

Revision 5	PALO VERDE NUCLEAR GENERATING STATION	STATION MANUAL	
		Title INDEX	Division

EMERGENCY PLAN
IMPLEMENTING PROCEDURES
INDEX

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PVNGS SM # 8-9A

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EMERGENCY PLAN

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EPIP-45		Government Liaison Engineer (GLE)	0	12/10/82		
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EPIP-50		Status Board Keeper (SBK)	0	12/10/82		
EPIP-51		Offsite Technical Representative (OTR)	0	01/27/83		
EPIP-52		ENC Technical Advisor	0	12/10/82		
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JR Bynum / jma

DATE

1/31/83

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2-7-83

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1.0 OBJECTIVE

- 1.1 This procedure describes methodology for the manual determination of airborne radioactive release rates from the turbine building (plant vent and condenser air removal), the fuel building and the main steam lines utilizing effluent monitor readings. If this is not possible, release rates will be inferred indirectly from area radiation monitors or hand-held monitors. Upon determination of release rates, actual or projected plume exposure dose rates, and integrated doses may be calculated in accordance with EPIP-14B, "Dose Assessment".

2.0 REFERENCES

2.1 Implementing References

- 2.1.1 EPIP-08, "Notification Process - ALERT, SITE AREA EMERGENCY, or GENERAL EMERGENCY"
- 2.1.2 EPIP-11, "Technical Support Center Activation"
- 2.1.3 EPIP-12, "Operations Support Center Activation"
- 2.1.4 EPIP-13, "Emergency Operations Facility Activation"

2.2 Developmental References

- 2.2.1 PVNGS Emergency Plan, Rev. 2
- 2.2.2 FSAR, Chapter 11, "Process and Effluent Radiological Monitoring and Sampling Systems"
- 2.2.3 NUREG-0737, "Clarification of TMI Action Plan Requirements"

3.0 LIMITATIONS AND PRECAUTIONS

- 3.1 If an airborne radioactive material release occurs under emergency conditions, the majority of material will be released through the plant vent with the possibility of minor amounts being released through the condenser air removal system, the fuel building exhaust or the main steam lines.

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- 3.1.1 Activity release rate calculations for the condenser air removal system, fuel building exhaust system, main steam system and the turbine building plant vent should be conducted only if the appropriate monitors indicate elevated activities, and actual releases have occurred or are expected to occur.
- 3.2 Depending upon release sites, one or more of the following monitors must be properly functioning;
 - 3.2.1 Ru-143; Low Range Plant Vent Monitor | 1
Ru-144; High Range Plant Vent Monitor
 - 3.2.2 Ru-145; Low Range Fuel Building Exhaust Monitor | 1
Ru-146; High Range Fuel Building Exhaust Monitor
 - 3.2.3 Ru-141; Low Range Turbine Building Condenser Air Removal Monitor |
Ru-142; High Range Turbine Building Condenser Air Removal Monitor 1
 - 3.2.4 Ru-139A,B; 140A,B; Main Steam Line Monitors
 - 3.2.5 Ru-148 or Ru-149; Containment Area Monitors
- 3.3 Monitor readings must be obtained from the communication console in the Control Room or the console in the radiation protection office.
- 3.4 Determination of containment release rates utilizing containment area monitors Ru-148 or Ru-149 or hand-held instruments should be used only if effluent monitors are nonfunctional.
 - 3.4.1 Plant vent releases may be calculated by correlating actual containment exposure rates to projected containment exposure rates and release rates. Projected exposure and release rates were calculated assuming a design basis loss of coolant accident (LOCA) based upon NUREG-0737. The entire release is assumed to be through the plant vent.
- 3.5 "Effective age" refers to the time after core shutdown. Release rates will vary as a function of "effective age".
- 3.6 The accuracy of plant vent monitors is $\pm 25\%$ and the accuracy of containment area monitors is $\pm 20\%$. Therefore, release rate calculations can be limited to 2 significant figures. | 1

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4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.1.1 As delineated in EPIP-01, the Radiation Protection Technician (affected unit) will be responsible for initial offsite dose calculations and/or projections.

4.1.2 At an ALERT or more severe level, the TSC will be activated and the Radiological Protection Coordinator (at the TSC) will be responsible for dose calculations and/or projections. | 1

4.2 Prerequisites

4.2.1 An Alert or higher level emergency has been classified per the provisions of EPIP-02.

4.2.2 An actual or projected release of airborne radioactive material has occurred or will occur.

4.2.2.1 Additionally, release rates shall be determined upon significant changes (+20%) in monitor readings and at a minimum of every hour for effective ages 0-10 hours and every 10 hours for effective ages 10-100 hours. | 1

4.3 Instructions

4.3.1 Determine release point(s) from effluent monitor reading(s). Proceed to the appropriate section.

- o Plant Vent Section Utilizing Effluent Monitor, 4.3.2.
- o Condenser Air Removal System, 4.3.3.
- o Fuel Building Ventilation Exhaust, 4.3.4.
- o Main Steam Lines, 4.3.5.
- o Plant Vent or Containment Utilizing Containment Area Monitors or Hand-Held Instruments, 4.3.6.

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4.3.2 Determination of Activity Release Rate From the Plant Vent (Appendix A).

- 4.3.2.1 Obtain the noble gas air concentration in units of uCi/cc from the gross beta channel (Channel B) of monitor Ru-143 (low range), or Ru-144 (high range). Record this value on Appendix A, Column 2, Section A. | 1
- 4.3.2.2 Obtain the I-131 air concentration, in units of uCi/cc from the I-131 channel of monitor Ru-143 or Ru-144. Record this value on Appendix A, Column 2, Section B. | 1
- 4.3.2.3 Using Appendix J, "Plant Vent Flow Diagram", determine from indications in the control room which plant vent fan is "on".
- 4.3.2.4 Add together flow rates from plant vent fans shown in Appendix J that indicate "on" to get total plant vent flow.
- 4.3.2.5 Multiply the monitor reading (uci/cc) by the vent flow rate (6.64 E+07 cc/sec, default value) to obtain the noble gas and/or I-131 release rate in uCi/sec. 1
- o Convert to Ci/sec utilizing the conversion 1.0E-06Ci/uCi.
- 4.3.2.6 If the I-131 channel is nonfunctional multiply the noble gas release rate by the appropriate conversion factors (Appendices F and G) to obtain the release rates of total radioiodines and I-131 (Section C).

Calculation

$$RR_{NG} = A_{NG} \times \text{Flow Rate cc/sec} \times 1.0E-06 \text{ Ci/uci}$$

$$RR_{TI} = RR_{NG} \times C_1$$

$$RR_{I-131} = RR_{TI} \times C_2$$

Where: RR_{NG} = noble gas release rate (Ci/sec)

RR_{TI} = total radioiodine release rate (Ci/sec)

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RR_{I-131} = iodine 131 release rate (Ci/sec)

ANG = noble gas air concentration (uCi/cc)
from monitor Ru-143 or Ru-144

Flow Rate = flow rate cc/sec; plant vent flow rate =
6.64E+07 cc/sec (default value) or
(operating vents x flow rates)

1.0E-06
 Ci/uCi = conversion from uCi to Ci

C_1 = ratio of total iodine/noble gas release
rates (Appendix F)

C_2 = ratio of I-131/total iodine release
rates (Appendix G)

4.3.3 Determination of Activity Release Rate From the Condenser Air Removal System (Appendix B).

4.3.3.1 Obtain the noble gas air concentration ANG , in units
of uCi/cc from the gross Beta channel (Channel B) of
monitor Ru-141 (low range) or Ru-142 (high range).
Record this value on Appendix B, Column 2.

4.3.3.2 Using Appendix L "Condenser Air Removal Flow Diagram"
determine from indications in the control room which
condenser pumps are "on".

4.3.3.3 Add together flow rates from condenser pumps shown on
Appendix L that indicate "on", also add 1300 for the
steam packing exhausters to obtain the total air
removal flow rate.

4.3.3.4 Convert air flow to cc/sec by multiplying the CFM by
472. If the pump "on" indications are not known, use
the 6.99E5 cc/sec air flow default value. Record the
vent flow rate in column 3.

4.3.3.5 Convert to Ci/sec utilizing the conversion factor
1.0E-06 Ci/uCi and recording the result in column 5.

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4.3.3.6 To calculate total Iodine release rate, multiply the noble gas release rate by the "Total I/NG" ratio obtained from Appedix F. The "Total I/NG" ratio is related to the effective age at time of release.

4.3.3.7 To calculate the I-131 release rate, multiply the total Iodine release rate by the I-131 total iodine ratio obtained from Appendix G. The I-131 iodine ratio is related to the effective age at the time of release.

Calculation

$$RR_{NG} = A_{NG} \times \text{Flow Rate cc/sec} \times 1.0E-06 \text{ Ci/uci}$$

$$RR_{TI} = RR_{NG} \times C_1$$

$$RR_{I-131} = R_{TI} \times C_2$$

(Refer to Section 4.3.2.5 for parameter descriptions).

4.3.4 Determination of Activity Release Rate From the Fuel Building Ventilation Exhaust (Appendix C).

4.3.4.1 Obtain the noble gas air concentration, (Channel B), in units of uCi/cc from the gross B channel of monitor Ru-145 or Ru-146. Record this value on Appendix C, column 2.

4.3.4.2 Determine the Fuel Building Ventilation flow rate using Appendix K, "Fuel Building Vent Flow Diagram". indicator lights showing which fans are on are located on panel B02 in the control room.

- o Record the flow rate in column 3 of Appendix C.

- o Multiply the monitor reading (uCi/cc) by the ventilation exhaust rate to obtain the noble gas release rate uCi/sec.

4.3.4.3 To calculate total Iodine release rate, multiply the noble gas release rate by the "Total I/NG" ratio obtained from Appedix F. The "Total I/NG" ratio is related to the effective age at time of release.

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- 4.3.4.4 To calculate the I-131 release rate, multiply the total Iodine release rate by the I-131 total Iodine ratio obtained from Appendix G. The I-131 Iodine ratio is related to the effective age at the time of release.

Calculation

$$RR_{NG} = A(NG) \times \text{Flow Rate cc/sec} \times 1.0E-06 \text{ Ci/uci}$$

$$RR_{TI} = RR_{NG} \times C_1$$

$$RR_{I-131} = RR_{TI} \times C_2$$

(Refer to section 4.3.2.5 for parameter descriptions)

- 4.3.5 Determination of Activity Release Rate From the Main Steam Lines (Appendix D).

- 4.3.5.1 Obtain the exposure rate (mr/hr) from the main steam line monitor(s) Ru-139A,B or Ru-140A,B. Record these values in column 2 of Appendix D.

- 4.3.5.2 Select the appropriate correction factor (based on effective age) from the following table and record in column 3 of Appendix D.

- 4.3.5.3 Multiply the monitor reading(s) (mr/hr) by the correction factor and record the resulting "corrected monitor reading" in column 4 of Appendix D.

<u>Effective Age (hr)</u>	<u>Correction Factor</u>
0 - 7.9	6.6
8.0 - 95.9	8.4
96.0 - 191.0	22.0
192.0 - 719.9	21.0
720.0 -	14.0

- 4.3.5.4 Record the steam flow(s) (10^3 lbs/hr), from meters on the steam generator portion of the main control room console, in column 6.

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4.3.5.5 Carry out the calculations in Appendix D to get the "Noble Gas Release Rate" (uCi/sec in column 8.

- o The conversion factor in column 5 is used to convert the corrected exposure rate in mr/hr to a concentration in Ci/10³ lbs steam (this conversion factor will be supplied when the instrument is calibrated).
- o The conversion factor of 3600 sec/hr is used to convert the noble gas release rate in Ci/hr to Ci/sec.

4.3.5.6 Record the ratio of total iodine to noble gas (from Appendix F) in column 9 of Appendix D.

4.3.5.7 Multiply the noble gas release rate (Ci/sec) by the ratio of total iodine to noble gas and by the factor of 4 indicated on Appendix D to get the total iodine release rate which is entered in column 10.

- o The factor of 4 is used to correct for the assumptions used when Appendix F was generated (i.e., only 1/2 of iodine in core inventory is released to containment during a LOCA and 1/2 of the released iodine plates out).

4.3.5.8 Record the ratio of I-131 to total iodine (from Appendix G) in column 11 of Appendix D.

4.3.5.9 Multiply the total Iodine release rate (Ci/sec) by the ratio of I-131 to total iodine to get the I-131 release rate (Ci/sec) which is recorded in column 12 of Appendix D.

4.3.6 Determination of Activity Release Rate From the Plant Vent Utilizing Containment Area Monitors Ru-148 Or Ru-149 Or Hand-held Instruments (Appendix E).

4.3.6.1 This method should be utilized only if effluent monitors are nonfunctional.

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- 4.3.6.2 Obtain the actual exposure rate, E(act) from the high range area monitor Ru-148 and/or Ru-149 in R/hr or the sum of both divided by two for an average over the containment. Record this value on Appendix E, Column 2. If these monitors are nonfunctional and radiological conditions allow, as determined by dose rate measurement at outer containment door, obtain a contact dose rate measurement (R/hr) with a hand-held beta/gamma (shield closed) instrument at the inner containment door pyrex viewing window. Multiply by the appropriate correction factor below. Record on Appendix E, Column 2.

<u>Effective Age (hr)</u>	<u>Correction Factor</u>
0 - 96	1.5
96.0 - 192.0	3.4
192 - 720	1.6

1

- 4.3.6.3 Determine the projected containment exposure rate (LOCA), E(pro) as a function of "effective age" using the "Total" line from Appendix H. Record this value on Appendix E, Column 3.
- 4.3.6.4 Determine the projected noble gas release rate (LOCA), R_{NGpro} using the noble gas line from Appendix I. Record this value on Appendix E, Column 4.
- 4.3.6.5 Calculate, release rates as follows:

$$RR_{NG ACT} = E(act) - E(pro) \times R_{NGpro}$$

$$RR_{TI} = RR_{NG ACT} \times C_1$$

$$RR_{I-131} = RR_{TI} \times C_2$$

Where: $RR_{NG ACT}$ = noble gas release rate (Ci/sec)

RR_{TI} = total radioiodine release rate (Ci/sec)

RR_{I-131} = I-131 release rate (Ci/sec)

E_{ACT} = actual high range monitor reading from Ru-148 and/or Ru-149 in R/hr or corrected hand-held instrument reading

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$E(\text{pro})$ = projected containment exposure rate (LOCA) at "effective age" from Appendix H

$R_{\text{NG pro}}$ = projected Noble Gas release rate (LOCA) at "effective age" j from Appendix I

C_1 = ratio of total iodines/noble gas release rates (Appendix F)

C_2 = ratio of I-131/total iodine release rates (Appendix G)

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RELEASE RATE DETERMINATION FROM THE TURBINE BUILDING, PLANT VENT Monitors Ru-143 or Ru-144

Effective Age (hr)	Noble Gas Air Conc (uCi/cc)	Plant Vent Flow Rate (cc/sec)*	Conversion Factor (uCi to Ci)	Noble Gas Release Rate (Ci/sec)
Section A				
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=

NOTE: If I-131 monitor is inoperable, complete Section C only, otherwise complete only Sections A and B.

Effective Age (hr)	I-131 Air Conc (uCi/cc)	Plant Vent Flow Rate (cc/sec)*	Conversion Factor (uCi to Ci)	I-131 Release Rate (Ci/sec)
Section B				
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=
		x	x 1.0E-6	=

Effective Age (hr)	Noble Gas Air Conc (uCi/cc)	Plant Vent Flow Rate (cc/sec)*	Conversion Factor (uCi to Ci)	Noble Gas Release Rate (Ci/sec)	Tot I/NG App F	Tot Iodine Release Rate (Ci/sec)	I-131/Tot I App G	I-131 Release Rate (Ci/sec)
Section C								
		x	x 1.0E-6	=	x	=	x	=
		x	x 1.0E-6	=	x	=	x	=
		x	x 1.0E-6	=	x	=	x	=
		x	x 1.0E-6	=	x	=	x	=
		x	x 1.0E-6	=	x	=	x	=
		x	x 1.0E-6	=	x	=	x	=

1 | *6.64E+7 = default value

Preparer _____ (Signature) 1
Reviewer _____ (Signature)
Date _____ Time _____ 1
Reactor Shutdown Time/Date _____

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RELEASE RATE DETERMINATION FROM THE CONDENSER AIR REMOVAL SYSTEM Monitors Ru-141, Ru-142

Effective Age (hr)	Noble Gas Air Conc (uCi/cc)	Condenser Vacuum Vent Flow Rate (cc/sec)*	Conversion Factor (uCi to Ci)	Noble Gas Release Rate (Ci/sec)	Tot I/NG App F	Tot I Release Rate (Ci/sec)	I-131/Tot I App G	I-131 Release Rate (Ci/sec)
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x
		x	1.0E-6	x	x	x	x	x

Preparer _____ (Signature)
Reviewer _____ (Signature)
Date _____ Time _____
Reactor Shutdown Time/Date _____

*6.99E+5 cc/sec = default value
[1480 CFM equivalent]

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RELEASE RATE DETERMINATION FROM THE FUEL BUILDING VENTILATION EXHAUST Monitors Ru-145 or Ru-146

Effective Age (hr)	Noble Gas Air Conc (uCi/cc)	Plant Vent Flow Rate * (cc/sec)	Conversion Factor (uCi to Ci)	Noble Gas Release Rate (Ci/sec)	Tot I/NG App F	Tot I Release Rate (Ci/sec)	I-131/Tot I App G	I-131 Release Rate (Ci/sec)
		x	x 1.0E-6 =		x		x	
		x	x 1.0E-6 =		x		x	
		x	x 1.0E-6 =		x		x	
		x	x 1.0E-6 =		x		x	
		x	x 1.0E-6 =		x		x	
		x	x 1.0E-6 =		x		x	

*Monitor Ru-145 ventilation exhaust = 2.17E + 7 (cc/sec)
[4.6E4 CFM equivalent]
Monitor Ru-146 ventilation exhaust = 2.83E + 6 (cc/sec)
[6000 CFM equivalent]

Preparer _____ (Signature)
Reviewer _____ (Signature)
Date _____ Time _____
Reactor Shutdown Time/Date _____ / _____

<p align="center">PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE</p>	<p>PROCEDURE NO. EPIP-14A</p>	<p>APPENDIX D Page 1 of 1</p>
<p align="center">RELEASE RATE DETERMINATION</p>	<p>REVISION 1</p>	<p>Page 17 of 25</p>

PROCEDURE
NO.

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Effective Age (hr)	Monitor Reading (mc/hr)	Correction Factor	Corrected Monitor Reading (mc/hr)	Conversion Factor (Ci/k lbs/mc/hr)	Flow Rate (10 ³ lbs/hr)	Noble Gas Release Rate (Ci/sec)	Tot I Release Rate (Ci/sec)	I-131/Tot App G	I-131 Release Rate (Ci/sec)
—	—	x	=	—	x	=	x ₆	=	=
—	—	x	=	—	x	=	x ₆	=	=
—	—	x	=	—	x	=	x ₆	=	=
—	—	x	=	—	x	=	x ₆	=	=

Preparer _____
(Signature)

(Signature)

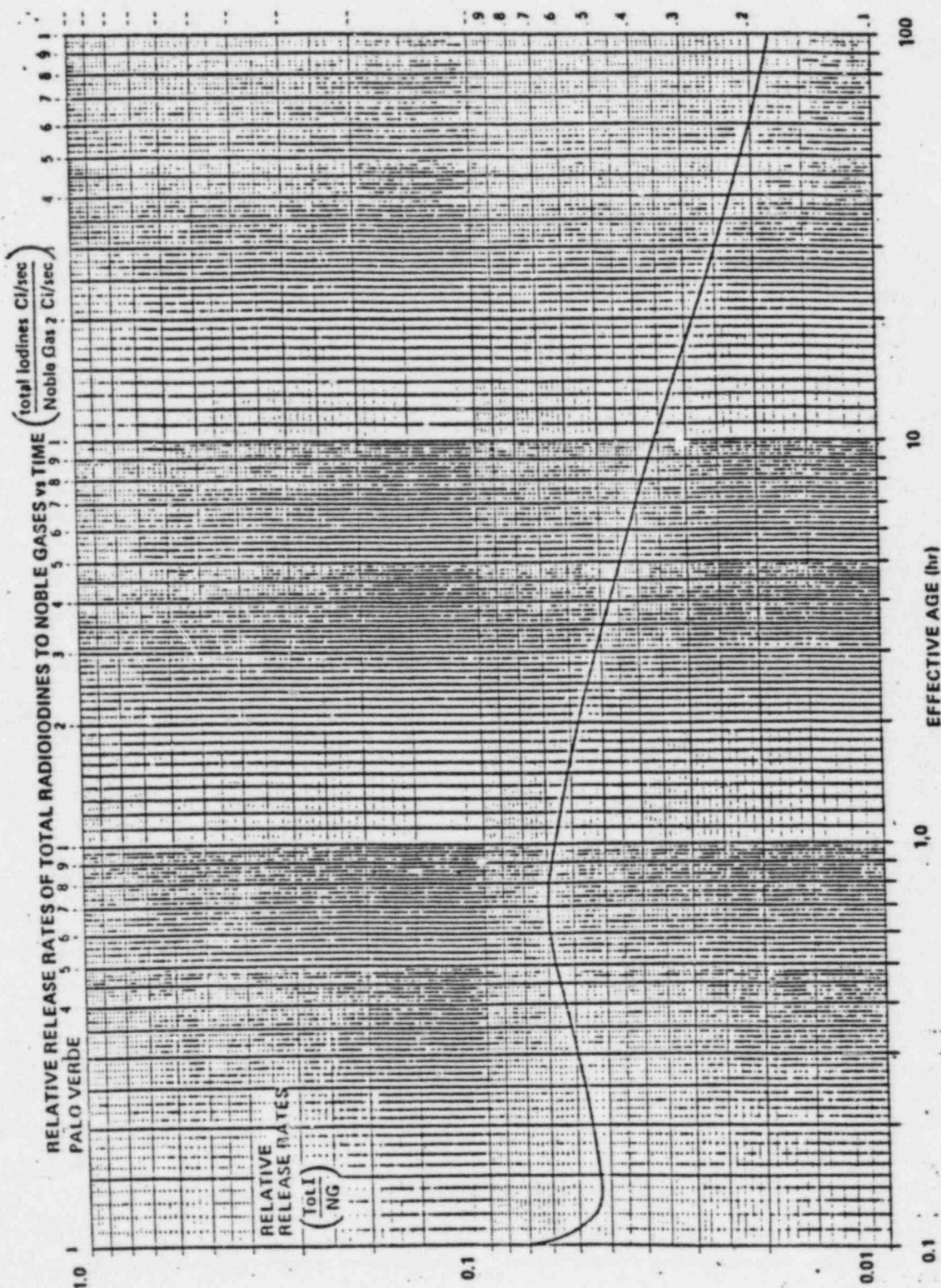
(Signature)

Date _____ Time _____
Reactor Shutdown Time/Date _____ / _____

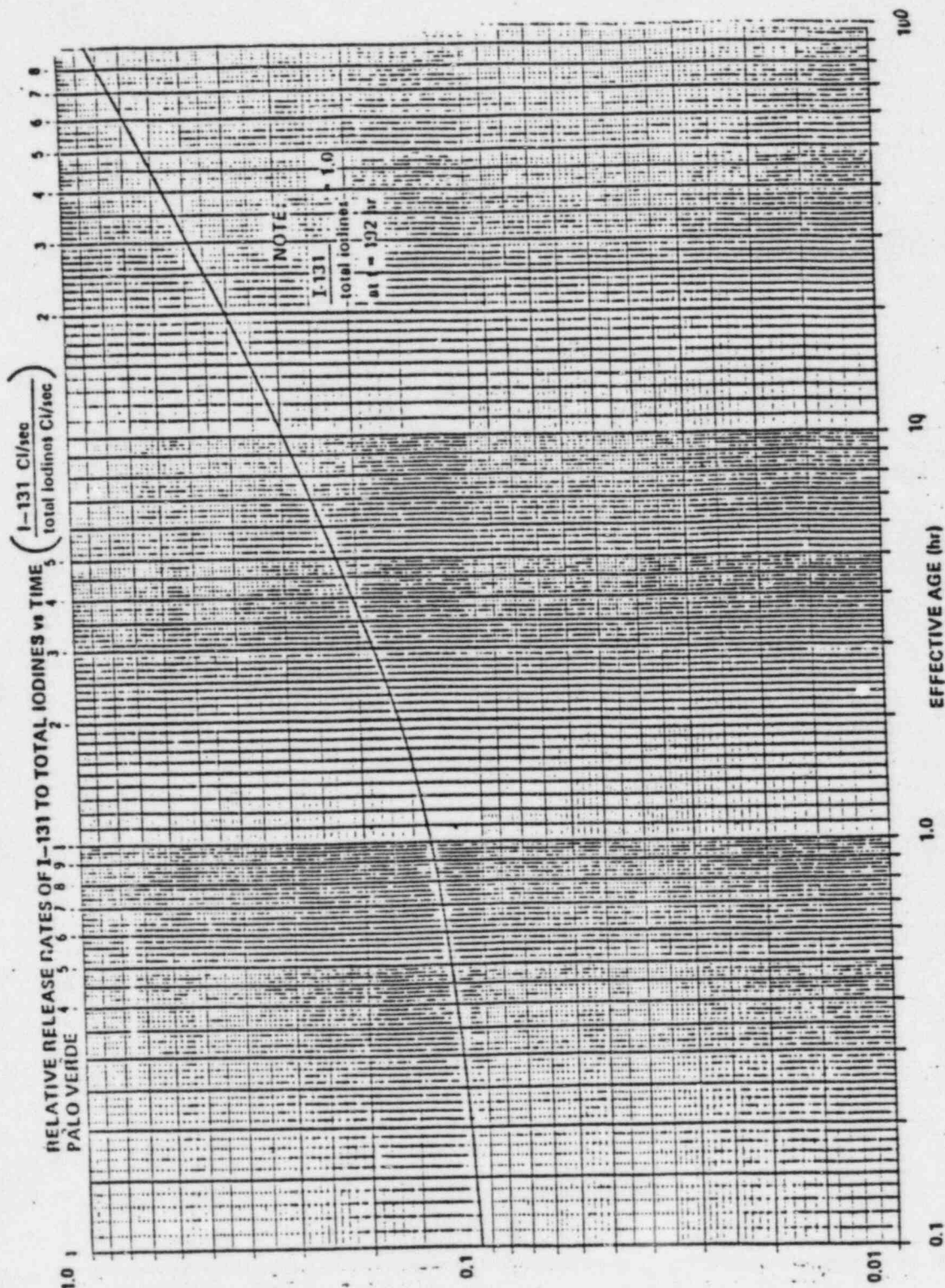
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<p>PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE</p>	<p>PROCEDURE NO. EPIP-14A</p>	<p>APPENDIX G Page 1 of 1</p>
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PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE

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NO.

EP-14A

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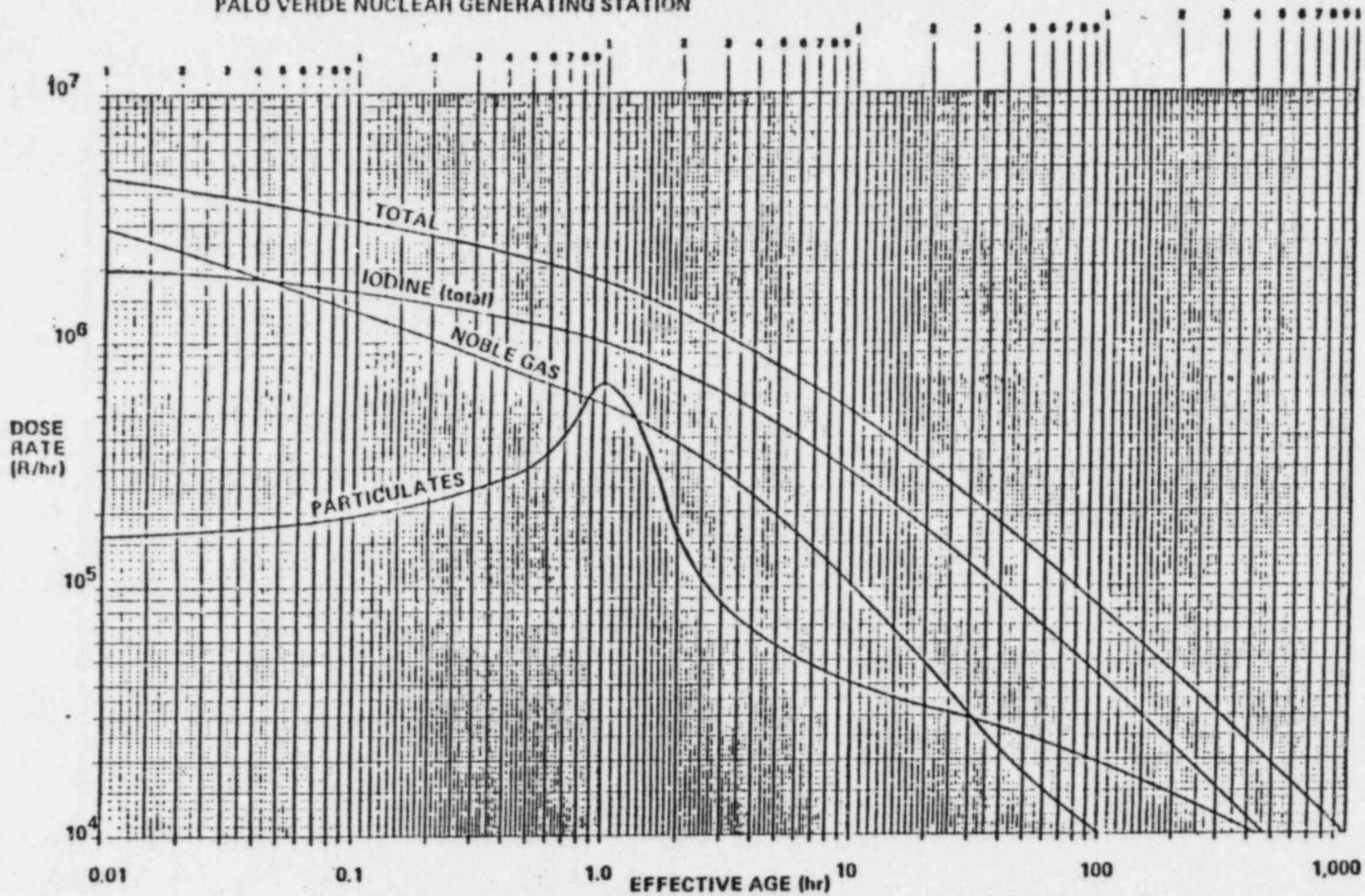
RELEASE RATE DETERMINATION

REVISION

1

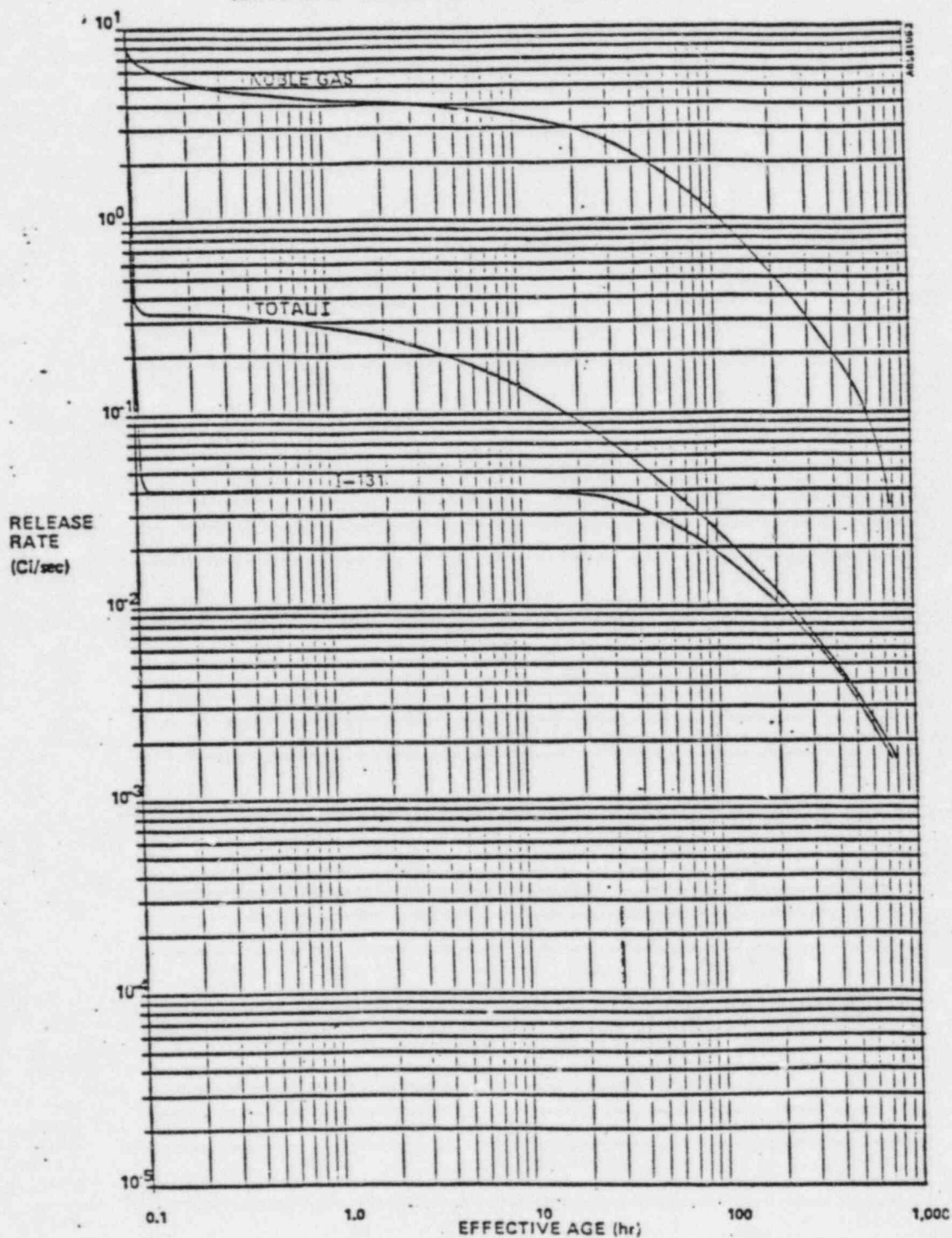
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CONTAINMENT DOSE RATES (R/hr) vs TIME (hr) AT HIGH-RANGE AREA MONITOR,
PALO VERDE NUCLEAR GENERATING STATION



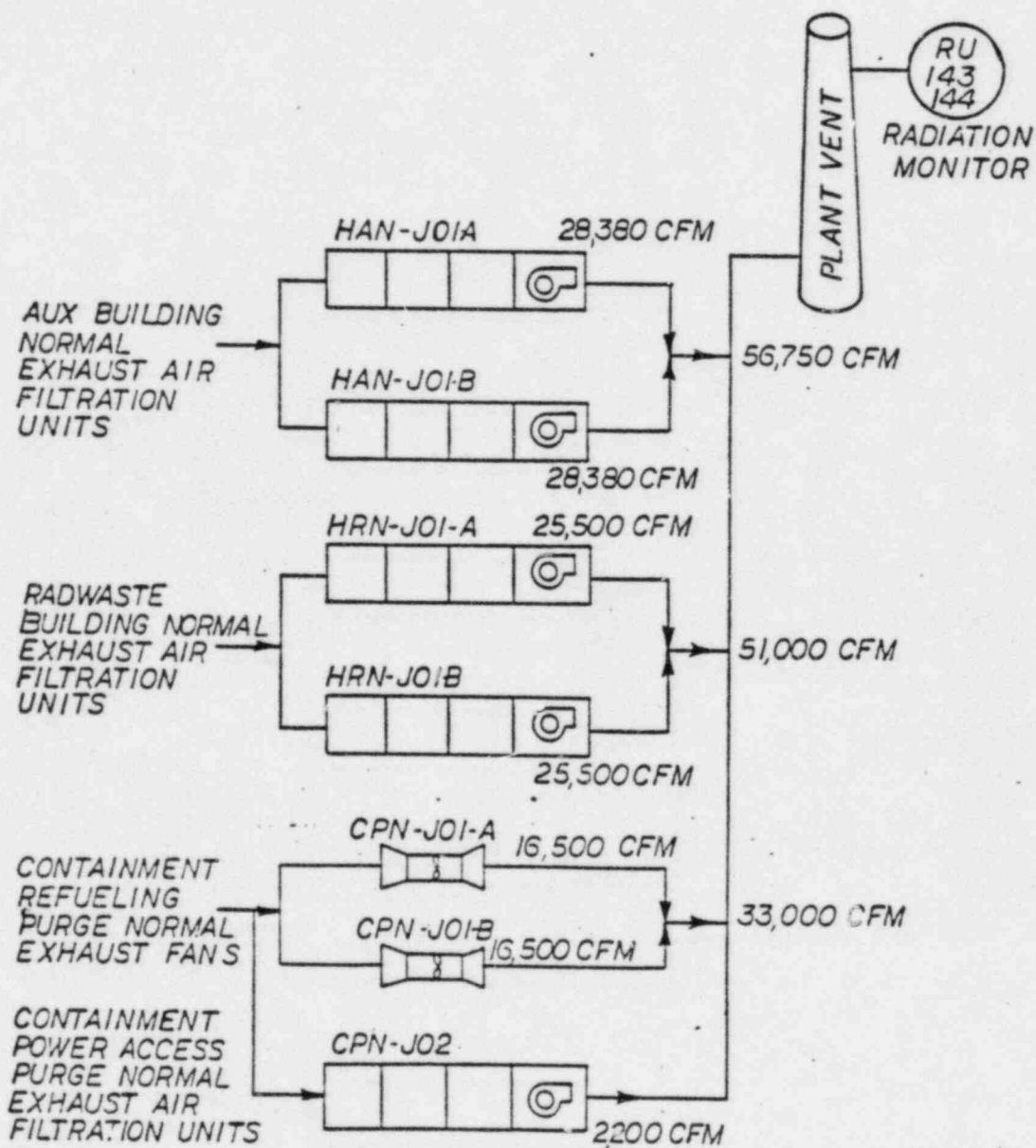
PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-14A	APPENDIX I Page 1 of 1
RELEASE RATE DETERMINATION	REVISION 1	Page 22 of 25

CONTAINMENT NOBLE GAS, TOTAL IODINES, AND I-131 RELEASE RATES
(Ci/sec) AS A FUNCTION OF EFFECTIVE AGE (hr), PVNGS



PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-14A	APPENDIX J Page 1 of 1
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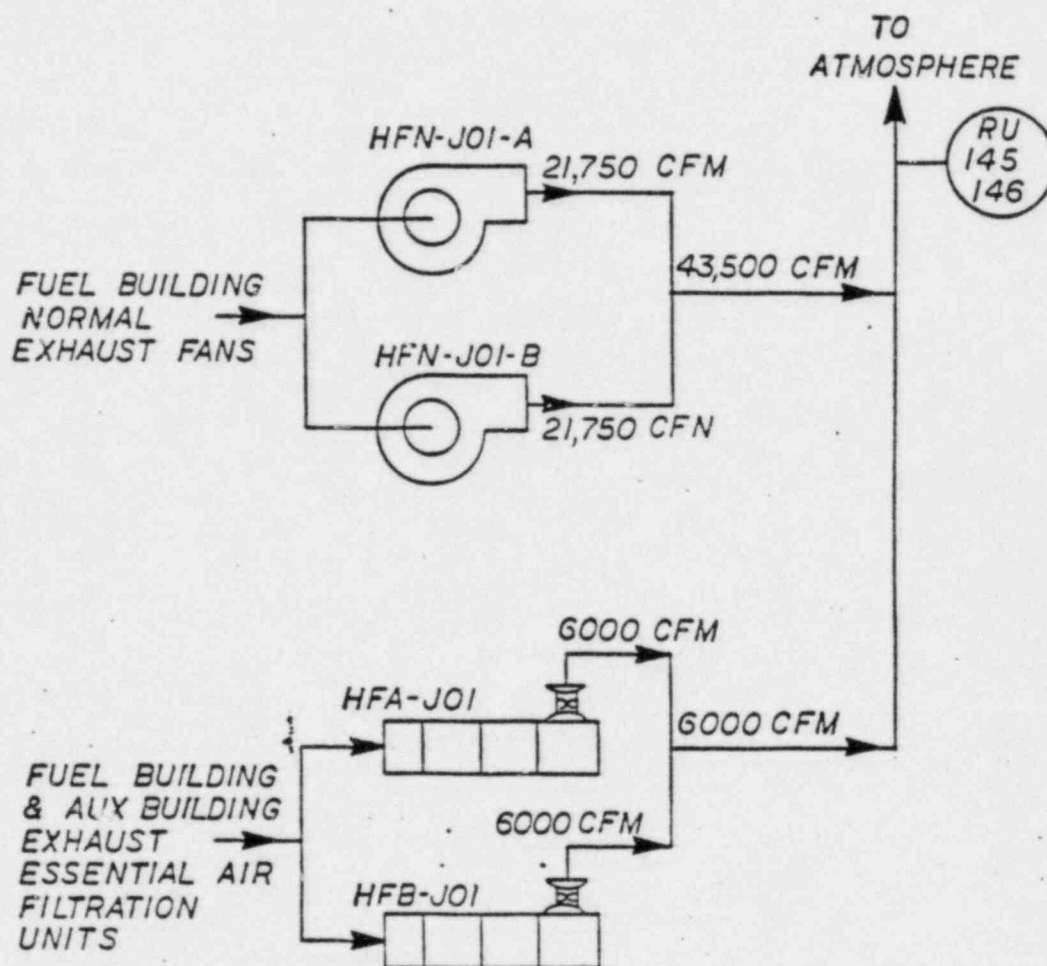
PLANT VENT FLOW DIAGRAM



CONVERSION FACTOR FOR CONVERTING FROM CFM
TO CC/SEC IS $472 \frac{(\text{CC/SEC})}{\text{CFM}}$

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-14A	APPENDIX K Page 1 of 1
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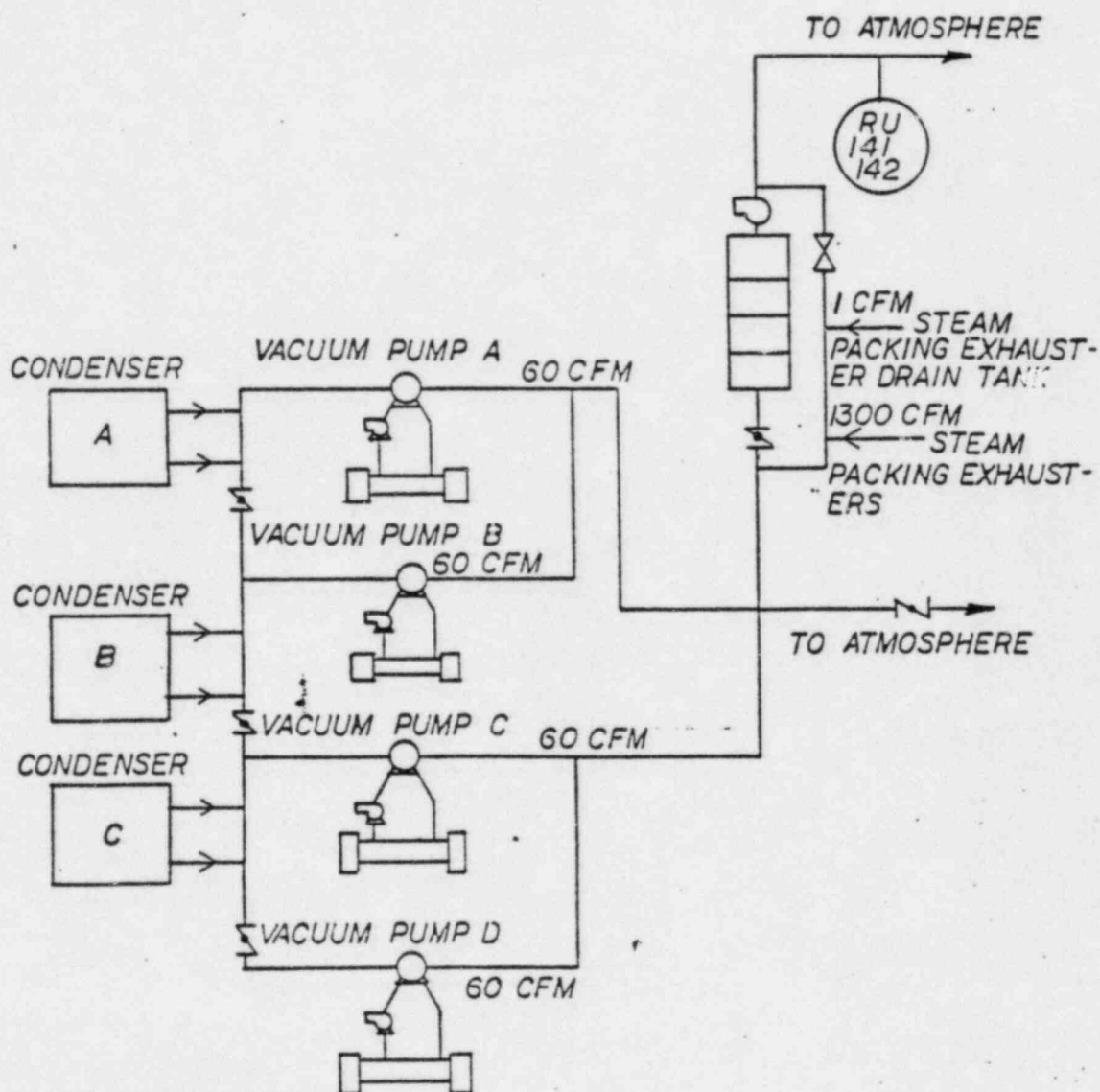
FUEL BUILDING VENT FLOW DIAGRAM



CONVERSION FACTOR FOR CONVERTING
FROM CFM TO CC/SEC IS $472 \left(\frac{\text{CC/SEC}}{\text{CFM}} \right)$

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-14A	APPENDIX L Page 1 of 1
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CONDENSER AIR REMOVAL FLOW DIAGRAM



CONVERSION FACTOR - $CFM \times 472 \left(\frac{CC/SEC}{CFM} \right) = CC/SEC$

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ASSIGNED COPY

PVNGS # 8-9A

APPROVED BY: J. R. Bynum / jna DATE 1/31/83

DATE EFFECTIVE 2-8-83

DN-3859A/0295A

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-54	
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PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. EPIP-54	
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1.0 OBJECTIVE

The objective of this procedure is to provide guidance to representatives of government agencies who report to the PVNGS Emergency Operations Facility and to the APS emergency personnel who are responsible for assisting government staff. This guidance is provided as an aid, not as a requirement to be enforced by EOF personnel.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-13 "Emergency Operations Facility Activation"

2.2 Developmental References

2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"

2.2.2 PVNGS Emergency Plan, Rev 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Provision shall be made for a limited number of government employees in the EOF. This shall include representatives from the Nuclear Regulatory Commission (NRC), Federal Emergency Management Agency (FEMA) and State of Arizona.

3.2 Government employees entering the EOF shall be properly badged by Security prior to entry.

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.1.1 NRC, FEMA and State of Arizona emergency response plans include provisions for sending representative to the Emergency Operations Facility.

4.1.2 APS is responsible for allowing access, providing physical facilities for use by government staff, and for ongoing coordination and briefing of government staff.

PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. EPIP-54	
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4.2 Prerequisites

- 4.2.1 An ALERT or more severe emergency has been declared and procedure EPIP-13 is being implemented.

4.3 Instructions

- 4.3.1 State of Arizona representatives shall travel to PVNGS from Phoenix, by automobile, using the route shown on the map in Appendix A.
- 4.3.2 NRC and FEMA representatives shall travel to PVNGS from Phoenix Airport, by automobile, using the route shown on the map in Appendix A.
- 4.3.3 Government representatives shall report to the PVNGS Security Building as shown on the map in Appendix B upon arrival at the site.
- 4.3.4 Security Building staff shall register the government representatives and issue Visitor Passes in accordance with standard security procedures.
- 4.3.5 Security Building staff shall notify the Security Coordinator at the EOF and arrange to escort the government representatives to the EOF (Administration Annex Building basement).
- 4.3.6 At the EOF, the Security Coordinator shall issue an Emergency Personnel Identification Badge labeled with the appropriate agency name. (Note that all key APS employees at the EOF shall also wear badges labeled with their emergency position titles to assist government staff and others in locating appropriate personnel.)
- 4.3.7 The Dosimetry clerk shall issue radiation Dosimetry to the government staff.
- 4.3.8 The Emergency Operations Director shall arrange for a briefing for government staff upon their arrival.
- 4.3.9 The Administrative and Logistics Coordinator shall direct the government staff to appropriate working locations in accordance with Appendix C and Appendix D. The Administrative and Logistics Coordinator shall also identify communications equipment and other resources available to the government staff.

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4.3.9.1 State of Arizona

Access shall be provided to the following as necessary:

1. Dedicated voice line to ARRA
2. Dedicated voice line to ADES
3. State REAT radio system
4. Facsimile transmission to ARRA and ADES
5. Commercial telephone

4.3.9.2 Nuclear Regulatory System

Access shall be provided to the following as necessary:

1. ENS line to NRC headquarters
2. HPN line to NRC regional office and headquarters
3. Facsimile transmission system
4. Commercial telephone

4.3.9.3 Federal Emergency Management Agency

Access shall be provided to the following as necessary:

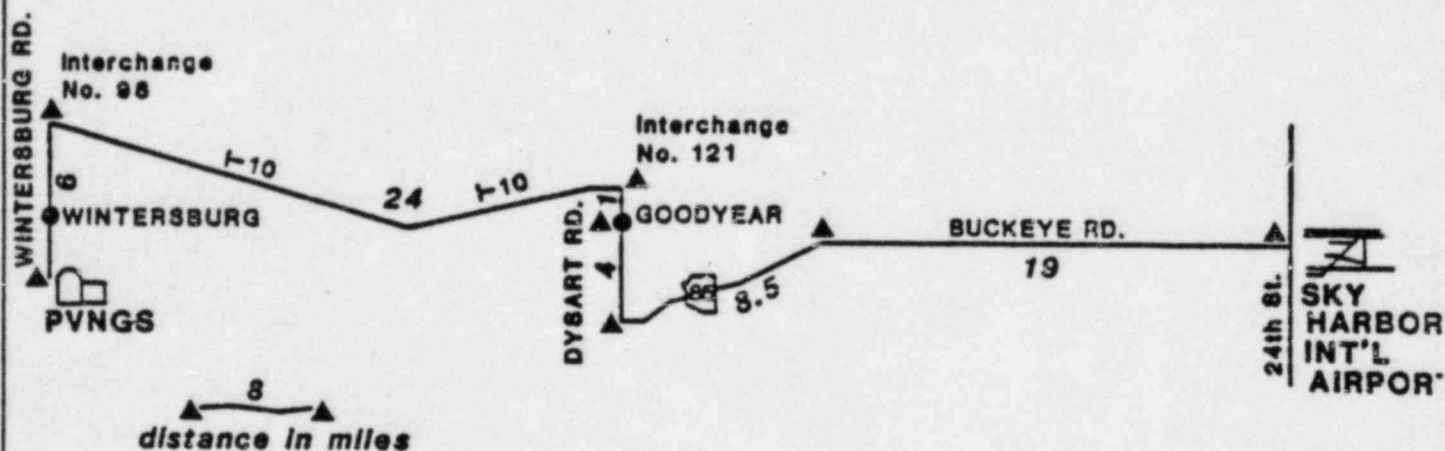
1. Dedicated voice line to ADES
2. Commercial telephone

4.3.10 The Technical Analysis Coordinator shall be responsible for coordination with government staff and for providing periodic briefings on the condition of plant systems and the status of corrective actions.

4.3.11 The Radiological Assessment Coordinator shall be responsible for providing periodic briefings concerning radiological assessment and protective actions and for coordinating with State of Arizona representatives for radiological assessments.

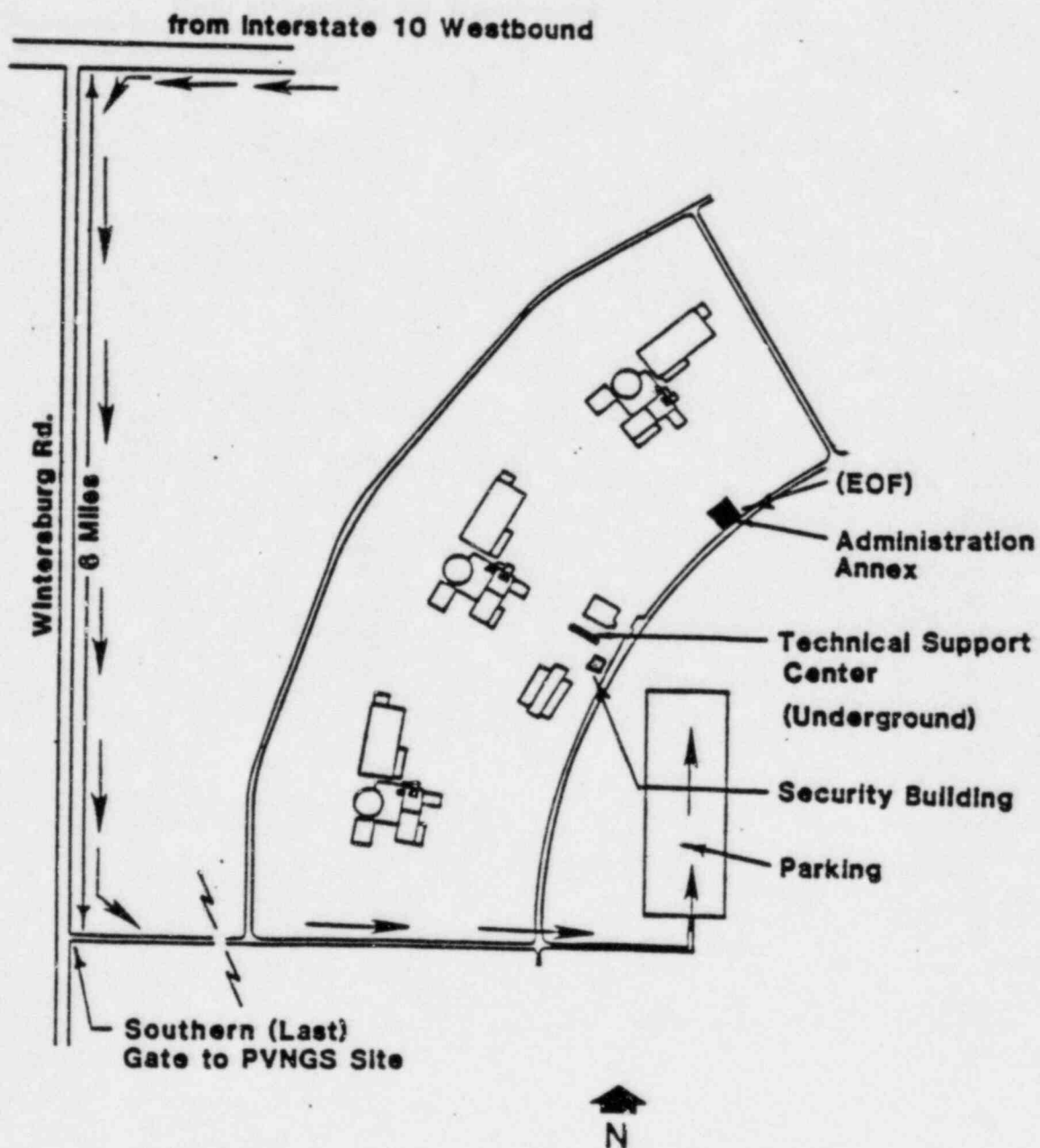
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ROUTE FROM PHOENIX
TO PVNGS



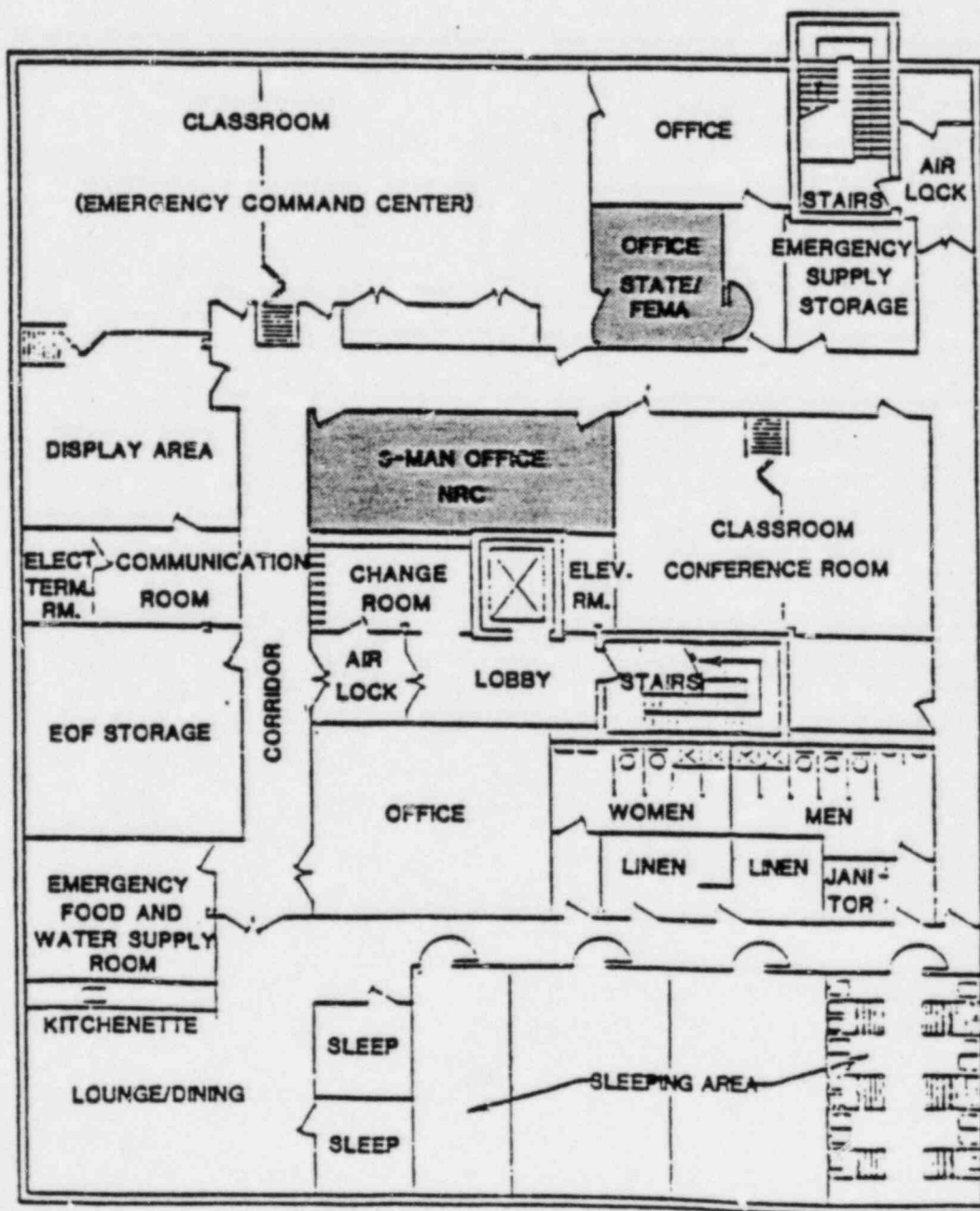
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SITE ACCESS ROUTE



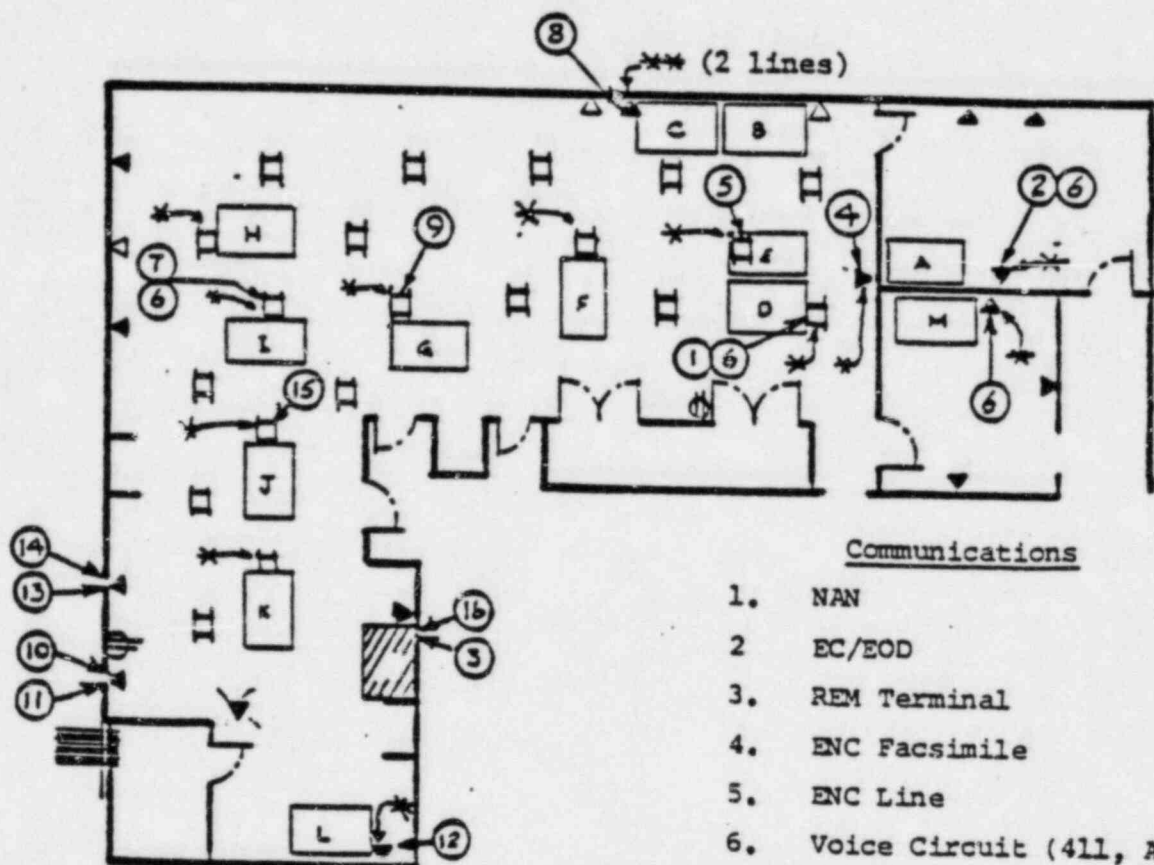
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EOF FLOOR PLAN



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EOF EMERGENCY CONTROL CENTER EQUIPMENT LAYOUT



Communications

1. NAN
2. EC/EOD
3. REM Terminal
4. ENC Facsimile
5. ENC Line
6. Voice Circuit (411, ARRA, AD)
7. Facsimile & Backup (411, ARRA, ADES)
8. Technical Line
9. TSC Line
10. Environmental Line
11. C.R.A.C.S. Terminal
12. Base Station Radio
13. CR Line
14. S.P.D.S. Terminal
15. STSC Line

* Normal Phone Line

Table Personnel Locations

- | | |
|---------|--|
| A. | Emergency Operations Director |
| B. | Administrative and Logistics Coordinator |
| C. | Logistics Communicator |
| D. | Government Liason Engineer |
| E. | EOF Contact |
| F. | Security Coordinator |
| G. | Technical Analysis Coordinator |
| H. | Status Board Keeper |
| I. | Radiological Assessment Coordinator |
| J. | TSC Liason Engineer |
| K. & L. | Radiological Assessment Coordinator |
| M. | State of Arizona |

- [] - Table
 ▲ - Wall Phone Outlet
 [] - Phone and electrical Floor Outle

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-53	
GOVERNMENT STAFFING AT TSC	REVISION 0	Page 1 of 7

ASSIGNED COPY

PVNGS # 8-9A

APPROVED BY:

J.R. Byrum / gma

DATE

1/31/83

DATE EFFECTIVE

2-8-83

DN-3858A/0295A

PVNGS EMERGENCY PLAN IMPLEMENTING PROCEDURE	PROCEDURE NO. EPIP-53	
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PALO VERDE NUCLEAR GENERATING STATION MANUAL	PROCEDURE NO. EPIP-53	
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1.0 OBJECTIVE

The objective of this procedure is to provide guidance to representatives of government agencies who report to the PVNGS Technical Support Center (TSC) and to the APS emergency personnel who are responsible for assisting government staff. This guidance is provided as an aid, not as a requirement to be enforced by TSC personnel.

2.0 REFERENCES

2.1 Implementing References

2.1.1 EPIP-11 "Technical Support Center/Satellite TSC Activation"

2.2 Developmental References

2.2.1 NUREG-0654, Rev. 1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"

2.2.2 PVNGS Emergency Plan, Rev 2

3.0 LIMITATIONS AND PRECAUTIONS

3.1 Provision shall be made for a limited number of NRC employees in the TSC. All other government staff shall report to the EOF.

3.2 Government employees entering the TSC shall be properly badged by Security prior to entry.

4.0 DETAILED PROCEDURE

4.1 Personnel Indoctrination

4.1.1 NRC plans to place an Emergency Response Team in the TSC. Provisions have been made to locate a limited number of NRC staff in the TSC.

4.1.2 The Emergency Coordinator is responsible for interfacing with the NRC Team Leader at the TSC. He may delegate this responsibility to another member of the TSC staff.

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4.2 Prerequisites

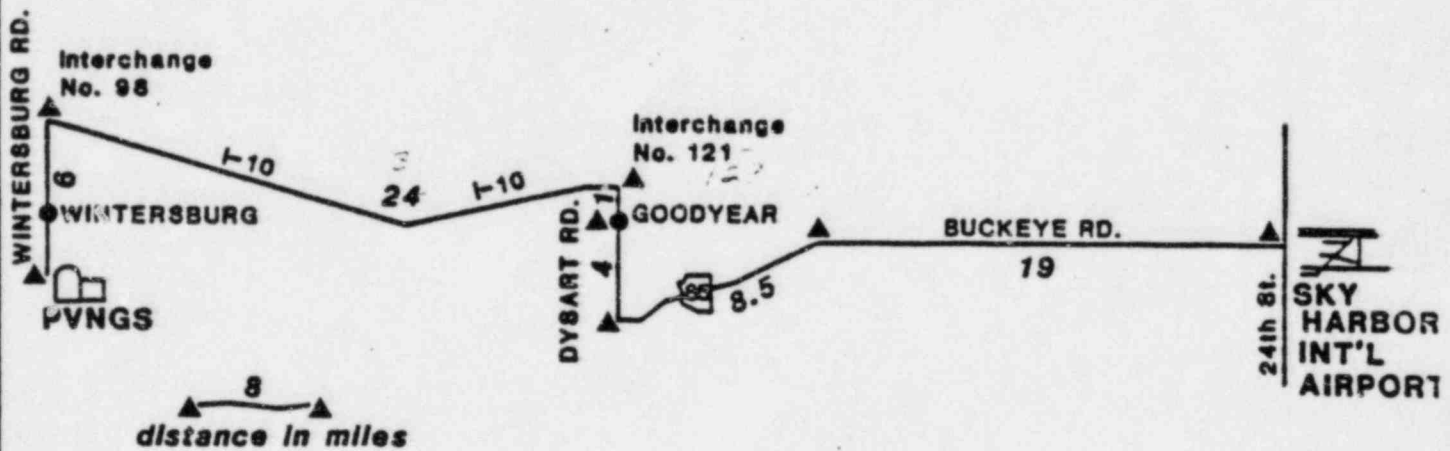
- 4.2.1 An ALERT or more severe emergency has been declared and procedure EPIP-11 is being implemented.

4.3 Instructions

- 4.3.1 The NRC Response Team shall travel to PVNGS from Phoenix Airport, by automobile, using the route shown on the map in Appendix A.
- 4.3.2 NRC representatives shall report to the PVNGS Security Building as shown on the map in Appendix B upon arrival at the site.
- 4.3.3 Security Building staff shall register the NRC representatives and issue Visitor Passes in accordance with standard security procedures.
- 4.3.4 Security Building staff shall notify the Security Director at the TSC and arrange to escort the government representatives to the TSC.
- 4.3.5 At the TSC, the Security Director shall issue an Emergency Personnel Identification Badge labeled with the appropriate agency name. (Note that all key APS employees at the TSC shall also wear badges labeled with their emergency position titles to assist government staff and others in locating appropriate personnel.)
- 4.3.6 The Emergency Coordinator shall arrange for a briefing for NRC representatives upon their arrival. The Emergency Coordinator or designee shall direct the NRC staff to the appropriate location (see Appendix C) and identify the ENS telephone for use by NRC staff.
- 4.3.7 The Technical Engineering Coordinator shall provide periodic briefings on plant status and corrective actions.
- 4.3.8 The Radiological Protection Coordinator shall provide periodic briefings on radiological assessment and protective actions.

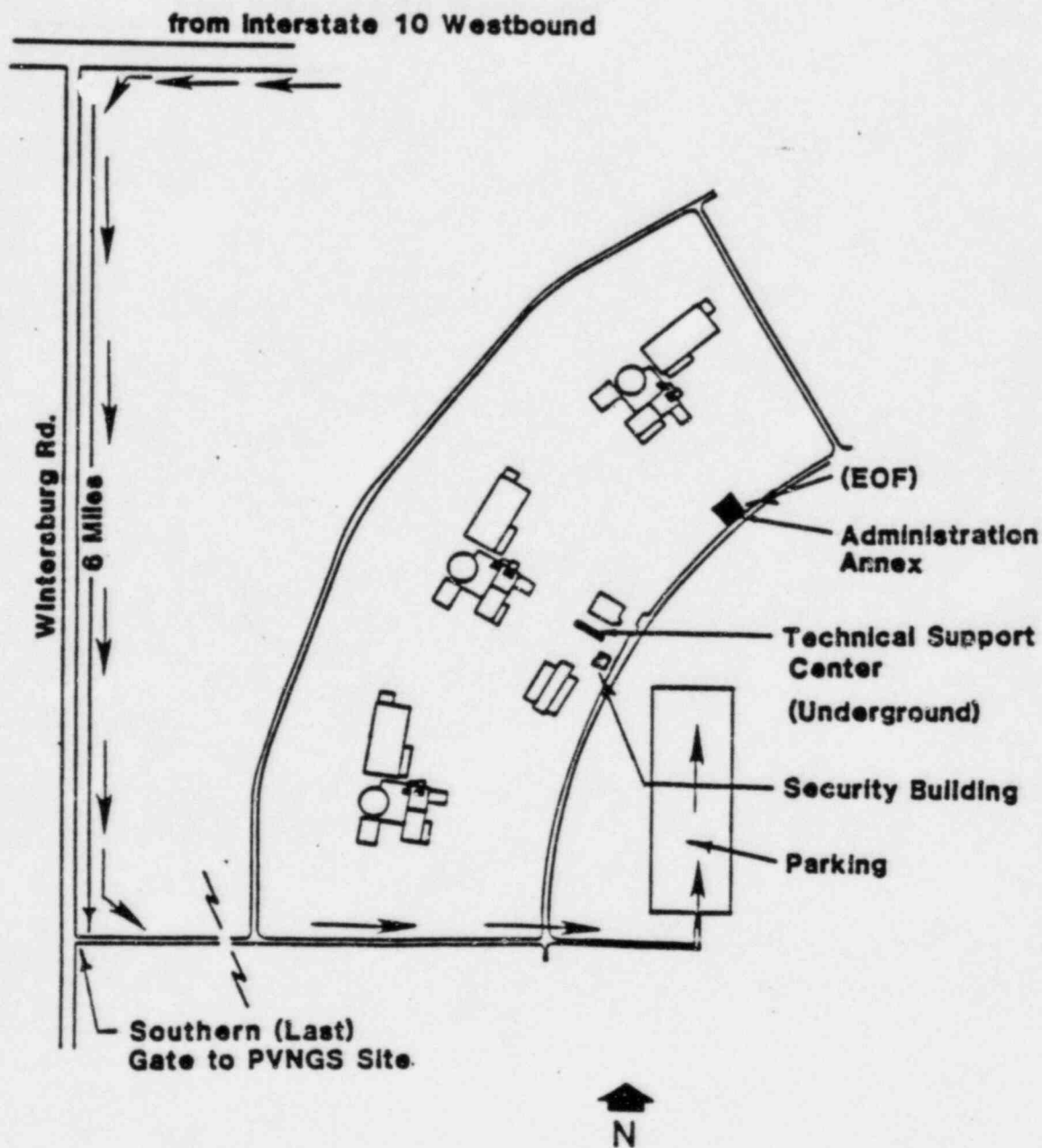
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ROUTE FROM PHOENIX
TO PVNGS



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SITE ACCESS ROUTE



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TSC FLOOR PLAN

