ENTERGY NUCLEAR NORTHEAST
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
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LYCOMING, NY 13093
DOCUMENT TRANSMITTAL AND RECEIPT ACKNOWLEDGEMENT FORM

DATE: June 3, 2002
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FROM: CATHY IZYK - EMERGENCY PLANNING DEPARTMENT

SUBJECT: EMERGENCY PLAN AND IMPLEMENTING PROCEDURES

Enclosed are revisions to your assigned copy of the JAFNPP Emergency Plan and Implementing Procedures. Please remove and **DISCARD** the old pages. Insert the attached, initial and date this routing sheet and return the completed routing sheet to ***Cathy Izyk in the Emergency Planning Department within 15 days.*** If this transmittal is not returned within 15 days, your name will be removed from the controlled list.

VOLUME 1 Update List Dated N/A			
DOCUMENT	PAGES	REV. #	INITIALS/DATE
	N/A		

VOLUME 2 Update List Dated June 3, 2002			
DOCUMENT	PAGES	REV. #	INITIALS/DATE
EAP-4.1	REPLACE ALL	14	
EAP-5.3	REPLACE ALL & PLACE STICKER PROVIDED ON PULL OUT MAP **(PAGE 30)**	8	
EAP-6	REPLACE ALL	16	
EAP-13	REPLACE ALL	14	
EAP-15	REPLACE ALL	11	

VOLUME 3 Update List Dated June 3, 2002			
DOCUMENT	PAGES	REV. #	INITIALS/DATE
EAP-27	REPLACE ALL	10	
SAP-16	REPLACE ALL	4	

A045

EMERGENCY PLAN IMPLEMENTING PROCEDURES/VOLUME 2
UPDATE LIST

CONTROLLED COPY # 34

Date of Issue: June 3, 2002

Procedure Number	Procedure Title	Revision Number	Date of Last Review	Use of Procedure
N/A	TABLE OF CONTENTS	REV. 19	02/98	N/A
IAP-1	EMERGENCY PLAN IMPLEMENTATION CHECKLIST	REV. 25	09/01	Continuous
IAP-2	CLASSIFICATION OF EMERGENCY CONDITIONS	REV. 22	04/02	Continuous
EAP-1.1	OFFSITE NOTIFICATIONS	REV. 45	09/01	Informational
EAP-2	PERSONNEL INJURY	REV. 24	01/01	Informational
EAP-3	FIRE	REV. 22	10/01	Informational
EAP-4	DOSE ASSESSMENT CALCULATIONS	REV. 30	04/02	Reference
EAP-4.1	RELEASE RATE DETERMINATION	REV. 14	06/02	Reference
EAP-5.1	DELETED (02/94)			
EAP-5.2	DELETED (04/91)			
EAP-5.3	ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING	REV. 8	06/02	Informational
EAP-6	IN-PLANT EMERGENCY SURVEY/ENTRY	REV. 16	06/02	Informational
EAP-7.1	DELETED (02/94)			
EAP-7.2	DELETED (02/94)			
EAP-8	PERSONNEL ACCOUNTABILITY	REV. 55	02/02	Reference
EAP-9	SEARCH AND RESCUE OPERATIONS	REV. 9	02/98	Informational
EAP-10	PROTECTED AREA EVACUATION	REV. 15	02/02	Informational
EAP-11	SITE EVACUATION	REV. 17	02/02	Informational
EAP-12	DOSE ESTIMATED FROM AN ACCIDENTAL RELEASE OF RADIOACTIVE MATERIAL TO LAKE ONTARIO	REV. 11	04/02	Reference
EAP-13	DAMAGE CONTROL	REV. 14	06/02	Informational
EAP-14.1	TECHNICAL SUPPORT CENTER ACTIVATION	REV. 22	04/02	Informational
EAP-14.2	EMERGENCY OPERATIONS FACILITY ACTIVATION	REV. 20	04/02	Informational
EAP-14.5	OPERATIONAL SUPPORT CENTER ACTIVATION AND OPERATION	REV. 14	03/00	Informational

EMERGENCY PLAN IMPLEMENTING PROCEDURES/VOLUME 2
UPDATE LIST

Date of Issue: June 3, 2002

Procedure Number	Procedure Title	Revision Number	Date of Last Review	Use of Procedure
EAP-14.6	HABITABILITY OF THE EMERGENCY FACILITIES	REV. 14	10/98	Informational
EAP-15	EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL	REV. 11	06/02	Informational
EAP-16	PUBLIC INFORMATION PROCEDURE	REV. 6	02/98	Informational
EAP-16.2	JOINT NEWS CENTER OPERATION	REV. 0	02/02	Informational
EAP-17	EMERGENCY ORGANIZATION STAFFING	REV. 99	02/02	Informational
EAP-18	DELETED (12/93)			
EAP-19	EMERGENCY USE OF POTASSIUM IODINE (KI)	REV. 21	04/01	Informational
EAP-20	POST ACCIDENT SAMPLE, OFFSITE SHIPMENT AND ANALYSIS	REV. 8	02/98	Reference
EAP-21	DELETED (12/85)			
EAP-22	DELETED (02/98)			
EAP-23	EMERGENCY ACCESS CONTROL	REV. 10	02/98	Informational
EAP-24	EOF VEHICLE AND PERSONNEL DECONTAMINATION	REV. 8	02/98	Informational
EAP-25	DELETED (02/94)			

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

RELEASE RATE DETERMINATION
EAP-4.1
REVISION 14

REVIEWED BY: PLANT OPERATING REVIEW COMMITTEE

MEETING NO. N/A DATE: N/A

APPROVED BY: _____ DATE: 5/23/02
RESPONSIBLE PROCEDURE OWNER

EFFECTIVE DATE: June 3, 2002

FIRST ISSUE ☐ FULL REVISION ☒ LIMITED REVISION ☐

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PERIODIC REVIEW DATE: June 2007

REVISION SUMMARY SHEET

REV. NO.

14
- Added wording to note in attachment 3
- Made editorial corrections from (Hr) to (hr), (MI/HR) to (MPH) and bolded THEN's
- Changed reference from page 8 to page 7 on attachment 2.

13
- Changes are made due to Improved Technician Specification (ITS) program.
- On Attachment 1, page one added words "([CTS] Technical Specifications, Appendix B, Section 3.2.a.1 [ITS] 5.5.4)"

12
- On Attachment 11, page 1 of 2 and 2 of 2, changed Noble Gas Vent release to 1432 and changed Noble Gas Stack release to 333. On page 24, added step 3 to show determination for obtaining setpoint release rates that are described in the ODCM.

11
- Removed the GM - Support Services approval line from the cover sheet per AP-02.04.
- On attachment 1, changed Stack count from "cpm" to cps.
- On attachment 3, added note pertaining to containment leak rate and dose rates at site boundary.
- Corrected the Reactor Building default K factor in step 4.1.1.D and attachment 1.
- Added brackets on Stack Release charts on pages 6, 8, and 17.
- Section 4.1.1.D, changed wording to use existing K Factor data unless an updated one is available based upon recent Chemistry sample data.

TABLE OF CONTENTS

1.0 PURPOSE

This procedure provides instructions for manually estimating release rates in the event of an accidental release of radioactivity to the environment.

2.0 REFERENCES

2.1 Performance References

None

2.2 Developmental References

2.2.1 EAP-5.3, ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING

2.2.2 EAP-42, OBTAINING METEOROLOGICAL DATA

2.2.3 NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

2.2.4 JAF FSAR Chapter 14

2.2.5 EAP-4, DOSE ASSESSMENT CALCULATIONS

2.2.6 High Range Containment Monitor Response to Post Accident Fission Product Releases - James A. FitzPatrick Nuclear Power Plant, SL-4370, Sergeant Lundy, May 1985

3.0 INITIATING EVENTS

3.1 An emergency classification has been declared as defined in IAP-2, and

3.2 A release of radioactivity exceeding technical specifications is suspected or underway.

4.0 PROCEDURE

4.1 Release Rate Determination

NOTE: Use Attachment 11 to calculate the percent of Tech. Spec. in order to determine if the Tech. Spec. release rate has been exceeded and for completion of the NRC Event Notification Worksheet, EAP-1.1, Attachment 6.

4.1.1 Low Range Effluent Monitor calculation

A. Record date, time and name of individual performing calculations in upper right-hand corner of Attachment 1.

B. Record observed gross count rate with appropriate units for the Reactor Building (RxB), Refuel Floor (RF), Radwaste (RW), Turbine Building (TB) and/or Stack. This data may be obtained from the EPIC computer. **IF** computer points are unavailable, Control Room **AND/OR** local monitors can be used for this data.

NOTE: For stack releases, it is important to determine whether any dilution fan is operating.

C. For **Building Vent Releases**, multiply the gross count rate (cpm) by the default K factor listed in table on following page, until update K factors are available based on recent chemistry sample data.

D. For **Stack Releases**, multiply the gross count rate (cps) by the default K factor listed below, unless an updated K factor is available based on recent Chemistry sample data.

Monitor	**K Factor**	**Normal Flow RatesBased on (cfm)**
Reactor Bldg.(Pt. 3337)	3.2E-1 µCi/sec/cpm	61,000
Refuel Floor(Pt. 3338)	3.7E-1 µCi/sec/cpm	70,000
Radwaste Bldg.(Pt. 3340)	1.7E-1 µCi/sec/cpm	32,500
Turbine Bldg.(Pt. 3339)	5.6E-1 µCi/sec/cpm	107,000
Stack(Pt. 3336)	6.0E-1 µCi/sec/cps	6,600

IF flow rates differ from the Normal Flow Rates listed above, **THEN** a correction to the K factor is necessary as follows:

$$K_{(corrected)} = \left[\frac{\text{New Flow Rate}}{\text{Normal Flow Rate}}\right] \mathbf{x} \left[K\ \text{Factor}_{(listed)}\right]$$

NOTE: The accuracy of ventilation flow rate indications at the low end of an instrument range should be confirmed with appropriate instrument calibration procedures.

E. An estimate of the iodine release rate can be obtained by multiplying the I/NG ratio from a chemistry sample by the NG release rate. **IF** a chemistry sample is not available, **THEN** the iodine release rate can be estimated by multiplying a default I/NG ratio by the NG release rate. For default release rates and I/NG ratio, refer to Attachment 12.

F. **IF** the low range effluent monitors are inoperative or off-scale, **THEN** the appropriate high range effluent monitor must be used.

4.1.2 High Range Effluent Monitor (HREM) Calculation

A. Record date, time and individual performing calculation in upper right-hand corner of Attachment 2.

B. Record observed dose rate for the Stack, Turbine Building (TB) and/or Radwaste (RW). This data may be obtained from the EPIC computer. **IF** computer points are unavailable, **THEN** Control Room monitors can be used for this data.

NOTE: For stack releases, it is important to determine whether any dilution fan is operating.

C. Multiply the dose rate by the K factor listed below.

NOTE: These conversion constants are based on normal flow rates listed below. A conversion factor of 0.45 (μCi/cc)/(mR/hr) was applied to the normal flow rate. This value is given by General Electric and is based on the monitor response to Xe-133.

HREM	K FACTOR	NORMAL FLOW RATES (cfm)*
STACK		
One SGT train operating	1.40 (Ci/sec)/(mR/hr)	based on 6,600
One SGT train and one stack dilution fan operating	2.54 (Ci/sec)/(mR/hr)	based on 12,000
TURBINE BLDG	22.6 (Ci/sec)/(mR/hr)	based on 107,000
RADWASTE BLDG	6.85 (Ci/sec)/(mR/hr)	based on 32,500

***IF** flow rates differ from the Normal Flow Rates listed above, **THEN** a correction to the K factor is necessary as follows:

$$K_{(corrected)} = \left[\frac{\text{New Flow Rate}}{\text{Normal Flow Rate}}\right] \times \left[K\ \text{Factor}_{(listed)}\right]$$

D. An estimate of the iodine release rate can be obtained by multiplying the I/NG ratio from a chemistry sample by the NG release rate. **IF** a chemistry sample is not available, **THEN** the iodine release rate can be estimated by multiplying a default I/NG ratio by the NG release rate. For default release rates and I/NG ratios, refer to Attachment 12.

E. A back calculated release rate may be estimated from field survey data in lieu of or in addition to the estimate from low and high range effluent monitors.

4.1.3 Back Calculations from Downwind Survey Dose Rate Data using EDAMS

A. Start the EDAMS program and from the EDAMS icons, select "EDAMS".

NOTE: The mouse does NOT work in this DOS Sub-routine.

B. Select "Release Rate Calculations".

C. Select "James A. FitzPatrick".

D. Select "Back calculate".

E. Enter the time survey data was obtained (24-hour format).

F. Enter a number representing one of the accident types listed.

G. Enter the wind speed (MPH).

H. Enter "E" for elevated/stack or "G" for ground/vent release.

I. Enter the stability class (A - G).

J. Enter the three (3) foot closed window reading from the ion chamber (mR/hr).

K. Enter the downwind distance that the above reading was obtained. (Use 0.87 miles if the reading is taken at the site boundary.)

L. Hit the F9 key to calculate. Record or print the results.

4.1.4 Release Rate Estimation Using Containment High Range Radiation Monitor Data

A. Record date, time and individual performing calculations in upper right-hand corner of Attachment 3.

B. Record containment rad monitor I.D. (i.e., either 27-RE-104 A or B) in Column 1 or an average of the two.

C. Record the containment rad monitors average reading (dose rate) or the individual monitor reading (dose rate) in Column 2. Obtain readings from EPIC.

D. Record the time the containment rad monitor dose rate was observed in Column 3.

E. Record the time of shutdown in Column 4.

F. Determine the time in hours after shutdown that the containment radiation monitor reading was taken (Column 4 - Column 3) and record in Column 5.

NOTE: Ensure that credit is taken for any dilution provided to the value calculated in step 4.1.4.G prior to it entering the effluent pathway to the environment (i.e. dilution by Reactor Building volume, etc.).

G. Determine and record in Column 6 the calculated concentration in containment for the time after shutdown reading using the curves in Attachment 4 and the following core damage estimates:

Attachment 4 Location on Graph	**Calculated Concentration* (Ci/cc)**
Area above Case #1	5.20E-2
Area between Case #1 and Case #2	3.45E-2
Area between Case #2 and Case #3	1.09E-2
Area between Case #3 and Case #4	3.30E-4
Area between Case #4 and Case #5	1.91E-5
Area between Case #5 and Case #6	1.91E-6
Area below Case #6	Normal
*Concentrations derived using EAP-44 estimates of core inventory and a containment volume of 7.42E+9cc (i.e. drywell and torus gas space volume).	

H. Determine the expected flow rate (cc/sec) to the environment and record in Column 7. Assistance from TSC engineering staff may be necessary in determining flow rates.

I. Determine the estimated release rate by multiplying Column 6 by Column 7. Record in Column 8.

NOTE: EPIC provides release rates based on default K factors and normal flow rates.

4.1.5 Obtaining Release Rate Using EPIC

A. Call up the Radioactivity Release Control (RRC) display on EPIC.

B. Obtain and record release rate data from RRC display for release pathway of concern.

4.2 Default Accident Source Terms

4.2.1 Various types of design basis accidents have been analyzed and source terms estimated. Refer to Attachment 12 for estimated values.

4.2.2 In addition, source term estimates have been developed based on differing amounts of core damage for accidents resulting in leakage of activity through the drywell boundary.

A. Attachments 5 through 10 provide correlation between stack source term estimates for given containment leak rates and containment high range radiation monitor readings.

B. These attachments can be used to project what a release rate may be given a break in containment and containment failure imminent.

C. These source terms are only estimates and should be input with the understanding of the assumptions used in their development.

D. The source terms correspond to test cases in the Sergeant Lundy study "High Range Containment Monitor Response to Post Accident Fission Product Release" and are plotted on Attachments 5 through 10. These graphs are based on calculation JAF-89-003 filed in the original procedure EAP-4 master file.

4.3 **Unmonitored Release**

All likely release pathways are monitored. If there is a release through an unmonitored pathway, the release should be evaluated based on a source term (area monitors, process monitors, and/or local grab samples, as appropriate) or back calculations from downwind readings as described in Section 4.1.3 of this procedure.

5.0 **ATTACHMENTS**

1. FLOW CHART TO DETERMINE RELEASE RATE FROM LOW RANGE EFFLUENT MONITORS
2. FLOW CHART TO DETERMINE RELEASE RATE FROM HIGH RANGE EFFLUENT MONITORS (HREM)
3. WORK SHEET TO DETERMINE RELEASE RATE FROM CONTAINMENT RAD MONITORS
4. FITZPATRICK HRCRM READINESS
5. 1.5% LEAKAGE SOURCE TERM ESTIMATE
6. 10% LEAKAGE SOURCE TERM ESTIMATE
7. 25% LEAKAGE SOURCE TERM ESTIMATE
8. 50% LEAKAGE SOURCE TERM ESTIMATE
9. 100% LEAKAGE SOURCE TERM ESTIMATE
10. CASTASTROPHIC LEAKEAGE SOURCE TERM ESTIMATE
11. CALCULATION METHOD FOR DETERMINING PERCENT OF TECHNICAL SPECIFICATION FOR NRC EVENT NOTIFICATION WORKSHEET
12. ANALYZED ACCIDENT TYPES

FLOW CHART TO DETERMINE RELEASE RATE FROM LOW RANGE EFFLUENT MONITORS

DATA: Rx B _____ (cpm) RF _____ (cpm) RW _____ (cpm)

Stack _____ (cps) TB _____ (cpm)

DATE:
TIME:
NAME:

Rx B (cpm)	EPIC Pt. I.D. 3337	(cpm) x (*) = RR (µCi/s) _____ x ( ) = _____
Refuel Floor (cpm)	EPIC Pt. I.D. 3338	(cpm) x (*) = RR (µCi/s) _____ x ( ) = _____
Radwaste (cpm)	EPIC Pt. I.D. 3340	(cpm) x (*) = RR (µCi/s) _____ x ( ) = _____
Turbine Building (cpm)	EPIC Pt. I.D. 3339	(cpm) x (*) = RR (µCi/s) _____ x ( ) = _____
Stack (cps)	EPIC Pt. I.D. 3336	(cps) x (*) = RR (µCi/s) _____ x ( ) = _____

CHEM SAMPLE

YES → Actual Iodine Release Rate (RR)
(Actual I/NG Ratio) x RR(NG) = RR(Iodine) Ci/sec
_____ x _____ = _____ Ci/sec

NO → Estimated Iodine Release Rate (RR)
(**) x RR(NG) = RR (Iodine) Ci/sec
_____ x _____ = _____ Ci/sec

Noble Gas Release Rate RR(NG)
RR (µCi/sec) ÷ 1.0E6 = RR(NG) Ci/sec
_____ ÷ 1.0E6 = _____ Ci/sec

Refer to Section 4.1.1. C and D for additional guidance

Monitor	K Factor *	Normal Flow Rates Based on (cfm)
Reactor Bldg. (Pt. 3337)	3.2E-1 µCi/sec/cpm	61,000
Refuel Floor (Pt. 3338)	3.7E-1 µCi/sec/cpm	70,000
Radwaste Bldg. (Pt. 3340)	1.7E-1 µCi/sec/cpm	32,500
Turbine Bldg. (Pt. 3339)	5.6E-1 µCi/sec/cpm	107,000
Stack (Pt. 3336)	6.0E-1 µCi/sec/cps	6,600

IF flow rates differ from the Normal Flow Rates listed above,
THEN a correction to the K factor is necessary as follows:

$$K_{(corrected)} = \frac{\text{New Flow Rate}}{\text{Normal Flow Rate}} \times \text{K Factor (listed)}$$

Iodine / Noble Gas Ratio	RATIOS **
Loss of Coolant Accident	2.98E-03
Control Rod Drop	9.93E-03
Refueling Accident	1.24E-04
Steam Line Break Single Phase	1.79E+01
Steam Line Break Two Phase	1.79E+01
Containment Design Basis Accident	2.13E-02

NOTE: The accuracy of ventilation flow rate indications at the low end of an instrument range should be confirmed with appropriate instrument calibration procedures.

FLOW CHART TO DETERMINE RELEASE RATE FROM HIGH RANGE EFFLUENT MONITORS (HREM)

DATA: Stack _____ (mR/hr)

TB _____ (mR/hr) RW _____ (mR/hr)

Stack (HREM) 1 SBGT Train (mR/hr)	EPIC Pt. I.D. 1191	(mR/hr) _____	(1.40)* (1.40)	= RR (Ci/s) = _____
Stack (HREM) 1 SBGT 1 Fan (mR/hr)	EPIC Pt. I.D. 1191	(mR/hr) _____	(2.54)* (2.54)	= RR (Ci/s) = _____
TB (HREM) (mR/hr)	EPIC Pt. I.D. 1194	(mR/hr) _____	(22.6)* (22.6)	= RR (Ci/s) = _____
Radwaste (HREM) (mR/hr)	EPIC Pt. I.D. 1195	(mR/hr) _____	(6.85)* (6.85)	= RR (Ci/s) = _____

DATE:
TIME:
NAME:

Noble Gas Release Rate RR (NG) (Ci/sec)
_____

CHEM SAMPLE

YES

Actual Iodine Release Rate (RR)
(Actual I/NG Ratio) x RR(NG) = RR(Iodine) Ci/sec
_____ x _____ = _____

NO

Estimated Iodine Release (RR) Rate
(**) x RR(NG) = RR(Iodine) Ci/sec
( ) x _____ = _____

* Based on G. E. Data for monitor response under **normal flow rates** listed on page 8

Iodine / Noble Gas Ratio	RATIOS **
Loss of Coolant Accident	2.98E-03
Control Rod Drop	9.93E-03
Refueling Accident	1.24E-04
Steam Line Break Single Phase	1.79E+01
Steam Line Break Two Phase	1.79E+01
Containment Design Basis Accident	2.13E-02

WORK SHEET TO DETERMINE RELEASE RATE FROM CONTAINMENT RAD MONITORS

DATE: _____ TIME: _____ NAME: _____

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6		Column 7		Column 8
Containment Rad Monitor I.D.	Containment Rad Monitor Dose Rate (R/hr)	Time of Reading	Time of Shutdown	Time of Reading After Shutdown (hr) ΔT	Calculated Concentration in containment (Ci/cc)		Expected Flow Rate to Environment *(cc/sec)		Estimated Release Rate (Ci/sec)
						x		=	
						x		=	

*To convert cfm to cc/sec, multiply cfm by 472 from CRC handbook of Chemistry and Physics, 64th Edition, pg. F-308.

Attachment 4 Location on Graph	Calculated Concentration* (Ci/cc)
Area above Case #1	5.20E-2
Area between Case #1 and Case #2	3.45E-2
Area between Case #2 and Case #3	1.09E-2
Area between Case #3 and Case #4	3.30E-4
Area between Case #4 and Case #5	1.91E-5
Area between Case #5 and Case #6	1.91E-6
Area below Case #6	Normal

*Concentrations derived using EAP-44 estimates of core inventory and a containment volume of 7.42E+9cc (i.e. drywell and torus gas space volume).

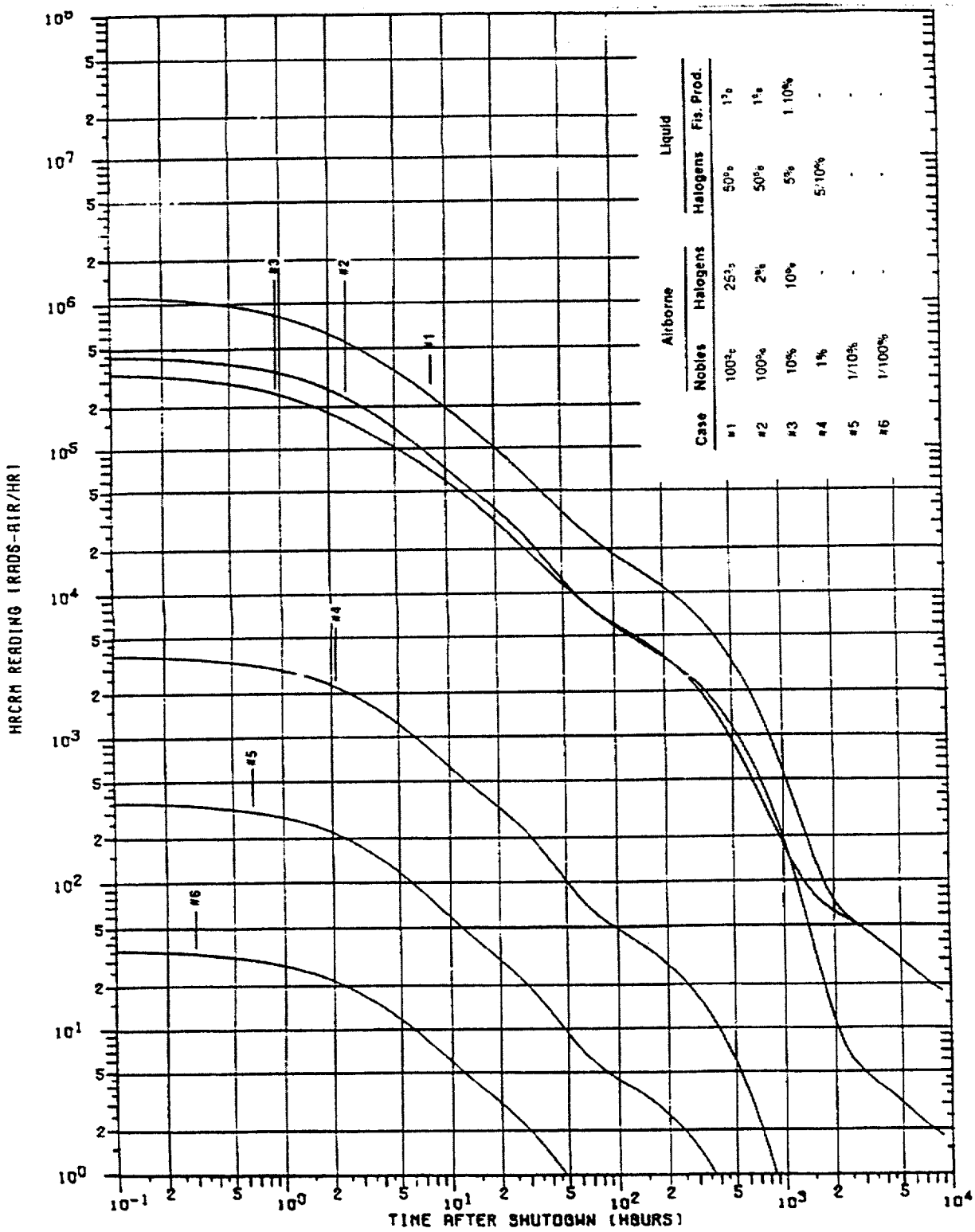
NOTE:
The Primary Containment and Reactor Building leak rate default value is 1.5% per day. The as-left Primary Containment leak rate calculated after RO-13 was approximately 1,437 scf/day.

The dose rate at the site boundary for 100% of Tech Spec's, per section 3.2.a, volume 1B, is 500 mr/yr whole body from noble gas, 1,500 mr/yr for any organ from iodines and particulates with half lives greater than 8 days.

The current total as-left Primary Containment leakage can be found in the last run of ST-39B attachment 7. The last run ST-39B is in a binder in the bottom drawer of the middle file cabinet in the Operations file area adjacent to the Control Room. Attachment 7 is used to update the leakage totals subsequent to a complete run of ST-39B (i.e., forced outage LLRTs). The most recently dated forms of attachment 7 will contain the current as-left Minimum Pathway leakage and Maximum Pathway leakage. These numbers will provide the least and most amount of leakage projected for all Primary Containment leakage pathways. These numbers are reported in Standard Liters per Minute (SLM). To convert to cc/sec, as required in EAP-4.1, divide SLM by 28.31 to get CFM, them multiply CFM by 472 to get cc/sec.

Attachment 4 **Page 1 of 1**

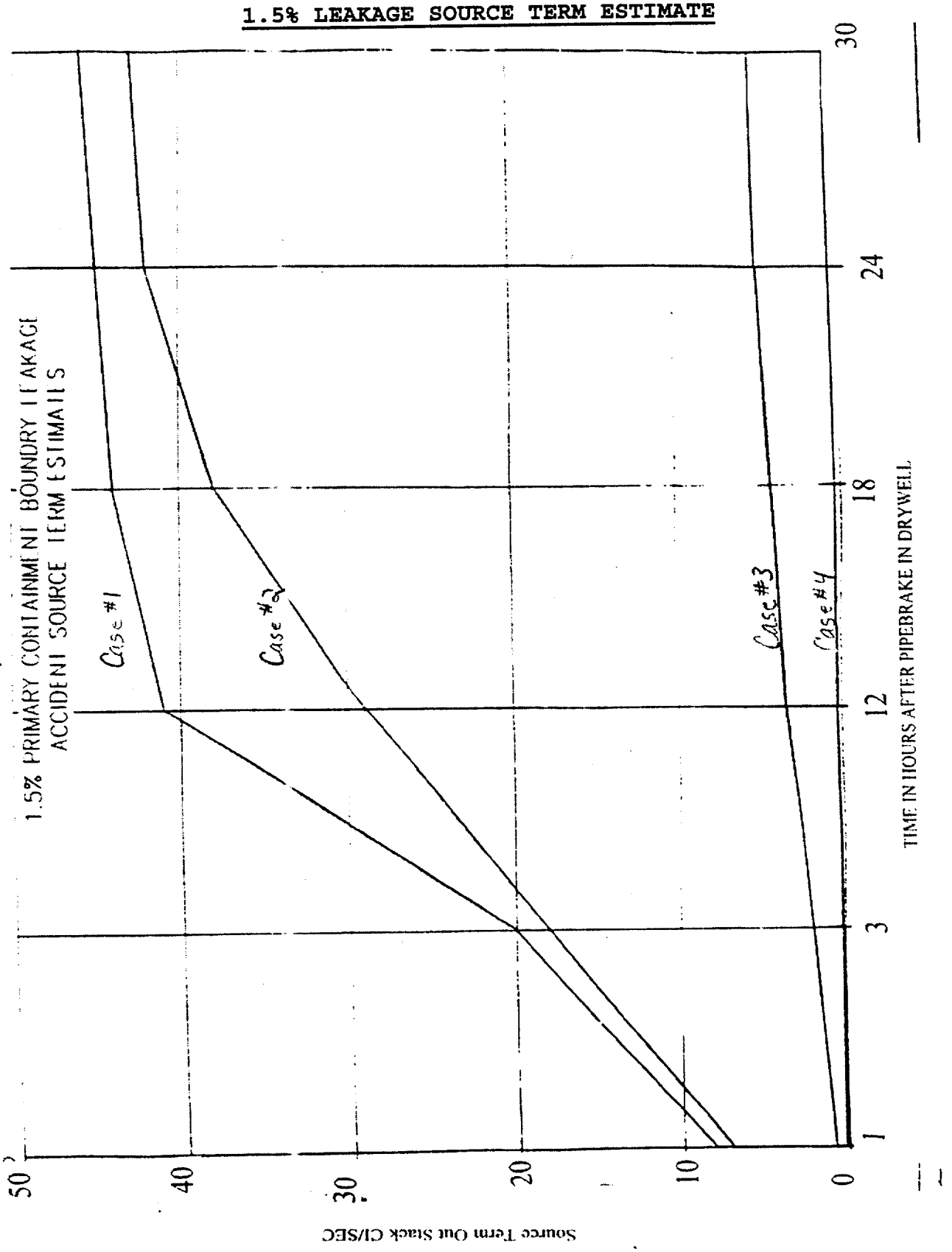
FITZPATRICK HRCRM READINGS



FITZPATRICK - HRCRM READINGS

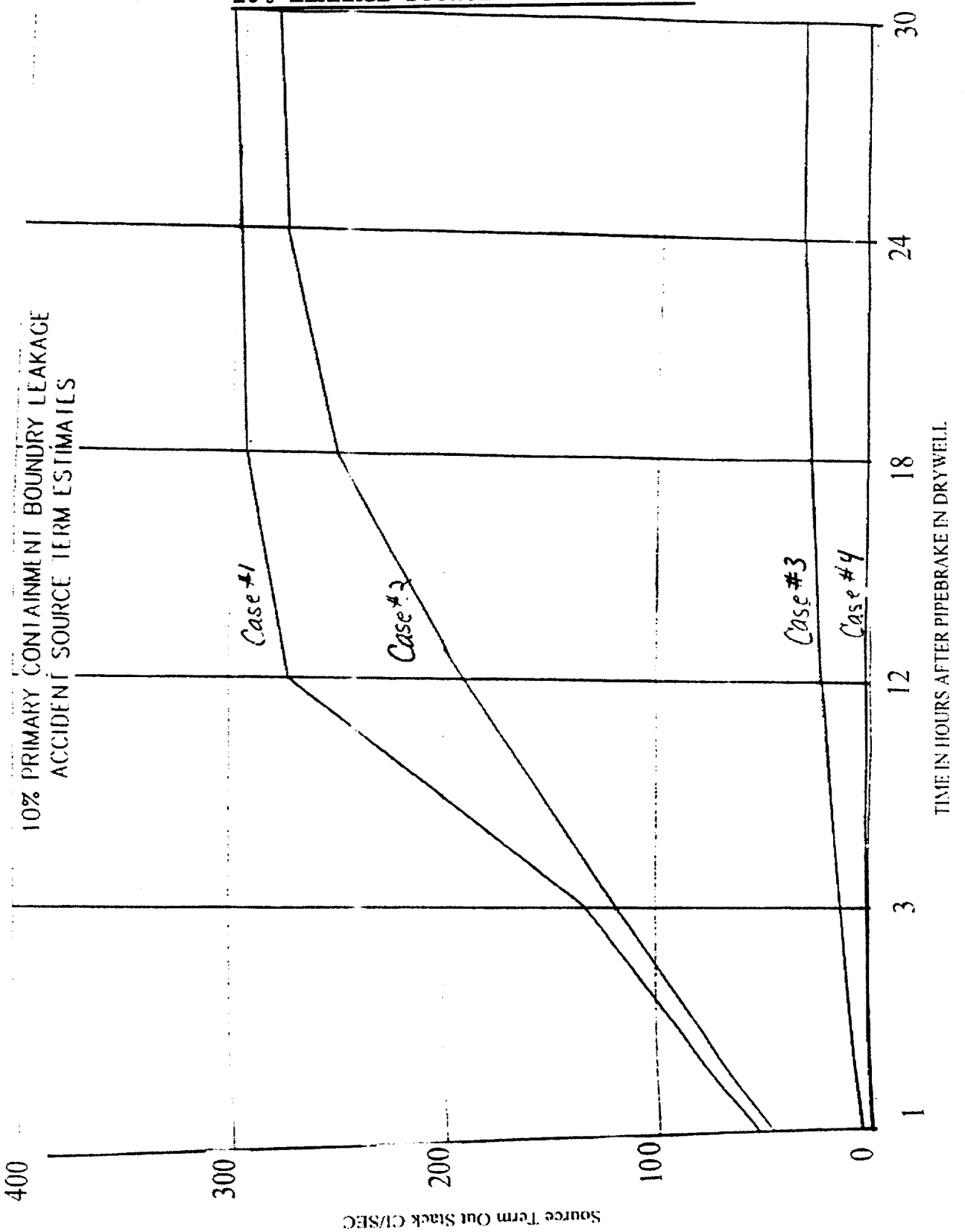
Attachment 5 **Page 1 of 1**

1.5% LEAKAGE SOURCE TERM ESTIMATE



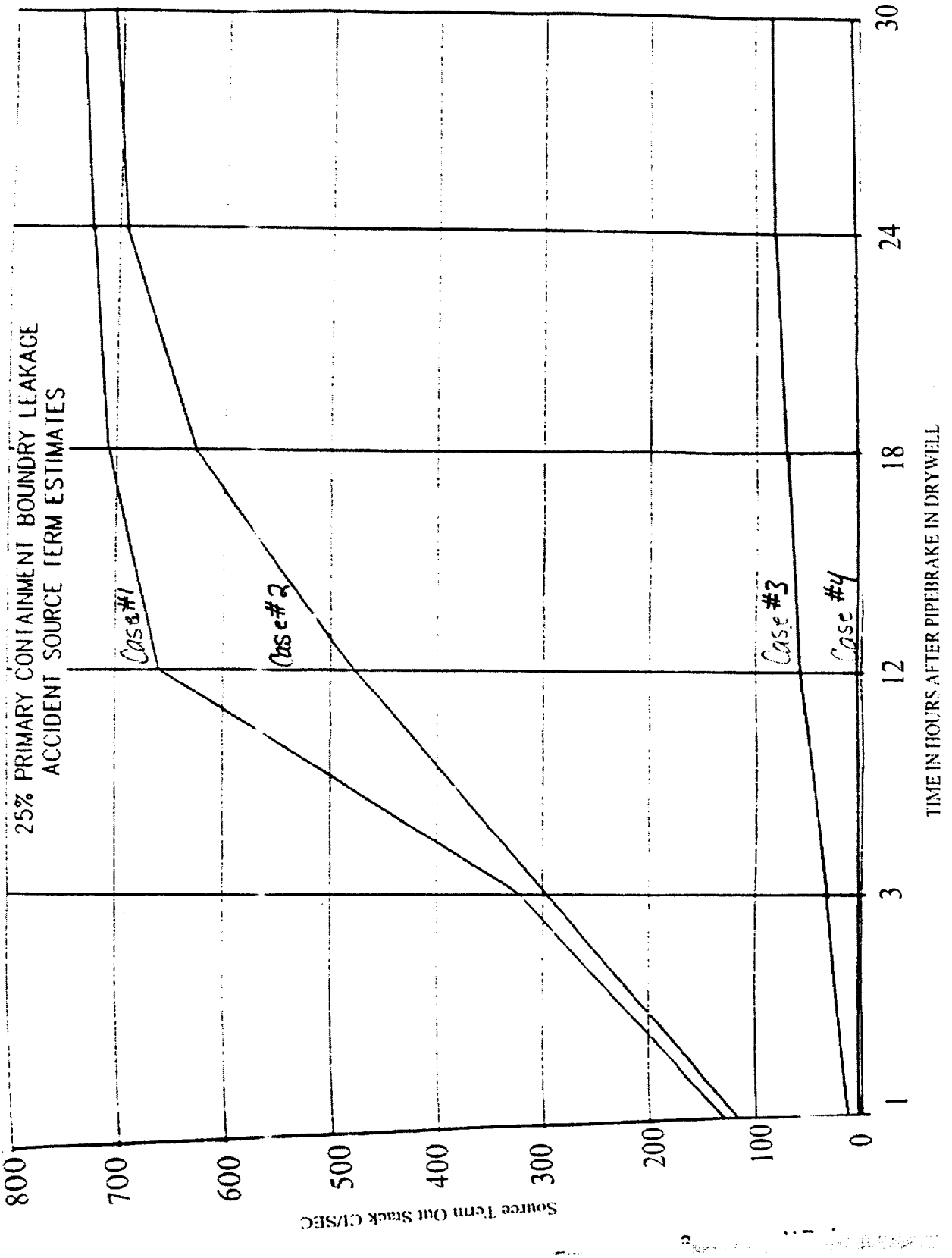
Attachment 6 **Page 1 of 1**

10% LEAKAGE SOURCE TERM ESTIMATE



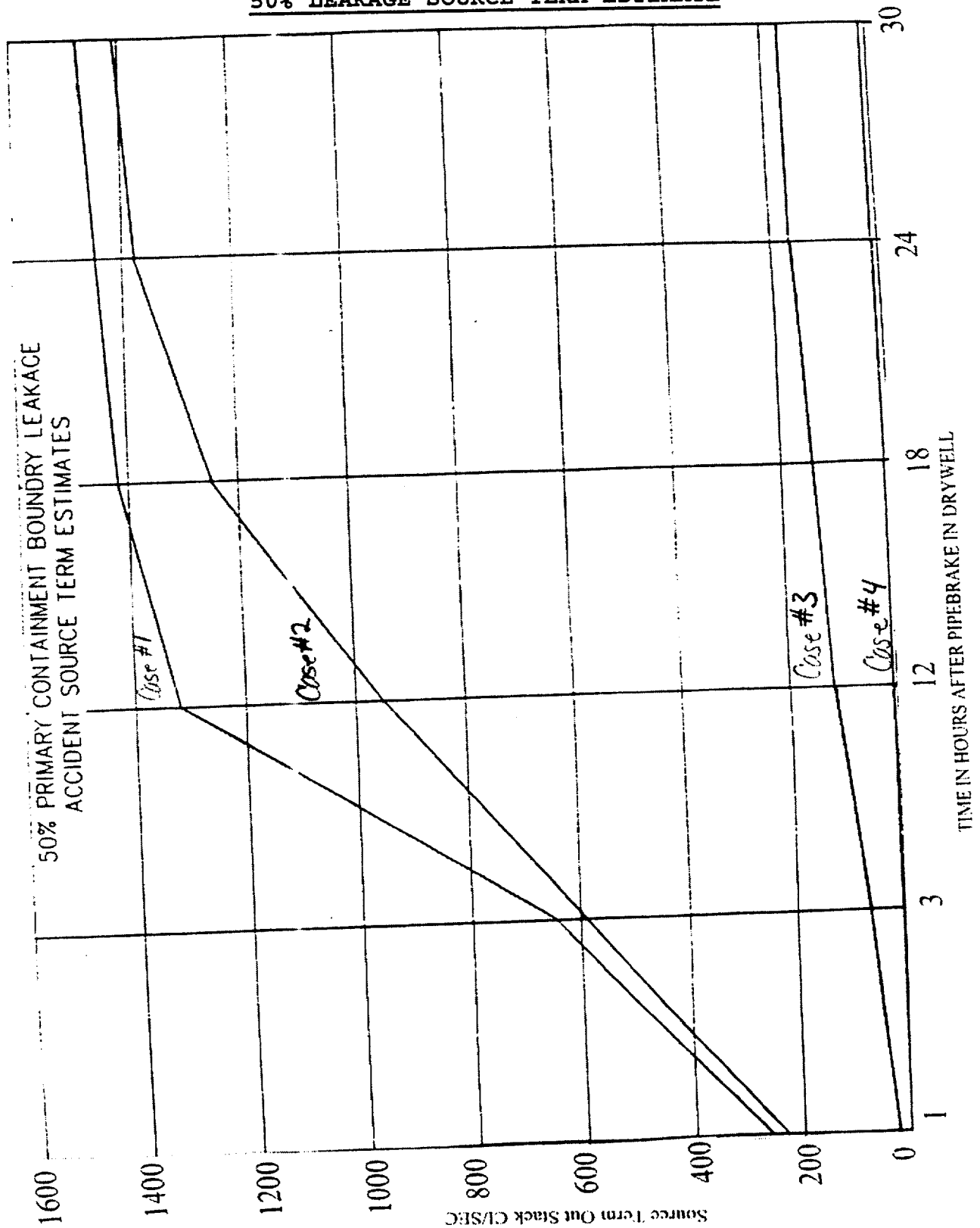
Attachment 7 **Page 1 of 1**

25% LEAKAGE SOURCE TERM ESTIMATE



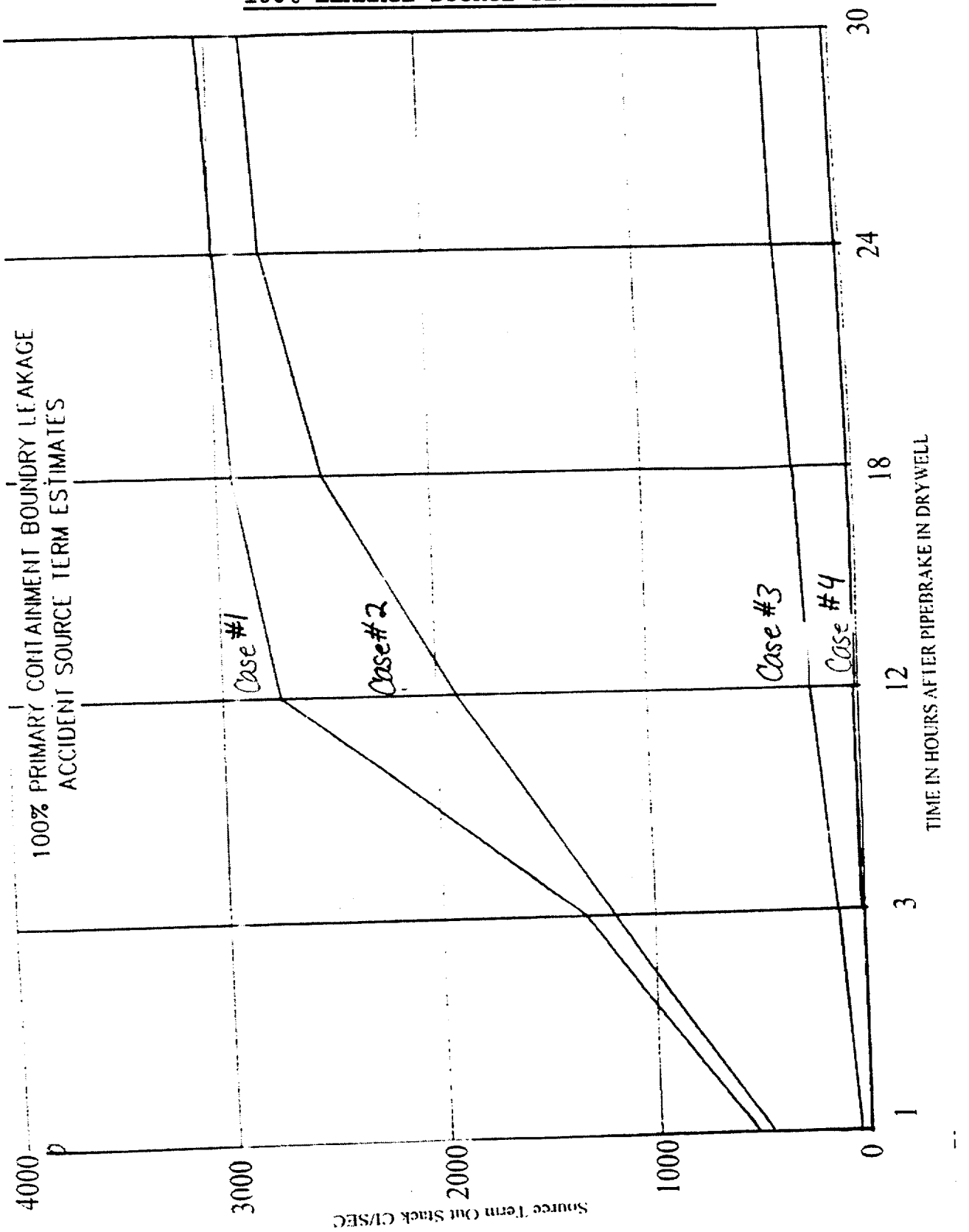
Attachment 8 **Page 1 of 1**

50% LEAKAGE SOURCE TERM ESTIMATE



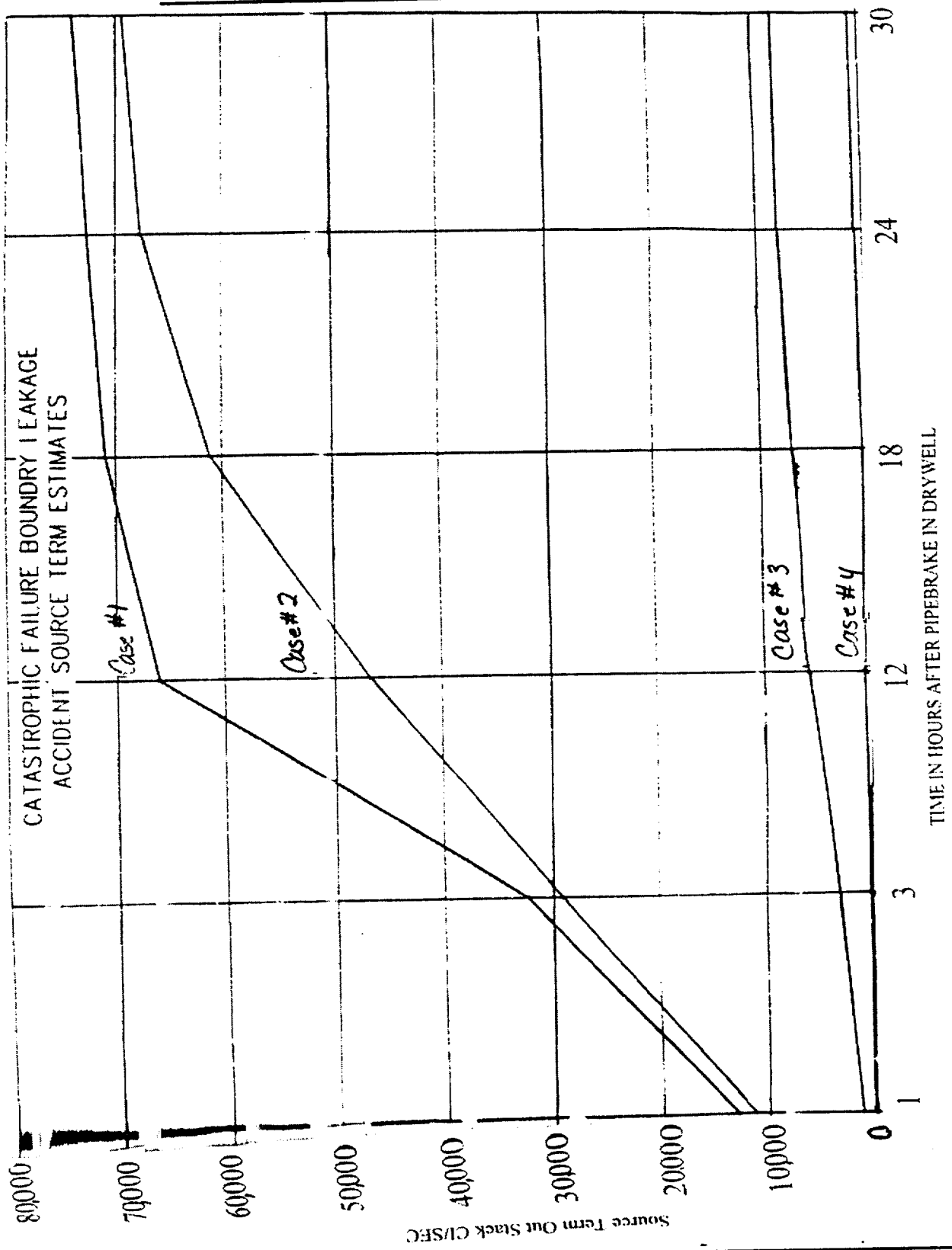
Attachment 9 **Page 1 of 1**

100% LEAKAGE SOURCE TERM ESTIMATE



Attachment 10

CATASTROPHIC LEAKAGE SOURCE TERM ESTIMATE



Attachment 11 **Page 1 of 2**

CALCULATION METHOD FOR DETERMINING PERCENT OF TECHNICAL SPECIFICATION FOR NRC EVENT NOTIFICATION WORKSHEET

1. The formula for calculating the percent of Technical Specification of Airborne releases was derived from the JAF Offsite Dose Calculation Manual, Revision 7.

   The following assumptions apply:

   The release Technical Specification limit of 500 mrem/year ([CTS] Technical Specifications, Appendix B, Section 3.2.a.1 [ITS] 5.5.4) was used as the basis for the noble gas instantaneous release limit.

   The Technical Specification of 1,500 mrem/year to any organ ([CTS] Technical Specifications, Appendix B, Section 3.2.a.2 [ITS]5.5.4) was used as the basis for the radioiodine, tritium and eight day particulate instantaneous release limit.

   The most conservative X/q (4.83E-7 sec/m^3) for ground based receptors at the site boundary was used for all cases and is the FSAR defined accident X/q.

   All assumptions and conservatism of the ODCM were applied.

2. As a result of these assumptions and conservatism, these formulae should be used only to estimate the initial percent of Technical Specifications as required by the NRC Event Notification Worksheet (EAP-1.1, Attachment 6). As more detailed source term and meteorological data become available, a more accurate determination of percent Technical Specification should be performed.

3. Technical Specification release rates for stack and vent noble gas releases are obtained from the setpoint release rates for these points described in the ODCM.

4. Calculation method for determining the initial percent of Technical Specifications for NRC Event Worksheet (use calculation worksheet on next page).

   For Noble Gas Vent Release:
   % T.S. = RR_{NG} (Ci/s) x 1432

   For Noble Gas Stack Release:
   % T.S. = RR_{NG} (Ci/s) x 333

   Where RR_{NG} = noble gas release rate in curies per second
   1432 = 100% divided by vent setpoint release rate of 0.0698 Ci/sec
   333 = 100% divided by stack setpoint release rate of 0.3 Ci/sec

   These equations assume an instantaneous release rate, ODCM dose conversion factors, and historical meteorological data.

   For Gross Liquid Release excluding Tritium:
   % T.S. = F_L (gal/m) x C_L (μCi/ml) x 2120

   Where F_L = flow rate in gallons per minute
   C_L = concentration of liquid effluent in μCi/ml
   2120 = unit and dose conversion factor

   For iodine, tritium and particulates with half-lives greater than 8 days:

   % $T.S._{iodine\ and\ particulate}$ = RR_{iodine} (Ci/sec) x 40.48
   % $T.S._{tritium}$ = $RR_{tritium}$ (Ci/sec) x 0.32
   Total % T.S. = Σ % T.S. for all release points

ATTACHMENT 11
CALCULATION METHOD FOR DETERMINING PERCENT OF TECHNICAL SPECIFICATION FOR NRC EVENT NOTIFICATION WORKSHEET

NOTE:
100% NG Vent Release= 0.0698 ci/sec
100% NG Stack Release = 0.3 ci/sec

NOTE:
If % TS ≥ 100 - Fill out Part II Form.
This is indication of a release in progress.

Noble Gas Vent Release

% T.S. = RR_{NG} x 1432

% T.S. = [RR_{NG} _____] Ci/s x 1432

% T.S. = _____

Noble Gas Stack Release

% T.S. = RR_{NG} (Ci/s) x 333

% T.S. = [RR_{NG} _____] Ci/s x 333

% T.S. = _____

Gross Liquid Release excluding Tritium

% T.S. = F_L x C_L (µCi/ml) x 2120

% T.S. = [F_L _____] gal/m x [C_L _____] µCi/ml x [2120]

% T.S. = _____

Iodine and Particulate with half lives greater than 8 days

% T.S. $_{i\&p}$ = Σ RR(Ci/s)$_{i\&p}$ (all vents) x 40.48

% T.S. $_{i\&p}$ = [($RR_{i\&p}$ _____ stack) Ci/s + ($RR_{i\&p}$ _____ T.B. vent) Ci/s +

($RR_{i\&p}$ _____ Rx Bldg vent) Ci/s + ($RR_{i\&p}$ _____ Refuel Floor) Ci/s +

($RR_{i\&p}$ _____ Radwaste Bldg) Ci/s] x 40.48

% T.S. $_{i\&p}$ = ($RR_{i\&p}$ _____ total vents) Ci/s x 40.48

% T.S. $_{i\&p}$ = _____

Tritium

% T.S. $_{Tritium}$ = Σ RR(Ci/s)$_{Tritium}$ (all vents) x 0.32

% T.S. $_{Tritium}$ = [($RR_{Tritium}$ _____ stack) Ci/s + ($RR_{Tritium}$ _____ T.B. vent) Ci/s +

($RR_{Tritium}$ _____ Rx Bldg vent) Ci/s + ($RR_{Tritium}$ _____ Refuel Floor) Ci/s +

($RR_{Tritium}$ _____ Radwaste Bldg) Ci/s] x 0.32

% T.S. $_{Tritium}$ = ($RR_{Tritium}$ _____ total vents) Ci/s x 0.32

% T.S. $_{Tritium}$ = _____

Where:

RR= release rate (Ci/sec)

F_L = Flow Rate (gal/m)

C_L = Concentration of liquid effluent (µCi/ml)

ATTACHMENT 12 **Page 1 of 1**

ANALYZED ACCIDENT TYPES

	New Accident Names/Analyzed Accidents per Attachment A of EAP-4	Loss of Coolant Accident	Control Rod Drop	Refueling Accident	Steam Line Break Two Phase	Steam Line Break	LOCA - Engineered Safety Feature Component Leakage
		loca.jaf	crd.jaf	rfa.jaf	slb2.jaf	slb2.jaf	esf.jaf
	OLD EDAMS Accident Name Used	Loss of Coolant Accident	Control Rod Drop	Refueling Accident		Steam Line Break Two Phase	Containment Design Basis Accident
	Analyzed Release Point	Elevated	Ground	Elevated	Ground	Ground	Elevated
	Nuclide	**LOCA**	**CRD**	**RFA**	**SLB1**	**SLB2**	**CDBA**
NOBLE GASES (Ci/sec)	Kr 83M	1.353E+00	1.577E-03	6.117E-03	1.517E-05	1.517E-05	1.154E-02*
	Kr 85M	2.906E+00	3.386E-03	8.839E-02	2.725E-05	2.725E-05	1.508E-04
	Kr 85	1.301E-01	1.156E-04	1.604E-01	8.917E-08	8.917E-08	3.658E-09
	Kr 87	5.572E+00	6.494E-03	1.432E-05	8.917E-05	8.917E-05	0.000E+00
	Kr 88	7.894E+00	9.200E-03	2.777E-02	8.917E-05	8.917E-05	0.000E+00
	Kr 89	9.817E+00	1.144E-02	0.000E+00	5.800E-04	5.800E-04	0.000E+00
	Kr subtotal	*2.767E+01*	*3.221E-02*	*2.827E-01*	*8.008E-04*	*8.008E-04*	*1.508E-04*
	Xe131m	6.825E-02	7.953E-05	8.783E-02	6.692E-08	6.692E-08	7.994E-05*
	Xe133m	9.942E-01	1.159E-03	1.048E+00	1.292E-06	1.292E-06	1.934E-03
	Xe133	2.386E+01	2.781E-02	2.833E+01	3.658E-05	3.658E-05	2.769E-02
	Xe135	3.081E+00	3.589E-03	6.522E+00	9.833E-05	9.833E-05	1.952E-01
	Xe135m	4.494E+00	5.239E-03	3.578E-01	1.158E-04	1.158E-04	5.686E-01
	Xe137	2.094E+01	2.440E-02	0.000E+00	6.692E-04	6.692E-04	0.000E+00
	Xe138	1.988E+01	2.316E-02	0.000E+00	3.975E-04	3.975E-04	0.000E+00
	Xe subtotal	7.332E+01	8.544E-02	3.635E+01	1.319E-03	1.319E-03	7.934E-01
	Noble Gas (NG) subtotal	***1.010E+02***	***1.176E-01***	***3.663E+01***	***2.120E-03***	***2.120E-03***	***7.936E-01***
IODINES (Ci/sec)	I131	3.406E-02	1.323E-04	1.299E-03	9.808E-04	9.808E-04	1.918E-03
	I132	4.975E-02	1.933E-04	1.680E-03	7.628E-03	7.628E-03	2.803E-03
	I133	7.119E-02	2.766E-04	1.346E-03	6.536E-03	6.536E-03	4.011E-03
	I134	7.839E-02	3.044E-04	0.000E+00	1.380E-02	1.380E-02	4.417E-03
	I135	6.725E-02	2.612E-04	2.233E-04	9.075E-03	9.075E-03	3.789E-03
	Iodine subtotal	***3.006E-01***	***1.168E-03***	***4.548E-03***	***3.802E-02***	***3.802E-02***	***1.694E-02***
PARTICULATES (Ci/sec)	CS137	3.583E-03	1.671E-05	1.769E-04	1.198E-05	1.198E-05	2.019E-04
	TE132	8.178E-03	0.000E+00	0.000E+00	6.900E-04	6.900E-04	4.606E-04
	SR 89	2.132E-03	0.000E+00	0.000E+00	1.489E-04	1.489E-04	1.201E-04
	SR 90	2.228E-04	0.000E+00	0.000E+00	1.126E-05	1.126E-05	1.255E-05
	Ba140	4.094E-03	0.000E+00	0.000E+00	4.358E-04	4.358E-04	2.306E-04
	La140	4.336E-05	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.443E-06
	Particulate subtotal	***1.83E-02***	***1.67E-05***	***1.77E-04***	***1.30E-03***	***1.30E-03***	***1.03E-03***
	RELEASE RATE TOTALS (Ci/sec)	**1.01E+02**	**1.19E-01**	**3.66E+01**	**4.14E-02**	**4.14E-02**	**8.12E-01**
	Accident Duration Used for EDAMS	**8 hours**	**4 hours**	**2 hours**	**2 hours**	**2 hours**	**2 hours**
	TOTAL Release Assumed (Ci)	**2.92E+06**	**1.71E+03**	**2.64E+05**	**2.98E+02**	**2.98E+02**	**5.84E+03**

RATIOS	RATIOS	Loss of Coolant Accident	Control Rod Drop	Refueling Accident	Steam Line Break Two Phase	Steam Line Break	LOCA - Engineered Safety Feature Component Leakage
	Iodine / Noble Gas Ratio	2.98E-03	9.93E-03	1.24E-04	1.79E+01	1.79E+01	2.13E-02
	Noble gas / Iodine Ratio	3.36E+02	1.01E+02	8.05E+03	5.58E-02	5.58E-02	4.69E+01
	Noble Gas / Particulate Ratio	5.53E+03	7.04E+03	2.07E+05	1.63E+00	1.63E+00	7.72E+02
	Iodine / Particulate Ratio	1.65E+01	6.99E+01	2.57E+01	2.93E+01	2.93E+01	1.65E+01
	NG / Particulate + Iodine Ratio	3.17E+02	9.93E+01	7.75E+03	5.39E-02	5.39E-02	4.42E+01

ENTERGY NUCLEAR OPERATION, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING
EAP-5.3
REVISION 8

REVIEWED BY: PLANT OPERATING REVIEW COMMITTEE

MEETING NO. N/A DATE: N/A

APPROVED BY: _____ DATE: 5/23/02
RESPONSIBLE PROCEDURE OWNER

EFFECTIVE DATE: June 3, 2002

FIRST ISSUE ☐ FULL REVISION ☒ LIMITED REVISION ☐

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PERIODIC REVIEW DUE DATE: June 2007

REVISION SUMMARY SHEET

REV. NO.

8
- 4.4.3 replaced generator with inverter.
- Updated color maps on attachments 5 and 6
- Updated coversheet - company name change.
- Changed Emergency vehicle description from Suburban to Explorer in section 4.4.1
- Changed generators to inverters in section 4.4.3
- Changed NMPC AND NYPA to Nine Mile Point and Entergy in section 4.6.1.B
- In section 4.7.8 deleted the word plastic in reference to gloves.
- In section 4.9.1 - added the words "the surface of the water".
- In section 4.9.2 - added the words "the surface of the container".
- On Attachment 2 added a column for distance from site in miles.
- On Attachment 3 deleted the work Radiation from the radiation Survey Before Sampling check off.

7
- On attachment 2, added "(obtain $25ft^3$) to column Sample Volume (ft^3)
- Changed RTP-74 TO RP-INST-02.09, editorial change.

6
- Reformat per AP-02.01, Rev. 5.
- Section 4.2.2: note added to include radio dispatcher/operator in team briefing.
- Attachment 2 revised to clarify information.
- Sample point L-5: correct road designation.
- Revise Attachment 4 Onsite Survey Map to include site changes.

TABLE OF CONTENTS

1.0 **PURPOSE**

This procedure provides instructions for performing onsite/offsite downwind surveys and for collecting various environmental media including air, water, soil, snow, vegetation, grass and TLDs.

2.0 **REFERENCES**

2.1 **Performance References**

2.1.1 EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL

2.1.2 EAP-19, EMERGENCY USE OF POTASSIUM IODIDE (KI)

2.1.3 EAP-24, EOF VEHICLE AND PERSONNEL DECONTAMINATION

2.1.4 EAP-27, ESTIMATION OF POPULATION DOSE WITHIN THE 10 MILE EPZ

2.1.5 SAP-2, EMERGENCY EQUIPMENT INVENTORY

2.1.6 RP-INST-02.09, MS-2 MINI SCALER OPERATION AND CALIBRATION

2.1.7 SP-04.01, RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

2.2 **Developmental References**

2.2.1 EAP-4, DOSE ASSESSMENT CALCULATIONS

2.2.2 EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL

2.2.3 EAP-17, EMERGENCY ORGANIZATION STAFFING

2.2.4 EAP-19, EMERGENCY USE OF POTASSIUM IODIDE (KI)

2.2.5 EAP-24, EOF VEHICLE AND PERSONNEL DECONTAMINATION

2.2.6 EAP-27, ESTIMATION OF POPULATION DOSE WITHIN THE 10 MILE EPZ

2.2.7 SAP-2, EMERGENCY EQUIPMENT INVENTORY

2.2.8 RP-INST-02.09, MS-2 MINI SCALER OPERATION AND CALIBRATION

2.2.9 SP-04.01, RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

3.0 INITIATING EVENTS

3.1 A radioactive release to the environment is suspected or is underway which has resulted in a declared emergency, **or**

3.2 A request for downwind surveys/environmental monitoring has been issued by the Shift Manager, Emergency Director, Radiological Support Coordinator or designee, **and**

3.3 Survey team members have been notified and assembled at the TSC, OSC, or EOF in accordance with EAP-17, EMERGENCY ORGANIZATION STAFFING, or at the Control Room, in accordance with EAP-4, DOSE ASSESSMENT CALCULATIONS

4.0 PROCEDURE

NOTE: The on-shift Radiation Protection Technician dispatched to the site boundary for initial protective action recommendations from the Control Room shall perform only the applicable sections of this procedure required to safely and expeditiously provide survey data to the Control Room.

4.1 Shift Manager/Emergency Director/Radiological Support Coordinator Responsibilities

The SM, ED, RSC or designee shall:

4.1.1 Direct the assembly of survey team(s).

4.1.2 Designate a radio dispatcher.

4.1.3 Assign a team leader and team number to each survey team.

4.1.4 Assign cellular phone numbers and backup radio communications frequencies to each team, as applicable.

4.1.5 Brief and update each team providing them with the following information (refer to Attachment 1, Survey Team Briefing Form). Provide a copy of the completed form to the team and retain the original for reference.

A. Dosimeter readings

B. Maximum allowable dose (see EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL)

C. Nature of airborne release, if applicable

D. Survey points/locations

E. Wind direction

F. Types of samples/surveys to collect

G. Projected dose rates

H. Protective measures to be used

I. Use of KI [see EAP-19, EMERGENCY USE OF POTASSIUM IODIDE (KI)]

J. Communications specifics (type, radio channel, etc.)

K. Special and/or hazardous conditions

L. Meteorological data/forecast

M. Plant conditions/emergency classification

4.1.6 For TLD collection, ensure requirements for EAP-27, ESTIMATION OF POPULATION DOSE WITHIN THE 10 MILE EPZ, have been fulfilled and provide replacement emergency TLDs if required.

4.1.7 Direct that each team obtain and prepare emergency kits for dispatch.

4.1.8 Maintain radio or telephone contact with survey teams and record survey data on the Downwind Survey Log Sheet (Attachment 2) and/or Survey Team Communication Form (Attachment 14).

4.1.9 Transmit to the survey teams any changes in location assignments, sample types required, changes in wind direction, etc.

4.1.10 Based on personnel and equipment monitoring results:

A. Direct teams to proceed to decontamination, or,

B. Direct teams to deliver air samples, TLDs and data to the Environmental Lab for analysis, if applicable.

4.2 **Survey Team Preparations**

4.2.1 Assemble at the CR, TSC, OSC or EOF, as directed by the SM, ED, RSC, or designee.

4.2.2 Receive a briefing from the SM, ED, RSC or designee. Record briefing information on Attachment 1, Survey Team Briefing Form. Ensure that all information on the form is covered.

NOTE: The Radio Dispatcher/Operator should be included in the team briefing.

4.3 **Survey Team Equipment**

4.3.1 Obtain emergency kit(s) at the locations indicated in SAP-2, Attachment 1, Emergency Equipment Location. Kits are located in the OSC area and in the EOF.

4.3.2 Gather necessary protective gear (dosimeters, respirators, etc.) as instructed during briefing.

4.3.3 Perform source checks, operability checks and battery checks on equipment, in accordance with applicable instrument/ equipment procedure. Check calibration dates on equipment. Use survey instruments in accordance with applicable instrument procedures.

4.3.4 Zero personal pocket dosimeters. Record "Initial Dosimeter Reading" where appropriate on the Survey Team Briefing Form, Attachment 1.

4.3.5 Install a particulate filter and a Silver Zeolite iodine collection cartridge on the air sampler.

4.3.6 Don protective clothing and respirator if so instructed during briefing.

4.3.7 Load equipment into vehicle. Place survey meter in vehicle and ensure that it is turned on.

4.4 **Survey Team Transportation**

4.4.1 Transport all equipment designated to survey vehicle and prepare it for the mission. There are three (3) vehicles designated for use by team members during an emergency. They consist of two (2) vans (EP #1 and EP #2) and a 4-wheel drive Explorer(RES3). These vehicles are equipped with an AC power source, radios, and cellular phones. (Private vehicles may be used if necessary with a portable radio.)

4.4.2 Check spare tire and gas level before driving out making sure the vehicle has enough gas for the trip.

4.4.3 Complete the preoperational check of the inverter and air sampler by starting the inverter, plugging the air sampler into the 120 volt receptacle in the vehicle and switching it on. Observe satisfactory operation as indicated by flow on the indicator. Turn the unit off after checking and leave the filter and cartridge installed.

4.4.4 Conduct a phone and radio check with the dispatcher to establish communications. Request any final instructions.

4.4.5 Use the maps provided in this procedure and in the emergency kit and proceed to survey/sample locations.

NOTE: Drive slowly on dirt roads to avoid stirring up excessive dirt and dust.

4.5 **Survey Team Communications**

4.5.1 Maintain continuous phone and/or periodic radio contact with the dispatch center, reporting such information as team location and progress, current dosimeter readings, survey meter readings en route, arrival and departure times from each sample location.

4.5.2 Use the Survey Team Communication Form, Attachment 14, to record any messages, new instructions, etc. from the dispatcher.

4.5.3 If the cellular phone and radio become inoperative, use public telephones to communicate with the dispatch center. (The Primary telephone numbers are: 349-6707 for the TSC and 593-5991 for the EOF dispatchers.)

4.6 **Downwind Survey and Air Sampling Instructions**

4.6.1 Use the maps and location descriptions provided in this procedure and in the emergency kit to locate survey/sample locations. Descriptions of the sample locations are presented in the List of Environmental Monitoring Stations, Attachment 11, the List of Environmental TLDs, Attachment 12, and the List of Emergency TLDs, Attachment 13.

NOTE: Survey teams will be sent to designated locations selected for ease of access and importance of expected dose to the population. Survey teams may be requested to proceed to any or all of three general areas, as follows:

A. Site Fence. This is the outermost fence surrounding the plant. At a minimum, radiation level readings will be taken at a specified point at the fence and in both directions along the fence from that point.

B. Site Boundary. This is defined as the joint Nine Mile Point and Entergy site property line. Surveys conducted at designated points along or within the site boundary normally are performed in the same manner as for offsite downwind surveys.

C. Offsite. This is the property beyond the site boundary. Points in this area are surveyed for airborne activity as well as for deposition.

4.6.2 Determine the maximum concentration at each survey location by scanning to the left and right. At the position of highest dose rate, commence survey and data recording.

4.6.3 Perform both beta and gamma surveys with an ionization chamber survey meter. (Record instrument serial numbers, time, survey location and beta/gamma dose rates on Downwind Survey Log Sheet, Attachment 2.)

A. Take three readings at waist level (3 feet above ground) within a circle of about 10-15 yards in diameter at the sampling location. Record and transmit back to dispatch center the highest of the three (3) readings.

B. Take three readings at 3 inches above ground at locations corresponding to the waist level readings. Record and transmit back to the dispatch center the highest of the three (3) readings.

4.6.4 Transmit results of survey to the dispatch center, as stated above. (Be sure to identify team, time, survey location as well as dose rate data.) Acknowledge accurate receipt of information repeated back by dispatcher.

4.6.5 As directed by the dispatcher, conduct an air sample in accordance with steps 4.6.6 - 4.6.11 **or** proceed to next sampling location and survey in accordance with steps 4.6.2 - 4.6.4 **or** return to station in accordance with step 4.6.13.

4.6.6 Set up the portable air sampler such that it has power, has both particulate filter and Silver Zeolite iodine collection cartridge and is between 3 and 7 feet off the ground.

4.6.7 Obtain a sample of 25 cubic feet. (Run the sampler for a time interval corresponding to the flow rate data affixed to the pump such that 25 cubic feet is obtained. A normal flow rate is about 3.3 cfm.)

4.6.8 For air samples collected in locations with a dose rate greater than 1 mR/hr, move to an area with a dose rate of less than 1 mR/hr and draw a one minute purge on the sample cartridge prior to counting. This will purge noble gases from the sample assembly. For air samples collected in locations with a dose rate of less than 1 mR/hr, count sample at that location.

4.6.9 Perform a background count, particulate filter count and Silver Zeolite iodine cartridge count separately. (Iodine sample counts greater than 8,500 net cpm should be returned as directed for HPGe analysis.)

A. Use the mini scaler as the primary counting instrument for both the particulate and iodine cartridge. See RP-INST-02.09, MS-2 MINI SCALER OPERATION AND CALIBRATION.

1. Obtain a background count.

2. Place the particulate filter in the sample holder textured side up.

3. Record the total counts.

4. Remove the particulate filter and store in an air sample envelope. Record date, time, location, volume, and total counts on sample envelope and on Attachment 2.

5. Obtain another background count.

6. Remove the sample holder slide drawer. Place the iodine cartridge in the sample holder.

7. Record the total counts.

8. Remove the iodine cartridge and store in a plastic bag. Record date, time, location, volume, and total counts on plastic bag and on Attachment 2.

B. Use the count rate meter if a back-up counting instrument is needed.

4.6.10 Put a fresh particulate filter and Silver Zeolite iodine cartridge into holder for next air sample. Field teams should frisk hands after handling any samples.

4.6.11 Transmit results of air sampling to the dispatch center. (Be sure to identify team, time sample collected, survey location, sample count data and sample volume.) Acknowledge accurate receipt of information repeated back by radio dispatcher.

4.6.12 As directed by the dispatcher, proceed to next sampling location and survey in accordance with steps 4.6.2 - 4.6.4, or proceed with step 4.6.13.

4.6.13 As directed by the dispatcher, proceed to selected environmental monitoring stations to retrieve air samples and TLDs, if required. Survey radiation levels at these locations and record the data on the Downwind Survey Log Sheet, Attachment 2. Refer to steps 4.7, 4.8 or 4.9 as applicable.

4.7 **Air Sample Collection From Air Sample Monitoring Station**

4.7.1 For environmental sample collection, ensure requirements for EAP-27, ESTIMATION OF POPULATION DOSE WITHIN THE 10 MILE EPZ, have been fulfilled.

4.7.2 If information is needed from the Eberline radiation monitor cabinet, have the dispatcher call NMPC to dispatch a qualified environmental technician for assistance.

4.7.3 Don gloves. Unlock the Air Sample Monitoring Station cabinet using the P-5 key found in the emergency kit. Open the door using the "T" shaped key located in the locking device on the right-hand cabinet door.

4.7.4 Record the date, time, gas meter reading and gas meter used in the SAMPLE OFF space on the envelope located in the cabinet.

4.7.5 Turn the pump switch to the OFF position.

4.7.6 Unscrew the filter holder and remove the used particulate filter and radioiodine cartridge filters.

4.7.7 Indicate the direction of flow of the cartridge with an arrow and label with the sample station, and date. Place the used cartridge in a plastic bag. Place used filter in appropriate container.

4.7.8 Remove the gloves and place in a plastic bag for use at the next sample location, if appropriate.

4.7.9 Label a new air sample envelope with the sample station, date and time on, gas meter reading and gas meter number.

4.7.10 Reset the pump run time indicator or record time indicator reading as applicable. Inspect the flow path to the filter for obstructions.

4.7.11 Label the discharge side of a new particulate filter with the station designation and date. Label the new radioiodine cartridge with station designation, flow direction and date. Insert the new particulate filter and new radioiodine cartridge. Fasten the sample holder back together.

4.7.12 Check that the new particulate filter is placed on the inlet side of the radioiodine cartridge. Repeat 4.7.11 if the filter is placed incorrectly.

4.7.13 Turn the pump switch to the ON position.

4.7.14 Place the new air sample envelope in the cabinet.

4.7.15 Collect the emergency TLD and install a new emergency TLD utilizing procedure steps 4.8.1 through 4.8.3, if provided during briefing.

4.7.16 Close and lock the cabinet.

4.7.17 Load TLD and/or air samples in the vehicle.

4.7.18 Report your team number, sample location, and the information on the used air sample envelope to the radio dispatcher.

4.7.19 Continue to the next designated location and begin this procedure at step 4.7, 4.8, or 4.9 as applicable. If environmental sample collection has been completed, continue this procedure with step 4.10.

4.7.20 If air samples are to be taken using portable air samplers, refer to steps 4.6.5 - 4.6.9.

4.8 **Emergency TLD Collection/Installation**

4.8.1 Prior to collecting any emergency and/or environmental TLDs, ensure requirements of EAP-27, ESTIMATION OF POPULATION DOSE WITHIN THE 10 MILE EPZ, have been fulfilled.

4.8.2 Collect emergency TLD from survey/sample location or emergency TLD monitoring station. Record TLD number and location on Environmental/Emergency TLD Form, Attachment 15.

4.8.3 Install a new TLD. Record TLD number and location on Environmental/Emergency TLD Form, Attachment 15.

4.8.4 Complete steps 4.7.15 through 4.7.19 if you are at an air sampling location.

4.8.5 Load TLD in the vehicle.

4.8.6 Report your team number and sample location to the radio dispatcher at each location.

4.8.7 Continue to the next designated location and begin this procedure at step 4.7, 4.8, or 4.9, as applicable. If environmental sample collection has been completed, proceed to step 4.10.

NOTE: Environmental TLDs are to be collected only if replacements are available at the time of collection, unless otherwise instructed by the Radiological Support Coordinator or designee.

4.8.8 Collect environmental TLDs in accordance with steps 4.8.1 through 4.8.7. (Additional information concerning the collection of environmental TLDs is found in SP-04.01, RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM.)

4.9 Other Environmental Media Sample Collection

(Refer to Radiological Environmental Sampling Program, Attachment 16, for guidance while collecting samples.)

4.9.1 If water is to be sampled,

A. Measure and record (on Attachment 3) radiation readings at the surface and 3 feet above the surface of the water.

B. Collect surface water sample using clean, unused polyethylene containers. (Each sample must total one (1) gallon in volume, whether in one or more containers.)

C. Record applicable information on the Environmental Sample Information Form, Attachment 3. Make sure to indicate whether the sample is still water (i.e. pond) or running water (i.e. stream).

D. Seal containers for transit with tape.

E. Label containers with a date, time and location, and record on Attachment 3.

F. Load sample containers in vehicle for transfer to laboratory for analysis.

4.9.2 If milk is to be sampled,

A. Measure and record (on Attachment 3) radiation readings at the surface and 3 feet above the surface of the container.

B. Request local farmers to remove raw milk samples from collecting tanks or direct samples from cows and place sample in clean, unused polyethylene containers in presence of sample team. (Each sample must total one (1) gallon in volume, whether in one or more containers.)

C. Record applicable information on the Environmental Sample Information Form, Attachment 3.

D. Seal containers for transit with tape.

E. Label containers with a date, time and location, and record on Attachment 3.

F. Load sample containers in vehicle for transfer to laboratory for analysis.

4.9.3 If soil is to be sampled,

A. Measure and record (Attachment 3) radiation readings at surface of soil and 3 feet above it.

B. The potentially contaminated area should be segmented into a grid pattern of approximately 100 square feet (10 ft. x 10 ft.). The grid size may be adjusted to accommodate the overall area.

C. Prepare a sample map designating sample locations.

D. One sample shall be taken from each grid. The sample should represent a known sample surface area which is determined by the sampling device used. The size of the surface area should be sufficient to provide a minimum of 500 ml of sample.

E. Use a sample device of a known surface area, such as a small coring device or a small trowel with a template.

F. Samples shall be collected to depth of 1.0 inch, or when taking samples of a deeper profile, the soil should be removed to the desired depth in 1.0 inch layers down to the desired depth. Using the sampling device, carefully remove each inch layer (as required) of soil. Rock and debris greater than approximately 0.5" across should be removed from the sample.

G. Place the soil in a plastic bag and seal with tape. Only one layer of soil should be placed in each bag. Label the bag with the date, time, location, and grid location, sample surface area and map number, if appropriate.

H. Place a stake in the ground where the sample was taken. Note the sample number on the stake. This step is optional.

I. Wipe down the digging tool and plastic ring to avoid the spreading of contamination to the next sample location.

J. Record appropriate data on Attachment 3.

K. Load samples in vehicle for transfer to laboratory for analysis.

4.9.4 If vegetation is to be sampled,

A. Measure and record (Attachment 3) radiation readings at surface and 3 feet above it.

B. Vegetation should be sampled based on deposition possibilities and availability for sufficient sample size. Tree or shrub leaves should be sampled from the outer perimeter of the tree or shrub that is not sheltered and would be most representative of deposition. Ground covers such as lettuce or flowers should be sampled from open areas. Large leaf vegetation is better than small leaf vegetation. If rain has occurred since the release, any deposited contamination may have been washed off.

C. Take samples of leafy vegetation in quantities of about 2 1/2 pounds (approximately 1 kg.) using shears if necessary.

D. Place samples in an appropriate size polyethylene bag and close bag securely.

E. Record applicable information on the Environmental Sample Information Form, Attachment 3.

F. Label bag with the date, time and location, and record on Attachment 3.

G. Load sample bags in vehicle for transfer to laboratory for analysis.

4.9.5 If snow is to be sampled,

A. Select the area to be sampled from the general location that has not been subjected to non-meteorological disturbances (i.e. plowing, etc.). When selecting areas to sample consideration must be given to the following variables:

1. Rate of snowfall at and since the time of release (i.e. this would influence the snow sample depth of interest).

2. Air temperatures since the snowfall of interest has occurred (i.e. warming trend may cause surface snow to melt).

3. Wind speed and direction (i.e. drifting of snow).

4. Sunshine, rain or other conditions occurring after the snowfall of interest (i.e. melting, freezing and/or rain may mean the snow deposition is fixed in an ice layer and is not affected by winds).

B. Measure and record (Attachment 3) radiation readings at surface of snow and 3 feet above it.

C. Locate two (2) reference points at the sampling location.

D. Collect snow at a depth sufficient to be representative of the snow of interest (i.e. see variables in step 4.9.5.A). A sample size of approximately one square foot area should be obtained.

E. Place sample in clean, unused polyethylene bag. It is recommended that containers be double bagged to prevent leakage as snow melts. Label sample with the date, time, location and number.

F. Record the following data on Attachment 3: location selected, area sampled in square feet, depth sampled, direction and approximate feet from two reference points, weather conditions, and time of sampling.

G. Load samples in vehicle for transfer to laboratory for analysis.

4.9.6 If grass is to be sampled,

A. Measure and record (Attachment 3) radiation readings at the surface and 3 feet above it.

B. Locate two reference points at the sampling location.

C. Clip the grass in the sample area as close to the roots as possible without including dirt. Grass samples should total 1 kg. in volume.

D. Place samples in an appropriate size container and close securely. Label sample with the date, time and location.

E. Record applicable information on Attachment 3: location selected, direction and distance from two reference points, time of sampling and approximate surface area sampled.

F. Load samples in vehicle for transfer to laboratory for analysis.

4.10 **Survey Team Closeout**

4.10.1 Return to the location specified by the dispatcher and turn in samples and records.

4.10.2 Before dropping off the vehicle, remove any protective clothing and respirators. Place the used protective clothing on the vehicle floor until a contamination survey is completed.

4.10.3 Check the survey vehicle interior and exterior for possible contamination with the count rate meter before leaving the vehicle in the parking lot. Report readings above background as designated during briefing to the dispatcher for further instructions. Otherwise, proceed to the location specified. See EAP-24, EOF VEHICLE AND PERSONNEL DECONTAMINATION.

4.10.4 Check equipment for contamination at the dispatch center. If contamination is found, refer to EAP-24, EOF VEHICLE AND PERSONNEL DECONTAMINATION.

4.10.5 Monitor each other for contamination (>100 cpm above background on a count rate survey meter). If contamination is detected, radio the dispatcher to request further directions and aid in performing decontamination measures. See EAP-24, EOF VEHICLE AND PERSONNEL DECONTAMINATION. Request an individual to pick up environmental samples, TLDs and data forms so that laboratory analyses can be made. Return to the dispatch center after decontamination with your dosimeters.

4.10.6 Check each team member's dosimeter reading, record it under "Final Dosimeter Reading" on Attachment 1. Turn over this record and the other data forms to the dispatcher, Chemistry Lab or Environmental Lab as appropriate.

5.0 **ATTACHMENTS**

1. SURVEY TEAM BRIEFING FORM
2. DOWNWIND SURVEY LOG SHEET
3. ENVIRONMENTAL SAMPLE INFORMATION FORM
4. ONSITE EMERGENCY PLANNING SURVEY MAP
5. ONSITE ENVIRONMENTAL STATION AND TLD LOCATIONS
6. OFFSITE ENVIRONMENTAL STATION AND TLD LOCATIONS
7. ONSITE EMERGENCY PLANNING SURVEY
8. OFFSITE SURVEY LOCATIONS MAP 4
9. COMBINED NMPNS/JAFNPP SITE MAP
10. TABLE OF ONSITE AND OFFSITE SURVEY/SAMPLE LOCATIONS
11. LIST OF ENVIRONMENTAL MONITORING STATIONS
12. LIST OF ENVIRONMENTAL TLDS
13. LIST OF EMERGENCY TLDS
14. SURVEY TEAM COMMUNICATION FORM
15. ENVIRONMENTAL/EMERGENCY TLD FORM
16. RADIOLOGICAL ENVIRONMENTAL SAMPLING PROGRAM
17. NMP SITE SURVEY LOCATIONS

SURVEY TEAM BRIEFING FORM

1. Date _____ Time _____ Team No. _____ Survey Requested By _____

2. Team Dispatcher _____; Dispatch Center at _____ tel. no. _____

3. Team Leader _____; Initial dosimeter reading _____ TLD No. _____
   Final dosimeter reading _____

4. Team Member _____; Initial dosimeter reading _____ TLD No. _____
   Final dosimeter reading _____

5. Maximum dose allowed for this survey: (Refer to EAP-15, Emergency Exposure Criteria and Control*)
   Team Leader: _____ rem; authorized by: _____
   Team Member: _____ rem; authorized by: _____

6. Nature of airborne release: _____ ground; _____ elevated; _____ unknown.

7. Survey points/locations:
   _____
   _____

8. Wind directions (from) or critical sectors/ERPAs: _____

9. Environmental monitoring stations to be checked and samples brought back: (if known)
   Station No. or location: _____, for: _____ air; _____TLD
   _____, for: _____ air; _____TLD
   _____, for: _____ air; _____TLD

10. Projected dose rates at survey locations (when available):
    location: _____: dose rate: _____ mr/hr
    location: _____: dose rate: _____ mr/hr
    location: _____: dose rate: _____ mr/hr

11. Protective measures to be used:

(1) __x__ pocket dosimeter	(6) _____ coveralls/hood	(10) other (specify)
(2) __x__ TLD	(7) _____ gloves	_____
(3) _____ other dosimeter (specify)	(8) _____ shoe covers	_____
(4) _____ SCBA	(9) _____ KI	_____
(5) _____ respirator/cartridges/filters		

12. Radiation data to be collected:
    (1) beta/gamma (3 foot) (3) beta/gamma (3 inches)
    (2) air sample (4) other (specify) _____

13. Assigned radio channel/telephone number for callback: _____

14. Any other special or hazardous conditions: _____

15. Special instructions: _____
    _____

16. Meteorological Data/Forecast: _____
    _____

17. Plant conditions/emergency classification: _____
    _____

18. Survey Info. briefed/filled in by _____ at _____

A COPY OF THIS FORM SHALL BE PROVIDED TO EACH SURVEY TEAM.

DOWNWIND SURVEY LOG SHEET

Date of Surveys ___/___/___

Team No. ____:
(Name) _____
(Name) _____
(Name) _____

Team No. ____:
(Name) _____
(Name) _____
(Name) _____

Team No. ____:
(Name) _____
(Name) _____
(Name) _____

NOTE: Iodine canisters with count rate greater than 8,500 net cpm should be returned to the site for HPGe analysis on a priority basis.

Team No.	Survey Location	Distance From Site (miles)	Time	Dose Rate 3 inch (mrem/hr)	Dose Rate 3 foot (mrem/hr)	Sample Volume (ft^3) (obtain 25 ft^3¿	Air Sample net cpm (Gross-Bkg=Net)
				Open Window =	Open Window =		Iodine Bkg: Iodine Net:
				Closed Window =	Closed Window =		Part. Bkg: Part. Net:
				Open Window =	Open Window =		Iodine Bkg: Iodine Net:
				Closed Window =	Closed Window =		Part. Bkg: Part. Net:
				Open Window =	Open Window =		Iodine Bkg: Iodine Net:
				Closed Window =	Closed Window =		Part. Bkg: Part. Net:

Team No. _____:
Dose Rate Instrument Model # _____ S/N _____
Count Rate Instrument Model # _____ S/N _____
High Volume Air Sampler Model # _____ S/N _____

Team No. _____:
Dose Rate Instrument Model # _____ S/N _____
Count Rate Instrument Model # _____ S/N _____
High Volume Air Sampler Model # _____ S/N _____

Team No. _____:
Dose Rate Instrument Model # _____ S/N _____
Count Rate Instrument Model # _____ S/N _____
High Volume Air Sampler Model # _____ S/N _____

ENVIRONMENTAL SAMPLE INFORMATION FORM

Type of Sample _____ Sample Number _____

Date _____ Time _____

Technician _____

Location _____

Reference Object #1 Reference Object #2

_____ Direction _____

_____ Distance _____

Draw Map

Radiation Survey Before Sampling

Reading at Surface _____mrad/hr(OW) _____mr/hr (CW)

Reading at 3 feet _____mrad/hr(OW) _____mr/hr (CW)

Sample Size (sq. ft.) _____ Sample Depth (in.) _____
(if appropriate) (if appropriate)

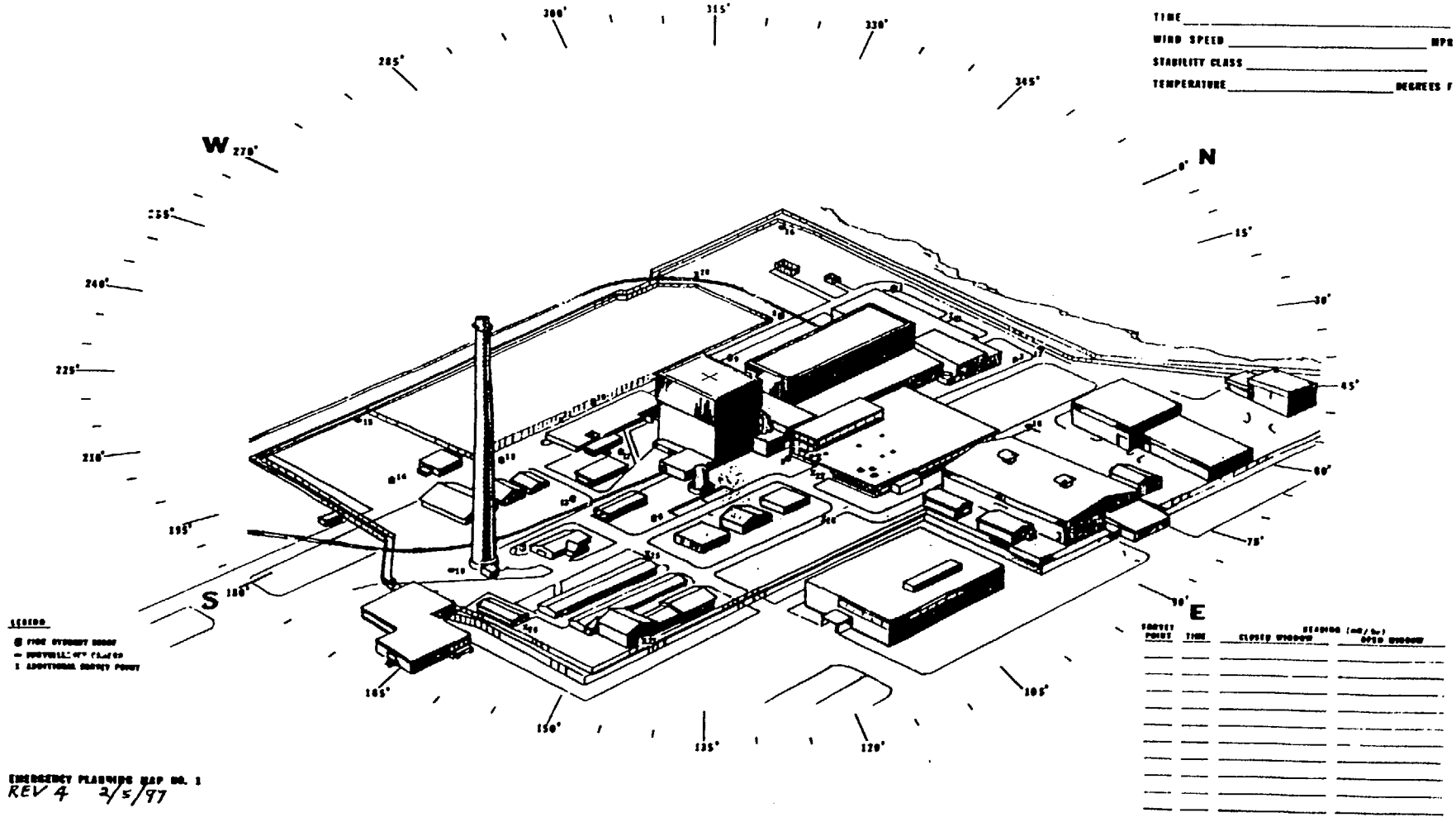
Weather conditions _____

_____

Remarks _____

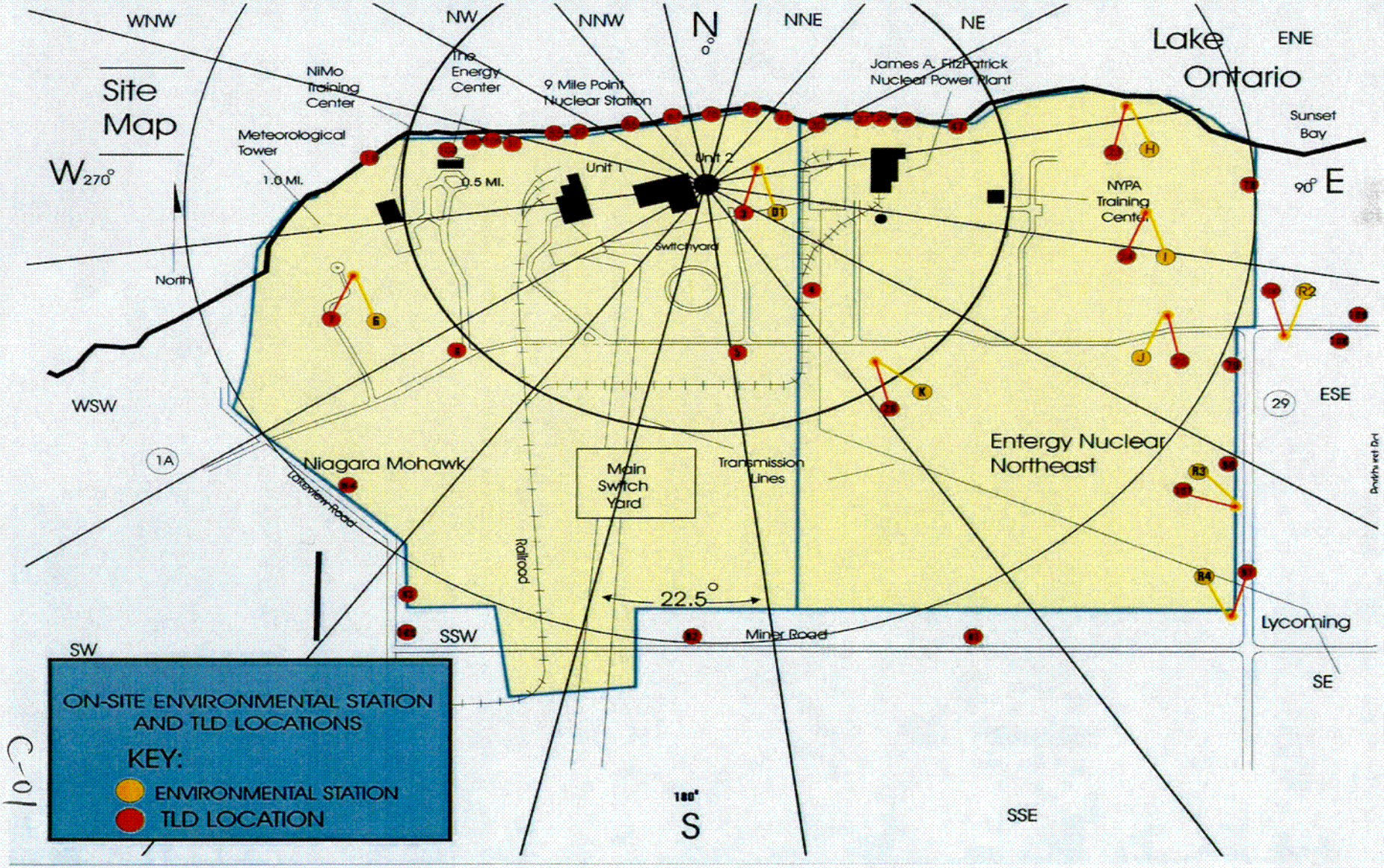
_____

ATTACHMENT 4
ONSITE EMERGENCY PLANNING SURVEY MAP



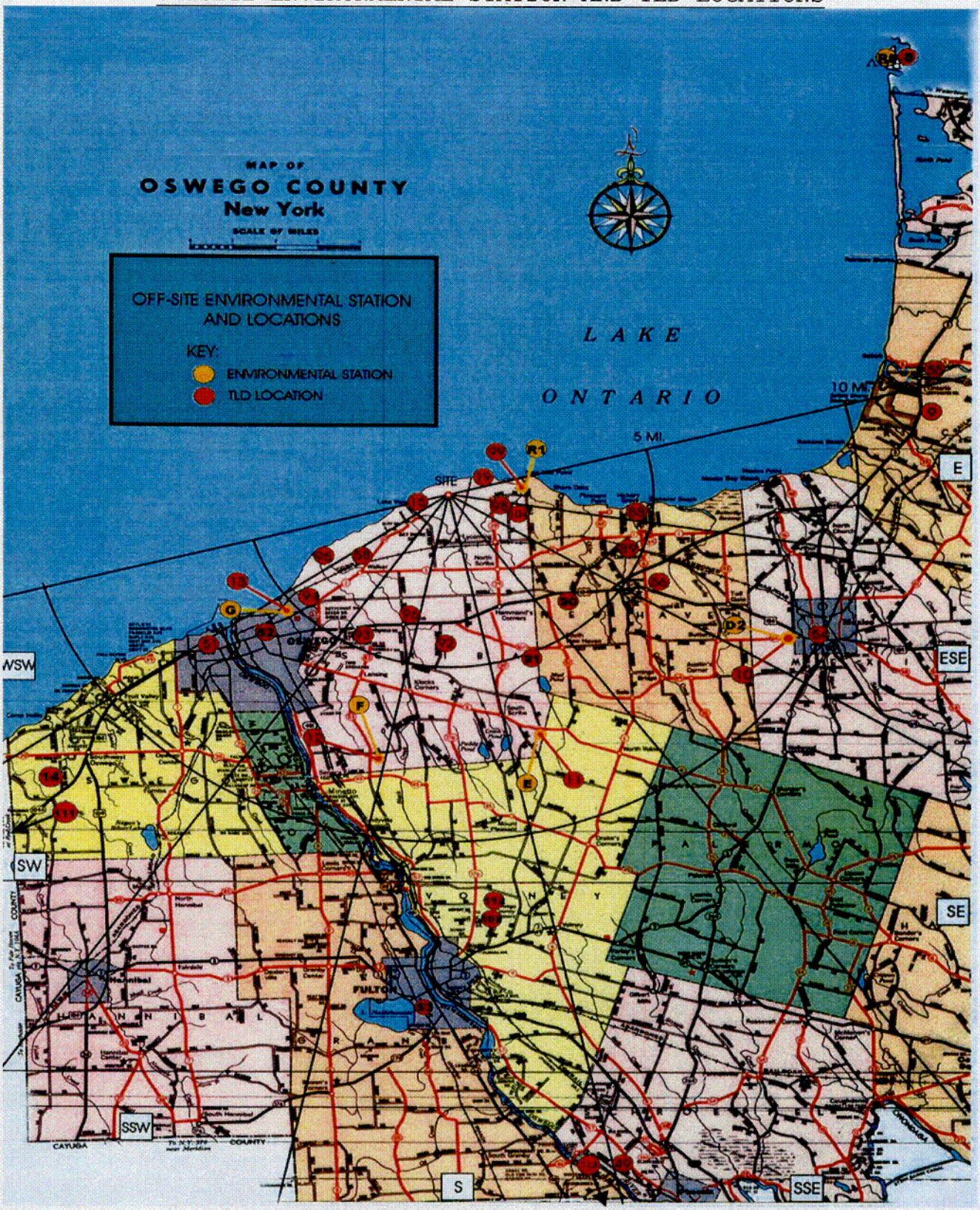
ATTACHMENT 5

ONSITE ENVIRONMENTAL STATION AND TLD LOCATIONS



ATTACHMENT 6

OFFSITE ENVIRONMENTAL STATION AND TLD LOCATIONS



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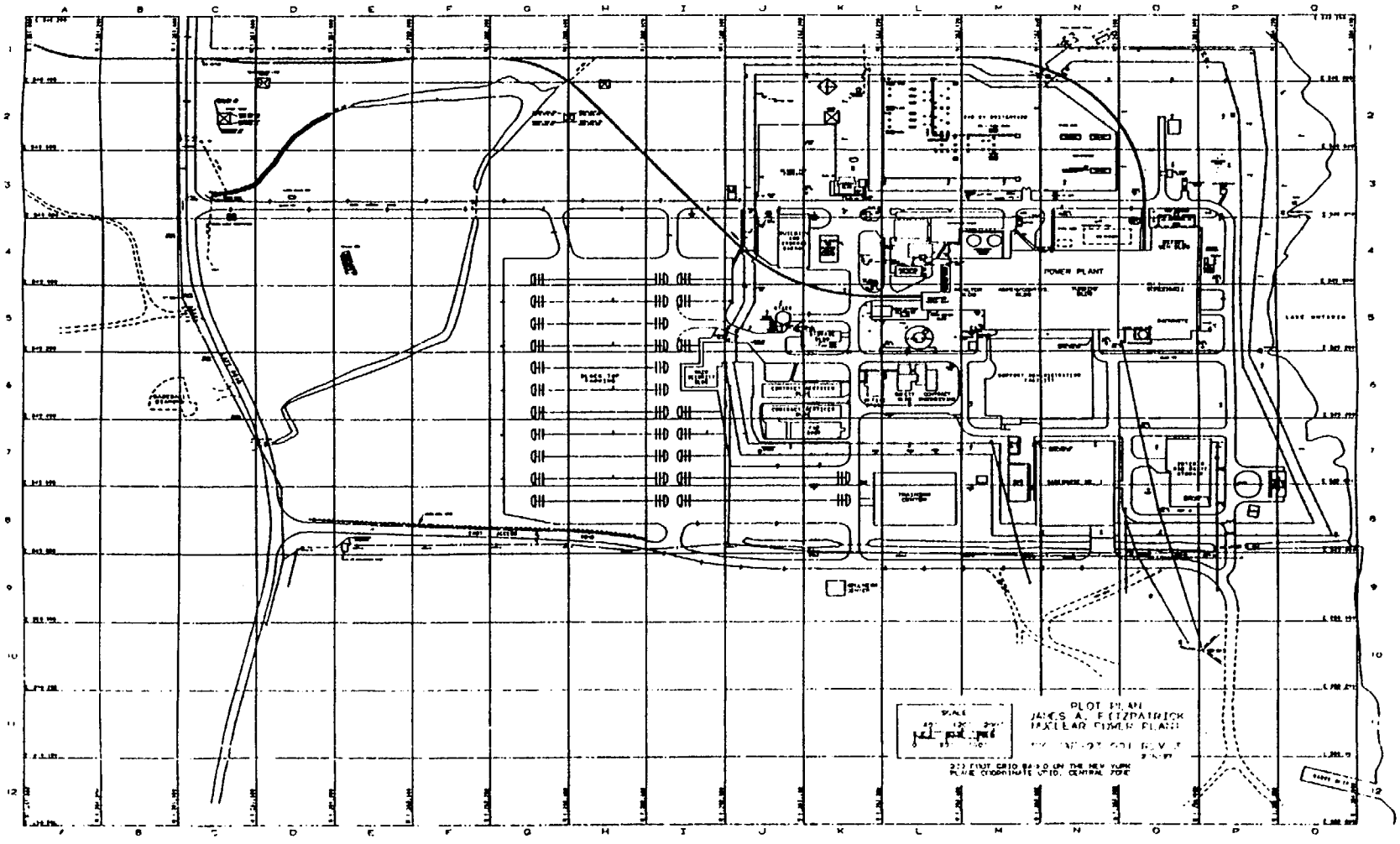
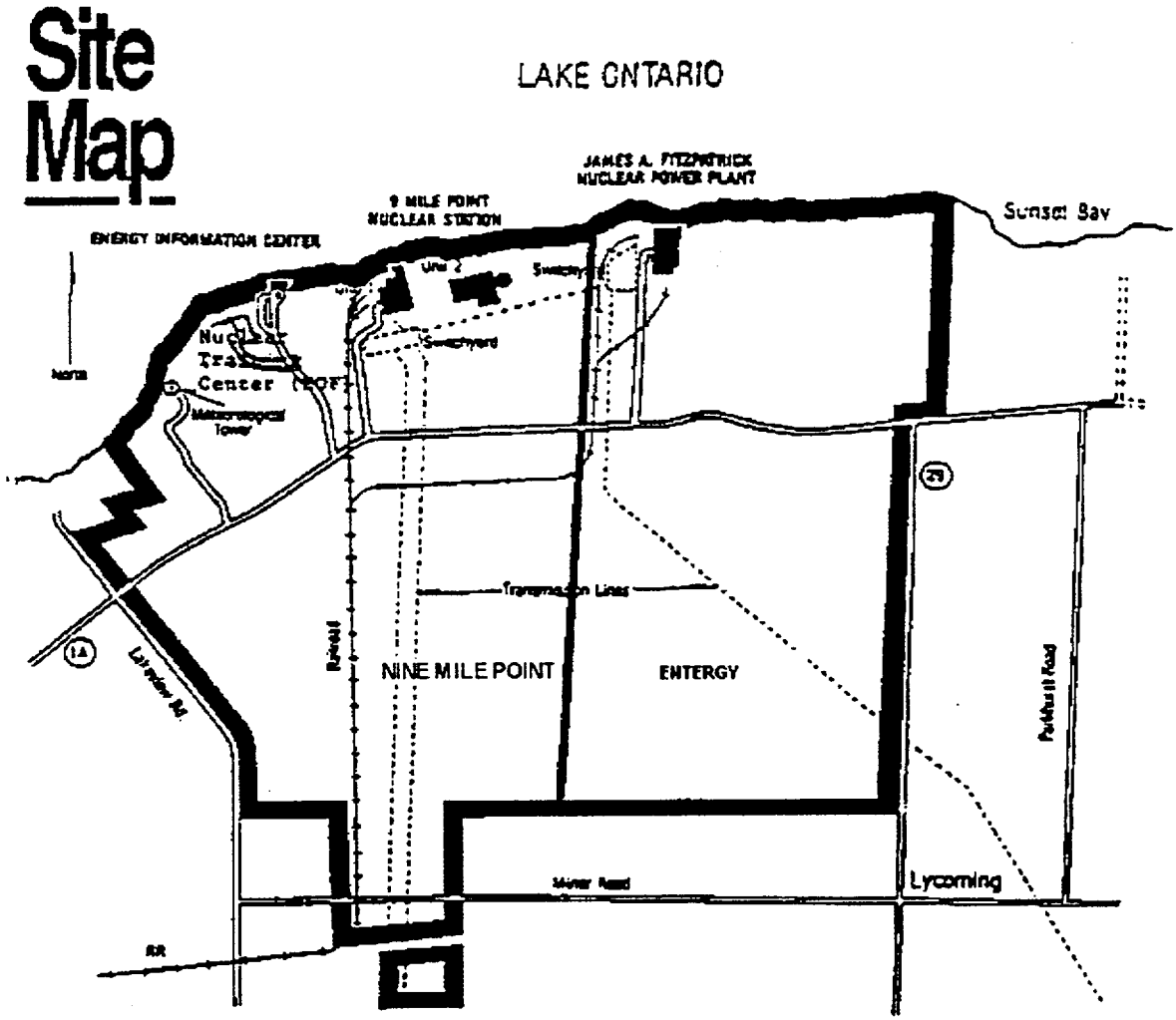
ATTACHMENT 7

ONSITE EMERGENCY PLANNING SURVEY



ATTACHMENT 9

COMBINED NMPNS/JAFNPP SITE MAP



ATTACHMENT 10

TABLE OF ONSITE AND OFFSITE SURVEY/SAMPLE LOCATIONS

SECTOR & SAMPLE ID#	LOCATION DESIGNATION	DISTANCE FROM SITE**	AZIMUTH°	ERPA(S)
C-1 (offsite)	1.3 miles north on Montario Point Road by Environmental Station C.	16.2 miles	40°	N/A*
D-1 (onsite)	30' south of Main Warehouse at NMP-2 BY ENVIRONMENTAL STATION D_1	0.4 miles	72°	1
D-2 (onsite)	Dirt access road along the lake on JAFNPP Site by Environmental Station H.	1.0 mile	73°	1
D-3 (offsite)	In hamlet of Selkirk on County Route 5.	11.3 miles	71°	14
D-4 (offsite)	0.65 miles north of the entrance to Selkirk Shores State Park on Route 3.	11.3 miles	77°	14
D-5 (offsite)	Corner Rainbow Shores Road and Route 3.	13.5 miles	65°	N/A*
E-1 (onsite)	In front of NMP-2 combined construction offices.	0.3 miles	89°	1
E-2 (onsite)	On dirt access road at Environmental Station I	0.9 miles	93°	1
E-3 (offsite)	Corner of Lake Road and Nine Mile Point Road.	1.9 miles	97°	1,2
E-4 (offsite)	Shore Oaks - at the end of Shore Oaks Drive.	2.7 miles	94°	2,4
E-5 (offsite)	Hickory Grove - at the end of Hickory Grove Drive.	4.6 miles	96°	4
E-6 (offsite)	Intersection of Route 104B, Route 1 and Route 43.	6.6 miles	101°	7
E-7 (offsite)	Texas - intersection of Route 104B and County Route 16.	7.8 miles	95°	15
E-8 (offsite)	Corner of Ramona Beach Road AND ROUTE 3.	10.2 miles	86°	14

*N/A = not in an ERPA, outside 10 mile EPZ.

**Center of site is NMP Unit 2.

TABLE OF ONSITE AND OFFSITE SURVEY/SAMPLE LOCATIONS

SECTOR & SAMPLE ID#	LOCATION DESIGNATION	DISTANCE FROM SITE**	AZIMUTH°	ERPA(S)
F-1 (onsite)	Along Lake Road about 0.3 miles east of JAFNPP access road to Environmental Station J.	1.2 miles	107°	1
F-2 (offsite)	Intersection of County Route 29 and Lake Road.	1.1 miles	105°	1
F-3 (offsite)	Nine Mile Point Road halfway between Lake Road and Miner Road intersection.	2.1 miles	114°	2
F-4 (offsite)	Intersection of Pleasant Point Drive and County Route 1.	3.9 miles	110°	4
F-5 (offsite)	Intersection of Route 104 and Route 6 by New Haven School and Environmental TLD #56.	5.5 miles	121°	4,7,8,9
F-6 (offsite)	Intersection of Route 104 and Route 43 at Tollgate.	7.4 miles	116°	7,8
F-7 (offsite)	Intersection of County Route 64 and Route 104 in the Village of Mexico.	9.3 miles	117°	16
G-1 (onsite)	NMP-2 Main Access Road near Security Building.	0.2 miles	129°	1
G-2 (onsite)	Along NMP-2 material access road near Lake Road intersection.	0.5 miles	142°	1
G-3 (onsite)	250' south of JAFNPP access road on Lake Road by Environmental Station K.	0.7 miles	131°	1
G-4 (offsite)	Intersection of Miner Road and County Route 29.	1.9 miles	142°	1,2
G-5 (offsite)	Intersection of Nine Mile Point Road and County Route 1.	2.8 miles	134°	2,4,5
G-6 (offsite)	Intersection of Route 104 & 104B.	4.8 miles	126°	4,9
G-7 (offsite)	Intersection of Lilly Marsh Road and Darrow Road.	6.1 miles	35°	9
G-8 (offsite)	Cummings Bridge - intersection of Routes 6 and 51.	7.3 miles	136°	8,9

**Center of site is NMP Unit 2.

TABLE OF ONSITE AND OFFSITE SURVEY/SAMPLE LOCATIONS

SECTOR & SAMPLE ID#	LOCATION DESIGNATION	DISTANCE FROM SITE**	AZIMUTH°	ERPA(S)
G-9 (offsite)	Hamlet of Vermillion on Route 35.	9.6 miles	137°	8,18
H-1 (onsite)	South side of Lake Road about 800' west of NMP-2 material access road.	0.5 miles	155°	1
H-2 (offsite)	Nine Mile Pole #3, half-way between the two transmission lines on Miner Road.	1.6 miles	157°	1,2,3
H-3 (offsite)	North Scriba - intersection of County Routes 1 and 29.	2.5 miles	152°	2,5
H-4 (offsite)	Hammonds Corners - intersection of Routes 104 and 29.	3.5 miles	159°	5,10
H-5 (offsite)	South New Haven - intersection of Routes 51 and 51A.	5.2 miles	149°	9
H-6 (offsite)	250' east of O'Connor Road and County Route 4 by Environmental Station E.	7.1 miles	159°	18
H-7 (offsite)	Intersection of County Route 6 and McDougall Road.	9.2 miles	156°	18
J-1 (onsite)	Along Lake Road, south of NMP-2 Cooling Tower.	0.4 miles	174°	1
J-2 (offsite)	NMP Pole #1 - intersection of Miner Road and NMP Transmission Road.	1.5 miles	177°	1,3
J-3 (offsite)	Intersection of North Road and NMP Transmission Lines east of Lakeview Road.	2.2 miles	178°	3,5
J-4 (offsite)	Intersection of Route 104 and County Route 51A.	3.8 miles	176°	5,10
J-5 (offsite)	Intersection of O'Connor Road and Hay Fly Road.	5.5 miles	176°	10
J-6 (offsite)	Intersection of Route 176 and Black Creek Road.	7.9 miles	177°	20
J-7 (offsite)	Intersection of Route 176 and Howard Road.	11.1 miles	176°	N/A*

*N/A = not in an ERPA, outside 10 mile EPZ.
**Center of site is NMP Unit 2.

TABLE OF ONSITE AND OFFSITE SURVEY/SAMPLE LOCATIONS

SECTOR & SAMPLE ID#	LOCATION DESIGNATION	DISTANCE FROM SITE**	AZIMUTH°	ERPA(S)
K-1 (onsite)	Intersection of Lake Road and E. I. C. ROAD.	0.8 miles	211°	1
K-2 (offsite)	Intersection of Miner Road and Lakeview Road.	1.6 miles	189°	1,3
K-3 (offsite)	Intersection of County Route 1 (North Road) and Creamery Road.	2.6 miles	205°	3,5,6
K-4 (offsite)	Scriba - intersection of Route 104, Creamery Road and Klocks Corners Road.	3.9 miles	194°	5,6,10,11
K-5 (offsite)	Lansing - intersection of County Routes 4 & 53.	5.7 miles	201°	11,19
K-6 (offsite)	0.55 miles east of the corner of Route 53 and Dutch Ridge Road by Environmental Station F.	7.6 miles	193°	19
K-7 (offsite)	Minetto - intersection of County Route 48 and Worden Road.	9.0 miles	201°	21
L-1 (onsite)	Energy Information Center access road, approx. 600' from Lake Road.	0.5 miles	224°	1
L-2 (offsite)	Intersection of Lakeview and Lake Road (Co. Rt. 1A).	1.4 miles	219°	1,3
L-3 (offsite)	Walker - intersection of County Routes 1 and 1A.	3.1 miles	221°	3,6
L-4 (offsite)	100' N of Seneca St. on St. Paul's Cemetery Road by Env. Sta. G.	5.2 miles	226°	12
L-5 (offsite)	Oswego - inter. of Rtes. 104 & 481.	6.6 miles	229°	12
L-6 (offsite)	SUNY at Oswego - intersection of Route 104 and college access road.	8.1 miles	232°	22
L-7 (offsite)	Oswego Center - intersection of County Routes 7 and 20.	9.6 miles	220°	20
M-1 (onsite)	Energy Information Center access road - near intersection to NMP Training Center.	0.5 miles	246°	1
M-2 (onsite)	Meteorological Tower.	0.8 miles	250°	1
N-1 (onsite)	Energy Information Center.	0.4 miles	265°	1

**Center of site is NMP Unit 2.

ATTACHMENT 11

LIST OF ENVIRONMENTAL MONITORING STATIONS

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
D	D1 Onsite	30' south of NMP-2 Main Warehouse.	E, N.E.	2500'
D	H Onsite	Dirt access road on JAFNPP site along the lake.	E, N.E.	5000'
E	I Onsite	Along dirt access road .5 mile south of Environ-mental Station H (onsite).	E	4500'
F	J Onsite	Along Lake Road (1600') .3 mile east of JAFNPP access road.	E, S.E.	4700'
F	K Onsite	250' south of Lake Road near JAFNPP access road.	E, S.E.	3525'
K	G Onsite	Nine Mile Meteorological Tower.	S, S.W.	2100'

ATTACHMENT 11

LIST OF ENVIRONMENTAL MONITORING STATIONS

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
E	R1 Offsite	NMP Road, .4 miles North of Lake Road	E	1.8 miles
F	R2 Offsite	Rt. 29 and Lake Road	E, S.E.	1.5 miles
G	R3 Offsite	Rt. 29, .7 miles South of Lake Road	S.E.	1.5 miles
G	R4 Offsite	Rt. 29 and Miner Road	S.E.	2.2 miles
C	R5 Offsite	0.3 miles north on Montario Point Road	N.E.	16.2 miles
L	G	100' N. of Seneca St. on St. Paul's Cemetery Rd.	S.W.	5.3 miles
F	D2	0.75 mile W. on Co. Rt. 64 in Village of Mexico	E, S.E.	9.1 miles
H	E	250' E. of O'Connor Rd. on Co. Rt. 4	S, S.E.	7.3 miles
J	F	0.55 mile E. of Co. Rt. 53 on Dutch Ridge Road	S	7.8 miles

LIST OF ENVIRONMENTAL TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
A	75	Unit 2, N. Fence North of Rx. Bldg. (RETS #6)	N	800'
A	76	Unit 2, N. Fence North of Change House (RETS #7)	N	600'
A	77	Unit 2, N. Fence North of Pipe Bldg. (RETS #8)	N	600'
A	86	Unit 2, N. Fence, N. of W. Side Screen House (RETS #20)	N	500'
A	87	Unit 2, N. Fence, N. of E. Side Screen House (RETS #21)	N	500'
B	39	N. Fence, Opp. RW Bldg. NMP-1	N, N.E.	300'
D	3	30' South of NMP-2 Stone & Webster Warehouse by Environmental Station D1	E, N.E.	2500'
D	23	Dirt access road along the Lake on JAFNPP site by Environmental Station H (Onsite) (RETS #9)	E, N.E.	5000'
D	27	North fence inside JAFNPP by lake shore, North of Screenhouse	E, N.E.	1100'
D	28	Light pole inside JAFNPP across from road intersection, North of Screenhouse	E, N.E.	3600'
D	29	North fence inside JAFNPP North of Screenhouse	E, N.E.	3400'
D	30	Northwest corner of fence at lake shore	E, N.E.	2800'
D	47	NE shoreline inside JAFNPP on fence near Sewage Treatment Plant	E, N.E.	4100'
E	19	East boundary JAFNPP Site Pole #9	E	6900'
E	24	Along dirt access road by I Onsite Environmental Station	E	4500'

LIST OF ENVIRONMENTAL TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
E	78	JAF, E. of E. Old Laydown Area, on tree (RETS #10)	E	4900'
E	106	Shoreline Cove, E. of NMP-1, tree of W. edge	E	6900'
E	107	Shoreline Cove, E. of NMP-1, tree 30' S. of #106	E	6900'
F	25	Along Lake Road (1600') 0.3 mile east of JAFNPP access road by J Onsite Environmental Station	E, S.E.	4700'
F	26	250' south of Lake Road, near JAFNPP access road by K Onsite Environmental Station	E, S.E.	3525'
G	4	Along NMP-2 access road 50' from Lake Road	S.E.	2800'
G	5	Along south side of Lake Road 800' west of materials access road	S.E.	2300'
J	6	Along south side of Lake Road 500' east of NMP-1 access road	S	2000'
K	7	0.5 mile north of Lake Road at NMPC meteorological tower by G Onsite Environmental Station (RETS #17)	S, S.E.	2100'
N	18	Energy Information Center picnic area north shore on lamp post (RETS #18)	W	1600'
N	103	Energy Information Center Garage Road, lamp post	W	1600'
Q	31	North fence NMP-1	N, N.W.	00'
Q	85	Unit 1, N. Fence, N. of W. Side Screen House (RETS #19)	N, N.W.	400'

LIST OF ENVIRONMENTAL TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
C	8	0.3 miles West on Montario Point Road by R5 Offsite Environmental Station	N.E.	16.2 miles
D	55	Gas Substation, Route 5, West of Pulaski, New York	E, N.E.	14.0 miles
E	9	0.65 mile north of the entrance to Selkirk Shores State Park on Route 3	E	11.7 miles
E	88	Hickory Grove Rd., pole #2 0.6 miles N, of Rt. 1 (RETS #22)	E	4.8 miles
E	98	Lake Rd., pole #145, 0.15 miles E. of Rt. 29 (RETS #37)	E	1.2 miles
E	99	NMP Rd., 0.4 miles N. of Lake Rd. Environmental Station R1	E	1.8 miles
F	10	0.75 mile west on County Route 64 in Village of Mexico by Environmental Station D2	E, S.E.	9.1 miles
F	56	Route 104 New Haven School S.E. corner on pole (RETS #35)	E, S.E.	5.3 miles
F	54	Liberty Street & County Route 16 - Mexico High School on pole	E, S.E.	9.8 miles
F	79	Co. Rt. 29 S, pole #63, 0.2 miles S. of Lake Rd. (RETS #11)	E, S.E.	1.3 miles
F	89	Leavitt Rd., pole #16, 0.4 miles S. of Rt. 1 (RETS #23)	E, S.E.	5.0 miles
F	100	Rt. 29 and Lake Rd., Env. Sta. R2	E, S.E.	1.5 miles
F	104	Parkhurst Rd. Pole #148□A, 0.1 mi. S. of Lake Rd.	E, S.E.	1.6 miles
F	108	Lake Rd., Pole #143, 300 ft. East of Rt. 29, south side	E, S.E.	1.0 miles

LIST OF ENVIRONMENTAL TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
F	109	Lake Rd., tree 300 ft. East of Rt. 29, north side	E, S.E.	1.0 miles
G	80	Co. Rt. 29 S, pole #54, 0.7 miles S. Lake Rd. (RETS #12)	S.E.	1.8 miles
G	90	Rt. 104, pole #300, 150 ft. E. of Keefe Rd. (RETS #24)	S.E.	4.4 miles
G	97	Rt. 29, pole #50, 200 ft. N. of Miner Rd. by Env. Sta. R4 (RETS #34)	S.E.	1.5 miles
G	101	Rt. 29, 0.7 miles S. of Lake Rd., Env. Sta. R3	S.E.	1.5 miles
H	11	250' east of O'Connor Road on County Route 4 by E Offsite Environmental Station	S, S.E.	7.3 miles
H	49	Phoenix, N.Y. - Control (Connolly Res.) (RETS #30)	S, S.E.	19.6 miles
H	81	Miner Rd., pole #16, 0.5 miles W. of Rt. 29 (RETS #13)	S, S.E.	1.7 miles
H	91	Rt. 51A, pole #59, 0.8 miles W of Rt. 51 (RETS #25)	S, S.E.	5.0 miles
J	12	0.55 mile East of County Route 53 on Dutch Ridge Road by F Offsite Env. Sta.	S	7.8 miles
J	53	Broadwell & Chestnut Street Fulton High School	S	14.8 miles
J	82	Miner Rd. pole #1 1/2, 1.1 miles W. of Rt. 29 (RETS #14)	S	1.7 miles
J	92	Maiden Lane Rd., power pole, 0.6 miles S of Rt. 104 (RETS #26)	S	4.5 miles
J	102	EOF/EL, Fulton Airport	S	11.5 miles
J	112	EOF/EL, Fulton Airport	S	11.5 miles

LIST OF ENVIRONMENTAL TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
K	83	Lakeview Rd., Birch Tree, 0.45 miles N. of Miner Rd. (RETS #15)	S, S.W.	1.2 miles
K	93	Rt. 53, pole #1-1, 120 ft. S of Rt. 104 (RETS #27)	S, S.W.	4.5 miles
K	105	Lakeview Rd. Pole #6125, 0.6 miles S. of Lake Rd.	S, S.W.	1.4 miles
K	96	Creamery Rd. 0.3 miles S. of Middle Rd., pole 1 ½ (RETS #32)	S, S.W.	3.7 miles
L	13	100' N. of Seneca Street on St. Paul's Cemetery by G Environmental Station	S.W.	5.3 miles
L	14	DeMass Road, S.W. Oswego - Control (RETS #31)	S.W.	12.4 miles
L	52	East 12th & Cayuga Streets Fitzhugh Elementary School	S.W.	6.0 miles
L	58	Corner of County Route 1 and Alcan (E. of E. Entrance)	S.W.	2.9 miles
L	84	Lakeview Rd. N. pole #6117, 200 ft. N. of Lake Rd. (RETS #16)	S.W.	1.1 miles
L	94	Rt. 1, pole #82, 250 ft. E. of Kocher Rd. (RETS #28)	S.W.	4.6 miles
L	111	J. Blasiak residence, Sterling, NY	S.W.	17 miles
M	51	Oswego Steam Station, North end of west fence inside property (W. Liberty & Bronson Streets)	W, S.W.	7.7 miles
M	95	Lakeshore Camp Site from Alcan W. Access Rd., pole #21, 1.2 miles N. of Rt. 1 (RETS #29)	W, S.W.	3.5 miles
M	15	Pole #66, northeast section of Bible Camp (RETS #36)	S.W.	1.0 mile

LIST OF EMERGENCY TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
A	E-1	Directly north of NMP-1 SCREENHOUSE	N	375'
D	E-2	30' south of NMP-2 Stone & Webster Warehouse by D1 Onsite Environmental Station	E, N.E.	2500'
D	E-3	Directly north of JAFNPP Screen-house on fence by Environmental TLD #29	E	3350'
D	E-4	On solitary Black Walnut tree 250' south of H Onsite Environ-mental Station directly on Dynamite Road	E, N.E.	4800'
E	E-39	NMP Rd. 0.4 miles N. of Lake Rd.	E	1.8 miles
E	E-24	Hickory Grove at end of Hickory Grove Drive on NM pole #43	E	5.0 miles
E	E-30	Intersection of Route 104B and Rt. 16 (Texas) on pole #153	E	8.0 miles
F	E-5	250' south of Lake Road near JAFNPP access road in woods by K Onsite Environmental Station	E, S.E.	3525'
F	E-19	Nine Mile Pole #58 1/3 the distance between Lake Road and Miner Road on west side of Route 29	E, S.E.	1.3 miles
F	E-20	Pole #141-1, N.W. corner of intersection of County Route 29 and Lake Road (Co. Rt. 1-A)	E, S.E.	1.2 miles
F	E-25	Nine Mile Point Rd. halfway between Lake Rd. and Miner Rd. on pole #30	E, S.E.	2.2 miles
F	E-38	0.75 mile W of Rt. 104 on Co. Rt. 64 in Village of Mexico	E, SE	9.1 miles
G	E-13	Nine Mile Pole #46, S.E. corner of intersection of Miner Road and County Route 29	S.E.	1.8 miles

LIST OF EMERGENCY TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
G	E-16	10' high on first metal tower south of K Onsite Environmental Station	S.E.	1.0 mile
G	E-17	Nine Mile Pole #15, first pole on Miner Road and JAFNPP transmission line	S.E.	1.3 miles
G	E-18	Nine Mile Pole #53, 2/3 distance between Lake and Miner Roads on west side of Route 29	S.E.	1.6 miles
G	E-26	Intersection of Nine Mile Point Road and County Route 1 on NM pole #112	S.E.	2.8 miles
G	E-37	Sundown Rd. off Co. Rt. 35. Pole for Siren #31.	S.E.	9.5 miles
H	E-12	Nine Mile Pole #5, half-way between the two transmission lines on Miner Road	S, S.E.	1.5 miles
H	E-6	On wood pole, 10' high, half-way between 5 & 6 Onsite Environmental TLD Stations on Lake Road, 100' from NMP-1 access road	S	2000'
H	E-27	Intersection of County Route 1 and County Route 29 on NM pole #216	S, S.E.	2.6 miles
H	E-36	250' E. of O'Connor Rd. on Co. Rt. 4 near Env. Station	S, S.E.	7.3 miles
J	E-10	North side of Nine Mile Pole #20 on the west side of the intersection of Miner and Lakeview Roads	S	1.5 miles
J	E-11	Nine Mile Pole #1 by intersection of Miner Road and Nine Mile Point's transmission line road	S	1.5 miles
J	E-14	Second set of NMP-1's metal transmission poles from Miner Road, N.W. Street	S	1.1 miles

LIST OF EMERGENCY TLDs

Sector	Station ID #	Location Description	Direction from Site	Distance from Site
J	E-15	On Stone & Webster Road adjacent to transmission lines on 5th set of metal transmission poles south of NMP-1 switchyard	S	0.7 mile
J	E-28	Intersection of Route 104 and Maiden Lane Road on NM pole #159	S	4.0 miles
J	E-35	March Road between Route 481 and Kingdom Road. Pole #18.	S	9.5 miles
K	E-7	Energy Information Center access road, 125' before 20 mph sign on west side of the road, 6' up on the first Black Walnut tree	S, S.W.	2100'
K	E-23	Met Tower on Env. Sta G Pole	S, S.W.	2100'
K	E-9	15' high on Nine Mile Pole #90, S.E. corner of intersection of Lakeview and Lake Road (Co. Rt. 1-A)	S, S.W.	1.0 mile
K	E-29	Intersection of Middle Road and Creamery Road on pole #28	S, S.W.	3.4 miles
K	E-31	Intersection of County Route 4 and County Route 53 on pole #49	S, S.W.	5.9 miles
K	E-34	Benson Ave. (Co. Rt. 25) Minetto in front of Minetto Fire Barn, across from siren pole.	S, S.W.	9.3 miles
L	E-8	N.E. corner of Ontario Bible School, on access road, 8' high on pole #64, 200' from the lake	S.W.	0.8 mile
L	E-32	Off Kocher Rd. E. on Middle Rd. NiMo Pole #15.	S.W.	4.0 miles
L	E-33	Route 104 West and Fred Haynes Blvd., across from Siren Pole #104	S.W.	8.9 miles
N/A	E-21 & 22 (controls)	NMPNS Administration Building in Lead Pig	N/A	N/A

SURVEY TEAM COMMUNICATION FORM

Date _____ Team Number _____ Team Leader/TLD Number _____
Team Member/TLD Number _____

Assigned Radio Channel _____ Dispatch Center Phone Number _____

TIME	MESSAGE

ENVIRONMENTAL/EMERGENCY TLD FORM

Date _____ Team Number _____ Team Leader/TLD Number _____

Team Member/TLD Number _____

Assigned Radio Channel _____ Dispatch Center Phone Number _____

TIME	LOCATION/SECTOR	TLD ID NUMBER	COLLECTED TLD SERIAL NUMBER	NEW TLD SERIAL NUMBER

RADIOLOGICAL ENVIRONMENTAL SAMPLING PROGRAM

The following table should be used in determining environmental samples and quantity to be sampled:

Medium Sampled	Each Sample	Analysis	Quantity/Vol. Preferred Sample Location
Air-Particulate	27,000 ft^3** 25 ft^3*	Beta, gamma	Downwind from site
Air-Iodine	27,000 ft^3** 25 ft^3*	Beta, gamma	Downwind from site
Water-Lake, pond Stream (Note 1)	1 gallon	Beta, gamma Isotope	10 downstream from site 2 upstream from site for control
Water-Tap (Note 2)	1 gallon	Gamma Isotope	2 from control 15 mi. from site 4 downwind from site
Soil (Note 3)	500 ml.	Gamma Isotope	2 from control 15 mi. from site 6 downwind from site
Vegetation/Grass (Note 3)	1 kg.	Gamma Isotope	2 from control 15 mi. from site 6 downwind from site
Milk (Note 4)	1 gallon	I-131, Cs-137, Sr-90	2 from control 15 mi. from site*** 5-10 downwind from site***
Snow	1 ft^2	Gamma Isotope	2 from control 15 mi. from site*** 5-10 downwind from site***

* Downwind Survey Team Air Sample
** Normal Environmental Monitoring Program Air Sample
*** If Owner Cooperation Available

Note 1: Upstream samples should be a minimum of 5 mi. upstream of plant outfall.

Note 2: Control samples should come from least prevalent wind direction from township (municipal) water supply.

Note 3: Control samples should come from least prevalent wind direction at nearest TLD site for sample accountability. Downwind samples should be taken at/near TLD locations for sample accountability.

Note 4: Milk samples should be raw, untreated milk from dairies in least prevalent wind direction for control purposes.

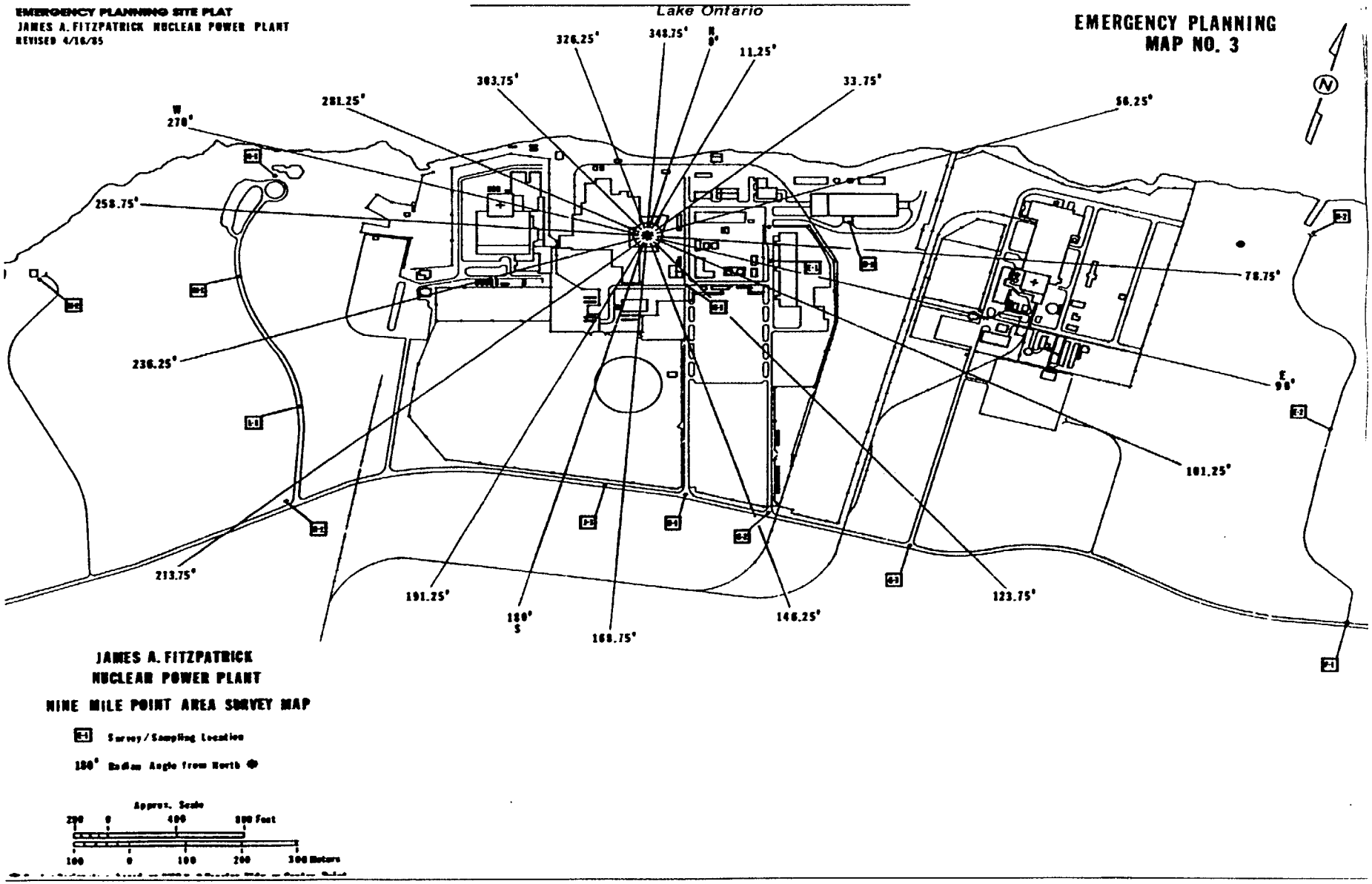
NOT ALL SAMPLES ON THIS TABLE NEED TO BE COLLECTED DURING EMERGENCY CONDITIONS, HOWEVER, A REPRESENTATIVE SAMPLE SHOULD BE TAKEN ON THOSE LISTED AS TIME PERMITS.

This program may be used for a relatively long period of time after the emergency has been terminated such that all required samples have been collected, prepared, and analyzed.

ATTACHMENT 17

Page 1 of 1

NINE MILE POINT AREA SURVEY MAP



ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

IN-PLANT EMERGENCY SURVEY/ENTRY
EAP-6
REVISION 16

REVIEWED BY: PLANT OPERATING REVIEW COMMITTEE

MEETING NO. N/A DATE: N/A

APPROVED BY: M Anderson DATE: 5/1/02
RESPONSIBLE PROCEDURE OWNER

EFFECTIVE DATE: June 3, 2002

FIRST ISSUE ☐ FULL REVISION ☒ LIMITED REVISION ☐

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PERIODIC REVIEW DUE DATE: June 2007

REVISION SUMMARY SHEET

REV. NO.

16 Updated 2.1.4 & 2.2.6 2.2.6, and 4.3.13. changed RP-RESP-502 to RP-RESP-04.02
Updated 2.1.5, 2.2.7 & 4.3.13 RP-OPS-202 to RP-OPS-03.02
Updated 2.1.5, 2.2.7 & 4.3.10 RP-OPS-202 to RP-OPS-03.01
Updated 2.1.7, 2.2.9 & 4.3. Note RP-OPS-06 to RP-OPS-02.02

15
- Reformat per AP-02.01, Rev. 5.
- Delete all forms - no longer required as procedure will reference RP-OPS-06 and AP-07.01 for forms.
- Added RP-OPS-06 AND AP-07.01 as references.
- Section 4.2.2.B: added "on the Radiation Work Permit (RWP) (see AP-07.01, Attachment 1)."
- Section 4.3: added note to reference RP-OPS-06, RADIATION WORK PERMIT.
- Section 4.3.2: revised statement to read "Special instructions are recorded on the RWP (see AP-07.01, Attachment 1)."
- Section 4.3.4: added "and the RWP" and deleted 4.3.4.A, B, C, D and E.
- Section 4.3.5: revised statement to read "Perform the required equipment checks as per applicable Radiation Protection procedures."
- Deleted Section 4.3.5.A, B, C and D.
- Section 4.3.10 and 4.3.11: revised last sentence to read "The Radiological Survey form (see RP-OPS-202, Attachment 2)."
- All changes made to reflect use of procedures RP-OPS-06 and AP-07.01 to control entries into the plant.
- Level of use changed to "informational" for consistency with AP-02.04, Control of Procedures.
- Added prompt step 4.2.1 to prepare E Plan RWP.
- Relocated High Range Containment Monitor and Containment Hydrogen Concentration prompts from Sections 4.3.10 and 4.3.11 to be included in briefing Section 4.2.3.B.
- Removed the requirement to provide copy of procedure to team leader as requirements will be covered in the RWP.
- Removed note 1 following Section 4.3.9 - survey instruments are referenced in Section 4.3.9; proper use of survey instruments and ranges are within the skills of an ANSI 18.1 qualified technician.

TABLE OF CONTENTS

1.0 **PURPOSE**

This procedure provides instructions to the Emergency Director, the Radiological Support Coordinator (RSC) and the Emergency Maintenance Coordinator relating to plant entries to assess/evaluate radiological conditions.

2.0 **REFERENCES**

2.1 **Performance References**

2.1.1 EAP-10, PROTECTED AREA EVACUATION

2.1.2 EAP-11, SITE EVACUATION

2.1.3 EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL

2.1.4 RP-RESP-04.02, PORTABLE AIR SAMPLERS

2.1.5 RP-OPS-03.01, RADIOLOGICAL SURVEY PERFORMANCE AND DOCUMENTATION

2.1.6 RP-OPS-03.02, AIRBORNE RADIOACTIVITY SURVEY TECHNIQUES

2.1.7 RP-OPS-02.02, RADIATION WORK PERMIT

2.1.8 AP-07.01, RADIATION WORK PERMIT PROGRAM

2.2 **Developmental References**

2.2.1 EAP-10, PROTECTED AREA EVACUATION

2.2.2 EAP-11, SITE EVACUATION

2.2.3 EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL

2.2.4 OP-31, PROCESS RADIATION MONITORING SYSTEM

2.2.5 OP-32, AREA RADIATION MONITORING SYSTEM

2.2.6 RP-RESP-04.02, PORTABLE AIR SAMPLERS

2.2.7 RP-OPS-03.01, RADIOLOGICAL SURVEY PERFORMANCE AND DOCUMENTATION

2.2.8 RP-OPS-03.02, AIRBORNE RADIOACTIVITY SURVEY TECHNIQUES

2.2.9 RP-OPS-02.02, RADIATION WORK PERMIT

2.2.10 AP-07.01, RADIATION WORK PERMIT PROGRAM

3.0 **INITIATING EVENTS**

NOTE: If in-plant radiological conditions are reflective of daily operating conditions, then implementation of this procedure is not necessary.

NOTE: This procedure may not need to be initiated for entry into the chemistry lab or hallway outside the lab if the OSC habitability surveys include determining radiological conditions for this area and find them to be acceptable.

3.1 A protected area and/or site evacuation has been initiated and the following is in progress:

3.1.1 It is necessary to determine radiological conditions for subsequent entries into the plant, since normal radiological conditions have changed due to emergency conditions, **or**,

3.1.2 It is necessary to determine the location and plant conditions resulting in a present or imminent radiological release from the plant, **or**,

3.1.3 It is necessary to perform damage control/ maintenance activities to prevent present or imminent radiological release from the plant, **or**,

3.1.4 Annunciators, alarms, or other instrumentation indicate abnormal radiological conditions in the plant.

4.0 **PROCEDURE**

4.1 **Emergency Director, Radiological Support Coordinator, Emergency Maintenance Coordinator**

The Emergency Director, Radiological Support Coordinator, Emergency Maintenance Coordinator, or designee shall:

4.1.1 Issue a request for a plant entry.

4.1.2 Activate a dispatch center in the Operational Support Center, where activities and communications will be directed and coordinated.

4.1.3 Notify onsite entry team members using the plant paging system or extension phones if convenient.

4.1.4 Obtain area radiation monitor (ARM) readings and ventilation monitor readings from the control room for any areas to which entry teams will be sent so a preliminary determination of radiological conditions can be made. If during the entry a new location is assigned to the team, obtain the appropriate ARM and/or ventilation monitor reading first. If an ARM indicates offscale radiation levels, then special consideration should be given to the necessity of sending a team to that area and the time required and dose received during this time.

4.1.5 Instruct the entry teams to don full protective gear including self-contained breathing apparatus (SCBA) if air concentrations are either unknown or high concentrations indicated by either vent monitor or constant air monitor indications.

4.2 **Radiological Support Coordinator, Radiation Protection Supervisor or designee**

The Radiological Support Coordinator, Radiation Protection Supervisor or designee shall:

4.2.1 Ensure RWP for Emergency Plan entry is prepared in accordance with AP-07.01, RADIATION WORK PERMIT PROGRAM.

4.2.2 Designate a team leader and team member for each entry team (one an ANSI qualified radiological technician, if available, the other, preferably, an Operator).

4.2.3 Brief entry teams on the following:

A. Areas to be entered, sequence of steps, relay points, and routes to be taken.

PRECAUTION: If high radiation fields (>100 mR/hr) are encountered in the course of the entry, the radiation dose received by the surveyors must be considered. The surveyor's exposure should be limited to 1 Rem and shall be limited to 2 Rem for the year. If very high radiation fields (>10,000 mR/hr) are encountered, the entry team should retreat to a safer area to contact the OSC Manager for further instructions. If saving a life is involved, a dose of 25 Rem or greater may be taken once in a lifetime by volunteers (see EAP-15).

B. Projected dose rates and maximum dose allowed for the entry plus any additional radiation information (for example, installed ARM, High Range Containment Rad Monitors, Containment Hydrogen Concentration). (This information should be noted on the Radiation Work Permit (RWP) (see AP-07.01, Attachment 1).

C. Projected time at each location and maximum expected entry duration.

D. Types of radiation data to be collected and specific panel/monitor readings to be checked.

E. Special or hazardous conditions and backup plans.

F. Protective measures needed.

G. Communication requirements: Designate a telephone extension that entry teams can use to transmit information. Use the plant paging system as a backup. Use radios, if available.

H. If an announcement is made directing a Protected Area Evacuation or Site Evacuation, the entry/repair team shall leave the radiologically controlled area immediately provided no alternate plans have been made prior to team entry. (The OSC Manager may direct the team to contact the OSC Manager when a Protected Area Evacuation or a Site Area Evacuation has been directed, before leaving the radiologically controlled area for alternate instructions. However, this alternate plan must be agreed upon in the briefing prior to plant entry. If the OSC Manager cannot be contacted immediately, the team shall leave the radiologically controlled area.)

I. Location of equipment (Operational Support Center or other locations).

4.2.4 Dispatch Entry Teams:

A. Ensure entry teams are supplied with the proper equipment for the mission.

B. Ensure a radio check between each entry team and the dispatcher prior to the teams' deployment, if the teams are using radios for communications or back-up communications.

C. Provide any final instructions and direct the teams to commence entry.

4.2.5 Provide team control:

A. Ensure the entry teams maintain frequent communication contact (i.e. approximately every 15 minutes) with the dispatch center providing updates of location, dosimeter readings, etc.

B. Recall teams based on the following considerations; dosimeter readings, updated plant status, number of teams in reserve (standby), etc.

C. Direct teams to monitor themselves and their equipment for contamination upon conclusion of the entry.

D. Based on the results of the personnel and equipment monitoring, direct teams to proceed with decontamination if necessary. Have the RES technician return to the Chemistry Laboratory to count air samples collected.

E. Direct team leaders to compile all radiological data gathered and submit it to the Rad Protection Supervisor or the Rad Support Coordinator or his designee in the Technical Support Center.

F. If the Rad Protection Supervisor is the person who receives the survey data, transmit this data to the Rad Support Coordinator or his designee in the Technical Support Center.

4.2.6 Evaluate results:

Evaluate the results of the survey data. Recommend implementation of EAP-10, Protected Area Evacuation or EAP-11, Site Evacuation, as necessary based on these results.

4.3 **Entry Teams**

Entry teams shall: (Team Leader provide guidance as required.)

NOTE: Entry into the plant shall be in accordance with RP-OPS-02.02, RADIATION WORK PERMIT and AP-07.01, RADIATION WORK PERMIT PROGRAM.

4.3.1 Assemble at the dispatch center in accordance with instructions.

4.3.2 Receive briefing from the Radiological Support Coordinator or designee at the OSC. Special instructions are recorded on the RWP (see AP-07.01, Attachment 1).

4.3.3 Team Leader: Obtain copies of area survey diagrams and mark locations of predesignated survey points, if any, on the diagrams.

4.3.4 Gather necessary protective gear (dosimeters, respirators, clothing, etc., as instructed in the briefing and the RWP) and assemble survey equipment.

4.3.5 Perform the required equipment checks, as per applicable Radiation Protection procedures.

4.3.6 Inform the OSC Manager that you are about to begin an entry in the locations directed before you leave the equipment assembly area.

NOTE: If SCBA's are used, ensure proper attention is given to time management such that air replenishment may be accomplished at convenient times.

4.3.7 Maintain frequent contact with the dispatch center. Contact the dispatch center immediately if any problem arises that you cannot or do not know how to handle.

4.3.8 Contact the dispatch center immediately if high radiation fields (>100 mR/hr) are found during the entry (other than those expected). If very high radiation fields (>10,000 mR/hr) are found, exit the area immediately and then contact the OSC Manager for further instructions. Note the observation of any failed or damaged equipment.

4.3.9 Enter the area of suspected high radiation levels with an ionization chamber survey meter and telescoping high range dose rate instrument on their respective highest range with the probe extended. If the telescoping high range instrument has multiple ranges, enter the area with the instrument on the highest range and range-down until readings are obtained.

NOTE: Caution shall be exercised in performing beta measurements where high concentrations of noble gases may be present. It is possible to internally contaminate the ionization chamber with noble gases as a result of removing the beta cap. Take beta readings only if directed to do so.

4.3.10 If applicable to your entry, observe the Drywell Constant Air Monitor when entering the reactor building (secondary containment). Check any ARM in the area by placing the probe of the survey instrument next to the ARM detector and verify that the reading is correct. If this check indicates a faulty monitor, report it to the Control Room. Record results on the Radiological Survey Form (see RP-OPS-03.01, Attachment 2).

4.3.11 Take primary containment samples and readings as instructed by the dispatch center. Record results on the Radiological Survey Form (see RP-OPS-03.01, Attachment 2).

4.3.12 Collect air samples at selected locations, as instructed by the dispatch center, in accordance with procedure RP-RESP-04.02, Portable Air Samplers. Use the samplers and silver zeolite cartridges located with the emergency equipment in the OSC.

4.3.13 Leave the survey area. Team members should be monitored for contamination. Proceed to decontamination, if necessary. Proceed to the Chemistry Laboratory counting room or designated alternate location. Count the air samples and record results in accordance with procedure RP-OPS-03.02, Airborne Radioactivity Survey Techniques. Submit results to the Emergency Director, the Radiological Support Coordinator or designee.

5.0 ATTACHMENTS

None

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

DAMAGE CONTROL
EAP-13
REVISION 14

REVIEWED BY: PLANT OPERATING REVIEW COMMITTEE

MEETING NO. N/A DATE: N/A

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FIRST ISSUE ☐ FULL REVISION ☒ LIMITED REVISION ☐

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PERIODIC REVIEW DUE DATE: June 2007

REVISION SUMMARY SHEET

REV. NO.

14
- Attachment 2 reorganized for better work flow.
- Updated department name change from RES to RP
- Added section 4.4.2.

13
- New procedure Added prompt to Section 4, Guidelines for OSC Manager or designee, to monitor the adequacy of SCBA supplies.
- Added note from page 6 to page 9 re: Mission guide - editorial

12
- Changed Attachment 2 - Changed EAP-13.1 to Attachment 2 - editorial
- Added prompts in section 6 to add approvers name for verbal approval to improve traceability of evolutions.

11
- Reformat per AP-02.01, Rev. 5.
- Change level of use to "Informational" per AP-02.04.
- Editorial corrections for the following sections: 1.0, 2.1, 4.3 NOTE, 4.3.3, 4.3.5.A, 4.3.5.B.4, 4.3.5.D, 4.3.6, 4.3.8, 4.3.9, 4.3.12, 4.4.8 and 5.0.
- Added Attachment 1, Damage Control Team Composition.

TABLE OF CONTENTS

1.0 PURPOSE

This procedure provides guidelines for the control of damage during an emergency including repair, corrective action and modification activities. This procedure should be used in conjunction with plant maintenance, operations and work activity control procedures whenever possible. Damage Control Team composition is detailed on Attachment 1.

2.0 REFERENCES

2.1 Performance References

2.1.1 EAP-6, IN-PLANT EMERGENCY SURVEY/ENTRY

2.1.2 EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL

2.1.3 AP-05.02, CONTROL OF TEMPORARY MODIFICATIONS

2.1.4 AP-10.01, PROBLEM IDENTIFICATION AND WORK CONTROL

2.1.5 AP-12.01, EQUIPMENT AND PERSONNEL PROTECTIVE TAGGING

2.2 Developmental References

2.2.1 EAP-6, IN-PLANT EMERGENCY SURVEY/ENTRY

2.2.2 EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL

2.2.3 SAP-2, EMERGENCY EQUIPMENT INVENTORY

2.2.4 AP-05.02, CONTROL OF TEMPORARY MODIFICATIONS

2.2.5 AP-10.01, PROBLEM IDENTIFICATION AND WORK CONTROL

2.2.6 AP-12.01, EQUIPMENT AND PERSONNEL PROTECTIVE TAGGING

3.0 **INITIATING EVENTS**

3.1 An emergency has been declared, the Emergency Plan has been entered, and the TSC and OSC have been activated.

3.2 Plant equipment has been damaged, as indicated by:

3.2.1 Visual observation; or

3.2.2 Control Room or other panel indications are symptomatic of damaged equipment.

4.0 **PROCEDURE**

4.1 **The Emergency Director shall:**

4.1.1 If necessary, authorize damage control team members to receive radiation doses in excess of usual limits in accordance with EAP-15, EMERGENCY RADIATION EXPOSURE AND CONTROL.

4.1.2 Designate a person to perform the function of the Emergency Maintenance Coordinator until that position is activated and functioning.

4.1.3 Ensure that all corrective/repair actions are carried out and documented in accordance with this procedure and/or any other applicable procedures

4.2 **Emergency Maintenance Coordinator, or designee shall:**

4.2.1 Determine the location of the suspect equipment using plant drawings, general arrangement drawings, flow and system drawing, direct or reported observations, or from other means.

4.2.2 Establish the status of plant work and workers.

4.2.3 If an evacuation of any type has occurred, contact the Control Room to determine what emergency work has been authorized and who is conducting it.

4.2.4 Evaluate the radiological conditions in the area using area monitors and in-plant survey information with assistance from the Radiological Support Coordinator.

4.2.5 Evaluate other conditions such as the proximity of fire, smoke or steam from direct or reported observations or panel indications.

4.2.6 Brief the OSC Manager or designee on the findings of steps 4.2.1 through 4.2.5.

4.2.7 Consult with the Emergency Director, OSC Manager, and staffs to determine the following:

A. Work priorities

B. Level of work control

4.2.8 Ensure that teams needed for the following can be dispatched as quickly as necessary for the work to progress:

A. Support of plant operations

B. Support of AOPs and EOPs

4.2.9 Coordinate requests for assistance in the areas of manpower, equipment, supplies, and technical expertise.

4.2.10 When OSC is manned and operational, inform the Shift Manager that all operators dispatched or requests for Chemistry Lab samples be directed through you and the OSC.

4.2.11 Receive and evaluate all reports of damaged equipment and determine the potential impact on the plant.

4.2.12 Direct the OSC Manager to organize and dispatch Damage Control Teams.

4.2.13 Brief the OSC Manager on the details of the suspect equipment operation, maintenance, failure modes and location(s).

4.2.14 Supervise and control all task performance as follows:

A. Review and approve the proposed maintenance, repairs and modifications,

B. Ensure that the OSC Manager obtains Shift Manager approval before permitting the performance of any work on safety-related equipment,

C. Obtain TSC guidance for engineering repair work, if necessary.

4.3 **OSC Manager or designee shall:**

NOTE: Attachment 3 provides a Mission Guide for dispatch of a damage control team.

4.3.1 Utilize the following groups as sources for team members:

A. During normal working hours or when emergency facilities are operational:

I & C personnel
Maintenance personnel
Operations personnel
Radiation Protection/Chemistry personnel
B&G personnel
Fire/First Aid/Search & Rescue Team personnel

B. During off-hours and before emergency facilities are operational:

Senior Nuclear Operator
Operators
On-shift Radiation Protection/Chemistry Technician
Other available personnel

4.3.2 Confer with the Emergency Maintenance Coordinator to determine damage repair priorities and inspection needs.

4.3.3 Record tasks to be completed and required level of work control on Emergency Damage Control Summary Form (Attachment 2).

4.3.4 Assess the availability of personnel for staffing Damage Control Teams.

4.3.5 Instruct the Damage Control Team Supervisor to:

A. Select personnel needed to complete the tasks identified. Teams must consist of at least two persons familiar with the area and equipment and qualified to perform the tasks, unless justified and documented by the Emergency Maintenance Coordinator. For areas with known, or suspect, abnormal radiological conditions, one member is required to be a Radiological Technician.

B. Perform task planning and briefings. Briefings should include the following:

1. Details of the suspect equipment operation, maintenance, failure modes and location(s).

2. Details of the repair or corrective action task.

3. Anticipated hazards and protective clothing and respirator equipment required.

4. For radiological areas, have RP conduct briefing per EAP-6, IN-PLANT EMERGENCY SURVEY/ENTRY.

5. Have RP determine routes of ingress and egress to the equipment location(s).

6. Identification of maps and drawings associated with the equipment.

7. Communications.

C. When necessary, review, modify, write and/or implement any procedure(s) to be used.

D. Report back to the OSC Manager with detailed recommended actions documented on Emergency Damage Control Summary Form (Attachment 2).

E. Select Team Leader for team members that are to be dispatched.

4.3.6 Obtain approvals indicated on the Emergency Damage Control Summary Form (Attachment 2).

4.3.7 Confirm the level of work control based on the details of mission or task with the Emergency Maintenance Coordinator.

4.3.8 Document verbal approvals as indicated on the Emergency Damage Control Summary Form (Attachment 2).

4.3.9 Ensure Damage Control Team is briefed on the mission and the briefing is documented on the Emergency Damage Control Summary Form (Attachment 2).

4.3.10 Forward requests for assistance in the areas of manpower, equipment and technical expertise to the Emergency Maintenance Coordinator. (Ask and note specific details requested.)

4.3.11 Monitor and report the activities of Damage Control Teams to the Emergency Maintenance Coordinator.

4.3.12 Insure all data or data sheets generated are reported to you and transmitted to Emergency Maintenance Coordinator.

4.3.13 Assess the availability of full SCBA air cylinders and clean face pieces to support the damage control actions planned. Initiate on-site recharging of empty cylinders to maintain an adequate supply.

4.4 **Damage Control Team Members shall:**

NOTE: Attachment 3 provides a Mission Guide for dispatch of a damage control team.

4.4.1 Report to the OSC for briefings before being dispatched on mission or repair tasks.

4.4.2 **IF** no preplanned actions were discussed in the event of a protected area or site evacuation, **THEN** automatically exit the RCA (or other location) and return to the OSC.

4.4.3 Follow all existing safety and ALARA practices to the extent possible.

4.4.4 Equip themselves as briefed.

4.4.5 Minimize dose as specified in EAP-15, EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL.

4.4.6 Continue to monitor radiation levels and revise actions based upon improvement or worsening of radiological conditions.

4.4.7 Notify the Damage Control Team Supervisor upon encountering any abnormal conditions not covered in the pre-entry briefing.

4.4.8 Participate in a debriefing after the task is completed.

4.4.9 Document results and/or actions of mission on the Emergency Damage Control Summary Form (Attachment 2).

5.0 **ATTACHMENTS**

1. DAMAGE CONTROL TEAM COMPOSITION
2. EMERGENCY DAMAGE CONTROL SUMMARY FORM
3. OSC DAMAGE CONTROL MISSION GUIDE

ATTACHMENT 1

DAMAGE CONTROL TEAM COMPOSITION Page 1 of 1

Teams must consist of at least **two** persons familiar with the area and equipment, and qualified to perform the tasks, unless justified and documented by the Emergency Maintenance Coordinator.

For areas with known, or suspect; abnormal radiological conditions, one member is required to be a Radiological Technician.

EMERGENCY DAMAGE CONTROL SUMMARY FORM

TEAM DESIGNATION/NUMBER: PRIORITY:

OSC MANAGER

1. **MISSION TASK/LOCATION/COMPONENT ID**	
COMPONENT ID:	LOCATION:
MISSION/TASK:	

2. **LEVEL OF WORK CONTROL (Check all that apply)**
[ ] AP-10.1 Work Control
[ ] AP-12.01 PTR
[ ] Work Control, EAP-13 Att. 2 (Urgent Work)
[ ] AP-05.02 Temp Mods

3. **APPROVAL/NOTIFICATION/REVIEW** (Print/Sign/Date)	
Maintenance Coordinator: (Approval)	[ ] Approved Verbally (Enter Approver Name)
Shift Manager/SRO:	[ ] Approved Verbally (Enter Approver Name)
Quality Assurance Review:	
*QA Review may be deferred until after completion of task.	

TEAM SUPERVISOR

4. **DAMAGE CONTROL TEAM COMPOSITION**			
TITLE	NAME	TLD #	SECURITY BADGE #
Supervisor			
Team Leader			

5. **PRE-JOB BRIEF (DETAILS OF MISSION OR TASK Including protective gear, special tools and special precautions).**

PV. TEAM

6. **COMMUNICATIONS (Contact OSC every 15 minutes)**

Primary(circle one): Gai-Tronics ALARA 6843 OSC 6837 Radio Channel #___

Backup(circle one): Gai-Tronics ALARA 6843 OSC 6837 Radio Channel #___

Other:

RP/ALARA

7. **TEAM BRIEFING**

Conducted by(NAME): Time:

RWP #:

Radiological Conditions:

Hazards/Route:

REPAIR TEAM LEADER

8. **TIME TEAM DISPATCHED:** **TIME TEAM RETURNED:**

9. **DOCUMENT ACTIONS AND RESULTS OF MISSION OR TASK:**

As found conditions:

Actions Taken:

As Left Condition:

1. OSC Manager and Emergency Maintenance Coordinator confer on the required mission or repair task, identifying as a minimum the following:

   a. Required mission or repair task.

   b. Component identification number if applicable.

   c. Plant location.

   d. The current priority of the task. Revise status board.

   e. Level of work control required for the mission or repair task. Indicate if the following are required, or if none apply.

      1) AP-10.01, Problem Identification and Work Control

      2) AP-12.01, Equipment and Personnel Protective Tagging

      3) AP-05.02, Control of Temporary Modifications

2. The OSC Manager documents the requirements for the mission or repair task on Attachment 2, Emergency Damage Control Summary Form, Sections 1 and 2.

3. The OSC Manager obtains the Emergency Maintenance Coordinator approval and SM/SRO approval for maintenance or modifications to safety related equipment or systems. The priority and level of work control required should be reconfirmed with the EMC at this time AND documented on attachment 2 and status board.

4. The OSC Manager selects a Team Supervisor based on the type of mission or repair task, briefs the Team Supervisor and identifies the Team by Number.

5. The Team Supervisor selects personnel from OSC staff and initiates the planning process. The planning process and briefing should include the following and be detailed on Sections 4, 5 and 6 of Attachment 2.

   a. Research the details of the mission or repair task, details of suspect equipment, possible corrective maintenance, failure modes and locations.

   b. Anticipated hazards and protective clothing/respiratory equipment.

c. Details of repair or corrective action.

d. Communications: There should be a means of contacting the OSC Team Supervisor at least every 15 minutes.

e. Identify maps and drawings.

f. Preplan the team actions in the event of a Protected Area or Site Evacuation (Ref. EAP-6, Section 4.2.3.H).

6. Radiation Protection/ALARA provides a radiological briefing, as applicable, and documents in section 7. This briefing should include routes of ingress and egress to plant location.

7. The Team Supervisor ensures the Team Members have been briefed prior to being dispatched. The Team is then dispatched to perform mission or repair action. The Team Leader must stay in contact with the OSC. This contact should be at least every 15 minutes.

8. The Team leader completes Section 8 noting time team is dispatched and time team returns.

9. When the Team returns a debriefing shall be held and the result documented on Attachment 2, Section 9. Results should include the following:

   a. As found condition

   b. Actions taken

   c. As left condition

10. If no work control other than this procedure is used for repair task, then Attachment 2 shall be used to document work performed and the equipment's current condition. This will be needed during the recovery phase.

11. The Team Supervisor then reports the results to the OSC Manager and returns the completed Attachment 2 to the OSC Manager.

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

EMERGENCY RADIATION EXPOSURE CRITERIA AND CONTROL
EAP-15
REVISION 11

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PERIODIC REVIEW DUE DATE: June 2007

REVISION SUMMARY SHEET

REV. NO.

11
- Updated company name change from New York Power Authority to Entergy Nuclear Operation, Inc.
- Updated RES department change to RP.

10
- Remove references 2.7, 2.12 and 2.16. These references are not relevant to this procedure.
- Add the term "TEDE" to step 4.2.1 to more clearly define the term "dose."
- Modify note 2 of Section 4.2.1 to clarify dose limits.
- Reword 4.3.5 and 4.4.1 to enhance clarity.
- Add briefing checklist and revise attachment numbers.
- Revise level of use in accordance with AP-02.04.
- Reformat per AP-02.01, Rev. 5.

TABLE OF CONTENTS

1.0 PURPOSE

This procedure provides guidance and criteria for limiting radiation exposure to emergency personnel in emergency situations. It also provides guidance for those situations when it may be necessary for an individual or individuals to exceed established annual radiation exposure limits to save a life or to minimize the possible consequences of the emergency situation.

2.0 REFERENCES

2.1 Performance References

None

2.2 Developmental References

2.2.1 10 CFR 20, STANDARDS FOR PROTECTION AGAINST RADIATION

2.2.2 EPA-400-R-92-001, MAY 1992, MANUAL OF PROTECTIVE ACTION GUIDES AND PROTECTIVE ACTIONS FOR NUCLEAR INCIDENTS

2.2.3 ICRP Publication 28, THE PRINCIPLES AND GENERAL PROCEDURES FOR HANDLING EMERGENCY AND ACCIDENTAL EXPOSURES OF WORKERS

2.2.4 NCRP Report No. 39, BASIC RADIATION PROTECTION CRITERIA

2.2.5 Regulatory Guide 8.13, INSTRUCTIONS CONCERNING PRENATAL RADIATION EXPOSURE, NOVEMBER 1975, Revision 1.

2.2.6 RADIATION PROTECTION PROCEDURES AND PROGRAMS

2.2.7 IAP-2, CLASSIFICATION OF EMERGENCY CONDITIONS

2.2.8 EAP-2, PERSONNEL INJURY

2.2.9 EAP-3, FIRE

2.2.10 EAP-4, DOSE ASSESSMENT CALCULATIONS

2.2.11 EAP-6, IN-PLANT EMERGENCY SURVEY/ENTRY

2.2.12 EAP-5.3, ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING

2.2.13 EAP-9, SEARCH AND RESCUE OPERATIONS

2.2.14 EAP-13, DAMAGE CONTROL

3.0 INITIATING EVENTS

3.1 An emergency has been declared in accordance with IAP-2 Classification of Emergency Conditions, and

3.2 Radiological conditions exist or are suspected that warrant emergency exposure control.

4.0 PROCEDURE

4.1 General

4.1.1 The provisions of this procedure are applicable only in actual emergency situations, and are applicable to personnel performing emergency tasks.

4.1.2 The radiation exposure to emergency personnel shall be maintained As Low As Reasonably Achievable (ALARA) and should be maintained less than the radiation exposure limits in 10 CFR 20 as defined in reference 2.2.6.

4.1.3 To maintain personnel exposures within established guides and limits, methods used during normal operations to authorize exposure upgrades above annual administrative limits shall remain in force during an emergency condition to the degree consistent with timely implementation of emergency measures.

4.1.4 Administrative methods used during normal operations to control Radiation Work Permit usage and ALARA Review generation shall remain in effect until a Protected Area Evacuation or Site Evacuation is initiated. Controls for the assessment/evaluation of radiological conditions will be per EAP-6, In-Plant Emergency Survey/Entry.

4.1.5 The Emergency Director may waive or modify the established exposure control criteria and methods in accordance with the provisions of this procedure. This may occur if necessary operations require personnel exposures in excess of normal guides or limits or if normal access control and radiological control work practices may result in unacceptable delays. The Radiological Support Coordinator should be consulted in these decisions whenever feasible.

4.1.6 The Emergency Director is the only individual who can authorize emergency exposures.

4.2 Responsibilities

4.2.1 Limits for planned (Note 1) emergency exposure for emergency workers are (from Reference 2.2.2):

Dose Limit (TEDE) (rem) [Note 2]	**Activity [Note 3,4]**	**Condition**
5	All	
10	Protecting valuable property	Lower dose not practicable
25	Life saving or protection of large populations	Lower dose not practicable
>25	Life saving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved (see Attachments 1 thru 4 of this procedure)

NOTES:

1. Planned actions are actions which are performed intentionally. The degree of planning may be a simple decision to perform the action ranging to detailed planning, as time permits. The term planned actions is not meant to infer administrative actions such as ALARA reviews, radiation work permits or other similar work planning actions.

2. Workers performing services during emergencies should limit dose to the lens of the eye to three times the listed value and doses to any other organ (including skin and body extremities) to ten times the listed value. These limits apply to all doses from an incident.

3. Protective or corrective actions are actions necessary to mitigate the consequences of the emergency, such as to eliminate the further release of effluent or to control fires.

4. Life saving actions are actions related to the search for and rescue of injured persons, or corrective or protective actions to mitigate conditions which could result in imminent injury or substantial overexposure to numbers of individuals.

4.3 **Emergency Exposure Briefings**

Emergency exposure briefings shall be conducted by the team leader, Radiological Support Coordinator or designee under the guidance of the Emergency Director as the urgency of the emergency permits. The briefings shall cover the following topics with an opportunity for questions and answers included (use Attachment 1):

4.3.1 To the degree possible, the probability of success of the proposed action requiring emergency exposure shall be weighed against the projected element of risk.

4.3.2 Personnel receiving exposures which may or will exceed 10 CFR 20 limits shall be volunteers.

4.3.3 Women of child-bearing age shall not be permitted to receive exposures which exceed 10 CFR 20 limits and should be instructed in the Possible Health Risks to Children of Women Exposed to Radiation During Pregnancy, Appendix to Regulatory Guide 8.13, Reference 2.2.5, prior to assignment to work in a restricted area or to work involving radiological exposure. (Note that "restricted area" in this usage is as defined in Regulatory Guide 8.13 and differs from the site usage.)

4.3.4 Volunteers should be more than 45 years of age, if possible.

4.3.5 Volunteers shall be briefed on potential biological consequences prior to receiving such exposure (refer to Attachments 2 and 3 of this procedure).

4.3.6 Emergency exposures shall be limited to one occurrence in a lifetime.

4.3.7 Entries into areas where dose rates are unknown shall be made using appropriate dose rate monitoring equipment.

4.3.8 Dosimetry equipment capable of measuring the anticipated maximum exposure and type of radiation(s) shall be worn by personnel receiving emergency exposure.

4.3.9 Reasonable measures shall be taken to minimize skin contamination and the intake of radioactive materials.

4.3.10 Radiation exposure and anticipated radiological conditions in the area of the task shall be presented as they relate to ALARA.

4.3.11 The task to be performed shall be described in accordance with the Emergency Procedure governing the task.

4.4 **Emergency Exposure Documentation**

4.4.1 Steps 4.4.2 and 4.5.2 shall be performed to document emergency radiation exposure. Although it is preferable to complete the form before the exposure is received, the Emergency Director may, upon discretion, verbally authorize the emergency exposure with documentation to be completed at a later time.

4.4.2 Attachment 4, Emergency Exposure Authorization Form, shall be completed with the required signatures.

4.5 **Post-Exposure Evaluations**

4.5.1 Individuals receiving emergency exposure shall be restricted from further occupational radiation exposure pending the outcome of exposure evaluations and medical surveillance.

4.5.2 An exposure evaluation shall be performed to determine a dose equivalent of the emergency exposure. This evaluation shall be based on measured area dose rates, airborne radioactivity measurements and dosimetry results.

5.0 **ATTACHMENTS**

1. EMERGENCY EXPOSURE BRIEFING CHECKLIST
2. HEALTH EFFECTS ASSOCIATED WITH WHOLE BODY ABSORBED DOSES RECEIVED WITHIN A FEW HOURS
3. APPROXIMATE CANCER RISK TO AVERAGE INDIVIDUALS FROM 25 REM EFFECTIVE DOSE EQUIVALENT DELIVERED PROMPTLY
4. EMERGENCY EXPOSURE AUTHORIZATION

EMERGENCY EXPOSURE BRIEFING CHECKLIST

The briefer shall review and initial the following topics with individuals who will be authorized to receive emergency exposures:

1. _____ Review the mission goal(s)
2. _____ Ensure the following:
   a. Individuals are volunteers
   b. Woman of childbearing age are not authorized to receive doses in excess of 10CFR20 Exposure limits.
   c. Volunteers should be over age 45, if possible.
   d. Emergency exposures are limited to once per lifetime.
3. _____ Review the following mission specific radiological information:
   a. Expected dose rates, if known.
   b. Expected contamination rates, if known
   c. Expected airborne contamination levels, if known
   d. Individual's dose limits.
   e. Stay time, if known.
   f. ALARA techniques of Time, Distance and Shielding.
   g. Contamination control measures, if appropriate for the task.
4. _____ Entries into unknown areas shall be made using the appropriate dose rate instruments.
5. _____ Ensure that dosimetry capable of measuring the highest anticipated exposure is specified.
6. _____ Review possible biological effects of exposure using Attachments 2 and 3 of this procedure.
7. _____ Ensure there are no questions about any of the information presented.

Briefer_____ Time_____ Date_____
Name

Individuals briefed:

_____

_____

_____

_____

ATTACHMENT 2

HEALTH EFFECTS

HEALTH EFFECTS Associated with Whole-body Absorbed Doses Received Within a Few Hours[a] (from Reference 2.2.2)

Whole Body Absorbed Dose (rad)	Early Fatalities[b] (percent)	Whole Body Absorbed Dose (rad)	Prodromal Effects[c] (percent affected)
140	5	50	2
200	15	100	15
300	50	150	50
400	85	200	85
460	95	250	98

[a]Risks will be lower for protracted exposure periods.

[b]Supportive medical treatment may increase the dose at which these frequencies occur by approximately 50 percent.

[c]Forewarning symptoms of more serious health effects associated with large doses of radiation.

ATTACHMENT 3

APPROXIMATE CANCER RISK

APPROXIMATE CANCER RISK to Average Individuals from 25 Rem Effective Dose Equivalent Delivered Promptly (from Reference 2.2.2)

Age at Exposure (years)	Appropriate Risk of Premature Death (deaths per 1,000 persons exposed)	Average years of life lost if premature death occurs (years)
20 to 30	9.1	24
30 to 40	7.2	19
40 to 50	5.3	15
50 to 60	3.5	11

EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION A

Name of Individual to Receive Exposure: _____

SSN: _____

TLD Badge No: _____

Employer/JAF Department: _____

Date of Authorization: _____

Authorized Exposure Limit: _____

Emergency Director: _____

(Signature)

Date: _____

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

SECTION B

I have volunteered to perform the task(s) during which I will receive the emergency exposure and I have been briefed on the potential biological consequences of the proposed emergency exposure.

Individual to Receive Exposure: _____

(Signature)

Date: _____

Individual Conducting Briefing:

_____

(Signature)

Date: _____

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION C (Attach Exposure Evaluation)

TLD/Direct-Reading Dosimeter Results: _____

_____

_____

Bioassay Results: _____

_____

_____

Medical Evaluation/Action: _____

_____

_____

Dose Equivalent Assigned to Individual: _____

_____

Date: _____

RP Supervisor: _____

_____

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

SECTION D

Disposition (Allow additional exposure, restrict access, etc.):

_____

_____

_____

Date: _____

Rad Support Coordinator or

RP Manager _____

_____

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

EMERGENCY PLAN IMPLEMENTING PROCEDURES/VOLUME 3
UPDATE LIST

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Procedure Number	Procedure Title	Revision Number	Date of Last Review	Use of Procedure
N/A	TABLE OF CONTENTS	REV. 23	12/98	N/A
EAP-26	PLANT DATA ACQUISITION SYSTEM ACCESS	REV. 11	02/98	Informational
EAP-27	ESTIMATION OF POPULATION DOSE WITHIN 10 MILE EMERGENCY PLANNING ZONE	REV. 10	06/02	Informational
EAP-28	EMERGENCY RESPONSE DATA SYSTEM (ERDS) ACTIVATION	REV. 6	07/00	Reference
EAP-29	EOF VENTILATION ISOLATION DURING AN EMERGENCY	REV. 5	02/98	Informational
EAP-30	EMERGENCY TERMINATION AND TRANSITION TO RECOVERY*	REV. 0	12/98	Informational
EAP-31	RECOVERY MANAGER*	REV. 1	07/01	Informational
EAP-32	RECOVERY SUPPORT GROUP*	REV. 8	02/02	Informational
EAP-33	DEVELOPMENT OF A RECOVERY ACTION PLAN*	REV. 0	12/98	Informational
EAP-34	ACCEPTANCE OF ENVIRONMENTAL SAMPLES AT THE EOF/EL DURING AN EMERGENCY	REV. 3	02/98	Informational
EAP-35	EOF TLD ISSUANCE DURING AN EMERGENCY	REV. 6	02/98	Informational
EAP-36	ENVIRONMENTAL LABORATORY USE DURING AN EMERGENCY	REV. 4	02/98	Informational
EAP-37	SECURITY OF THE EOF AND EL DURING DRILLS, EXERCISES AND ACTUAL EVENTS	REV. 6	07/01	Informational
EAP-39	DELETED (02/95)			
EAP-40	DELETED (02/98)			
EAP-41	DELETED (12/85)			
EAP-42	OBTAINING METEOROLOGICAL DATA	REV. 17	04/02	Informational
EAP-43	EMERGENCY FACILITIES LONG TERM STAFFING	REV. 55	02/02	Informational
EAP-44	CORE DAMAGE ESTIMATION	REV. 4	02/98	Informational
EAP-45	EMERGENCY RESPONSE DATA SYSTEM (ERDS CONFIGURATION CONTROL PROGRAM)	REV. 6	07/00	Informational
SAP-1	MAINTAINING EMERGENCY PREPAREDNESS	REV. 16	04/02	Informational
SAP-2	EMERGENCY EQUIPMENT INVENTORY	REV. 33	10/01	Reference
SAP-3	EMERGENCY COMMUNICATIONS TESTING	REV. 70	09/01	Reference

EMERGENCY PLAN IMPLEMENTING PROCEDURES/VOLUME 3
UPDATE LIST

Date of Issue: June 3, 2002

Procedure Number	Procedure Title	Revision Number	Date of Last Review	Use of Procedure
SAP-4	NYS/OSWEGO COUNTY EMERGENCY PREPAREDNESS PHOTO IDENTIFICATION CARDS	REV. 8	03/00	Informational
SAP-5	DELETED (3/98)			
SAP-6	DRILL/EXERCISE CONDUCT	REV. 17	04/02	Informational
SAP-7	MONTHLY SURVEILLANCE PROCEDURE FOR ON-CALL EMPLOYEES	REV. 35	11/00	Informational
SAP-8	PROMPT NOTIFICATION SYSTEM FAILURE/SIREN SYSTEM FALSE ACTIVATION	REV. 12	10/01	Informational
SAP-9	DELETED (02/94)			
SAP-10	METEOROLOGICAL MONITORING SYSTEM SURVEILLANCE	REV. 11	03/02	Informational
SAP-11	EOF DOCUMENT CONTROL	REV. 10	08/00	Informational
SAP-13	EOF SECURITY AND FIRE ALARM SYSTEMS DURING NORMAL OPERATIONS	REV. 3	03/98	Informational
SAP-14	DELETED (02/95)			
SAP-15	DELETED (11/92)			
SAP-16	UTILIZING EPIC IDT TERMINALS FROM DESTINY SYSTEM	REV. 4	06/02	Informational
SAP-17	EMERGENCY RESPONSE DATA SYSTEM (ERDS) QUARTERLY TESTING	REV. 7	07/00	Continuous
SAP-19	SEVERE WEATHER	REV. 4	01/01	Informational
SAP-20	EMERGENCY PLAN ASSIGNMENTS	REV. 20	03/02	Informational
SAP-21	DELETED (04/01)			
SAP-22	EMERGENCY PLANNING PROGRAM SELF ASSESSMENT	REV. 1	10/98	Informational

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

ESTIMATION OF POPULATION DOSE WITHIN THE 10 MILE EMERGENCY PLANNING ZONE

EAP-27
REVISION 10

REVIEWED BY: PLANT OPERATING REVIEW COMMITTEE
MEETING NO. 11/A DATE: 11/A

APPROVED BY: _____ DATE: 5/23/02
RESPONSIBLE PROCEDURE OWNER

EFFECTIVE DATE: June 3, 2002

FIRST ISSUE ☐ FULL REVISION ☒ LIMITED REVISION ☐

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PERIODIC REVIEW DUE DATE: June 2007

REVISION SUMMARY SHEET

REV. NO.

10
- Updated coversheet from New York Power Authority to Entergy.

9
- Page 6, 4.4.1: Deleted text "By the dose assessment computer model" and replaced "model" with "projections". This reflects actual practice.

8
- Reformat per AP-02.01, Rev. 5.
- Level of use change to "informational" for consistency with AP-02.04, Control of Procedures.

TABLE OF CONTENTS

1.0 PURPOSE

The purpose of this procedure is to provide methodology to estimate total CDE thyroid and TEDE dose to the resident population residing within the 10 mile emergency planning zone (EPZ) for the James A. FitzPatrick Nuclear Power Plant (Nine Mile Point Site) in the event of a significant offsite release of radioactive material. (For the purposes of this procedure, the terms "sector" and "segment" are interchangeable.)

2.0 REFERENCES

2.1 Performance References

2.1.1 EAP-5.3, ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING

2.1.2 SP-04.01, RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

2.1.3 SP-04.23, TLD PREPARATION, PROCESSING AND QUALITY CONTROL

2.2 Developmental References

2.2.1 EAP-5.3, ONSITE/OFFSITE DOWNWIND SURVEYS AND ENVIRONMENTAL MONITORING

2.2.2 SP-04.01, RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

2.2.3 SP-04.23, TLD PREPARATION, PROCESSING AND QUALITY CONTROL

2.2.4 SP-04.01, RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

2.2.5 SP-04.23, TLD PREPARATION, PROCESSING AND QUALITY CONTROL

2.2.6 EVACUATION TRAVEL TIME ESTIMATES (1993)

2.2.7 EPA-400-R-92-001, MANUAL OF PROTECTIVE ACTION GUIDES AND PROTECTIVE ACTIONS FOR NUCLEAR INCIDENT

3.0 INITIATING EVENTS

This procedure shall be initiated following a significant release of radioactive material.

4.0 **PROCEDURE**

NOTE: The plant must be judged to be in a safe shutdown condition prior to collection of environmental and emergency dosimetry.

4.1 The Rad Support Coordinator directs the Radiological Engineer to collect and replace both environmental and emergency TLDs as well as any sample cartridges as shown and listed in Attachments 10 through 15 of EAP-5.3.

4.1.1 Collection, replacement and analysis of both environmental and emergency TLDs is necessary to implement this procedure.

4.1.2 The following data shall be recorded for all TLDs recovered from the field on Attachment 1:

A. Location Data

Station ID number including sector and station location description, direction and distance from the site (per EAP-5.3).

B. Recovery Data

1. Date and time (military) of pickup.
2. ID # and Serial # of each type of TLD and ID # of each cartridge collected.
3. Individual making recovery and exchange.

C. Analytical Data

1. Iodine and particulate cartridge analytical data.
2. Environmental and emergency TLD data and ID verification.

D. Verification

1. Name of individuals supplying analytical results.
2. Dose Assessment Coordinator verification.

4.2 All TLDs collected shall be analyzed in accordance with plant dosimetry procedures and any applicable vendor procedures (see SP-04.23 and SP-04.01).

4.2.1 Dosimetry data for environmental and emergency TLDs shall be recorded in the section provided on Attachment 1. This data should be independently verified by two individuals to insure that dosimetry data and TLD identification information (serial #, etc.) from each location matches.

4.3 Upon analysis, plot all TLD data and any other pertinent dosimetry results on Attachments 5 and 6 of EAP-5.3.

4.4 Determine the priority in which sectors are to be analyzed for population dose given the prevailing wind direction(s) for plume travel during the release.

4.4.1 If possible, dose rates and travel times projected during the accident should be compared to the actual TLD results on a point by point basis to check for any discrepancies. The projections should then be adjusted for any of these discrepancies.

4.5 Once the priority regions have been established per Section 4.4, assign population doses to each sector based on the corresponding TLD and charcoal cartridge data or in lieu of TLD results use computer input (as per 4.4.1) on Attachment 2 (refer to Attachment 3 for population estimates by sector).

NOTE: Whole body doses (in mrem) measured by TLDs and thyroid doses (in mrem) measured by charcoal cartridges must be converted to TEDE and CDE-Thyroid, respectively, to be used in Attachment 2.

4.5.1 Attachment 2 shall be completed using the following format:

A. Enter the name of the person completing the form.

B. Enter the date and time (24-hour clock).

C. Enter the highest TEDE dose measured or calculated for each priority sector.

D. Enter the highest CDE-Thyroid dose measured or calculated for each priority sector.

4.5.2 To obtain the total population dose for both the TEDE and CDE-Thyroid, it will be necessary to sum all the sector doses.

4.5.3 Should no TLD data of any kind be available for a priority sector, doses shall be assigned by inputting the proper release data into the plant EDAMS computer and using the program to calculate the sector centerline dose. Both CDE thyroid and TEDE data shall be supplied.

5.0 ATTACHMENTS

1. POPULATION DOSE DATA
2. ESTIMATION OF INTEGRAL POPULATION DOSE BY SECTOR
3. 1991 PERMANENT RESIDENT POPULATION ESTIMATES, BY SEGMENT

POPULATION DOSE DATA Page 1 of 1

I. Location Data

Station ID # _____ Sector _____

Direction from site _____ Distance from site _____

Station location description _____

_____

II. Recovery Data

Date _____ Time (military) _____

Emergency TLD ID # _____ Serial # _____

Environmental TLD ID # _____ Serial # _____

Charcoal Cartridge ID # _____

Particulate Filter ID # _____

Name of Individual Making Recovery _____

III. Analytical Data

Iodine: Charcoal Cartridge _____ (pCi/m^3), _____ mrem

Particulates: Particulate Filter _____ (pCi/m_____mrem

Environmental TLD _____ mrem, ID verification performed Y/N

Initials (1) _____Initials (2) _____

Emergency TLD _____ mrem, ID verification performed Y/N

Initials (1) _____Initials (2) _____

IV. Verification

Name of individual supplying analytical results

_____/_____(date)

Dose Assessment Coordinator Verification

_____/_____(date)

ESTIMATION OF INTEGRAL POPULATION DOSE BY SECTOR

Name of individual completing form _____

Date _____ Time _____ (military)

Sector	Zone (miles)	Permanent Population	Population Density* (Persons/mi^2)	TEDE (mrem)	CDE Thyroid Dose (mrem)
A (North)	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
B	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
C	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
D	0-2	56	53.5		
	2-5	0	0		
	5-10	0	0		
E (East)	0-2	84	80.2		
	2-5	127	23.1		
	5-10	799	40.7		
F	0-2	89	85.0		
	2-5	560	101.9		
	5-10	2961	140.6		
G	0-2	75	71.6		
	2-5	450	81.9		
	5-10	1051	53.5		
H	0-2	34	32.5		
	2-5	430	78.2		
	5-10	978	49.8		
J (South)	0-2	136	129.9		
	2-5	413	75.1		
	5-10	1235	62.9		
K	0-2	61	59.3		
	2-5	906	164.8		
	5-10	3090	157.4		

ESTIMATION OF INTEGRAL POPULATION DOSE BY SECTOR

Name of individual completing form _____

Date _____ Time _____ (military)

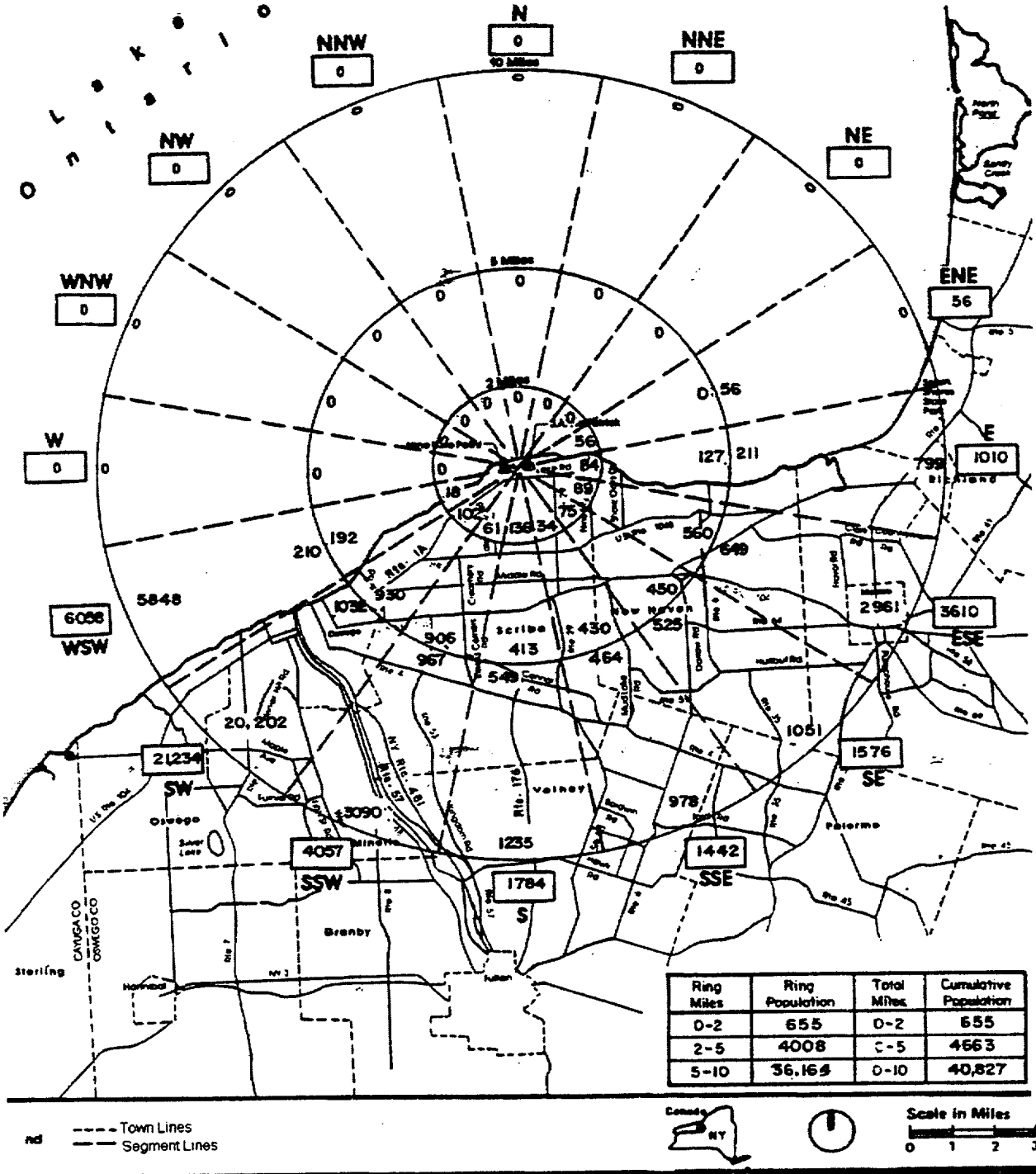
Sector	Zone (miles)	Permanent Population	Population Density* (Persons/mi^2)	TEDE (mrem)	CDE Thyroid Dose (mrem)
L	0-2	102	97.4		
	2-5	930	169.2		
	5-10	20,202	1028.9		
M	0-2	18	17.2		
	2-5	192	34.9		
	5-10	5848	297.8		
N (West)	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
O	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
P	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
Q	0-2	0	0		
	2-5	0	0		
	5-10	0	0		
TOTAL		40,827			

*Population Density is based on the following area determinations per sector: 0-2 miles = 1.0472 sq. mi.; 2-5 miles = 5.4978 sq. mi.; 5-10 miles = 19.635 sq. mi.

_____ /

Dose Assessment Coordinator Verification / Date

1991 PERMANENT RESIDENT POPULATION ESTIMATES, BY SEGMENT PAGE 1 OF 1



Ring Miles	Ring Population	Total Miles	Cumulative Population
0-2	655	0-2	655
2-5	4008	0-5	4663
5-10	36,164	0-10	40,827

ig. 16 1991 Permanent Resident Population Estimates, by Segment

J.A. FitzPatrick/ Nine Mile Point Nuclear Power Stations

ENTERGY NUCLEAR OPERATIONS, INC.
JAMES A. FITZPATRICK NUCLEAR POWER PLANT
EMERGENCY PLAN IMPLEMENTING PROCEDURE

CONNECTING EPIC IDT TERMINALS TO DESTINY SYSTEM
SAP-16
REVISION 4

REVIEWED BY: PLANT OPERATING REVIEW COMMITTEE

MEETING NO. N/A DATE: N/A

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REVISION SUMMARY SHEET

REV. NO.

4
- Deleted GM-SUPPORT SERVICES signature on the coversheet per AP.
- Changed title page to reflect company name change.

3
- Reformat per AP-02.01, Rev. 5.
- Change title to more accurately reflect procedure purpose.
- Editorial changes.
- Change level of use to "informational" as it does not effect safety systems and it is within skills and training of craft.

TABLE OF CONTENTS

1.0 PURPOSE

The purpose of this procedure is to ensure the proper configuration when EPIC IDT (Industrial Data Terminals) terminals in the TSC or EOF are temporarily connected to the DESTINY system for displaying drill plant data while conducting emergency planning drills. This procedure is also applicable during drill case development on the DESTINY system.

2.0 REFERENCES

2.1 Performance References

None

2.2 Developmental References

2.2.1 AP-05.02, Control of Temporary Modifications

3.0 INITIATING EVENTS

None

4.0 PROCEDURE

NOTE: THE CONNECTION OF THE EPIC IDT TERMINALS TO THE DESTINY SYSTEM CAN HAVE NO ADVERSE AFFECT ON THE EPIC SYSTEM. THERE IS NO HARDWARE CONNECTION BETWEEN THE EPIC AND DESTINY SYSTEMS.

4.1 Connecting EPIC IDT Terminals to DESTINY

4.1.1 Obtain the Shift Manager's (SM) permission to switch the EPIC IDT terminal(s) to DESTINY.

4.1.2 Identify for the SM:

- Which IDT terminals are to be switched.
- How long IDT terminals will be connected to DESTINY.

4.1.3 After the SM notification, secure a sign to the IDT terminal indicating its status.

Example: TESTING IN PROGRESS [For drill case CONTACT EXT development]

4.1.4 Connect the Technical Support Center (TSC) IDT terminal by switching the "AB switch" located under each IDT terminal from "A" to "B".

4.1.5 Connect the Emergency Operations Facility (EOF) IDT terminal to DESTINY by switching the "AB switch" located in the EPIC computer room from "A" to "B".

4.2 Restoring EPIC IDT Terminals to EPIC

4.2.1 Reconnect the TSC EPIC IDT terminals by switching the "AB switch" located under each IDT terminal from "B" to "A".

4.2.2 Reconnect the EOF EPIC IDT terminal to DESTINY by switching the "AB switch" located in the EPIC computer room from "B" to "A".

4.2.3 Insure each EPIC IDT terminal has been restored to EPIC by displaying the SPDS PLANT display. In the lower right hand corner of the display, the word "HOSTA" or "HOSTB" should appear.

4.2.4 Remove the sign secured to each IDT terminal.

4.2.5 Notify the SM that all EPIC IDT terminals have been returned to normal operation.

5.0 **ATTACHMENTS**

None