qualification and adequacy of scope of the audit.

3.0 FREQUENCY

The scope and frequency schedule will be reviewed on at least an annual basis by the Chairman of the OSRC in preparation for the audit. This review shall be completed on an annual basis with the scope and depth varying on a two-year cyclical basis. The audit should include items in Section 4.0.

4.0 SCOPE

4.1 Review the Emergency Plan & EPIP's Including:

4.1.1 General content and format.

4.1.2 Implementing instructions.

4.1.3 Notification procedures.

4.1.4 Assessment actions.

4.1.5 Offsite radiological surveys.

4.1.6 In-plant radiological surveys.

4.1.7 Primary coolant sampling and analysis.

4.1.8 Containment air sampling and analysis.

4.1.9 Protective actions.

4.1.10 Onsite evacuation procedure and personnel accountability.

4.1.11 Search and rescue procedures.

4.1.12 Personnel monitoring and decontamination.

4.1.13 Security during emergencies.

4.1.14 Recovery operations.

4.1.15 Public information.

4.1.16 Equipment inventory, operating check and calibration.

4.1.17 Review, revision and distribution.

4.2 Training, drills, and critique findings shall be reviewed.

4.3 Checks, inventories and maintenance of equipment and facilities should be audited for completeness, frequency and time corrective action as appropriate.

4.4 Interfaces with State and local governments should be reviewed.

4.5 Structure of the emergency organization and administration of the Plan and procedures should be reviewed.

4.6 Review past audits, drill critiques and exercise critiques for items still requiring action.

4.7 Monitor training records adequacy for identifying personnel needing training.

4.8 Monitor effectiveness of management controls over corrective action resulting from critique or audit findings.

4.9 Monitor the Plan and procedures manuals to control their status.

5.0 DOCUMENTATION

5.1 Audit results with findings are to be filed and reported to the Manager - Point Beach Nuclear Plant and the Manager - Nuclear Engineering Section. This can be accomplished through distribution of the OSRC meeting minutes.

5.2 Audit results shall be provided to the Wisconsin Division of Emergency Government and the Emergency Government Director of Manitowoc and Kewaunee Counties.

POINT BEACH NUCLEAR PLANT

STATUS REPORT ON PLANT SYSTEMS AND CONTROLS FOR AFFECTED UNIT

1. Basic Accident Information

   a. Unit No.: _____

   b. Status Report Date/Time: _____ / _____
      (Date) (Time-24 Hours)

   c. Emergency Classification Declared: [Check (√) one]

      Unusual Event _____ Site Emergency _____
      Alert _____ General Emergency _____

   d. Time of Reactor Shutdown (if applicable): _____
      (Time-24 Hours)

   e. Time of Radiological Release to Containment (if applicable):

      _____
      (Time-24 Hours)

   f. Time of Radiological Release from Plant (if applicable):

      _____
      (Time-24 Hours)

2. Status of Reactivity Control

   Parameters

   a. Control Rod Position

      (All 33 rod bottom bistable lit) Yes _____ No _____

   b. Neutron Flux Decaying Yes _____ No _____

3. Status of Core Cooling

   Parameters

   a. Pressurizer Heaters Available Yes _____ No _____

   b. T_H Loop A _____ °F Loop B _____ °F

   c. T_C Loop A _____ °F Loop B _____ °F

   d. Flow Loop A _____ % Loop B _____ %

Status Report Time: _____

3. Status of Core Cooling (continued)

   e. Incore Thermocouples: Average Temperature _____ °F

   f. Degree of Subcooling Margin: _____ °F

4. Status of Reactor Coolant System Integrity

   Parameters

   a. Pressurizer or Reactor System Pressure _____ psig

   b. Pressurizer Level _____ %

   c. Primary System Relief Valves Closed Yes _____ No _____

   d. Letdown Flow _____ gpm

5. Status of Secondary Systems

   Parameters

   a. Steam Generator Pressure

      "A" Generator _____ psig "B" Generator _____ psig

   b. Steam Generator Level

      "A" Generator _____ %, increasing or steady Yes _____ No _____

      "B" Generator _____ %, increasing or steady Yes _____ No _____

   c. Auxiliary Feedwater Flow _____ gpm

6. Status of Containment Integrity

   Parameters

   a. Containment Pressure _____ psig

   b. Containment Isolation Valve (Note any not closed)

      _____
      _____
      _____
      _____

   c. Containment Spray Pumps Running Yes _____ No _____

Status Report Time: _____

6. Status of Containment Integrity (Continued)

d. Containment Recirculation Coolers Running 1 2 3 4
(Circle one)

e. NaOH Addition Yes _____ No _____ Time _____ Level _____

7. Status of Auxiliary Systems

Parameters

a. High Pressure Safety Injection Flow

Train A _____ gpm Train B _____ gpm

b. Refueling Water Storage Tank Level _____%

c. Accumulator A
Level _____ %
Pressure _____ psig
Isolation Valve Open Yes _____ No _____

Accumulator B
Level _____ %
Pressure _____ psig
Isolation Valve Open Yes _____ No _____

d. RHR Flow FI-928 _____ FI-626 _____

e. Component Cooling Water

Temperature _____°F Flow _____ gpm

f. Service Water

Number of pumps running _____

Temperature _____°F

8. Status of Meteorology

Parameters

a. Wind Direction _____

b. Wind Speed _____ mph

c. Ambient Temperature _____°F

d. Stability Class $\sigma\theta$ _____ degrees

Status Report Time: _____

9. Status of Power Supplies

Parameters

a. Offsite Power Available		Yes _____	No _____
b. Diesel Generator Running	"A"	Yes _____	No _____
	"B"	Yes _____	No _____
c. Onsite Power Available		Yes _____	No _____

Completed By _____ Time _____ Date _____

POINT BEACH NUCLEAR PLANT

FOR X/Q DETERMINATION

To be filled out by Chemistry & Health Physics Supervisor or RadCon/Waste Manager or designate. During a release, complete every 2 hours or as required by changing radiological or meteorological conditions.

(a) Wind speed _____ mph

(b) Wind direction _____

(c) Time of reactor shutdown _____

(d) Time of release to containment _____

(e) Time of release from the plant _____

(f) Estimated release duration _____ hours*

(g) Xe-133 equivalent source term _____ Ci/sec

(h) Stability class _____

(i) Distance to dose projection location if different from standard preset centerline locations below _____ miles

Location Description & Sector _____

(j) (X μ)/Q from overlay:

	Centerline	Isopleth (Isodose Line)
Site Boundary		_____
Two Mile	_____	_____
Five Mile	_____	_____
Ten Mile	_____	_____
Other	_____	_____

(k) X/Q

Site Boundary		_____
Two Mile	_____	_____
Five Mile	_____	_____
Ten Mile	_____	_____
Other	_____	_____

$$X/Q = \frac{2.24 \left(\frac{\text{mi. sec.}}{\text{hr. m.}}\right) \; Xu/Q \; (m^{-2})}{\text{Wind Speed (mph)}}$$

$$= 2.24 \; \frac{Xu/Q}{\text{mph}} = 2.24 \left(\frac{(j)}{(a)}\right)$$

*If unknown, assume 8 hours in order to obtain an initial dose estimate.

TIME/DATE COMPLETED _____ COMPLETED BY _____

Route to Technical Support Manager upon completion.

POINT BEACH NUCLEAR PLANT

ESTIMATED WHOLE BODY & THYROID PROJECTED DOSES*

To be completed by Chemistry & Health Physics Supervisor, RadCon/Waste Manager or designate. During a release, complete every 2 hours as required by changing radiological or meteorological conditions.

1. Calculate the projected whole body dose due to noble gases (using values from EPIP-07).

Dose (Rem) = X/Q(Sec./m^3) X Q(Ci/Sec.) x Kr $\left(\frac{\text{Rem - } m^3}{\text{Ci - hrs}}\right)$ x ERD (hrs)

Dose (Rem) = _____ (k) X _____ (g) X _____ Kr from Attach. 1.4-2 X _____ (f)

Dose (Rem)*:

	Centerline	Isopleth (Isodose) Line	
Site Boundary		_____	(a)
Two Mile	_____	_____	
Five Mile	_____	_____	
Ten Mile	_____	_____	
Other	_____	_____	

*Doses at various distances can be obtained by X/Q ratios and dose calculation from (a) above.

2. Calculate the projected thyroid dose.

Dose (Rem) = Whole Body Dose (Rem) (From No. 1 above) X Ratio Factor (Figures 1.4-1, 4 & 5)

Dose (Rem):

	Centerline	Isopleth (Isodose) Line
Site Boundary		_____
Two Mile	_____	_____
Five Mile	_____	_____
Ten Mile	_____	_____
Other	_____	_____

3. Sector(s) Effected _____

NOTE: CONSIDER SECTORS OVER A 90° ANGLE CENTERED ON THE AVERAGE WIND DIRECTION AND A FULL 360° AREA WITHIN 2 MILES OF THE PLANT.

TIME/DATE COMPLETED _____ COMPLETED BY _____

Route to Technical Support Manager when completed.

POINT BEACH NUCLEAR PLANT

ESTIMATED WHOLE BODY DOSE CALCULATION WORKSHEET FOR SPECIFIC NOBLE GAS RELEASES

To be completed by Chemistry & Health Physics Supervisor or RadCon/Waste Manager or designate. During a release, complete every 2 hours or as required by changing radiological or meteorological conditions.

1. Enter data as required below

   a. Specific Noble Gas release rates (Ci/sec) (record in column 1 of section II below)
   b. X/Q as determined in step 5.1.5 _____ (sec/m^3) = (k) from EPIP-07*
   c. Estimated Release Duration _____ (hrs) = (f) from EPIP-07*

2. Calculate dose for each nuclide and sum all doses to get total dose using the formula:

Isotope	Release Rate (Ci/sec)	x	X/Q (sec/m^3) / (k)	x	Release Duration hrs) / (f)	x	Dose Rate Conversion Kr ($\frac{Rem\ m^3}{Ci\ hrs}$)	=	Dose (Rem)
Kr-85	_____	x	_____	x	_____	x	1.84	=	_____
Kr-85m	_____	x	_____	x	_____	x	1.34×10^2	=	_____
Kr-87	_____	x	_____	x	_____	x	6.77×10^2	=	_____
Kr-88	_____	x	_____	x	_____	x	1.68×10^3	=	_____
Xe-133	_____	x	_____	x	_____	x	3.36×10^1	=	_____
Xe-133m	_____	x	_____	x	_____	x	2.87×10^1	=	_____
Xe-135	_____	x	_____	x	_____	x	2.06×10^2	=	_____
Xe-135m	_____	x	_____	x	_____	x	3.56×10^2	=	_____
Xe-138	_____	x	_____	x	_____	x	1.01×10^3	=	_____
Ar-41	_____	x	_____	x	_____	x	1.01×10^3	=	_____

Total Whole Body Dose = _____ Rem

TIME/DATE COMPLETED _____ COMPLETED BY _____

Route to Technical Support Manager when completed.

POINT BEACH NUCLEAR PLANT

ESTIMATED GROUND DEPOSITION CALCULATION WORKSHEET FOR PARTICULATE RADIONUCLIDE RELEASES

To be completed by Chemistry & Health Physics Supervisor or RadCon/Waste Manager or designate. During a release, complete every 6 hours or as required by changing radiological or meteorological conditions.

1. Enter data as required below

   a. Specific Particulate Release rates or Xe-133 equivalent release rate (Ci/sec) record in column 2 of section II below).

   b. X/Q _____ (sec/m^3) = (k) from EPIP-07*

   c. Duration of release ERD _____(hrs.) = (f) from EPIP-07*

2. Calculate deposition for each nuclide and sum all depositions to get total deposition using the formula:

$$\text{Dep } (\mu Ci/m^2) = **A \left(\frac{m \ \mu Ci}{hr \ Ci}\right) \times \frac{X}{Q} \ (sec/m^3) \times Q \ (Ci/sec) \times ERD \ (hrs)$$

Isotope	A $\left(\frac{m \ \mu Ci}{hr \ Ci}\right)$	x	$\frac{X}{Q}$ (sec/m^3) (k)	x	Q (Ci/sec) (g)	x	ERD (hrs) (f)	=	Deposition ($\mu Ci/m^2$)
I-131 or equiv*	9×10^6	x	_____	x	_____	x	_____	=	_____
Cs-137	1.8×10^8	x	_____	x	_____	x	_____	=	_____
Sr-89	1.8×10^8	x	_____	x	_____	x	_____	=	_____
Sr-90	1.8×10^8	x	_____	x	_____	x	_____	=	_____
							Total Deposition	=	_____ $\mu Ci/m^2$

* If only total Iodine is available, use of this value will result in an overly conservative estimate of Deposition of I-131.

** The product of F, 0.05, 3600 and 10^6 is evaluated and set equal to A.

TIME/DATE COMPLETED _____ COMPLETED BY _____

Route to Technical Support Manager when completed.

ESTIMATED POPULATION DOSE

Complete using calculations from EPIP-08 and population figures from corresponding sectors and distances from Attachment 1.4-6.

To be completed by the Chemistry & Health Physics Supervisor, RadCon/Waste Manager or designate. During a release, complete every 6 hours or as required by changing radiological or meteorological conditions.

Calculated Population Dose

Population Dose (man Rem) = Dose (Rem) X Population

Two mile radius _____ X _____ = _____

Five mile _____ X _____ = _____

Ten mile _____ X _____ = _____

Total Dose _____

COMPLETED BY _____ TIME/DATE _____

POINT BEACH NUCLEAR PLANT

SUMMARY OF RADIOLOGICAL DOSE EVALUATION CALCULATIONS

To be completed by the Chemistry & Health Physics Supervisor, RadCon/Waste Manager or designate. During a release, complete as often as new information is available from EPIP-08 through EPIP-10.

Complete using calculations from EPIP-08 through EPIP-10:

Dose estimation location (if different from below): _____

_____

*Estimated Thyroid Dose (Specific Nuclide Determination, Yes ____, No ____)

	Centerline	Isopleth (Isodose Line)
Site Boundary		_____
Two Mile	_____	_____
Five Mile	_____	_____
Ten Mile	_____	_____
Other	_____	_____

*Estimated Whole Body Dose Due to Noble Gases (Specific Nuclide Determination, Yes ____, No ____)

	Centerline	Isopleth (Isodose Line)
Site Boundary		_____
Two Mile	_____	_____
Five Mile	_____	_____
Ten Mile	_____	_____
Other	_____	_____

*Estimated Deposition

	Centerline	Isopleth (Isodose Line)
Site Boundary		_____
Two Mile	_____	_____
Five Mile	_____	_____
Ten Mile	_____	_____
Other	_____	_____

*Source Terms based on:

_____ RMS _____ Sample analysis results

Calculations performed by: Signature _____

Date _____ Time _____

Reviewed by _____ Date _____

Route to Technical Support Manager when completed. Technical Support Manager will review and forward information to the Site Manager and/or Emergency Support Manager.

EPIP-11
(09-82)

POINT BEACH NUCLEAR PLANT

INITIAL INCIDENT REPORT FORM

This is _____ (Title) at the

(Kewaunee/Point Beach) Nuclear Plant. An incident has occurred at our facility and we are (declaring an Unusual Event, Alert, Site Emergency, General Emergency/ terminating the emergency classification) at _____ (Time) on _____ (Date).

There (has/has not) been a radiological release to the environment.

Offsite consequences (are/are not) expected.

Please relay this information to Emergency Government immediately.

Please verify this message by return telephone call to the appropriate number listed in your procedure.

Recommended protective actions are:

a. Not required at this time.

b. Take shelter in following areas: _____ (Location, sector and miles radius)

c. Evacuate the following areas: _____ (Location, sector and miles radius)

d. Other _____ (Recommended Action) in _____ (Location)

_____ (Recommended Action) in _____ (Location)

Time Notified

Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

POINT BEACH NUCLEAR PLANT

INITIAL INCIDENT REPORT FORM

This is _____ at the
(Title)

(Kewaunee/Point Beach) Nuclear Plant. An incident has occurred at our facility and we are (declaring an Unusual Event, Alert, Site Emergency, General Emergency/ terminating the emergency classification) at _____ on _____.
(Time) (Date)

There (has/has not) been a radiological release to the environment.

Offsite consequences (are/are not) expected.

Please relay this information to Emergency Government immediately.

Please verify this message by return telephone call to the appropriate number listed in your procedure.

Recommended protective actions are:

a. Not required at this time.

b. Take shelter in following areas: _____
(Location, sector and miles radius)

c. Evacuate the following areas: _____
(Location, sector and miles radius)

d. Other _____ in _____
(Recommended Action) (Location)

_____ in _____
(Recommended Action) (Location)

Time Notified

Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

POINT BEACH NUCLEAR PLANT

INITIAL INCIDENT REPORT FORM

This is _____ at the
(Title)

(Kewaunee/Point Beach) Nuclear Plant. An incident has occurred at our facility and we are (declaring an Unusual Event, Alert, Site Emergency, General Emergency/ terminating the emergency classification) at _____ on _____.
(Time) (Date)

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b. Take shelter in following areas: _____
(Location, sector and miles radius)

c. Evacuate the following areas: _____
(Location, sector and miles radius)

d. Other _____ in _____
(Recommended Action) (Location)

_____ in _____
(Recommended Action) (Location)

Time Notified

Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

POINT BEACH NUCLEAR PLANT

INITIAL INCIDENT REPORT FORM

This is _____ at the
(Title)

(Kewaunee/Point Beach) Nuclear Plant. An incident has occurred at our facility and we are (declaring an Unusual Event, Alert, Site Emergency, General Emergency/ terminating the emergency classification) at _____ on _____.
(Time) (Date)

There (has/has not) been a radiological release to the environment.

Offsite consequences (are/are not) expected.

Please relay this information to Emergency Government immediately.

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Recommended protective actions are:

a. Not required at this time.

b. Take shelter in following areas: _____
(Location, sector and miles radius)

c. Evacuate the following areas: _____
(Location, sector and miles radius)

d. Other _____ in _____
(Recommended Action) (Location)

_____ in _____
(Recommended Action) (Location)

Time Notified

Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

STATUS UPDATE FORM

1. IDENTIFICATION

This is _____ (Name) the _____ (Title)

at the (Kewaunee/Point Beach) nuclear power plant reporting the status of the (Unusual Event/Alert/Site Emergency/General Emergency) in progress at _____ (Time of Call) on _____ (Date).

2. STATUS

The following information is now available:

A. Plant

(1) Description of event _____ (Fire, Explosion, Pipe or Tank Rupture, etc.)

(2) Corrective action taken: _____

_____

_____

(3) Condition of Reactor (shutdown/not shutdown).

(4) Major equipment affected: _____

_____

_____

B. Plant Personnel

(1) Injuries (yes/no); if yes, number injured _____

(2) Contaminated personnel (yes/no); if yes, number _____

(3) Overexposure to personnel (yes/none/possibility exists); if yes, number _____

(4) Other potential or actual hazards _____

_____

_____

_____

C. Meteorological Conditions

(1) Wind speed _____ (mph)

(2) Wind direction _____ degrees (from _____ (Compass) to _____ (Compass))

(3) Stability class _____

(4) General weather conditions _____

_____

D. Radiological Conditions Off-Site

(1) Release of radioactive material is (not expected/expected/ in progress).

(2) (If applicable)

(a) Release of radioactive material (will start/has started)

at _____ (Time) on _____ (Date) and is expected to continue

for _____ (Hour/Minutes).

(b) The radiological release is in (liquid/gaseous) form and is (controlled/uncontrolled).

(c) The release rate is estimated to be:

Iodine _____ Ci/sec

Noble gas _____ Ci/sec

(d) The projected arrival time for the plume at _____

miles down wind is _____ (Time)

(e) The projected dose at _____ miles down wind at

plume centerline is _____ Rem to the whole body

and _____ Rem to the thyroid.

(f) (If applicable) Measured surface deposition is _____

(dpm/100 cm^2 or Ci/m^2) at _____ (Location)

3. RECOMMENDED PROTECTIVE ACTIONS ARE:

A. None.

B. Take shelter in following areas: _____ (Location, sector and miles radius)

C. Evacuate the following areas: _____ (Location, sector and miles radius)

D. Other _____ (Recommended Action) in _____ (Location)

_____ (Recommended Action) in _____ (Location)

4. Press releases from the JPIC in Two Rivers, Wisconsin (are/are not) planned.

5. Additional assistance required (yes/no). If yes:

A. _____ (Problem Area) _____ (Agency)

B. _____ (Problem Area) _____ (Agency)

C. _____ (Problem Area) _____ (Agency)

Assessment of plant conditions will continue. Further status update will be transmitted to you periodically, based on the change in plant conditions.

	Time Notified	
Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

STATUS UPDATE FORM

1. IDENTIFICATION

This is _____ (Name) the _____ (Title)

at the (Kewaunee/Point Beach) nuclear power plant reporting the status of the (Unusual Event/Alert/Site Emergency/General Emergency) in progress at _____ (Time of Call) on _____ (Date).

2. STATUS

The following information is now available:

A. Plant

(1) Description of event _____ (Fire, Explosion, Pipe or Tank Rupture, etc.)

(2) Corrective action taken: _____

_____

_____

(3) Condition of Reactor (shutdown/not shutdown).

(4) Major equipment affected: _____

_____

_____

B. Plant Personnel

(1) Injuries (yes/no); if yes, number injured _____

(2) Contaminated personnel (yes/no); if yes, number _____

(3) Overexposure to personnel (yes/none/possibility exists); if yes, number _____

(4) Other potential or actual hazards _____

_____

_____

_____

C. Meteorological Conditions

(1) Wind speed _____ (mph)

(2) Wind direction _____ degrees (from _____ (Compass) to _____ (Compass))

(3) Stability class _____

(4) General weather conditions _____

_____

D. Radiological Conditions Off-Site

(1) Release of radioactive material is (not expected/expected/ in progress).

(2) (If applicable)

(a) Release of radioactive material (will start/has started)

at _____ (Time) on _____ (Date) and is expected to continue

for _____ (Hour/Minutes).

(b) The radiological release is in (liquid/gaseous) form and is (controlled/uncontrolled).

(c) The release rate is estimated to be:

Iodine _____ Ci/sec

Noble gas _____ Ci/sec

(d) The projected arrival time for the plume at _____

miles down wind is _____ (Time).

(e) The projected dose at _____ miles down wind at

plume centerline is _____ Rem to the whole body

and _____ Rem to the thyroid.

(f) (If applicable) Measured surface deposition is _____

(dpm/100 cm^2 or Ci/m^2) at _____ (Location)

3. RECOMMENDED PROTECTIVE ACTIONS ARE:

A. None.

B. Take shelter in following areas: _____
(Location, sector and miles radius)

C. Evacuate the following areas: _____
(Location, sector and miles radius)

D. Other _____ in _____
(Recommended Action) (Location)

_____ in _____
(Recommended Action) (Location)

4. Press releases from the JPIC in Two Rivers, Wisconsin (are/are not) planned.

5. Additional assistance required (yes/no). If yes:

A. _____ _____
(Problem Area) (Agency)

B. _____ _____
(Problem Area) (Agency)

C. _____ _____
(Problem Area) (Agency)

Assessment of plant conditions will continue. Further status update will be transmitted to you periodically, based on the change in plant conditions.

	Time Notified	
Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

STATUS UPDATE FORM

1. IDENTIFICATION

This is _____ (Name) the _____ (Title)

at the (Kewaunee/Point Beach) nuclear power plant reporting the status of the (Unusual Event/Alert/Site Emergency/General Emergency) in progress at _____ (Time of Call) on _____ (Date).

2. STATUS

The following information is now available:

A. Plant

(1) Description of event _____ (Fire, Explosion, Pipe or Tank Rupture, etc.)

(2) Corrective action taken: _____

_____

_____

(3) Condition of Reactor (shutdown/not shutdown).

(4) Major equipment affected: _____

_____

_____

B. Plant Personnel

(1) Injuries (yes/no); if yes, number injured _____

(2) Contaminated personnel (yes/no); if yes, number _____

(3) Overexposure to personnel (yes/none/possibility exists); if yes, number _____

(4) Other potential or actual hazards _____

_____

_____

_____

C. Meteorological Conditions

(1) Wind speed _____ (mph)

(2) Wind direction _____ degrees (from _____ (Compass) to _____ (Compass))

(3) Stability class _____

(4) General weather conditions _____

_____

D. Radiological Conditions Off-Site

(1) Release of radioactive material is (not expected/expected/ in progress).

(2) (If applicable)

(a) Release of radioactive material (will start/has started)

at _____ (Time) on _____ (Date) and is expected to continue

for _____ (Hour/Minutes).

(b) The radiological release is in (liquid/gaseous) form and is (controlled/uncontrolled).

(c) The release rate is estimated to be:

Iodine _____ Ci/sec

Noble gas _____ Ci/sec

(d) The projected arrival time for the plume at _____ miles down wind is _____ (Time).

(e) The projected dose at _____ miles down wind at plume centerline is _____ Rem to the whole body and _____ Rem to the thyroid.

(f) (If applicable) Measured surface deposition is _____ (dpm/100 cm^2 or Ci/m^2) at _____ (Location)

3. RECOMMENDED PROTECTIVE ACTIONS ARE:

A. None.

B. Take shelter in following areas: _____
(Location, sector and miles radius)

C. Evacuate the following areas: _____
(Location, sector and miles radius)

D. Other _____ (Recommended Action) in _____ (Location)

_____ (Recommended Action) in _____ (Location)

4. Press releases from the JPIC in Two Rivers, Wisconsin (are/are not) planned.

5. Additional assistance required (yes/no). If yes:

A. _____ (Problem Area) _____ (Agency)

B. _____ (Problem Area) _____ (Agency)

C. _____ (Problem Area) _____ (Agency)

Assessment of plant conditions will continue. Further status update will be transmitted to you periodically, based on the change in plant conditions.

	Time Notified	
Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

STATUS UPDATE FORM

1. IDENTIFICATION

This is _____ (Name) the _____ (Title)

at the (Kewaunee/Point Beach) nuclear power plant reporting the status of the (Unusual Event/Alert/Site Emergency/General Emergency) in progress at _____ (Time of Call) on _____ (Date).

2. STATUS

The following information is now available:

A. Plant

(1) Description of event _____ (Fire, Explosion, Pipe or Tank Rupture, etc.)

(2) Corrective action taken: _____

_____

_____

(3) Condition of Reactor (shutdown/not shutdown).

(4) Major equipment affected: _____

_____

_____

B. Plant Personnel

(1) Injuries (yes/no); if yes, number injured _____

(2) Contaminated personnel (yes/no); if yes, number _____

(3) Overexposure to personnel (yes/none/possibility exists); if yes, number _____

(4) Other potential or actual hazards _____

_____

_____

_____

C. Meteorological Conditions

(1) Wind speed _____ (mph)

(2) Wind direction _____ degrees (from _____ (Compass) to _____ (Compass))

(3) Stability class _____

(4) General weather conditions _____

_____

D. Radiological Conditions Off-Site

(1) Release of radioactive material is (not expected/expected/ in progress).

(2) (If applicable)

(a) Release of radioactive material (will start/has started)

at _____ (Time) on _____ (Date) and is expected to continue

for _____ (Hour/Minutes).

(b) The radiological release is in (liquid/gaseous) form and is (controlled/uncontrolled).

(c) The release rate is estimated to be:

Iodine _____ Ci/sec

Noble gas _____ Ci/sec

(d) The projected arrival time for the plume at _____

miles down wind is _____ (Time).

(e) The projected dose at _____ miles down wind at

plume centerline is _____ Rem to the whole body

and _____ Rem to the thyroid.

(f) (If applicable) Measured surface deposition is _____

(dpm/100 cm^2 or Ci/m^2) at _____ (Location)

3. RECOMMENDED PROTECTIVE ACTIONS ARE:

A. None.

B. Take shelter in following areas: _____ (Location, sector and miles radius)

C. Evacuate the following areas: _____ (Location, sector and miles radius)

D. Other _____ (Recommended Action) in _____ (Location)

_____ (Recommended Action) in _____ (Location)

4. Press releases from the JPIC in Two Rivers, Wisconsin (are/are not) planned.

5. Additional assistance required (yes/no). If yes:

A. _____ (Problem Area) _____ (Agency)

B. _____ (Problem Area) _____ (Agency)

C. _____ (Problem Area) _____ (Agency)

Assessment of plant conditions will continue. Further status update will be transmitted to you periodically, based on the change in plant conditions.

	Time Notified	
Agency	Time/Date	Initials
Manitowoc County	_____	_____
Kewaunee County	_____	_____
Wisconsin DEG	_____	_____
USNRC	_____	_____

PLANT AND COMPANY EMERGENCY CALL LIST

PBNP PLANT PERSONNEL:

1. Duty & Call Superintendents

Name	Plant Ext.	Home Phone	Time Notified
J. J. Zach, Manager - Point Beach Nuclear Plant			_____
T. J. Koehler, General Superintendent			_____
R. E. Link, Superintendent - Engineering, Quality & Regulatory Services			_____
J. C. Reisenbuechler - Superintendent - Technical Services			_____
G. J. Maxfield, Superintendent - Operations			_____
Duty & Call Beeper No.			_____

2. Shift Supervisors

Name	Plant Ext.	Home Phone	Time Notified
L. J. Kamyszek			_____
R. D. Mitchell			_____
I. L. Bleeker			_____
C. M. Gray			_____
E. Ziller			_____
R. J. Mulheron			_____
T. W. Garot			_____
K. J. Draska			_____

3. Chemistry

Name	Plant Ext.	Home Phone	Time Notified
P. J. Skramstad, Superintendent - Chemistry & Health Physics			
T. L. Slack, Nuclear Plant Specialist - Chemistry			
R. A. Neustadter, Nuclear Plant Specialist - Chemistry			
T. L. Fredrichs, Nuclear Plant Engineer - Radwaste			

4. Health Physics

Name	Plant Ext.	Home Phone	Time Notified
P. Skramstad, Superintendent - Chemistry & Health Physics			
R. S. Bredvad, Health Physicist			
L. E. Epstein, Health Physics Supervisor			
C. D. Bolle, Health Physics Supervisor			
M. D. Moseman, Nuclear Plant Specialist - Health Physics			
E. J. Manos, Nuclear Plant Specialist - Health Physics			

5. Instrument & Control

Name	Plant Ext.	Home Phone	Time Notified
A. J. Pohl, Nuclear Plant Engineer			
G. L. Rau, Nuclear Plant Engineer			
E. A. LeClair, I & C Supervisor			

6. Maintenance

Name	Plant Ext.	Home Phone	Time Notified
W. J. Herrman, Superintendent - Maintenance & Construction			
D. A. Magyar, Maintenance Supervisor			
M. E. Crouch, Maintenance Supervisor			
R. O. Gerroll, Maintenance Supervisor			
J. O. Schoenberger, Maintenance Supervisor			
G. Bernhoft, Nuclear Plant Engineer			
T. R. Branam, Nuclear Plant Engineer			
E. H. Wellenstein, Nuclear Plant Engineer			

7. Reactor Engineering

R. L. Harris, Reactor Engineer			
N. L. Pitterle, Nuclear Plant Engineer			

8. Plant Administration and Security

Name	Plant Ext.	Home Phone	Time Notified
J. J. Zach, Manager - PBNP			
T. J. Koehler, General Superintendent			
R. Krukowski, Security Supervisor			
J. D. Mielke, Supv. - Administrative Services			
F. A. Zeman, Supervisor - Staff Services			

9. Fire Brigade Members

Note: Refer to PBNP Fire Protection Manual Call List, Section FEP 2.0.

WEPCO COMPANY PERSONNEL:

1. Company Administraton and Departments

Name	Company Ext.	Home Phone	Time Notified
C. W. Fay, Assistant Vice President Duty Emergency Support Manager			_____
			_____
Wisconsin Electric Power Company Medical Department			_____
Nuclear Engineering Section Office			_____
			_____
Communications Department			_____
WE Accident Prevention			_____
			_____

2. Nuclear Engineering Section Personnel

Name	Company Ext.	Home Phone	Time Notified
D. K. Porter			_____
R. A. Newton			_____
G. D. Frieling			_____
E. J. Lipke			_____
S. A. Schellin			_____
C. W. Krause			_____

3. Insurance Personnel

Name	Company Ext.	Home Phone	Time Notified
W. J. Dundas, Supt. Insurance & Claims Div.			_____
W. E. Staum, Alternate			_____
J. G. Remmel, Alternate			_____

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				
NRC Office of Inspection and Enforcement, Region III	All hours (Ask for Duty Officer)				

NRC Resident Inspectors:	Plant Ext.	Home
a. R. L. Hague		
b. B. E. Fitzpatrick		

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)				
	All other hours				

3. United States Coast Guard

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
MSO, Milwaukee					
USCG, Sturgeon Bay	All hours				
USCG, Two Rivers	All hours				

4. United States National Weather Service

ame	Frequency	Telephone Number	Person Notified	Time Notified	Initials
NWS, Green Bay	All hours	NAWAS			

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)				
Lawrence J. McDonnell, Chief Section of Radiation Protection		Home phone			
Wisconsin Division f Emergency overnment	All hours	or NAWAS			
Wisconsin State Patrol	All hours	or NAWAS			

COUNTY AGENCIES:

1. Manitowoc County

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

2. Kewaunee County

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Kewaunee County Dispatcher	All Hours	or NAWAS			

PRIVATE AGENCIES:

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Kewaunee Nuclear Power Plant	All hours	[redacted]			

PRIVATE AGENCIES: (Cont'd)

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Institute of Nuclear Power Operations	All hours				
American Nuclear Insurers	All hours				
Westinghouse Electric Corp. Field Serv. Mgr. (R. Grimm)	Office				
	Home				
	Hot Line				
Stone & Webster Engineering Corp.	All hours				
Bechtel Power Corporation	All hours				
University of Wisconsin - Milwaukee Seismic Center (D. Willis)	Office				

FIRE AND MEDICAL AGENCIES

1. Fire Emergency

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Two Creeks Fire Department	All hours	(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.					
University Hospital, Madison					

Name	Frequency	Telephone Number	Person Notified	Time Notified	Initials
Emergency Room	All hours				
Frank C. Larson, M.D.					
Robert F. Schilling, M.D.					
Robert R. Radtke, Ph.D. (Health Physicist)					
Two Rivers Emergency Vehicle	All hours				
Community Hospital, Two Rivers	All hours				

POINT BEACH NUCLEAR PLANT

SITE BOUNDARY CONTROL CENTER
EMERGENCY PLAN INVENTORY CHECKLIST

Item No.	Item	Required	On Hand
	Sampling Equipment and Supplies		
1.	AC generator (5,000 watt)	1	
3.	Electric high volume air sampler	1	
4.	Poly gas sample bottles	12	
5.	Charcoal cartridges for air sampler, high volume	48	
6.	Charcoal cartridges for air sampler, low volume	50	
7.	Silver zeolite cartridges for air sampler, low volume	5	
8.	Filters for air samplers (pkg. of 100)	2	
9.	Gasoline for AC generator (gallons)	2	
10.	Sample tags	50	
11.	Plastic bags	50	
12.	100' extension cord	2	
13.	Planchets	20	
	Respiratory Protection Equipment		
14.	Full-face respirators	2	
15.	Half-face respirators	2	
16.	Full-face filter cartridge	12	
17.	Half-face filter cartridge	10	
	Fire Protection Equipment		
18.	Fire extinguisher, dry chemical	1	
	Radiation Survey and Monitoring Instrument		
19.	Victoreen Radgun (.01 mR/hr - 10 kR/hr)	1	
20.	Radector III (.1 mR/hr - 1,000 R/hr)	1	
21.	Victoreen Model 490 Thyac III	1	
22.	PIC-6A survey instrument (1 mR/hr - 1,000 R/hr)	2	
23.	RM3C personnel survey frisker	1	
24.	Johnson Associates, GSM-5, 0-50k cpm, 0-200 mR/hr	1	
25.	MSC-1 sampler holder for GSM-5	1	
26.	Check sources; 2 - Cs-137 and 1 - Sr-90	3	
27.	Filters for smears (pkg. of 100)	2	
28.	Nuclear Chicago counter scaler	1	
29.	Coin envelopes (box)	1/2	
30.	HP-210 probe	2	
31.	SH4 probe holder	1	
32.	Earphones for Thyac III survey instrument	3	
33.	Side window probe	2	
34.	Cord, BNC-BNC connector	2	
35.	Cord, amphenol - BNC connector	2	

		Required	On Hand
	Personnel Monitoring Equipment		
36.	Personnel Thermoluminescent Dosimeters (TLD)	100	
37.	Radiological dosimeters, 0-5 R	12	
38.	Radiological dosimeter charger	2	
	First Aid and Decontamination Supplies		
39.	First aid kit	1	
40.	Burn kit	1	
41.	Emergency drinking water tablets (bottles; 50 tables per bottle)	5	
42.	Water (gallons)	20	
43.	Decon soap, powder (5 lb.)	1	
44.	Decon soap, liquid (qt.)	1	
45.	Hand brush	4	
46.	Cotton applicators (box)	1	
47.	Potassium permanganate (4 oz.)	1	
48.	Sodium bisulfate (1 lb.)	1	
49.	Kim towels (box)	1	
50.	Masselin (pkg.)	1	
51.	"409" cleaner (btl.)	2	
52.	"Spic'n Span" (box)	2	
53.	Masselin mop	1	
54.	Regular sponge map	2	
55.	Rag mop	1	
56.	Wringer	1	
57.	Large mop bucket	1	
58.	Kim wipes (box)	1	
59.	Bucket, plastic	2	
60.	Cotton swabs (packets)	5	
61.	Gauze sponges, 2" x 2" (100 per pkg.)	1	
62.	Nail brushes	4	
	Radiation Hazard Signs and Supplies		
63.	Radiation warning tape (roll)	1	
64.	Radiation placards	10	
65.	Radioactive material and radiation hazard signs	10	
66.	Radiation contamination hazard tags	10	
67.	Contamination, high radiation, radioactive material, and radiation area inserts (ea.)	10	
68.	Yellow/magenta ribbon (rolls)	8	
69.	Yellow/magenta rope (roll)	1	

		Required	On Hand
	Communication Equipment and Supplies		
70.	Portable 2-way radio KRQ-717	1	
71.	Telephone, plan PBX-extension with outside line capability	1	
72.	WE telephone book	1	
73.	Two Rivers/Manitowoc telephone book	1	
	Traffic Signs and Equipment		
74.	Traffic cones for barricades	20	
75.	Traffic lights for barricades	8	
76.	Chains and padlocks for barricades	4	
77.	Traffic flashlight	4	
78.	"Closed Area" placards	6	
79.	Traffic warning light batteries (spare)		
	Clothing and Toiletry Supplies		
80.	Coveralls	25	
81.	Rainwear	6	
82.	Rubber boots	10	
83.	Shoe covers, plastic	25	
84.	Overshoes, winter	6	
85.	Gloves, rubber disposable	6	
86.	Gloves, cotton disposable	6	
87.	Mittens, winter	6	
88.	Towels	12	
89.	Washcloths	12	
	Stationery and Miscellaneous Supplies		
90.	Desk table and chair	1	
91.	Writing paper (pad)	1	
92.	Pens and pencils	Assortment	
93.	Tape, masking (rolls)	2	
94.	Tuck tape (rolls)	10	
95.	Logbook	1	
96.	Absorbent paper (roll)	1	
97.	Paper cups (bag)	1	
98.	Plastic bags	50	
99.	Scissors	1	
100.	Pocketknife	1	
101.	Screwdrivers (set)	1	
102.	Plastic funnel	4	
103.	Flashlight	1	
104.	Batteries (for flashlight and survey instruments)	50	
105.	Flashlight bulbs	6	

		Required	On Hand
	Stationery and Miscellaneous Supplies, continued ...		
106.	Bulbs, incandescent	8	
107.	Electric clock	1	
108.	Electric heater	5	
109.	Wet/dry vacuum cleaner	1	
110.	Metal drum (55-gallon)	1	
112.	Lead bricks	12	
113.	Safety solvent (low)	1	
114.	Metal funnels	2	
115.	Pencil sharpener	1	
116.	Chalk	1	
117.	Bulletin Board	1	
118.	Chalkboard	1	
119.	Table (reg.)	1	
120.	Picnic tables	2	
121.	Calculator	1	
	Emergency Plan Documents		
122.	PBNP Emergency Plan	1	
122a.	Emergency Plan Implementing Procedures	1	
123.	Health Physics Administrative Control Policies and Procedures Manual	1	
124.	Dose Isopleth/Map Package	1	
125.	Personnel Roster	10	
126.	Potassium Iodide Approval, Use List	1	
127.	DOE, Region V, Radiological Assistance Handbook	1	
128.	State of Wis. Peacetime Radiological Response Plan	1	
	EPIP Forms		
129.	EPIP-01, Emergency Plan Airborne Radiation Survey	5	
130.	EPIP-02, Emergency Plan Survey Record	5	
131.	EPIP-03, Dose Factor Calculation Sheet	5	
132.	EPIP-04, Status Report on Plant Systems and Controls	5	
133.	EPIP-05, Worksheet for Status Report on RMS for Unit	5	
134.	EPIP-06, Worksheet for Status Report on RMS for Plant	5	
135.	EPIP-07, X/Q Determination	5	
136.	EPIP-08, Estimated Whole Body and Thyroid Projected	5	
137.	EPIP-09, Estimated Whole Body Calculation Worksheet	5	
138.	EPIP-10, Estimated Ground Deposition Calculation	5	
139.	EPIP-17, List of Missing Personnel	5	
141.	Xe-133 Equivalent Release Rate, Worksheet No. 1	5	
141a.	EPIP-36, Master Dose Logsheet	5	

		Required	On Hand
	EPIP Procedures		
142.	EPIP 1.4, Radiological Dose Evaluation	5	
143.	EPIP 1.5, Protective Action Evaluation	5	
144.	EPIP 7.1.1, Chemistry & Health Physics Personnel Notification and Initial Response when Chemistry & Health Physics Personnel are On-Site	5	
145.	EPIP 7.2.1, Activation of Health Physics Facilities at Site Boundary Control Center	5	
146.	EPIP 7.2.2, Activation of Health Physics Facilities at Operations Support Center	5	
147.	EPIP 7.2.3, Activation of Health Physics Facilities at Technical Support Center	5	
	CHP Forms		
148.	CHP-02, Iodine Airborne Survey (pad of 50)	1	
149.	CHP-21, Miscellaneous Survey (pad of 50)	1	
150.	CHP-31, Radiation Work Permit (pad of 50)	1	
151.	CHP-34, Dosimeter Rezero (pad of 50)	1	
152.	CHP-37, Irregular or Offscale Dosimeter Report (pad of 50)	1	
153.	CHP-22, Air Particulate Sample (pad of 50)	1	
154.	CHP-25, Counting Log Sheet (pad of 50)	1	
155.	CHP-33b, Visitors Monitored per 10 CFR 20 (pad of 50)	1	
156.	CHP-33c, Visitor Personnel Monitoring Record (pad of 50)	1	
157.	CHP-35, Dosimeter Summary Sheet (pad of 50)	1	
158.	CHP-38, Lost or Damaged TLD Report (pad of 50)	1	
159.	CHP-39, Personnel Contamination Report (pad of 50)	1	
160.	CHP-40, Visitor TLD Badge Issue Report (pad of 50)	1	
161.	CHP-44, Timekeeping Log - High Radiation Work Location (pad of 50)	1	
162.	CHP-56, Personal Bioassay Evaluation (pad of 50)	1	
163.	CHP-106, Occupational External Radiation Exposure History (pad of 50)	1	
	Emergency Plan Sampling Kits		
164.	Emergency Plan Sampling Kits - Each kit contains the following:	2	
	1. Battery powered air sampler	1	
	2. Scott cartridge holder	1	
	3. Silver Zeolite cartridge holder	1	
	4. Stop watch with batteries	1	
	5. Air Particulate filters (env.)	1	
	6. Silver Zeolite cartridge	5	
	7. Scott charcoal cartridge	5	
	8. PIC-6A survey meter	1	
	9. Water filled gas sample bottle (1 liter)	2	

		Required	On Hand
10.	Liquid sample cubitainers (1 liter)	2	
11.	Scissors	1 pair	
12.	Plastic suit	2 sets	
13.	Gloves (surgeons)	6 pair	
14.	Dosimeters (0 - 5,000 mR)	2	
15.	Dosimeter charger	1	
16.	Plastic Bags		
	12 x 18 inch size	6	
	5 x 8 inch size	6	
	3 x 5 inch size	12	
17.	Flashlight with spare bulb and batteries	1	
18.	Smears (100 each/box)	2	
19.	Tuck Tape (roll)	1	
20.	Sharpie, Flair pen, grease pencil and pencil	4	
21.	Sample ID tags (pad)	1	
22.	Sampling Procedures		
	EPIP 7.3.1 Airborne Sampling and Direct Dose Rate Survey Guidelines	5 ea	
	EPIP 7.3.1 Atmospheric Radioactive Iodine Sample Attachment Collection and Counting	5 ea	
23.	Sampling Forms		
	EPIP-01 Airborne Radiation Survey Record	5 ea	
	EPIP-02 Emergency Plan Survey Record	5 ea	
	Sample Identification Survey Map	5 ea	
	2 and 5 Mile Sample Identification Survey Map	5 ea	
24.	CHP-34 Rezero Sheet	5 ea	

By _____ Date _____

Reviewed By _____ Date _____
(Health Physics Supervisor)

POINT BEACH NUCLEAR PLANT

TSC (OSC), ESC & SOUTH GATE
EMERGENCY PLAN INVENTORY CHECKLIST

Date _____

TECHNICAL SUPPORT CENTER & OPERATIONS SUPPORT CENTER

Item No.	Item	Suggested Inventory	Inv. Check
	Air Sampling Equipment		
1.	Low volume air sampler	1	____
2.	High volume air sampler	2	____
3.	AMS-2 cart mounted air sampler	1	____
4.	Particulate filters, low volume, box	1	____
5.	Charcoal filters, low volume, box	1	____
6.	Particulate filters, high volume, box	1	____
7.	Charcoal filters, high volume, box	1	____
8.	Silver zeolite filters	15	____
9.	Plastic bottles, 1 liter	12	____
10.	50' extension cord	2	____
	Dosimetry Equipment		
11.	Dosimeters (0-5,000 mR)	40	____
12.	Dosimeters (0-200 R)	6	____
13.	Dosimeter charger	2	____
14.	Batteries, Size AA, pkg.	1	____
	Survey & Monitoring Equipment		
15.	Victoreen Vamp	1	____
16.	Rad Owl II	1	____
17.	Thyac III - side window probe	1	____
18.	Batteries, Size D	24	____
19.	Batteries, Size 9 volt	6	____
20.	Smear filters, box	20	____
21.	Smear envelopes, box	2	____
21a.	¼" lead detector shield (teletector)	1	____
	Signs		
22.	Three-pocket placards	24	____
23.	"Radiation Area" inserts	24	____
24.	"High Radiation Area" inserts	24	____
25.	"RWP Required" inserts	24	____
26.	"Airborne Area" inserts	24	____
27.	"Contaminated Area" inserts	24	____
28.	"Radioactive Materials" inserts	24	____

Item No.	Item	Suggested Inventory	Inv. Check
	Respiratory Protection Equipment		
29.	Clear-Vue respirator	6	____
30.	Ultra-Vue respirator	6	____
31.	Filter cartridges, box	1	____
32.	Smoke test kit	1	____
33.	Bio-Pak 60	7	____
	CHP Forms		
34.	CHP-02, Iodine Airborne Survey, pad	1	____
35.	CHP-21, Miscellaneous Surveys, pad	1	____
36.	CHP-31, Radiation Work Permit, pad	1	____
37.	CHP-34, Dosimeter Rezero, pad	1	____
38.	CHP-37, Irregular or Offscale Dosimeter Report, pad	1	____
39.	CHP-22, Air Particulate Sample, pad	1	____
	EPIP Forms		
40.	EPIP-01, Emergency Plan Airborne Radiation Survey	10	____
41.	EPIP-02, Emergency Plan Survey Record	10	____
42.	EPIP-03, Dose Factor Calculation Sheet	10	____
43.	EPIP-04, Status Report on Plant Systems & Controls	5	____
44.	EPIP-05, Work Sheet for Status Report on RMS for Unit	5	____
45.	EPIP-06, Work Sheet for Status Report on RMS for Plant	5	____
46.	EPIP-07, X/Q Determination	5	____
47.	EPIP-08, Estimated Whole Body & Thyroid Projected	5	____
48.	EPIP-09, Estimated Whole Body Calculation Work Sheet	5	____
49.	EPIP-10, Estimated Ground Deposition Calculation	5	____
50.	EPIP-17, List of Missing Personnel	5	____
52.	Xe-133 Equivalent Release Rate, Worksheet No. 1	5	____
52a.	EPIP-36, Personnel Exposure Logsheet	20	____
	EPIP Procedures		
53.	EPIP 1.4, Radiological Dose Evaluation	5	____
54.	EPIP 1.5, Protective Action Evaluation	5	____
55.	EPIP 7.1.1, Chemistry & Health Physics Personnel Notification & Initial Response When Chemistry & Health Physics Personnel are On-Site	5	____

Item No.	Item	Suggested Inventory	Inv. Check
	EPIP Procedures, continued ...		
56.	EPIP 7.2.1, Activation of Health Physics Facilities at Site Boundary Control Center	5	____
57.	EPIP 7.2.2, Activation of Health Physics Facilities at Technical Support Center/ Operations Support Center	5	____
	Miscellaneous		
59.	Barricade tape, yellow/magenta, rolls	5	____
60.	Tuck tape, rolls	2	____
61.	Hot spot tags	50	____
62.	Radiation material hazard tags	50	____
63.	Radioactive material contamination tags	50	____
64.	Yellow/magenta tape, rolls	6	____
65.	Yellow/black warning tape, roll	5	____
66.	Plastic bags, 3 x 5	50	____
67.	Plastic bags, 5 x 7	50	____
68.	Potassium iodine use (personnel list)	1	____
	Protective Clothing		
74.	Coveralls	20 pr	____
75.	Cotton gloves	20 pr	____
76.	Rubber gloves	20 pr	____
77.	Pallbearer gloves	20 pr	____
78.	Cloth hoods	20	____
79.	Canvas booties	20 pr	____
80.	Plastic suits	20 sets	____
81.	Shoecovers, white plastic	1 cs	____
82.	PBNP Emergency Plan	1	____
83.	Emergency Plan Implementing Procedures	1	____
84.	PBNP HP Administrative Policies & Procedures Manual	1	____
85.	Air sample number assignment list	1	____
86.	Bio-Pak 60 manual	1	____
87.	Log book	1	____
88.	CS-137 Check Source	1	____
	EMERGENCY SUPPORT CENTER		
1.	Coveralls, cotton	12 pr	____
2.	Gloves, cotton	12 pr	____
3.	Hoods, cloth	12	____
4.	Low volume air sampler	1	____
5.	Filters, charcoal	6	____
6.	Filters, air particulate	1 box	____

Item No.	Item	Suggested Inventory	Inv. Check
	Emergency Support Center, continued ...		
7.	Rad Owl II survey instrument	1	____
8.	Cs-137 check source	1	____
9.	Dosimeters, high range (0-5,000 mR)	12	____
10.	Dosimeter rezero unit	1	____
11.	Shoecovers, white plastic	50 pr	____
12.	Victoreen Vamp	1	____
13.	Respirators, clear-vue	6	____
14.	Respirators, ultra-vue	6	____
15.	Filters, respirator particulate	1 box	____
16.	PBNP Emergency Plan	1	____
17.	Emergency Plan Implementing Procedures	1	____
SOUTH GATE			
	Air Sampling		
69.	Low volume air sampler	1	____
70.	Particulate filters, box	1	____
71.	Charcoal filters, box	1	____
	Radiation Survey & Monitoring Instruments		
72.	Vamp area monitor	1	____
73.	Extension cord, 50'	1	____

By _____ Date _____

Reviewed By _____ Date _____
(Health Physics Supervisor)

POINT BEACH NUCLEAR PLANT

EMERGENCY PLAN FIRST AID KIT INVENTORY CHECKLIST

Month _____

	Units	Control Room (2 Kits)		Site Boundary (2 Kits)		First Aid Room	South Gatehouse	Switchyard	Pickup 712	Stake Truck	Emer. Veh. Carryall No. _____	Carryall Truck No. _____	Checkpoint "Charlie"		Turbine Building El. 8'	Turbine Building El. 66'	Technical Support Center	Unit 1 Facade El. 66'	Unit 2 Facade El. 66'	Unit 1 Facade El. 26'	Unit 2 Facade El. 26'
4" Compress Bandage	1																				
2" Compress Bandage	1																				
24" x 2 yds. Gauze Bandage	1																				
36" x 1 yd. Gauze Bandage	1																				
Plastic Bandaids	2																				
Adhesive Coverlets	1																				
Adhesive Tape	1																				
No. 5 Eye Dressing Packet	1																				
4" x 6 yds. Gauze Bandage	1																				
Tourniquet and Forceps	1																				
Foille Ointment	1																				
Merthiolate Swabs	1																				
Ammonia Inhalants	1																				
Wound Cleanup Kit	1																				
40" Triangular Bandage	1																				

_____ Completed By

_____ Reviewed By

EPIP-24f
(09-82)

POINT BEACH NUCLEAR [illegible]NT

EMERGENCY PLAN BURN KIT INVENTORY

Month Day Year

Item	First Aid Room (Extension Building)	Control Room	Emergency Vehicle	Site Boundary	Switchyard	Checkpoint "Charlie"	Turbine Building El. 8'	Turbine Building El. 66'	Unit 1 Facade El. 66'	Unit 2 Facade El. 66'	Technical Support Center	Unit 1 Facade El. 26'	Unit 2 Facade El. 26'
Muslin Sheets													
Triangular Bandage, 40"													
Gauze Compress 24" x 72"													
Eye Dressing Packet													
Bandage Scissors													
Safety Pins													
Adhesive Tape, Rolls													

COMPLETED BY _____

EPIP-24g
(09-82)

POINT BEACH NUCLEAR PLANT

EMERGENCY PLAN FIRST AID ROOM INVENTORY

Section 1: The following items are required in support of the Point Beach Nuclear Plant Emergency Plan.

No.	Item Description	Required Quantity	Inventory (Available)
1	First Aid Kit - Power Plant	1	
2	First Aid Kit - Burn	1	
3	Thyac III Survey Instrument (or equivalent)	1	
4	Oxygen Ventilator (Resuscitator)	1*	
5	Spare Oxygen Cylinders	2	
6	Wooden Splints (22", 42", 67")	2 each length	

*NOTE: This unit is maintained at the entrance to the controlled zone, "Checkpoint Charlie".

Section 2: The following items are not Emergency Plan required, but are recommended.

No.	Item Description	Reorder Limit	Available
1.	Bandage, compress 4"	15	
2.	Bandage, compress 2"	15	
3.	Bandage, gauze 24" x 2 yds.	15	
4.	Bandage, gauze 36" x 1 yd.	15	
5.	Bandaids, 1" plastic	30	
6.	Bandage, adhesive coverlets	15	
7.	Bandage, 4 eye dressing	15	
8.	Bandage, gauze 4" x 6 yds.	15	
9.	Bandage, tournique and forceps	15	
10.	Scissors	5	
11.	Ointment, foille	15	
12.	Merthiolate swabs	15	
13.	Inhalents, ammonia	15	
14.	Wound cleanup kit	15	
15.	Bandage, triangular	15	
16.	Muslin sheets	5	
17.	Bandage, adhesive tape	5	
18.	Cream, poison ivy	3	
19.	Butterfly closures	--	
20.	Cotton balls	--	
21.	Gauze pads, 2" x 2"	--	
22.	Gauze pads, 4" x 4"	--	
23.	Telfa pads	--	
24.	Safety pins	--	
25.	Tubular gauze	--	
26.	Finger splints	10	
27.	Wire splint	--	
28.	Q-tips	--	

No.	Item Description	Reorder Limit	Available
29.	Eye cups	4	_____
30.	Thermometer, oral	--	_____
31.	Splinter forceps	--	_____
32.	Needles	--	_____
33.	Antiseptic solutions	--	_____
34.	Aspirin tablets	--	_____
35.	Coricidin tablets	--	_____
36.	Forms: 1020	100	_____
	1022	100	_____
	1032	100	_____
	1033	100	_____
	Attending Physician's Report	25	_____
	Notice of Illness/Injury Report	25	_____
37.	Inflatable splints: Arm	--	_____
	Half-leg	--	_____
38.	Kling bandage, 4"	4	_____
39.	Kling bandage, 6"	2	_____
40.	Cold pack	2	_____

Inventory By _____ Date _____

Reviewed By _____ Date _____
Health Physicist

POINT BEACH NUCLEAR PLANT

EMERGENCY PLAN STRETCHER INVENTORY

Location	Item	Inventory (Available)*	Comments
Turbine Bldg., South of Control Room	Stokes (Basket) Stretcher	_____	_____
Turbine Bldg., Unit 1, El. 8' Truck Access	Stokes (Basket) Stretcher	_____	_____
Unit 1 Facade, El. 66'	Stokes (Basket) Stretcher	_____	_____
Unit 2 Facade, El. 66'	Stokes (Basket) Stretcher	_____	_____
"Checkpoint Charlie"	Scoop Stretcher	_____	_____
Unit 1 Facade, El. 26'	Stokes (Basket) Stretcher	_____	_____
Unit 2 Facade, El. 26'	Stokes (Basket) Stretcher	_____	_____
Technical Support Center	Stokes (Basket) Stretcher	_____	_____

*Inventory shall include check of blankets, pillows, patient securing straps, lifting straps.

Inventory By _____ Date _____

Reviewed By _____ Date _____

EPIP-24i
(09-82)

POINT BEACH NUCLEAR PLANT

EMERGENCY TRAUMA KIT INVENTORY CHECKLIST

MONTH _____

	Units	Control Room	Check-point "Charlie"	Technical Support Center
4" Compress Bandage	6			
2" Compress Bandage	4			
24" x 2 yd. Gauze Compress	4			
Triangular Bandage	2			
Eye Dressing Package	2			
Tourniquet	2			
Adhesive Tape	1			
Bandage Scissors	1			
4" Kling Bandage	4			
6" Kling Bandage	2			
Cold Pack	1			
Wire Ladder Splint	2			
Inflatable Splint, Arm	1			
Inflatable Splint, Half-Leg	1			

Completed By _____ Date _____

Reviewed By _____ Date _____

POINT BEACH NUCLEAR PLANT

QUARTERLY EMERGENCY PLAN CHECKLIST

DATE _____

Reference: EPIP 7.4.1 - Routine Check, Maintenance, Calibration and Inventory of Schedule of Health Physics Emergency Plan Equipment

EPIP 7.4.2 - Emergency Plan Equipment Routine Checks, Maintenance and Calibration Instructions

SITE BOUNDARY CONTROL CENTER

RESPIRATORY EQUIPMENT

Item No.	Type	Serial No.	Inspection
1.	Full-face	_____	_____
2.	Full-face	_____	_____
3.	Half-face	_____	_____
4.	Half-face	_____	_____

COMMUNICATIONS

Portable Radio KRQ-717 — Functional check with control room _____

WARNING LIGHTS, TRAFFIC

Traffic Warning Lights — All traffic warning lights functioning _____

AC GENERATOR (Gasoline Powered)

Functional Test _____

DRY CELL BATTERY REPLACEMENT

NOTE: If Alkaline batteries are used, battery changeout is required annually rather than quarterly. If carbon or mercury batteries are used, a quarterly 5-minute test shall be completed to verify operability.

Item No.	Type of Equipment	Battery Type	Quantity	Changed/ Tested	Date Due
1.	Traffic Warning Light				
2.	Survey/Frisker Instruments				
3.	Flashlights				
4.	Portable Radio				
5.	Dosimeter Charger				

CONTROL ROOM

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment	Serial Number	Inspection	Functional Test
1.	Bio-Pak			
2.	Bio-Pak			
3.	MSA-SCBA			
4.	MSA-SCBA			
5.	Supplied Air Mask			
6.	Supplied Air Mask			
7.	Supplied Air Mask			
8.	Supplied Air Mask			
9.	Supplied Air Mask			
10.	Supplied Air Mask			
11.	Supplied Air Mask Hose			
12.	Supplied Air Mask Hose			
13.	Supplied Air Mask Hose			
14.	Supplied Air Mask Hose			
15.	Supplied Air Mask Hose			
16.	Supplied Air Mask Hose			
17.	Supplied Air Valve			
18.	Supplied Air Valve			
19.	Supplied Air Valve			
20.	Supplied Air Valve			
21.	Supplied Air Valve			
22.	Supplied Air Valve			

Control Room Respiratory Equipment, continued ...

Item No.	Type of Equipment	Serial Number	Inspection
23.	Supplied Air Hose	_____	_____
24.	Supplied Air Hose	_____	_____
25.	Supplied Air Hose	_____	_____
26.	Supplied Air Hose	_____	_____
27.	Supplied Air Hose	_____	_____
28.	Supplied Air Hose	_____	_____
29.	Spare Mask	_____	_____
30.	Spare Mask	_____	_____
31.	Spare Mask	_____	_____
32.	Spare Mask	_____	_____
33.	Bio-Pak	_____	_____
34.	Bio-Pak	_____	_____
35.	Bio-Pak	_____	_____
36.	Bio-Pak	_____	_____

TECHNICAL SUPPORT CENTER/OPERATIONS SUPPORT CENTER

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment	Serial Number	Inspection	Serial Number	Inspection
1.	Clear-Vue	1. _____	_____	4. _____	_____
		2. _____	_____	5. _____	_____
		3. _____	_____	6. _____	_____
2.	Ultra-Vue	1. _____	_____	4. _____	_____
		2. _____	_____	5. _____	_____
		3. _____	_____	6. _____	_____
3.	Bio-Pak	1. _____	_____	6. _____	_____
		2. _____	_____	7. _____	_____
		3. _____	_____	8. _____	_____
		4. _____	_____	9. _____	_____
		5. _____	_____	10. _____	_____

COMMUNICATIONS

Portable Radio KRQ-717 (1 unit) — Functional Test with Control Room _____

GATEHOUSE

COMMUNICATIONS

Portable Radio KRQ-717 (1 unit) — Functional Test with Control Room _____

EMERGENCY SUPPORT CENTER

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment	Serial Number	Inspection	Serial Number	Inspection
1.	Clear-Vue	1. _____	_____	4. _____	_____
		2. _____	_____	5. _____	_____
		3. _____	_____	6. _____	_____
2.	Ultra-Vue	1. _____	_____	4. _____	_____
		2. _____	_____	5. _____	_____
		3. _____	_____	6. _____	_____

REMARKS: _____

_____

_____

_____

_____

NOTE: Include maintenance request numbers for all items requiring repairs.

Inventory By _____ Date _____

Reviewed By _____ Date _____

POINT BEACH NUCLEAR PLANT

SEMI-ANNUAL AND ANNUAL EMERGENCY PLAN CHECKLIST

DATE _____

Reference: EPIP 7.4.1 - Routine check, Maintenance, Calibration and Inventory of Schedule of Health Physics Emergency Plan Equipment

EPIP 7.4.2 - Emergency Plan Equipment Routine Checks, Maintenance and Calibration Instructions

SITE BOUNDARY CONTROL CENTER

AIR SAMPLERS

Item No.	Type	Preventive Maintenance	Flow Rate Calibration
1.	High Volume (115 V AC)	_____	_____
2.	DC Battery Powered	_____	_____

DOSIMETERS

Pocket Dosimeters — Drift/Response Checked

Date Last Completed _____

Date Due _____

TLD's

TLD's Changed* — Date Changed _____

Date Due _____

*Includes TLD's from emergency vehicle.

MISCELLANEOUS

Item No.			
1.	Potable Water (20 gal.)	a. Date Changed	_____
		b. Date Due	_____
2.	Gasoline	a. Date Changed	_____
		b. Date Due	_____
3.	Fire Extinguisher	Serial Number	_____
		Date Last Inspected	_____
4.	AgZ Filters	Moisture Indicator Checked	_____
5.	AC Generator	Periodic Maintenance	_____

TECHNICAL SUPPORT CENTER/OPERATIONS SUPPORT CENTER

AIR SAMPLERS

Item No.		Preventive Maintenance	Flow Rate Calibration
1.	High Volume (115 V AC)	_____	_____
2.	Low Volume (115 V AC)	_____	_____
3.	AMS-2 Cart Mounted	_____	_____

DOSIMETERS

Pocket Dosimeters	Drift/Response Checked	
	Date Last Completed	_____
	Date Due	_____

MISCELLANEOUS

1.	AgZ Filters	Moisture Indicator Checked	_____

RESPIRATORY EQUIPMENT

Item No.		Serial Number	Functional Test	Periodic Maintenance
1.	Bio-Pak			

EMERGENCY SUPPORT CENTER

AIR SAMPLERS

Item No.	Type	Preventive Maintenance	Flow Rate Calibration
1.	Low Volume (115 V AC)		

DOSIMETERS

Pocket Dosimeters

Drift/Response Checked

Date Last Completed _____

Date Due _____

MISCELLANEOUS

1. AgZ Filters — Moisture Indicator Checked _____

SOUTH GATE

AIR SAMPLERS

Item No.	Equipment	Preventive Maintenance	Flow Rate Calibration
1.	Low Volume		

CONTROL ROOM

DOSIMETERS

Pocket Dosimeters — Drift/Response Checked

Date Last Completed _____

Date Due _____

RESPIRATORY EQUIPMENT

Item No.	Type of Equipment	Serial Number	Inspection	Functional Test	Periodic Maintenance
1.	Bio-Pak				
2.	Bio-Pak				
3.	MSA SCBA				N/A
4.	MSA SCBA				N/A
5.	Supplied Air	/			N/A
	(Comp. Unit)	/			N/A
6.	Supplied Air	/			N/A
	(Comp. Unit)	/			N/A
7.	Supplied Air	/			N/A
	(Comp. Unit)	/			N/A
8.	Supplied Air	/			N/A
	(Comp. Unit)	/			N/A
9.	Supplied Air	/			N/A
	(Comp. Unit)	/			N/A
10.	Supplied Air	/			N/A
	(Comp. Unit)	/			N/A

TWO RIVERS COMMUNITY HOSPITAL

DOSIMETERS

Pocket Dosimeters — Drift/Response Checked

Date Last Completed _____

Date Due _____

REMARKS: _____

_____

_____

_____

_____

Checked By _____ Date _____

Reviewed By _____ Date _____
Health Physics Supervisor

POINT BEACH NUCLEAR PLANT

ESTIMATE OF CORE DAMAGE WORKSHEET

This form should be completed by the Core Coordinator or his designate. The form should be completed as required.

1. Sample Bomb Contact Reading (R/Hr) _____

   Time of Reading _____

2. Contact Reading - Reactor Shutdown = Time Since Shutdown (Hr)

   _____ (24 hours) - _____ (24 hours) = _____

3. Estimated Sample Activity (ESA):

   ESA (Ci/m) = Sample Bomb Contact Reading (R/Hr) x Conversion Factor (1) (Ci/ml / R/hr)

   _____ x _____ = _____

   (1) Attachment 1.7-1

4. Estimate of Core Damage

   $$\text{Percent Core Damage (\%)} = \frac{\text{ESA} \times (32{,}000 + \text{ESIV}^{(2)})}{\text{Correction Factor [CF(t)]}^{(2)}}$$

   $$= \left(\frac{\quad}{\text{ESA}} \times \frac{\quad}{32{,}000 + \text{ESIV}} \right) \div \frac{\quad}{\text{CF(t)}}$$

   = _____

   (2) Attachment 1.7-2

CALCULATIONS PERFORMED BY: _____

TIME/DATE: _____ SIGNATURE: _____

REVIEWED BY: _____

Route this form to the Technical Support Manager and Site Manager upon completion.

POINT BEACH NUCLEAR PLANT

CALCULATION OF Xe-133 EQUIVALENT RELEASE RATES

Responsibility - Shift Supervisor or designee.
Frequency - During classification only.

1.0 LOW RANGE OPERATIONAL VENT STACK READINGS

	Flow Rate (CFM)	Meter Reading (CPM)		Conversion Factor $\frac{\text{Curies}}{\text{sec-cpm}}$		Release Rate (Curies/sec)
Auxiliary Building	61400	_____	X	5.8×10^{-9}	=	_____
Drumming Area	43100	_____	X	1.2×10^{-8}	=	_____
Unit 1 Containment Purge	12500	_____	X	2.1×10^{-6}	=	_____
	25000	_____	X	4.2×10^{-6}	=	_____
Unit 2 Containment Purge	12500	_____	X	2.1×10^{-6}	=	_____
	25000	_____	X	4.2×10^{-6}	=	_____
Gas Stripper Building	13000	_____	X		=	_____
Combined Air Ejector	25	_____	X	7.8×10^{-9}	=	_____

2.0 EBERLINE RMS-11 VENT STACK READOUTS

	Flow Rate (CFM)	Meter Reading (R/hr)		Conversion Factor $\frac{\text{Curies - Hrs}}{\text{sec-R}}$		Release Rate (Curies/sec)
Auxiliary Building	61400	_____	X	3.0×10^{3}	=	_____
Drumming Area	43100	_____	X	2.2×10^{3}	=	_____
Unit 1 Containment Purge	12500	_____	X	1.6×10^{4}	=	_____
	25000	_____	X	3.2×10^{4}	=	_____
Unit 2 Containment Purge	12500	_____	X	1.6×10^{4}	=	_____
	25000	_____	X	3.2×10^{4}	=	_____
Gas Stripper Building	13000	_____	X	6.2×10^{2}	=	_____
Combined Air Ejector	25	_____	X	3.6	=	_____

3.0 PLANT EFFLUENT VENT STACK CONTACT READINGS

	Flow Rate (CFM)	Meter Reading (R/hr)		Conversion Factor $\frac{\text{Curies-hr}}{\text{sec-R}}$		Release Rate (Curies/sec)
Auxiliary Building	61400	_____	X	3.0×10^{2}	=	_____
Drumming Area	43100	_____	X	2.3×10^{2}	=	_____
Unit 1 Containment	12500	_____	X	8.0×10^{1}	=	_____
	25000	_____	X	1.6×10^{2}	=	_____
Unit 2 Containment	12500	_____	X	8.0×10^{1}	=	_____
	25000	_____	X	1.6×10^{2}	=	_____
Gas Stripper Building	13000	_____	X	8.0×10^{4}	=	_____
Combined Air Ejector	25	_____	X	1.6×10^{2}	=	_____

	Estimated Steam Release (lb/hr)	X	Specific Volume (ft^3/lbm)	X	Conversion Factor $\frac{\text{hr-cm}^3}{\text{sec-ft}^3}$	X	Meter Reading (R/hr)	X	Conversion Factor $\frac{\text{Curies-hr}}{\text{cm}^3\text{-R}}$	=	Release Rate Ci/sec
Main Steam Header	_____	X	_____	X	7.86	X	_____	X	8.0×10^{-1}	=	_____

Assume 1000 psia steam which will give a conservative specific volume. At 1000 psia specific volume = .446 ft^3/lbm. Steam generator safety valve rating is 8.33×10^{5} lb/hr. Atmospheric relief valve capacity is 3.3×10^{4} lb/hr with both valves open.

4.0 ESTIMATE OF GROSS Xe-133 EQUIVALENT RELEASE RATES

Vent	Xe-133 Equivalent Release Rate (Curies/sec)
Auxiliary Building	
Drumming Area	
Unit 1 Containment Purge	
Unit 2 Containment Purge	
Gas Stripper Building	
Combined Air Ejector Decay Duct	
Main Steam Header	
TOTAL	

Completed By _____ Date _____ Time _____

DOSE CALCULATIONS

Responsibility - Shift Supervisor or designee.
Frequency - During classification only.

1.0 ESTIMATION OF SITE BOUNDARY WHOLE BODY DOSES RATES

X/Q (sec/m^3)	X	Release Rate (Ci/sec)	X	Dose Conversion Factor $\frac{(REMS\text{-}m^3)}{Ci\text{-}hr}$	=	Whole Body Dose Rate (REMS/hr)
2.6×10^{-4}	X	_____	X	26.9	=	_____

2.0 ESTIMATION OF SITE BOUNDARY THYROID DOSES RATES

	Type of Accident	Conversion Factor		Whole Body Dose Rate (R/hr)		Thyroid Dose Rate (Rem/hr)
1.	Loss of Coolant (LOCA)	5.02×10^2	X	_____	=	_____
2.	Gap Activity Accident	4.84	X	_____	=	_____
3.	Fuel Handling Accident	4.84	X	_____	=	_____
4.	Steam Generator Accident	6.25	X	_____	=	_____

3.0 PROTECTIVE ACTION DOSE DETERMINATION NOTE: USE ONLY IF TIME IS LIMITED.

Whole Body Dose Rate		Release Duration Estimate*		Whole Body Dose
_____	X	_____	=	_____
Thyroid Dose Rate	X	Release Duration Estimate*	=	Thyroid Dose
_____	X	_____	=	_____

*If release duration is unknown, use 8 hours.

Completed By _____ Date _____ Time _____

MEDICAL ASSISTANCE CALL LIST

PBNP Personnel	Plant Ext.	Home
J. J. Zach, Manager - Point Beach Nuclear Plant		
P. J. Skramstad, Superintendent - Chemistry & Health Physics		
R. S. Bredvad, Health Physicist		
M. L. Braun, Industrial Safety Coordinator		
Health Physics Duty & Call "Beeper"		
Chemistry Duty & Call "Beeper"		

Hospital Assistance

Emergency Vehicle, Two Rivers Fire Department

Community Hospital, Two Rivers

Doctors' Clinic, Ltd., Two Rivers

University Hospital, Madison; Emergency Room
F. C. Larson, M.D.
R. F. Schilling, M.D.
R. R. Radtke, Ph. D.
(Health Physicist)

WEPCO

Medical Department

Dr. E. Huston, Medical Director

Accident Prevention Department

State of Wisconsin

Department of Industry, Labor and Human Relations,
Safety and Buildings Division, Boiler Section