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PRC NC.EP-EP.ZZ-0603 000	5	A	1	H	140513
PRC NC.EP-EP.ZZ-0311 000	2	A	1	H	140766
PRC NC.EP-EP.ZZ-0310 000	4	A	1	H	140477
PRC NC.EP-EP.ZZ-0303 000	2	A	1	H	140632
PRC NC.EP-EP.ZZ-0309 000	4	A	1	H	140433
PRC NC.EP-EP.ZZ-0304 000	6	A	1	H	140386
PRC NC.EP-EP.ZZ-0302 000	5	A	1	H	140343
PRC NC.EP-EP.ZZ-0313 000	1	A	1	H	140873
PRC EPIP-TOC-COMMON 000	24	A	1	H	140295
PRC NC.EP-EP.ZZ-0312 000	3	A	1	H	140807
PRC AIEE TOC 000	10	A	1	H	140266
PRC NC.EP-EP.ZZ-0305 000	1	A	1	H	140677
PRC NC.EP-EP.ZZ-0307 000	2	A	1	H	140723

A045

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PSEG NUCLEAR LLC
EOF IMPLEMENTING PROCEDURES

July 3, 2002

CHANGE PAGES FOR
REVISION #10

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EPID059

The Table of Contents forms a general guide to the current revision of each section of the EOF EPIP. The changes that are made in this TOC Revision #10 are shown below. Please check that your revision packet is complete and remove the outdated material listed below:

ADD			REMOVE		
Page	Description	Rev.	Page	Description	Rev.
All	T.O.C.	10	All	T.O.C.	09
All	NC.EP-EP.ZZ-0603	05	ALL	NC.EP-EP.ZZ-0603	04

**PSEG NUCLEAR LLC EMERGENCY PLAN
EOF IMPLEMENTING PROCEDURES
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July 3, 2002**

AIEE TOC
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**PSE&C
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EMERGENCY OPERATIONS FACILITY (EOF) PROCEDURES

EMERGENCY COORDINATOR RESPONSE:		<u>Revision Number</u>	<u>Number of Pages</u>	<u>Effective Date</u>
NC.EP-EP.ZZ-0401(Q)	Emergency Preparedness Coordinator Response	02	6	02/06/2002
NC.EP-EP.ZZ-0402(Q)	Site Support Manager Team Response – EOF	02	6	02/06/2002
NC.EP-EP.ZZ-0403(Q)	Public Information Liaison (PIL) – EOF	03	4	03/14/2002
NC.EP-EP.ZZ-0404(Q)	Protective Action Recommendations (PARS) Upgrades	01	10	09/14/2000
NC.EP-EP.ZZ-0405(Q)	Emergency Termination/ Reduction/Recovery	01	22	02/29/2000
ENGINEERING RESPONSE (EOF):				
NC.EP-EP.ZZ-0501(Q)	EOF – Integrated Engineering Response	01	6	02/06/2002
RADIATION PROTECTION RESPONSE (EOF):				
NC.EP-EP.ZZ-0601(Q)	Radiological Support Manager And Radiological Assessment Staff Response	04	29	03/14/2002
NC.EP-EP.ZZ-0602(Q)	EOF Radiological Dose Assessment	01	24	05/24/2001
NC.EP-EP.ZZ-0603(Q)	Field Monitoring	05	49	07/03/2002
NC.EP-EP.ZZ-0604(Q)	Helicopter Plume Tracking	01	10	05/24/2001
ADMINISTRATIVE SUPPORT RESPONSE (EOF):				
NC.EP-EP.ZZ-0701(Q)	Administrative Support - EOF	05	16	03/14/2002

PSEG NUCLEAR LLC
NC.EP-EP.ZZ-0603(Q) – REV. 05
FIELD MONITORING

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USE CATEGORY: II

REVISION SUMMARY:


Biennial Review Yes X No

1. Added additional precautions concerning who should not take KI to Attachment 10, Section 2.0.
2. Placed date on the top of Form – 2 and changed the header of the date column to time.
3. Revised step 1.1.3 on page 9 to mention that EZ-PASS is now installed in the vehicles and no tolls should have to be paid.

IMPLEMENTATION REQUIREMENTS

Implementation Effective Date: 07/03/2002

APPROVED: _____


Emergency Preparedness Manager

6-27-02
Date

APPROVED: _____

N/A
Vice President - Operations

N/A
Date

FIELD MONITORING
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1.0. **PURPOSE**

Provide the EOF Offsite Team Coordinator/Field Team Communicator, and the Offsite Field Monitoring Team with direction to perform their duties during a declared emergency.

2.0 **PREREQUISITES**

2.1 **Prerequisites to be Followed Prior to Implementation:**

Implement this procedure at:

- The discretion of the ERM.
- The discretion of the RSM.
- Upon staffing of the EOF.

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precautions and Limitations to be Followed Prior to Implementation:**

- Steps listed in this procedure may be performed in the order deemed appropriate for the emergency situations. Only steps applicable to the specific emergency need be performed.
- It is recommended that initials be used in the place keeping sign-offs, instead of checkmarks, if more than one person may implement this procedure.
- Personnel who implement this procedure shall be trained and qualified IAW the Emergency Plan.

4.0 **EQUIPMENT / MATERIAL REQUIRED**

As provided in the EOF.

5.0 **PROCEDURE**

5.1 **The Offsite Team Coordinator/Field Team Communicator (OTC/FTC)**

- 5.1.1 IMPLEMENT Attachment 1, Offsite Team Coordinator/Field Team Communicator Checklist, unless otherwise directed by the Radiological Support Manager (RSM).

5.2 The Offsite Field Monitoring Team(s) (OFMT)

5.2.1 IMPLEMENT Attachment 8, Field Monitoring Team Responsibilities and Directions.

6.0 RECORDS

Return completed procedure and any information or data thought to be pertinent by the dose assessor, to the EP Manager.

7.0 REFERENCES

7.1 References

- 7.1.1 NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.
- 7.1.2 NUREG/CR-0314, An Air Sampling System for Evaluating Thyroid Dose Commitment Due to Fission Products Released for Reactor Containments.
- 7.1.3 Radiological Health Handbook (Revised Edition January 1970)
- 7.1.4 EPA 400-R-92-001, Manual Of Protective Action Guides And Protective Actions For Nuclear Incidents.

7.2 Cross References

- 7.2.1 NC.EP-EP.ZZ-0308(Q), Personnel/Vehicle Survey & Decontamination
- 7.2.2 NC.EP-EP.ZZ-0601(Q) Radiological Support Manager and Radiological Assessment Staff Response
- 7.2.3 NC.EP-EP.ZZ-0602(Q) EOF Radiological Dose Assessment
- 7.2.4 NC.AP-EP.ZZ-1006(Z) Emergency Preparedness Inventory Radiation Protection
- 7.2.5 PSEG Nuclear Emergency Plan

ATTACHMENT 1

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OFFSITE TEAM COORDINATOR/FIELD TEAM COMMUNICATOR CHECKLIST

NOTE

The order that these steps are to be performed is at the Offsite Team Coordinator's/Field Team Communicator's (OTC/FTC) discretion and may be delegated.

Name: _____ / _____
(PRINT) / (SIGN) _____ / _____
DATE / TIME

1.0 THE OTC/FTC

1.1 The OTC/FTC Should Perform The Following:

- 1.1.1 INITIATE an OTC/FTC log book
- 1.1.2 ENSURE the RSM is kept informed of all radiological conditions (rad readings 10 times > background or as thought appropriate).
- 1.1.3 DIRECT the Offsite Field Monitoring Team to implement Attachment 8, Field Monitoring Team Responsibilities and directions, if not already dispatched.
- 1.1.4 CONTACT the Radiation Protection Supervisor - Offsite (RPS-Offsite) and ask if the EOF should take over responsibility for the Offsite Field Monitoring Team(s).
- 1.1.5 IF the EOF hasn't been activated and the OTC/FTC has taken control, THEN keep the RPS-Offsite informed of the team's location.
- 1.1.6 PERFORM the following, if the Offsite Field Monitoring Team(s) has not been deployed:
 - A. PROVIDE a briefing to the Offsite Field Monitoring Team IAW Attachment 2, Field Monitoring Team Briefing Form.
 - B. ASSIGN a phonetic alphabet name for Offsite Teams such as Alpha Team.

ATTACHMENT 1

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- C. ENSURE the Offsite Field Monitoring Teams have implemented Attachment 8, Field Monitoring Team Responsibilities and Directions.
- 1.1.7 IMPLEMENT Attachment 4, Field Monitoring Team Log.
- 1.1.8 DIRECT Field Teams to monitoring and provide instructions concerning what type of readings and sampling they should perform.
- 1.1.9 REFER below for instructions and items to consider when assigning locations, type of samples to be taken, and special actions/concerns:
- CONSULT with the RSM concerning what type of reading and samples should be taken
 - CONSULT with the States of Delaware and New Jersey to avoid duplication of efforts and avoid traffic jams.
 - REFER to the MIDAS printouts for projected location of the plume center line.
 - OBTAIN the CREST printout to determine location where the plume should be.
 - ASSIGN the Field Teams to locations where it is thought the plume is located using the information gathered from dose projections, CREST printouts, and information gathered from the States of Delaware and New Jersey.
 - INSTRUCT the Field Monitoring Teams to take dose rates and pull air samples, as appropriate.
 - LOG information gathered from the Field Monitoring Team, CREST Data, and SSCL TEDE Rate on Form – 4, Field Monitoring/CREST Data vs. Projected Data.
 - COMPARE the different data points logged on Form-4.
 - CONSULT with the RSM concerning the data recorded on Form -4.
 - DETERMINE iodine sample results to the dose assessment staff using Attachment 7, Conversion Table For Iodine 131 and provide results to dose assessment staff.

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- IMPLEMENT Attachment 7, Conversion Table For Iodine I-131 and NC.EP-EP.ZZ-0305(Q), Stable Iodine Thyroid Blocking, to determine if issuance of KI is needed for Offsite Field Monitoring Team Members. Inform the RSM of your recommendation. _____
 - REQUEST the RSM to authorize use of a boat through the Coast Guard to support tracking the plume, if thought appropriate. (Admin Support should do the actual calls to arrange this support).
 - TRACK all Field Teams located on the EPZ map. _____
 - REVIEW paperwork for completeness and correctness of data being recorded periodically. _____
- 1.10 COORDINATE with the RSM for samples to be picked up from the Field Monitoring Teams and delivered to the proper location for counting, when appropriate. _____
- 1.11 SUPPLY guidance to the Offsite Field Monitoring Teams concerning how to handle survey equipment that is contaminated with $\geq 50k$ ccpm. (Consideration should be given to bagging survey equipment) _____
- 1.12 IMPLEMENT Attachment 7, Conversion Table For Iodine I-131 and NC.EP-EP.ZZ-0305(Q), Stable Iodine Thyroid Blocking, to determine if issuance of KI is needed for Offsite Field Monitoring Team Members. Inform the RSM of your recommendation. _____
- 1.13 COORDINATE with the RSM to determine the appropriate Emergency Worker Decon Facility the Offsite Field Monitoring Teams should report to, if it is impractical to return to the EOF. _____
- 1.13.1 REFER below for the State of Delaware's Decon Centers and locations: _____
- National Guard Armory Located on Broad Street in Middletown.
 - Delaware in a shopping center on the west side of the road behind Happy Harry's Pharmacy. This is south of the intersection of Route 13 and 301.
- 1.13.2 REFER below for the State of New Jersey's Decon Centers and locations: _____

ATTACHMENT 1

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- Pennsville Fire Station Located at the intersection of Route 49 and Castle Height Drive across from the Pennsville Jr. and Sr. High Schools.
 - Shiloh Fire Station Located at Route 49 on the east side of the road.
- 1.14 CONSULT with the RSM and recall Offsite Field Monitoring Teams if determined appropriate. _____
- 1.15 COORDINATE with the RSM to ensure that whole body counting, personnel and vehicle decontamination are performed, if necessary, IAW NC.EP-EP.ZZ-0308, Personnel/Vehicle Survey and Decontamination:
- 1.16 COORDINATE the following, with the RSM, prior to relieving the Field Team members:
- 1.16.1 DETERMINE if the Field Team members should be assigned to a relief station or allowed to go home. _____
- 1.16.2 DETERMINE when the Field Team members should return to the EOF. _____
- 1.16.3 CONSULT with the States of New Jersey and Delaware to determine best routes to the Field Team's homes or the relief station, to avoid traffic jams, roadblocks and radiological concerns. _____

ATTACHMENT 2

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OFFSITE FIELD MONITORING TEAM BRIEFING GUIDANCE

1.0 Briefing Guidance

NOTE

This briefing may take place over the radio or cellular phone.

- 1.1 **At A Minimum, The Following Items Should Be Included In The Briefing and Recorded On Form – 6, Field Monitoring Team Briefing Form:**
- 1.1.1 ENSURE radio protocol is conducted in the following manner:
 - REPEAT back instructions in accordance with the Work Standards Handbook _____
 - USE the proper phonetic alphabet, when appropriate. _____
 - 1.1.2 REVIEW Attachment 10, Package Insert For Thyro-Block Tablets, to ensure it is filled out properly and signed.
 - 1.1.3 FOLLOW the provisions for gas and meals listed below: (EZ-PASS is installed in the vehicles, so there should be no charges for tolls)
 - PAY, or CHARGE on Corporate American Express card, meals and gas and then submitted for reimbursement. _____
 - 1.1.4 PRESENT meteorological conditions and forecast. _____
 - 1.1.5 PHONE Number to contact the OTC/FTC. This **CAN'T** be a NETS phone. _____
 - 1.1.6 USE Frequency 4 to contact the EOF for the Offsite Field Monitoring Team. (Frequency 1 may be used if thought necessary) _____
 - 1.1.7 USE Frequency 1 to contact the TSC or the Onsite Field Monitoring Team. (Frequency 4 may be used if thought necessary) _____

ATTACHMENT 3**Page 1 of 2****OFFSITE FIELD MONITORING EQUIPMENT CHECKLIST****NOTE**

- An inventory of the Offsite Field Monitoring Team Kits is not necessary, if they are properly sealed.
- Refer to NC.EP-AP.ZZ-1006(Z), Emergency Preparedness Inventory Radiation Protection, to perform an inventory of the Emergency Locker, if necessary.
- Lead blankets and respirators are not stored in the Offsite Field Monitoring Team Kits. The Forms Kits are stored in the same location as the Offsite Field Monitoring Team Kits, but not in the actual kits.
- This checklist is to be used to help ensure needed items are not left behind while loading the emergency vehicle. It is not to be used instead of the inventory list that is in NC.EP-AP.ZZ-1006(Z), Emergency Preparedness Inventory Radiation Protection.

- Low Volume Air Sampler with two air sample heads. _____
- One Count Rate Meter: E140N with a HP 210 probe. _____
- One Ion Chamber Dose Rate Meter : RO-2 or RO-2A or equivalent. _____
- One GM Meter : E520 with a HP 177C or 270 probe. _____
- Hi Range Dosimeters (0-5 R or 0-10 R) or equivalent electronic dosimeter. _____
- Low Range Dosimeters (0-200 mR or 0-500 mR) or electronic equivalent. _____
- One Dosimeter Charger. _____
- Absorbent Material. _____
- One Ten Mile (EPZ) N.J. and Delaware Map. _____
- One Onsite Map _____
- One Pair of Tweezers. _____
- Silver Zeolite Cartridges. (Use Cartridges marked for drills during drills and exercises.) _____
- Box of Air Sample Filters. _____

ATTACHMENT 3

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- Gloves.
- Small Envelops for Particulate Air Sample Filters.
- Roll of Masking Tape.
- Small Plastic Bags.
- Flashlight.
- Spare Nine Volt Batteries
- Spare D Cell Batteries
- One Bottle of KI Tablets
- One First Aid Kit
- Box of Smear Papers.
- Protective Clothing/Paper Coveralls and Shoe Covers
- Lead Blankets

ATTACHMENT 4

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FIELD MONITORING TEAM LOG**1.0 OPERATING INSTRUCTIONS FOR EOF OFFSITE FIELD TEAM RADIO BASE STATION****1.1 To Operate The Radio Perform The Following:**

- 1.1.1 TURN on the radio power switches.
- 1.1.2 PRESS the F1 button located on the top of the radio to communicate with the Onsite Field Monitoring Teams or F4 to communicate with the Offsite Field Monitoring Teams.
- 1.1.3 POSITION the toggle switch on the left side of the radio to on to use the headset or off to use the speaker.
- 1.1.4 PRESS the button on the headset cord to transmit, if headset is in use.
- 1.1.5 PRESS the transmit bar on microphone transmit, if headset is not in use.

NOTE

This Attachment should be used to assist in performing necessary calculations and document briefing updates to:

- Log Offsite Field Monitoring Team Data on Form – 2, Air Sample Form.
- Track Offsite Field Monitoring Team's dose on Form – 3, SRD Log.

2.0 OFFSITE DATA**2.1 The OTC/FTC OR Designee Should Record the Following, As Appropriate:**

- 2.1.1 The Team's Phonetic (Alphabet) Name: _____
- 2.1.2 The Location the Team is being sent to: _____

- 2.1.3 Instrument Type/Serial Number: _____ / _____
- 2.1.4 General Area Open Window Dose Rate: _____ mR/Hr

ATTACHMENT 4
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- 2.1.5 Open Window Ground Dose Rate : _____ Mr/Hr
- 2.1.6 Closed Window Ground Dose Rate: _____ Mr/Hr
- 2.1.7 General Area Closed Window Dose Rate: _____ Mr/Hr
- 2.1.8 Time On for A/S: _____
- 2.1.9 Time Off for A/S: _____
- 2.1.10 Average Flow Rate: _____ cfm
- 2.1.11 Iodine Cartridge Background: _____ cpm
- 2.1.12 Iodine Cartridge Sample: _____ cpm
- 2.1.13 Particulate Background: _____ cpm
- 2.1.14 Particulate Sample: _____ cpm

NOTE

- Form – 1, Offsite Calculations Form, should be used to obtain directions on performing air sample calculations.
- Section 3.0, Briefing Update, of this Attachment, should be used as changing conditions warrant.

ATTACHMENT 4
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3.0 BRIEFING UPDATE

3.1 The OTC/FTC OR Designee Should Record The Following
As Appropriate:

3.1.1 Time: _____:

3.1.2 Event Classification: _____

3.1.3 Plant Conditions: _____

3.1.4 Radiological Conditions: _____

3.1.5 Additional Information Communicated to Offsite Team:

ATTACHMENT 5

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PARTICULATE AIR ACTIVITY VS. COUNT RATE TABLE

	SAMPLE VOLUME 5 FT. ³	SAMPLE VOLUME 10 FT. ³	SAMPLE VOLUME 15 FT. ³	SAMPLE VOLUME 20 FT. ³	SAMPLE VOLUME 25 FT. ³	SAMPLE VOLUME 30 FT. ³
(ccpm)	(uCi/cc)	(uCi/cc)	(uCi/cc)	(uCi/cc)	(uCi/cc)	(uCi/cc)
5.00E+04	1.59E-06	7.95E-07	5.30E-07	3.97E-07	3.18E-07	2.65E-07
4.50E+04	1.43E-06	7.15E-07	4.77E-07	3.57E-07	2.86E-07	2.38E-07
4.00E+04	1.27E-06	6.35E-07	4.23E-07	3.17E-07	2.54E-07	2.12E-07
3.50E+04	1.11E-06	5.55E-07	3.70E-07	2.77E-07	2.22E-07	1.85E-07
3.00E+04	9.53E-07	4.76E-07	3.18E-07	2.38E-07	1.91E-07	1.59E-07
2.50E+04	7.94E-07	3.97E-07	2.65E-07	1.98E-07	1.59E-07	1.32E-07
2.00E+04	6.35E-07	3.17E-07	2.12E-07	1.59E-07	1.27E-07	1.06E-07
1.50E+04	4.77E-07	2.38E-07	1.59E-07	1.19E-07	9.54E-08	7.95E-08
1.00E+04	3.18E-07	1.59E-07	1.06E-07	7.95E-08	6.36E-08	5.30E-08
9.00E+03	2.86E-07	1.43E-07	9.53E-08	7.15E-08	5.72E-08	4.77E-08
8.00E+03	2.54E-07	1.27E-07	8.47E-08	6.35E-08	5.08E-08	4.23E-08
7.00E+03	2.22E-07	1.11E-07	7.40E-08	5.55E-08	4.44E-08	3.70E-08
6.00E+03	1.91E-07	9.55E-08	6.37E-08	4.77E-08	3.82E-08	3.18E-08
5.00E+03	1.59E-07	7.95E-08	5.30E-08	3.97E-08	3.18E-08	2.65E-08
4.00E+03	1.27E-07	6.35E-08	4.23E-08	3.17E-08	2.54E-08	2.12E-08
3.00E+03	9.53E-08	4.76E-08	3.18E-08	2.38E-08	1.91E-08	1.59E-08
2.00E+03	6.35E-08	3.17E-08	2.12E-08	1.59E-08	1.27E-08	1.06E-08
1.00E+03	3.18E-08	1.59E-08	1.06E-08	7.95E-09	6.39E-09	5.30E-09
9.00E+02	2.86E-08	1.43E-08	9.53E-09	7.15E-09	5.72E-09	4.77E-09
8.00E+02	2.54E-08	1.27E-08	8.47E-09	6.35E-09	5.08E-09	4.23E-09
7.00E+02	2.22E-08	1.11E-08	7.40E-09	5.55E-09	4.44E-09	3.70E-09
6.00E+02	1.91E-08	9.55E-09	6.37E-09	4.77E-09	3.82E-09	3.18E-09
5.00E+02	1.59E-08	7.95E-09	5.30E-09	3.97E-09	3.18E-09	2.65E-09
4.00E+02	1.27E-08	6.35E-09	4.23E-09	3.17E-09	2.54E-09	2.12E-09
3.00E+02	9.53E-09	4.76E-09	3.18E-09	2.38E-09	1.91E-09	1.59E-09
2.00E+02	6.35E-09	3.17E-09	2.12E-09	1.59E-09	1.27E-09	1.06E-09
1.00E+02	3.18E-09	1.59E-09	1.06E-09	7.95E-10	6.36E-10	5.30E-10

Calculation Based on: $\text{uCi/cc} = \frac{\text{ccpm} * 4.5\text{E-}07 \text{ uCi/dpm}}{\text{VOL (FT}^3\text{)} * 2.832\text{E+}4 \text{ (CC/FT}^3\text{)} * \text{EFF (0.10)}}$

ATTACHMENT 6
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PARTICULATE AIR ACTIVITY VS. DOSE RATE TABLE

	SAMPLE VOLUME 5 (CUBIC FT.)	SAMPLE VOLUME 10 (CUBIC FT.)	SAMPLE VOLUME 15 (CUBIC FT.)	SAMPLE VOLUME 20 (CUBIC FT.)	SAMPLE VOLUME 25 (CUBIC FT.)	SAMPLE VOLUME 30 (CUBIC FT.)
(mRad/hr)	(uCi/cc)	(uCi/cc)	(uCi/cc)	(uCi/cc)	(uCi/cc)	(uCi/cc)
1.00E+03	1.59E-06	7.95E-07	5.30E-07	3.97E-07	3.18E-07	2.65E-07
5.00E+02	1.43E-06	7.15E-07	4.77E-07	3.57E-07	2.86E-07	2.38E-07
1.00E+02	1.27E-06	6.35E-07	4.23E-07	3.17E-07	2.54E-07	2.12E-07
9.50E+01	1.11E-06	5.55E-07	3.70E-07	2.77E-07	2.22E-07	1.85E-07
9.00E+01	9.53E-07	4.76E-07	3.18E-07	2.38E-07	1.91E-07	1.59E-07
8.50E+01	7.94E-07	3.97E-07	2.65E-07	1.98E-07	1.59E-07	1.32E-07
8.00E+01	6.35E-07	3.17E-07	2.12E-07	1.59E-07	1.27E-07	1.06E-07
7.50E+01	4.77E-07	2.38E-07	1.59E-07	1.19E-07	9.54E-08	7.95E-08
7.00E+01	3.18E-07	1.59E-07	1.06E-07	7.95E-08	6.36E-08	5.30E-08
6.50E+01	2.86E-07	1.43E-07	9.53E-08	7.15E-08	5.72E-08	4.77E-08
6.00E+01	2.54E-07	1.27E-07	8.47E-08	6.35E-08	5.08E-08	4.23E-08
5.50E+01	2.22E-07	1.11E-07	7.40E-08	5.55E-08	4.44E-08	3.70E-08
5.00E+01	1.91E-07	9.55E-08	6.37E-08	4.77E-08	3.82E-08	3.18E-08
4.50E+01	1.59E-07	7.95E-08	5.30E-08	3.97E-08	3.18E-08	2.65E-08
4.00E+01	1.27E-07	6.35E-08	4.23E-08	3.17E-08	2.54E-08	2.12E-08
3.50E+01	9.53E-08	4.76E-08	3.18E-08	2.38E-08	1.91E-08	1.59E-08
3.00E+01	6.35E-08	3.17E-08	2.12E-08	1.59E-08	1.27E-08	1.06E-08
2.50E+01	3.18E-08	1.59E-08	1.06E-08	7.95E-09	6.39E-09	5.30E-09
2.00E+01	2.86E-08	1.43E-08	9.53E-09	7.15E-09	5.72E-09	4.77E-09
1.50E+01	2.54E-08	1.27E-08	8.47E-09	6.35E-09	5.08E-09	4.23E-09
1.00E+01	2.22E-08	1.11E-08	7.40E-09	5.55E-09	4.44E-09	3.70E-09
5.00E+00	1.91E-08	9.55E-09	6.37E-09	4.77E-09	3.82E-09	3.18E-09
1.00E+00	1.59E-08	7.95E-09	5.30E-09	3.97E-09	3.18E-09	2.65E-09

Calculation Based on:

$$(1 \text{ mRad/hr.} = 5000 \text{ ccpm}) \quad \text{uCi/cc} = \frac{\text{ccpm} * 4.5\text{E-}07 \text{ uCi/dpm}}{\text{VOL (FT}^3\text{)} * 2.832\text{E+}4 \text{ (CC/FT}^3\text{)} * \text{EFF (0.10)}}$$

ATTACHMENT 7

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**CONVERSION TABLE OF CORRECTED
COUNTS PER MIN TO uCi/cc I-131**

ccpm	uCi/cc	THY. COMMITTED DOSE EQUIVALENT (mRem/INHALATION hr)
1.13E+01	1.00E-08	1.30E+01
2.26E+01	2.00E-08	2.60E+01
5.65E+01	5.00E-08	6.50E+01
7.92E+01	7.00E-08	9.10E+01
1.13E+02	1.00E-07	1.30E+02
2.26E+02	2.00E-07	2.60E+02
5.65E+02	5.00E-07	6.50E+02
7.92E+02	7.00E-07	9.10E+02
1.13E+03	1.00E-06	1.30E+03
2.26E+03	2.00E-06	2.60E+03
5.65E+03	5.00E-06	6.50E+03
7.92E+03	7.00E-06	9.10E+03
1.13E+04	1.00E-05	1.30E+04
2.26E+04	2.00E-05	2.60E+04
3.40E+04	3.00E-05	3.90E+04
4.53E+04	4.00E-05	5.20E+04

EQUATIONS:

$$\frac{\text{corrected counts per minute (ccpm)}}{(\text{detector efficiency})(\text{collection efficiency})(\text{conversion factor - dpm to uci})(\text{volume - cubic ft.})(\text{conversion factor - cc to cubic ft.})}$$

WHERE:

2.00E-03 ccpm/dpm	=	DETECTOR EFFICIENCY
90% (0.90)	=	COLLECTION EFFICIENCY
2.22E+06 dpm/uCi	=	CONVERSION FACTOR
10 Cubic Feet	=	VOLUME
2.832E+04 cc to Cubic Feet	=	CONVERSION FACTOR

$$\text{uCi/cc} * \text{Dose Rate Conversion Factor (DRCF)} = \text{mRem/Inhalation hr.}$$

WHERE:

1.30E+09 mRem/uCi/cc/hr In Accordance With Dose Rate Conversion Factor (DRCF) from EPA 400.

ATTACHMENT 8

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FIELD MONITORING TEAM RESPONSIBILITIES AND DIRECTIONS**1.0 FIELD MONITORING TEAMS****1.1 The Field Monitoring Teams Should Perform The Following:**

1.1.1 CHECK the seals on Field Monitoring Kits. _____

- A. PERFORM an inventory of kits IAW Attachment 3, Field Monitoring Equipment Checklist, if seals are broken. _____

NOTE

A satisfactory response check would be an upscale response of the instrument when on the lowest scale.

- B. PERFORM a response check on instruments, even if the Field Monitoring Kits are intact. _____

1.1.2 OBTAIN a Dimension (DID) or Centrex telephone number for the OTC. _____

1.1.3 OBTAIN the emergency vehicle keys from: _____

- The Administration Support Manager. _____
- The EOF Security Guard. _____
- The EOF Red Key Lock Box. _____

1.1.4 OBTAIN an operable radio from the radio operator. _____

1.1.5 READ Attachment 10, Package Insert for Thyro-Block Tablets, and SIGN Form – 5, KI Side Effects/Administration Sign Off Form. _____

1.1.6 RECEIVE a briefing from: _____

- A. The OTC/FTC, if available. _____
- B. The RPS-Offsite, if the OTC/FTC, is not available. _____

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- 1.1.7 ZERO SRDs, or electronic dosimeters, as appropriate. _____
- 1.1.8 COMPLETE the applicable information on Form - 3, Dosimetry Log. _____
- 1.1.9 IF the OTC/FTC is available, THEN give the completed Form 3 to the OTC. _____
- 1.1.10 IF the OTC/FTC is not available, THEN transmit the information on Form 3 to the RPS-Offsite [located in the TSC (HC X3468 or SA X2702)] _____
- 1.1.11 LOAD the Offsite Field Monitoring Team Kits into the Emergency Vehicle. _____

NOTE

Lead blankets and respirators are not stored in the Offsite Field Monitoring Team Kits. The Forms Kits are stored in the same location as the Offsite Field Monitoring Team Kits, but not in the actual kits.

- 1.1.13 Load lead blankets and respirators. _____
- 1.1.14 PERFORM a radio and a telephone check from the emergency vehicle. The radio should be on frequency 4. Frequency 1 should be used to contact the Onsite Field Monitoring Teams. _____
- 1.1.15 INFORM the OTC/FTC, or the RPS-Offsite if he has control of the Field Team, if the Emergency Vehicle's gas gauge indicates < 1/2 full prior to going into the field and at any time while in the field. _____

2.0 DIRECTIONS**NOTE**

- The Offsite Field Monitoring Team should provide input to the OTC/FTC or the RPS-Offsite as they think necessary, concerning sampling and moving to other than assigned locations due to radiological or meteorological conditions.
- The Offsite Field Monitoring Team members should report conflicting radiological or meteorological conditions to the OTC/FTC or RPS-Offsite, AS SOON AS POSSIBLE.

ATTACHMENT 8**Page 3 of 4****2.1 Offsite Field Monitoring Team Should Follow The Directions Listed Below:**

- 2.1.1 REFER to Attachment 9, Offsite Field Monitor Locations, or the EPZ Atlas, for Offsite Field Monitoring Locations.
- 2.1.2 CONTACT with the OTC/FTC should be maintained at least every 30 minutes.
- 2.1.3 ENSURE Ground/General Area and Open/Closed window readings are taken at every sampling location sent to by the OTC/FTM.
- 2.1.3 ENSURE all air samples are a total of 10 cubic feet taken at a flow rate not to exceed 2 cfm, unless otherwise directed by the OTC/FTC or RPS-Offsite, if applicable.
- 2.1.5 PURGE the Iodine Cartridge in low background areas outside the plume.
- 2.1.6 COUNT all samples in low background areas outside the plume.
- 2.1.7 MONITOR dose rates and check dosimetry upon entering and exiting the plume.
- 2.1.8 USE proper contamination controls to prevent cross contamination of samples and to prevent contamination of instruments.
- 2.1.9 STORE all samples in the back corner of emergency vehicle and cover with the lead blanket.
- 2.1.10 PERFORM a cursory survey of all Field Team members and the inside and outside of the vehicle, at present field location, when told to return to the EOF.
- 2.1.11 REPORT back results.
- 2.1.12 CONTACT the OTC/FTC, upon returning to the EOF, and remain in the vehicle, until directed otherwise.

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3.0 RECOVERY**3.1 Perform the Following at the End of a Real Event, Drill, or Exercise:**

- 3.1.1 PERFORM and replenish and Offsite Field Monitoring Team Kits to ensure kits are kept in a ready mode NC.EP-AP.ZZ-1006(Z), Emergency Preparedness Inventory Radiation Protection, at the termination of a drill/exercise, or a real emergency. _____
- 3.1.2 PERFORM response checks on the instruments used. If instrument(s) fails a response check, inform the OTC/FTC, or RPS-Offsite if he has control of the Field Team. _____
- 3.1.3 ENTER initials and badge number on the tie wrap labels. _____

ATTACHMENT 9

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OFFSITE EMERGENCY MONITORING LOCATIONS

NOTE

The following pages of this Attachment include Offsite Emergency Monitoring Stations for New Jersey and Delaware. The descriptions and directions to each of the locations are contained in this attachment. Most monitoring points are situated at intersections, end of roads or landmarks. In addition, many points are identified by symbols painted on utility poles. These symbols consist of 2 to 5 letters or numerals (ENE4, etc.) painted in green above 3 orange circles arranged in a triangle. All distances are approximate.

<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
N7	5.8	6.5°	Drive 1.6 miles North on Hancocks Bridge Road from the Hancocks Bridge intersection. Turn left onto Ft. Elfsborg Road proceed 3.5 miles to curve at the intersection of Road 624 and 625. The marked pole at the intersection is the monitoring location.
N10	9.6	355.5°	Drive 3.5 miles North on Route 49 from the town of Salem until you reach Lighthouse Road. Turn left onto Lighthouse Road and proceed 2 miles to Fort Mott Road. Turn left onto Fort Mott Road. Proceed 1.5 miles to the end of the road. The marked pole at the end of the road is the monitoring location.
N20	10.5	10°	Drive 3.8 miles North on Route 49 from the town of Salem you reach Richmans Dairy. The monitoring location is located in front of the restaurant.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
NNE7	5.8	21°	Drive 1.6 miles North on Hancocks Bridge Road from the Hancocks Bridge Intersection. Turn left onto Ft. Elfsborg Road and proceed 2.2 miles to Amwellbury Road. The marked pole at this intersection is the monitoring location.
NNE8	6.4	11°	Drive 1.6 miles North on Hancocks Bridge Road from the Hancocks Bridge intersection. Turn left onto Ft. Elfsborg Road and proceed 4.2 miles to Country Club Road. The marked pole at the intersection is the monitoring location.
NNE10	8.7	25°	Drive North on Market Street 0.3 miles from the town of Salem. Turn left onto Hancock Avenue and proceed to the end of the Avenue. The marked pole located 50 feet around the corner is the monitoring location.
NNE10a	7.4	26.5°	Drive 0.8 miles South on Walnut Street from East Broadway, to the New Salem High School. The marked pole across the street from the school is the monitoring location.
NNE10b	7.3	10°	Drive 1.6 miles North from the Hancocks Bridge intersection, towards the town of Salem on Hancocks Bridge Road. Turn left onto Ft. Elfsborg Road and proceed 4.3 miles to Sinnickson Landing Road. Turn left and proceed 1.5 miles. After crossing a bridge, the monitoring locations on the left prior to the first house on the right.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
NNE20	10.3	28°	Drive North 2.6 miles on Market Street to the Memorial Hospital of Salem County. The marked pole located in front of the hospital is the monitoring location.
NE4	3.8	50.5°	Drive 0.5 miles North from Hancocks Bridge intersection toward the town of Salem. Turn left onto Front Street, which will become Poplar Street. Front Street is the last street before the bridge. Proceed to the gate located at the end of the road. The marked concrete pole located at the gate is the monitoring location.
NE5	4.1	52°	Drive 0.5 miles North from the Hancocks Bridge intersection toward the town of Salem. Turn left onto Front Street, which will become Poplar Street. Front Street is the last street before the bridge. Proceed 0.9 miles to a farm with a large white and green barn. The marked pole across the street from the farm is the monitoring location.
NE7	5.1	55°	Drive 0.2 miles North from the Hancocks Bridge intersection to the Lower Alloways Creek Municipal Building. The monitoring location is across the street from the Municipal Building on a pole south of the post office.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
NE7a	5.8	40.5°	Drive 1.7 miles North from the Hancocks Bridge intersection toward the town of Salem to the intersection of Hancocks Bridge and Quinton Road and Salem/Hancock Bridge Road. The marked pole is the monitoring location.
NE10	8.8	48.5°	Drive 3.5 miles east from the town of Salem on Route 49 to the intersection of Routes 49 and 581. This is a stoplight located in Quinton. Turn left onto Route 581 and proceed 0.2 miles to the Waterworks Road intersection. The marked pole at this intersection is the monitoring location.
NE20	10.8	45°	Drive East 3.8 miles on Grant Street in the town of Salem to Clancy Road. (Grant Street turns into Quaker Neck Road). The marked pole located at the Clancy Road intersection is the monitoring location.
ENE4	3.7	75°	Drive 3.5 miles on the access road from the Salem and Hope Creek Generating Stations. Located on the west side of the road is an air sampler. The monitoring location is located at the air sampler.
ENE5	4.1	62.5°	Drive 4.0 miles from the Salem and Hope Creek Generating Stations, to the intersection of Grosscup Road. The marked pole located at the Grosscup Road intersection is the monitoring point location.
ENE5a	4.1	62.5°	Drive 4.8 miles from the Salem and Hope Creek Generating Stations, to the intersection of Grosscup Road. The marked pole located at the Grosscup Road intersection is the monitoring point location.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
ENE7	5.9	65°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store
ENE10	8.6	68°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Proceed straight through the stop light and bear to the left. This should be Harmersville/Peck Corner Cohansey Road. Proceed 2.6 miles to the intersection of Jericho Road. The marked pole at this intersection is the monitoring location.
ENE20	10.5	73°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Proceed straight through the stop light and bear to the left. This should be Harmersville/Peck Corner Cohansey Road. Proceed 4.5 miles to the intersection of Route 49. The monitoring location is at this intersection.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
E1	0.9	106°	The fork in the Access Road between the Salem and Hope Creek Generating Stations. Located on pole to the right of air sampler.
E4	3.5	86°	Drive 3.3 miles from the Salem and Hope Creek Generating Stations, down the Access Road to the sharp bend. The monitoring location is at the sharp bend on the gantry pole.
E4a	3.5	88°	Drive 3.1 miles from the Salem and Hope Creek Generating Stations, down the Access Road to the sharp bend. The monitoring location is at the sharp bend on the gantry pole.
E7	6.5	85.5°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Proceed straight through the stop light and bear to the left. This should be Harmersville/Pecks Corner Cohansey Road. Turn right onto Canton Road and proceed 3 miles to Frogg Ocean Road. The marked pole located at this intersection is the monitoring location.
E10	6.5	90.0°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Proceed straight through the stop light and bear to the left. This should be Harmersville/Pecks Corner Cohansey Road. Turn left onto Buckhorn Rd and proceed 4.5.
E20	12.6	91°	Drive 12.5 miles East, from the town of Salem, on Route 49 to the intersection of East/West Roadstown Road. The marked pole at this intersection is the monitoring location.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
ESE7	6.4	104°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Turn right onto Canton Road and proceed 3.7 miles to Long Bridge Road. Turn right and proceed 1.6 miles to the end of the road. Turn left onto Stow Neck Road and proceed 0.3 miles. The marked pole on is the monitoring location.
ESE10	8.1	103°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Turn right onto Canton Road and proceed 5.2 miles to the intersection of Gum Tree Corner. The monitoring location is at this intersection.
ESE20	11.3	118°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations, to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Turn right onto Canton Road and proceed 3.4 miles to the end of the road. Turn left onto Bacon's Neck Road and proceed 0.3 miles to Market Road. The marked pole located at this intersection is the monitoring location.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
SE10	8.8	129°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Turn right onto Canton Road and proceed 5.2 miles to Gum Tree Corner and bear right onto Gum Tree Corner. Proceed 3.4 miles to the end of the road. Turn right onto Bacon's Neck Road and proceed 0.6 miles until you reach Tindull Island Road. Turn left and proceed 0.2 miles until you reach Bayside Road. Turn left and proceed 2.0 miles to the fork in the road. Take the right fork and proceed to the end of the road. The marked pole located at the end of the road is the monitoring location.
SE20	11.4	125°	Drive 6.8 miles from the Salem and Hope Creek Generating Stations to the Harmersville intersection. The stoplight located at the LAC General Store is the Harmersville intersection. Turn right onto Canton Road and proceed 5.2 miles to Gum Tree Corner and bear right onto Gum Tree Corner. Proceed 3.4 miles to the end of the road. Turn right onto Bacon's Neck Road and proceed 0.6 miles until you reach Tindull Island Road. Turn left and proceed 1.5 miles to Ragged Island Road. Turn left and proceed to the end of the Road. The pole marked at the end of the road is the monitoring location.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
SSE10	9.7	159°	Drive to the Delaware Memorial Bridge and proceed 30 miles on Rte 13 South to Rte 6. Turn left onto Rte 6 and proceed 8.0 miles to the end of the road. The monitoring location is at the end of the road at Wood-land Beach on a telephone pole on the beach.
S5	4.2	187°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Rte 13 South to Odessa. Turn left onto Main St/Rte 299 and proceed 6 miles South to Rd 453.(Rte 299 turns into Rte 9 and Rd 453 is also known as Cedar Swamp Rd).Turn left onto Rd 453 and proceed 2.8 miles to the end of the road. The monitoring location is at the end of the road on a concrete barrier.
S7	6.3	179.5°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Rte 13 South to Odessa. Turn left onto Main St/Rte 299 and proceed South 9 miles to Rd 491.(Rte 299 turns into Rte 9). Proceed 1.5 miles on Rd 491 to the intersection. Monitoring location is at this intersection.
S10	9.1	177°	Drive to the Delaware Memorial Bridge and proceed 30 miles on Rte 13 South to Rte 6. Turn left onto Rte 6 and proceed 5.2 miles to Rte 9. Turn left on Rte 9 and proceed 1.8 miles to Rd 321. The monitoring location is at this intersection.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
SSW4	3.9	203°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Route 13 South to Odessa. Turn left onto Main Street/Route 299 and proceed South 6 miles to Road 453. (Route 299 turns into Route 9 and Road 453 is also known as Cedar Swamp Road). Turn left onto Road 453 and proceed 2.0 miles, the monitoring locations is on the left side of the road.
SSW7	5.6	198.5°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Route 13 South to Odessa. Turn left onto Main Street/Route 299 and proceed 9 miles to Road 454. (Route 299 turns into Route 9 and Road 454 is also known as Saw Mill Branch Road). The monitoring location is at this intersection.
SSW10	9.1	203.5°	Drive to the Delaware Memorial Bridge and proceed 24 miles on Route 13 South to Road 469. (Road 469 is also known as Black Diamond Road). Turn left onto Road 469 and proceed 2 miles to Road 30 and 45. The monitoring location is at this intersection.
SSW20	11.6	199°	Drive to the Delaware Memorial Bridge and proceed 30 miles on Route 13 south to Route 6 in Symra. The monitor location is at this intersection in the back of "Wendy's" parking lot.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
SW5	4.9	216°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Route 13 South to Odessa. Turn left onto Main Street/Route 299 and proceed 6 miles to Road 453. (Route 299 turns into Route 9 and Road 453 is also known as Cedar Swamp Road). The monitoring location is on the pole in the front of light house.
SW7	6.0	235°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Route 13 South to Odessa. Turn left onto Main Street/Route 299 and proceed 3.5 miles to Road 452. (Route 299 turns into Route 9 and Road 452 is also known as Fieldsboro Road). The monitoring location is at this intersection in the island.
SW10	9.0	230°	Drive to the Delaware Memorial Bridge and proceed 22 miles on Route 13 South to the intersection of Route 71. The monitoring location is at this intersection on the south side of Route 13 at the 2nd right of triangle.
SW20	12.3	225°	Drive to the Delaware Memorial Bridge and proceed 22.5 miles on Route 13 south to Road 471. Turn right onto Road 471 proceed 3 miles to Route 15. (Road 471 is also known as Blackbird Forest Road and Route 15, Road 47 and Vandyke Greenspring Road). Turn right and drive 1.1 miles to Dexter Corner. The monitoring location is at this intersection on pole with adjacent junction box on the North East corner.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
WSW5	4.4	255°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Route 13 South to Odessa. Turn left onto Main Street/Route 299 and proceed 2.6 miles to road 440. (Route 299 turns into Route 9. Proceed North on Route 9. Road 440 is also known as Thomas Landing Road). Turn right onto Road 440 and drive 0.8 miles to the end of the paved road. Monitoring location is at the end of the paved road.
WSW5a	4.2	263°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Rte 13 South to Rte 72. Turn left onto Rte 72 and proceed 11.5 miles to the bridge over the Appoquinimink River. (Rte 72 turns into 9). You will pass W5 monitoring location on the North side of the bridge. Drive 0.5 miles to the monitoring location.
WSW7	6.0	252°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Rte 13 South to Odessa. Monitoring location is at the Intersection of Rt 299 and Rt 9.
WSW10	9.4	239°	Drive to the Delaware Memorial Bridge and proceed 20 miles on Route 13 South to Road 25. (Road 25 is also known as Pine Tree Road). Turn right onto Road 25 and proceed 1.8 miles to the Townsend Elementary School. The monitoring location is at the school.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
WSW20	11.0	242°	Drive to the Delaware Memorial Bridge and proceed 20 miles on Rte 13 South to Rd 25. (Rd 25 is also known as Pine Tree Rd). Turn right and proceed 3.0 miles to Rd 459. (Rd 459 is also known as Grears Corner Rd). The monitoring location is at this intersection.
W5	4.2	271.5°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Rte 13 South to Rte 72. Turn left onto Rte 72 and proceed 11.5 miles to the bridge over the Appoquinimink River. (Rte 72 turns into 9). The monitoring location is on the North side of the bridge.
W7	6.6	264.5°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Rte 13 South to Odessa. Turn left onto Main St/Rte 299. The Monitoring location is at this intersection at the Delaware State Police Station.
W10	9.9	263.5°	Drive to the Delaware Memorial Bridge and proceed 18 miles on Rte 13 South to Odessa. Go West on Rte 299 and proceed 3 miles to Middletown. Turn right onto S. Broad St/Rte 71. The monitoring location is at Middletown National Guard Armory.
W20	11.2	261.5°	Drive to the Del. Memorial Bridge and proceed 18 miles on Rte 13 South to Odessa. Turn right onto Main St/Rte 299 and proceed 4.5 miles through Middletown to Road 10 (Levels Road). The monitoring location is at the intersection.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
WNW4	3.4	294°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Rte 13 South to Rte 72. Turn left onto Rte 72 and proceed to Belts Rd.(Rte 72 turns into Rte 9).Turn left onto Belts Rd and proceed to the "T" in the road. Turn right on New Road South to the lighthouse gate. The monitoring location is at the gate.
WNW5	4.0	295°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Rte 13 South to Rte 72. Turn left onto Rte 72 and proceed 10 miles to a sharp 90 curve to the left.(Rte 72 turns into Rte 9). The monitoring location is on the North side of the road.
WNW7	6.7	291.5°	Drive to the Delaware Memorial Bridge and proceed 14.5 miles on Rte 13 South to Rd 420 (Rd 420 is also known as Pole Bridge Rd). Turn left at light. The monitoring location is in the WAWA parking lot.
WNW10	8.5	288.5°	Drive to the Delaware Memorial Bridge and proceed 14.5 miles on Rte 13 South to Rd 15. Turn right onto Rd 15 and proceed 1.8 miles to Rd 413. (Rd 15 is also known as Boyds Corner Rd and Rd 413 is also known as Jamison Corner Rd). The monitoring location is at the intersection.

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<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
WNW20	10.4	292.5°	Drive to the Delaware Memorial Bridge and proceed 14.5 miles on Rte 13 South to Rd 15. Turn right onto Rd 15 and proceed 3.5 miles to Rte 896 /301.(Rd 15 is also known as Boyds Corner Rd).Turn right onto Rte 896 /301 and proceed 1 mile to the Summit Airport. The monitoring location is at the Summit Airport next to a ditch full of large rocks.
NW4	3.8	319.5°	Drive to the Del. Memorial Bridge & proceed 9 miles on Rte 13 South to Rte 72. Turn left onto Rte 72 & proceed 8.5 miles to Augustine Bch. (Rte 72 turns into Rte 9). The monitoring location is at Augustine Bch adjacent to sign.
NW7	5.4	312°	Drive to the Del. Memorial Bridge & proceed 14.5 miles on Rte 13 South to Rd 420 (Pole Bridge Road at Boyds Corner). Turn left onto Rd 420 & proceed 2.5 miles to the intersection of Rd 420 and Rd 2 (Port Penn Road). The monitoring location is at this intersection.
NW10	8.4	312°	Drive to the Del. Memorial Bridge & proceed 11 miles on Rte 13 South to St. Georges Bridge. The monitoring location is on the pole prior to the last exit before going onto the bridge.
NW20	11.5	310°	Drive to the Del. Memorial Bridge & proceed 6 miles on Rte 13 South to Rte 71 (Red Lion Road). Bear right onto Rte 71 & proceed 4.5 miles to the intersection of Rd 409. (Rd 409 is also known as Kirkwood St. Georges Rd). The monitoring location is on the south side of RR tracks next to RR signal.

**ATTACHMENT 9
PAGE 16 OF 17**

<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
NNW5	4.0	328°	Drive to the Del. Memorial Bridge & proceed 9 miles on Rte 13 South to Rte 72. Turn left onto Rte 72 and proceed 7.5 miles to the small bridge just south of Port Penn.(Rte 72 turns into Rte 9.) Turn left just prior to the bridge (Fishers Wharf Road) & proceed 0.2 miles to the end of the road. The monitoring location is at the end of the road in front of the sewage plant where an air sampler is located. (NOTE: Map location is wrong. Correction location is about one inch south on map on Rte. 9).
NNW7	5.2	332.5°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Route 13 South to Route 72. Turn left onto Route 72 and proceed 6.5 miles to Thorntown Road intersection.(Route 72 turns into Route 9. The monitoring location is on the river side at this intersection at the entrance to the Port Penn Trail.
NNW10	7.8	342°	Drive to the Delaware Memorial Bridge and proceed 9 miles on Route 13 South to Route 72. Turn left onto Route 72 and proceed 4 miles to Delaware City.(Route 72 turns into Route 9). Cross over the small bridge and turn right at the first road.(Follow the signs to the Delaware National Armory/Governor Bacon Health Center). Turn left at the first road and proceed 0.4 miles to the end of the road. The monitoring location is in the front of the DNREC Operations Center, East of blue garage.

ATTACHMENT 9
PAGE 17 OF 17

<u>LOCATION</u>	<u>MILE</u>	<u>AZIMUTH</u>	<u>DESCRIPTION</u>
NNW20	12.3	331°	From Delaware Memorial Bridge take Route 13 South (Delaware) 7.6 miles to Bear-Tybouts Road and make a left. The monitoring point is at the North East Corner of Park & Ride at the light.

ATTACHMENT 10**Page 1 of 2****PACKAGE INSERT FOR THYRO-BLOCK TABLETS****1.0 HOW POTASSIUM IODIDE WORKS**

- Certain forms of iodine help your thyroid gland work right. Most people get the iodine they need from foods, like iodized salt or fish. The thyroid can "store" or hold only a certain amount of iodine.
- In a radiation emergency, radioactive iodine may be released in the air. This material may be breathed or swallowed. It may enter the thyroid gland and damage it. The damage would probably not show itself for years. Children are most likely to have thyroid damage.
- If you take potassium iodide, it will fill your thyroid gland. This reduces the chance that harmful radioactive iodine will enter the thyroid gland.

2.0 WHO SHOULD NOT TAKE POTASSIUM IODIDE**NOTE**

You may take potassium iodide if you are taking medicine for a thyroid problem (for example, a thyroid hormone or anti-thyroid drug). Pregnant and nursing women, babies and children may also take potassium iodide.

2.1 People who should not take potassium iodide are:

- People who are allergic to iodine.
- People with kidney problems.
- Persons on certain high blood pressure medications (ACE Inhibitors).

3.0 HOW AND WHEN TO TAKE POTASSIUM IODIDE

Potassium Iodide should be taken as soon as possible after being directed to. You should take one dose every 24 hours. More will not help you because the thyroid can "hold" only limited amounts of iodine. Larger doses will increase the risk of side effects. You will probably be told not to take the drug for more than ten days.

ATTACHMENT 10**Page 2 of 2****4.0 SIDE EFFECTS**

- Usually, side effects of potassium iodide happen when people take higher doses for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told. Side effects are unlikely because of the low dose and the short time you will be taking the drug.
- Possible side effects include skin rashes, swelling of the salivary glands, and "iodine" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and some times stomach upset and diarrhea).
- A few people have an allergic reaction with more serious symptoms. These could be fever and joint pains, or swelling of parts of the face and body and at times severe shortness of breath requiring immediate medical attention.
- Taking iodine may rarely cause overactivity of the thyroid gland, underactivity of the thyroid gland or enlargement of the thyroid gland (goiter).

5.0 WHAT TO DO IF SIDE EFFECTS OCCUR

If the side effects are severe or if you have an allergic reaction, stop taking potassium iodide and call a doctor.

FORM – 1

Page 1 of 1

OFFSITE CALCULATIONS FORM

1.0 Offsite Calculations Form

Person Performing Calculations : _____ / _____ Date: _____
(Print/Sign)

- 1.1. Go to Section 2.0 of Attachment 4 for data to perform calculations.
- 1.2. Subtract step 2.1.6 from step 2.1.5 and Multiply that value by the beta correction factor of 5 for the mRad/hr and record below:
_____ mRad/hr.
(Gen. Area)
- 1.3. Subtract step 2.1.8. from step 2.1.7 and multiply that value by the beta correction factor of 5 for the mRad/hr.and record below:
_____ mRad/hr.
(Ground)
- 1.4. Subtract step 2.1.11 from step 2.1.12 for the corrected counts per minute (ccpm) for particulate samples and record below:
_____ ccpm.
- 1.5. Calculate the particulate uCi/cc IAW Attachment 5, Air Activity vs. Count Rate Table, or IAW Attachment 6, Air Activity vs. Dose Rate Table and record below:
_____ uCi/cc.
- 1.6. Subtract step 2.1.13 from step 2.1.14 for the corrected counts per minute (ccpm) for iodine samples and record below:
_____ ccpm.
- 1.7. Calculate the iodine uCi/cc IAW Attachment 7, Direct Conversion Per Minute to uCi/cc for I-131 and record below:
_____ uCi/cc.

FORM - 2

PAGE 1 OF 1

FIELD SAMPLING FORM

Communicate Data by Column Number:

Date: ____/____/____

Column	1	2	3	4	5	6	7	8	9	10	11	12	13
TIME	TEAM NAME	LOCATION	OPEN WINDOW GRD (mR/HR)	CLOSED WINDOW GRD (mR/hr)	OPEN WINDOW GA (mR/hr)	CLOSED WINDOW GA (mR/hr)	CART. READING (cpm)	CART. Background (cpm)	PART. READING (cpm)	PART. Background (cpm)	Air Sample ON	Air Sample OFF	Air Sample Flowrate (cfm)

FORM – 3

Page 1 of 1

DOSIMETRY LOG

NAME	DOSIMETER NUMBER	BADGE NUMBER	ISSUED DATE	RTN DATE	INITIAL VALUE (mRem)	END VALUE (mRem)	TOTAL DOSE (mRem)

FORM - 4

Page 1 of 1

FIELD MONITORING/CREST DATA vs. PROJECTED DATA

LOCATION DESIGNATION	CREST DESIGNATION	METER READING (mR/hr)	PROJECTED TEDE RATE (mR/hr)

FORM - 5

Page 1 of 2

KI SIDE EFFECTS/ADMINISTRATION SIGN OFF FORM

AUTHORIZED BY: _____

ADMINISTERED BY: _____

My signature indicates that I have read and understand Pages 1 & 2 of
Attachment 10, Package Insert For Thyroid-Block Tablets.

PRINT NAME	SOCIAL SEC. NO.	INDIVIDUAL'S SIGNATURE	DATE/TIME	COMMENTS

FORM - 6

Page 1 of 3

FIELD MONITORING TEAM BRIEFING FORM

1.0 TEAM BRIEFING FORM

OTC/FTC _____ / _____ / _____
 (PRINT) (SIGN) (DATE)

Event Classification/Time: _____ / _____

Plant Conditions: _____

Wind Direction: (Expected Plume Direction)

- From: _____ (Degrees) To: _____ (Degrees)
- From: _____ To: _____

Specific Monitoring Location(s) (If Applicable)

- From: _____ To: _____
 (Landmarks if Applicable)

Initial Areas or Locations To Be Surveyed: (Refer to Onsite
 Emergency Monitoring Locations Map or 10 Mile EPZ map located
 in the Field Monitoring Kit, as appropriate).

Wind Speed: _____ (MPH)

FORM – 6

Page 2 of 3

Protective Clothing Requirements: _____

NOTE

Ensure Field Monitoring Team members are respirator qualified prior to instructing them to wear respirators.

Respiratory Protection Requirements: _____

Additional Specific Radiological Concerns: _____

Phonetic Alphabet Name for Offsite Team Leader and Members of the Field Monitoring Team:

- **Alpha Team:** Name of Team Leader: _____
 Name of Team Member: _____
- **Bravo Team:** Name of Team Leader: _____
 Name of Team Member: _____
- **Charlie Team:** Name of Team Leader: _____
 Name of Team Member: _____

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PSEG NUCLEAR
ONSITE IMPLEMENTING PROCEDURES
July 3, 2002

CHANGE PAGES FOR
REVISION #24

PSE&G
CONTROL
COPY # EPIC59

The Table of Contents forms a general guide to the current revision of each section of the Onsite EPEPs. The changes that are made in this TOC Revision #24 are shown below. Please check that your revision packet is complete and remove the outdated material listed below:

ADD			REMOVE		
Page	Description	Rev.	Page	Description	Rev.
ALL	TOC	24	ALL	TOC	23
NC.EP-EP.ZZ-0302		05	NC.EP-EP.ZZ-0302		04
NC.EP-EP.ZZ-0303		02	NC.EP-EP.ZZ-0303		01
NC.EP-EP.ZZ-0304		06	NC.EP-EP.ZZ-0304		05
NC.EP-EP.ZZ-0305		01	NC.EP-EP.ZZ-0305		00
NC.EP-EP.ZZ-0307		02	NC.EP-EP.ZZ-0307		01
NC.EP-EP.ZZ-0309		04	NC.EP-EP.ZZ-0309		03
NC.EP-EP.ZZ-0310		04	NC.EP-EP.ZZ-0310		03
NC.EP-EP.ZZ-0311		02	NC.EP-EP.ZZ-0311		01
NC.EP-EP.ZZ-0312		03	NC.EP-EP.ZZ-0312		02
NC.EP-EP.ZZ-0313		01	NC.EP-EP.ZZ-0313		00

PSEG NUCLEAR LLC
EMERGENCY PLAN ONSITE IMPLEMENTING PROCEDURES
TABLE OF CONTENTS
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PSE&G
CONTROL
COPY # EPIP059

STATION PROCEDURES

		<u>Revision Number</u>	<u>Number Pages</u>	<u>Effective Date</u>
NC.EP-EP.ZZ-0101(Q)	ACTIONS REQUIRED AT UNAFFECTED STATION	01	15	12/18/2001
NC.EP-EP.ZZ-0102(Q)	EMERGENCY COORDINATOR RESPONSE	04	22	11/09/2001
NC.EP-EP.ZZ-0201(Q)	TSC - INTEGRATED ENGINEERING RESPONSE	04	23	02/06/2002
NC.EP-EP.ZZ-0202(Q)	OPERATIONS SUPPORT CENTER (OSC) ACTIVATION AND OPERATIONS	04	28	03/14/2002
NC.EP-EP.ZZ-0203(Q)	ADMINISTRATIVE SUPPORT/ COMMUNICATION TEAM RESPONSE - TSC	03	15	03/14/2002
EPIP 204H	EMERGENCY RESPONSE CALLOUT/PERSONNEL RECALL	55	27	02/28/2002
EPIP 204S	EMERGENCY RESPONSE CALLOUT/PERSONNEL RECALL	55	26	02/28/2002
HC.EP-EP.ZZ-0205(Q)	TSC - POST ACCIDENT CORE DAMAGE ASSESSMENT	03	39	02/06/2002
SC.EP-EP.ZZ-0205(Q)	TSC - POST ACCIDENT CORE DAMAGE ASSESSMENT	02	82	02/06/2002
HC.EP-EP.ZZ-0301(Q)	SHIFT RADIATION PROTECTION TECHNICIAN RESPONSE	02	21	05/24/2001
SC.EP-EP.ZZ-0301(Q)	SHIFT RADIATION PROTECTION TECHNICIAN RESPONSE	03	35	05/24/2001

**PSEG NUCLEAR LLC
EMERGENCY PLAN ONSITE IMPLEMENTING PROCEDURES
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NC.EP-EP.ZZ-0302 (Q) RADIOLOGICAL ASSESSMENT COORDINATOR RESPONSE	05	19	07/03/2002
NC.EP-EP.ZZ-0303 (Q) CONTROL POINT - RADIATION PROTECTION RESPONSE	02	25	07/03/2002
NC.EP-EP.ZZ-0304 (Q) OPERATIONS SUPPORT CENTER (OSC) RADIATION PROTECTION RESPONSE	06	26	07/03/2002
NC.EP-EP.ZZ-0305 (Q) POTASSIUM IODIDE (KI) ADMINISTRATION	01	10	07/03/2002
NC.EP-EP.ZZ-0306 (Q) EMERGENCY AIR SAMPLING	00	12	02/29/2000
NC.EP-EP.ZZ-0307 (Q) PLANT VENT SAMPLING	02	13	07/03/2002
NC.EP-EP.ZZ-0308 (Q) PERSONNEL/VEHICLE SURVEY AND DECONTAMINATION	00	16	02/29/2000
NC.EP-EP.ZZ-0309 (Q) DOSE ASSESSMENT (MIDAS) INSTRUCTIONS	04	44	07/03/2002
NC.EP-EP.ZZ-0310 (Q) RADIATION PROTECTION SUPERVISOR - OFFSITE AND FIELD MONITORING TEAM RESPONSE	04	47	07/03/2002
NC.EP-EP.ZZ-0311 (Q) CONTROL POINT - CHEMISTRY RESPONSE	02	17	07/03/2002
NC.EP-EP.ZZ-0312 (Q) CHEMISTRY SUPERVISOR - CP/TSC RESPONSE	03	25	07/03/2002
NC.EP-EP.ZZ-0313 (Q) ADVANCED DOSE ASSESSMENT (MIDAS) INSTRUCTIONS	01	39	07/03/2002

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NC.EP-EP.ZZ-0302 (Q) - REV. 05

RADIOLOGICAL ASSESSMENT COORDINATOR RESPONSE

USE CATEGORY: II

PSE&G

REVISION SUMMARY:

CONTROL

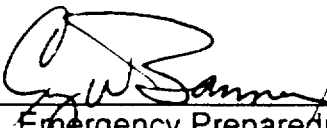
COPY # EP10039

1. This revision satisfies the requirement for a biennial review.
2. Deleted unnecessary note prior to step 1.1.7 located in Attachment 1.
3. Added Step 2.1.2 to the Prerequisites Section of this procedure that states, "All Onsite Emergency Response Organization members **MUST** have taken and PASSED Rad Worker Training/Rad Worker Requalification and have a TLD."
4. Added note prior to the forth bullet and the forth bullet of step 1.1.8 of Attachment 1 to clarify what to do if someone does not have a TLD.
5. Reformatted and clarified step 1.1.9 of Attachment 1.

IMPLEMENTATION REQUIREMENTS

Procedure Implementation Date: 07/03/2002

APPROVED: _____


Emergency Preparedness Manager

6/24/02
Date

APPROVED: _____


Vice President - Operations

6/24/02
Date

RADIOLOGICAL ASSESSMENT COORDINATOR RESPONSE**TABLE OF CONTENTS**

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1.0 **PURPOSE**

To outline and describe the Radiological Assessment Coordinator's (RAC) duties.

2.0 **PREREQUISITES**

2.1 **Prerequisites To Be Followed Prior To Implementing This Procedure**

Implement this procedure at:

- The discretion of the OS
- The discretion of the EDO.
- Upon the manning of the TSC.

2.2 All Onsite Emergency Response Organization members **MUST** have taken and PASSED Rad Worker Training/Rad Worker Requalification and have a TLD.

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precaution and Limitations To Be Followed Prior To Implementing This Procedure**

- 3.1.1 Steps listed in this procedure may be performed in the order deemed appropriate for the emergency situations. Only steps applicable to the specific emergency need be performed.
- 3.1.2 Approval of the OS is required prior to the issuance of Potassium Iodide (KI) until a qualified RAC assumes his duties. The authority to designate when and who should receive KI shifts from the OS to the RAC for all Onsite Personnel at this time IAW NC.EP-EP.ZZ-0305(Q), Stable Iodine Thyroid Blocking. The duty of authorizing KI cannot be delegated or assumed by any other position.
- 3.1.3 The Radiation Protection – Offsite (RPS-Offsite) should assume the RAC's duties until relieved by a qualified RAC. Duties the RPS-Offsite **CANNOT PERFORM** have asterisks next to them.
- 3.1.4 Medical care takes priority over any radiological conditions, unless the radiological conditions are life threatening.
- 3.1.5 It is recommended that initials be used in the step performance check offs/sign-offs, instead of checkmarks, if more than one person may implement this procedure.
- 3.1.6 Personnel who implement this procedure shall be trained and qualified IAW the Emergency Plan.
- 3.1.7 The Radiological Assessment Coordinator needs to follow-up on instructions to ensure they are being followed in a timely manner or have been completed.

4.0 **EQUIPMENT REQUIRED**

As provided at the Control Point, Control Room, and TSC.

5.0 **PROCEDURE**

5.1 **The RAC/RPS-Offsite Should Perform the Following:**

5.1.1 IF the TSC is not yet activated, THEN IMPLEMENT Attachment 1, TSC Pre - Activation Checklist. _____

5.1.2 IF the TSC is activated, THEN IMPLEMENT Attachment 2, RAC Checklist. _____

5.1.3 IF Onsite Protective Actions are necessary, THEN IMPLEMENT Attachment 3, Onsite Protective Action Guidelines. _____

5.1.4 IF the TSC needs to be evacuated, THEN IMPLEMENT Attachment 4, TSC Evacuation Checklist. _____

5.1.5 IF information is needed concerning the Hope Creek or Salem Radiological monitoring System, THEN refer to Attachment 5, RMS Quick Reference. _____

6.0 **RECORDS**

Return completed procedure and any information or data thought to be pertinent by the dose assessor, to the EP Manager.

7.0 **REFERENCES**

7.1 **References**

7.1.1 Roger E. Linnemann, M.D., President of Radiation Management Consultants, Clinical Associate Professor of Radiation Oncology at the University of Pennsylvania School of Medicine.

7.1.2 Nuclear Business Unit Emergency Plan

7.2 **Cross References**

7.2.1 Nuclear Business Unit Emergency Plan

7.2.2 NC.EP-EP.ZZ-0404(Q) Protective Action Recommendations (PARS) Upgrades.

- 7.2.3 NC.EP-EP.ZZ-0304(Q), OSC – Radiation Protection Response.
- 7.2.4 NC.EP-EP.ZZ-0305(Q), Stable Iodine Thyroid Blocking.
- 7.2.5 NC.EP-EP.ZZ-0309(Q), Dose Assessment.
- 7.2.6 NC.EP-EP.ZZ-0310(Q), Radiation Protection Supervisor – Offsite and Field Monitoring Team Response.
- 7.2.7 The Hope Creek and Salem Offsite Dose Calculation Manual (ODCM)

ATTACHMENT 1
Page 1 of 2
TSC PRE - ACTIVATION CHECKLIST

DATE: __/__/__

TIME: ____:____.

1.0 RAC's INITIAL ACTIONS**1.1 Perform the Following:**

- 1.1.1 PERFORM or ASSIGN a Radiation Protection Technician (RPT) to check the dose rates in the TSC. _____
- 1.1.2 COMPARE the dose rates with the habitability criteria found in Attachment 3, Onsite Protective Action Guidelines. _____
- 1.1.3 IF the evacuation limits found in Attachment 3 are exceeded, THEN refer to Attachment 4, TSC Evacuation, and suggest an alternate TSC location to the EDO. _____
- 1.1.4 OBTAIN a briefing from the SRPT concerning the Plant's radiological conditions. _____
- 1.1.5 OBTAIN a briefing from the EDO concerning the Plant's Operational condition. _____
- 1.1.6 DIRECT the RPS-Offsite to implement NC.EP-EP.ZZ-0310, RPS-Offsite and Field Monitor Team Response _____
- 1.1.7 IF the RPS-Offsite has **NOT** arrived at the TSC, THEN IMPLEMENT Attachment 1, TSC Pre-activation Checklist, of NC.EP-EP.ZZ-0310, RPS-Offsite and Field Monitor Team Response, until the RPS – Offsite arrives. _____
- 1.1.8 ENSURE the following tasks are being performed by the RSP-Offsite or Radiation Protection Technicians (RPTs). _____

NOTE

The TSC radiological assessment should not be generating the official Page 2 of the Station Status Checklist (SSCL) until the TSC is activated and the SRPT is informed the TSC is activated and the TSC radiological assessment personnel will be taking over the generation of the SSCL, Page2.

ATTACHMENT 1

Page 2 of 2

- Page 2 of the Station Status checklist (SSCL) is being generated. _____
- A continuous air monitor sampler (AMS III) is set up outside the TSC entrance. _____
- That Radiation Protection Emergency Equipment is available and operational in the TSC. _____

NOTE

If an individual who has attended Rad Worker Training/Rad Worker Requalification forgets his/her TLD, a TLD can be issued to that person and the person can remain in their emergency response facility.

- ENSURE all persons in the TSC, OSC, and CP have a TLD, or have them escorted offsite. _____
- Habitability checks are performed every 30 minutes. _____

1.1.9 IMPLEMENT Attachment 2, RAC Checklist, upon:

- Completion of this Attachment _____
- When the TSC is activated. _____
- At the RAC's discretion. _____

- TSC PRE-ACTIVATION CHECKLIST COMPLETED: _____:_____
(TIME)

- TSC ACTIVATED: ____/____
(TIME)

ATTACHMENT 2
Page 1 of 5
RAC CHECKLIST

DATE: ____/____/____

TIME: ____:____

1.0 RAC's DUTIES**1.1 Perform the Following:**

- 1.1.1 ENSURE dose rates in the TSC are being check every 30 minutes. _____
- 1.1.2 COMPARE the dose rates with the habitability criteria found in Attachment 3, Onsite Protective Action Guidelines. _____
- 1.1.3 IF the evacuation limits found in Attachment 3 are exceeded, THEN REFER to Attachment 4, TSC Evacuation, and suggest an alternate TSC location to the EDO. _____
- 1.1.4 ADVISE the EDO on all Station, Onsite, and Offsite radiological conditions, when thought appropriate. _____
- 1.1.5 DIRECT the RPS-Offsite to continue to implement NC.EP-EP.ZZ-0310, RPS-Offsite and Field Monitor Team Response _____
- 1.1.6 IF fuel damage has occurred, or thought to have occurred, THEN request Chemistry to put PASS into recirculation and ask that PASS is taken when the Fuels Engineer and Chemistry Supervisor believe it is appropriate. _____

NOTE

Offsite Dose Calculation Manual (ODCM)/Federal Limits for Noble Gas Radiological Release Rate are:

Hope Creek: 1.2E+04 uCi/Sec.

Salem: 2.42E+05 uCi/Sec.

ATTACHMENT 2**Page 2 of 5**

1.1.7 IF the potential is thought to be high that a Radiological Release above Federal Limits/ODCM Limits, a Chemical Release, or a Gaseous Release may occur, or an actual Radiological Release above Federal Limits/ODCM Limits, Chemical Release, or Gaseous Release is in progress
THEN:

- NOTIFY the EDO. _____
- **ONLY IF A RADIOLOGICAL RELEASE ABOVE FEDERAL LIMITS/ODCM LIMITS IS IN PROGRESS**
 - A. REQUEST the EDO to ask the Control Room to make a page announcement saying, "A Radiological Release Is in Progress." _____
 - B. REQUEST a plant vent sample (iodine at minimum) be taken from the appropriate release point (vent). _____
- **ONLY IF THE POTENTIAL OF A RADIOLOGICAL RELEASE ABOVE FEDERAL LIMITS/ODCM IS THOUGHT TO BE HIGH**
 - A. REQUEST the EDO to NOTIFY the Control Room of this. _____
 - B. NOTIFY the Control Point, OSC, and EOF of the potential for a Radiological Release is thought to be high. _____
- NOTIFY the TSS at **HOPE CREEK and SALEM** to:
 - A. Place the TSC Emergency Filter Unit in service in the Pressurization Mode for radiological releases. _____
 - B. Place the TSC Emergency Filter Unit in service in the Recirculation Mode for chemical or other gaseous releases. _____
- COORDINATE with the Radiological Support Manager (RSM) the moving of any equipment thought essential from the Security Center and the Process Center, if thought the equipment could be in the path of the Plume. _____

NOTE

Persons/vehicles leaving or entering the Owner Controlled Area (OCA) should be coordinated with the Security Liaison and the RSM, if the EOF is manned or activated.

- RECOMMEND travel routes

ATTACHMENT 2**Page 3 of 5****NOTE**

Any Steps with an asterisk (*) next to them may not be delegated to anyone but another qualified RAC. These steps have **RAC** written under them.

- 1.1.8 * REVIEW the appropriate ECG sections and provide the EDO with Event Classification Recommendations, as necessary.

RAC

- 1.1.9 * IMPLEMENT NC.EP-EP.ZZ-404, Protective Action Recommendations (PARS) Upgrades, and provide the EDO with appropriate Radiological PARs, as thought necessary.

RAC**NOTE**

Contamination controls consist of the following:

- No eating, drinking, or smoking.
- Setting up Step Off Pads (SOP).
- Placing Friskers next to SOPs.
- Establish proper postings.
- Preparing electronic dosimetry and/or SRDs for use in the TSC.
- Preparing SRDs for use by people leaving the TSC.

- 1.1.10 IMPLEMENT Contamination Controls for all onsite Emergency Response Facilities, including the unaffected Plants, if:

- A Radiological Release greater than the Noble Gas Federal Release Rate Limits/ODCM Limits is in progress. _____
- The potential is thought high of a radiological release greater than the Noble Gas Federal Release Rate Limits ODCM Limits. _____
- Normal RCA boundaries have been breached. _____
- At the discretion of the RAC. _____

ATTACHMENT 2**Page 4 of 5****1.1.11 IF Contamination Controls are Implemented,
THEN:**

- NOTIFY the EDO Contamination Controls have been implemented. _____
- REQUEST the EDO to ask the Control Room to make a page announcement saying, "Contamination Controls are being implemented." _____
- NOTIFY the Control Room, Control Point, OSC, and EOF Contamination Controls should be implemented. _____

**1.1.12 * AUTHORIZE issuing KI IAW NC.EP-EP.ZZ-0305(Q)
Potassium Iodine Administration.****RAC****NOTE**

A RPT may be sent to the hospital "after the fact," if waiting for the RPT will delay the departure of the ambulance.

**1.1.13 COORDINATE with the Operational Support Center Coordinator
(OSCC) the evacuation of injured person(s).** _____**1.1.14 DIRECT a RPT to accompany an injured person if:**

- The person is contaminated. _____
- The person is potentially contaminated. _____
- A Radiological Release greater than Federal Limits/ODCM Limits is in progress. _____
- The potential that a Radiological Release greater than Federal Limits/ODCM is thought to be high. _____

1.1.15 INFORM the RSM that an injured person is leaving the Site. _____**1.1.16 COORDINATE with the OSCC the evacuation of any person(s)
receiving an exposure of 5 rem External Dose Equivalent (EDE)
or greater to an appropriate medical facility, as soon as practical.** _____

ATTACHMENT 2

Page 5 of 5

1.1.17 INTERFACE directly with the NRC on specific radiological issues,
as the need arises. _____

1.1.18 ARRANGE with the Administrative Support Supervisor for relief
shifts of RPTs and Chemistry Technicians. _____

1.1.19 RECOMMEND expenditures for additional radiological support
equipment/staff, as necessary. _____

1.1.20 REFER to Step 1.1 of this Attachment and follow appropriate
Steps until relieved from your duties by a qualified RAC. _____

ATTACHMENT 3

Page 1 of 1

ONSITE PROTECTIVE ACTION GUIDELINES

1.0 RADIATION LEVELS

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 100	Onsite	Evacuation of all nonessential personnel. Consider evacuation of other personnel.

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 100	Control Room OSC TSC Control Point	Consider evacuation within one hour, and/or relocation as appropriate.

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 1000	Onsite	Evacuation of all nonessential personnel Consider immediate evacuation of remaining personnel.

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 1000	Control Room OSC TSC Control Point	Consider immediate evacuation, and/or relocation upwind of the plume.

2.0 RADIOIODINE

If the Iodine-131 equivalent is calculated or measured in concentrations greater than or equal to $5.0E-7$ uCi/cc, consider the use of Potassium Iodide for thyroid blocking. This section is to be applied to areas, in which personnel are working or are planning to work. Refer to Emergency Procedure NC.EP-EP.ZZ-0305(Q), Stable Iodine Thyroid Blocking, for additional information.

ATTACHMENT 4

Page 1 of 3

TSC EVACUATION CHECKLIST

Date/Time: _ - - / _ : _

1.0 TSC EVACUATION CHECKLIST**1.1 Evacuate the TSC in the Following Manner:****NOTE**

Consideration should be given to dose rates in alternate TSC prior to evacuation. Multiple evacuations are to be avoided.

1.1.1 CONSIDER where to relocate the TSC using the locations below:

- Hope Creek TSC for Salem _____
- Salem TSC for Hope Creek _____
- EOF (TSC Technical Staff only) _____
- Operations Support Center _____
- Security Center _____
- Administration Building _____

1.1.2 RECOMMEND the EDO of your selection. _____**1.1.3 Notify the RPS-EXP and the Shift Radiation Protection Technician of the evacuation of the TSC and the location of the new TSC.** _____

ATTACHMENT 4

Page 2 of 3

1.1.4 DIRECT the following items be relocated to the new TSC, if thought appropriate:

- Log books _____
- Calculators _____
- Maps _____
- Portable computer software _____
- Portable radios _____
- Radiation instruments, dosimetry, stanchions, etc. _____
- Emergency Plan Implementing Procedures
 - ◆ Controlled Copy Books _____
 - ◆ Working Copy Files _____
- Event Classification Guidelines
 - ◆ Controlled Copy Books _____
 - ◆ Working Copy Files _____
- Station Procedures _____

1.1.5 DIRECT the use of protective clothing, if radiological conditions are unknown enroute to the new location. _____

1.1.6 DIRECT the use of dose rate instruments during the relocation of the TSC. _____

1.1.7 DIRECT personnel to be surveyed for contamination prior to admittance to the new TSC, if practical. _____

1.1.8 INFORM Security, the Control Room, Control Point, OSC, and EOF (if manned or activated) of the new location and phone numbers. _____

ATTACHMENT 4

Page 3 of 3

1.1.9 NOTIFY the Administrative Support Supervisor, if any additional resources or personnel are required due to the evacuation. _____

1.1.10 IMPLEMENT Attachment 1, TSC Activation Checklist, and ensure the new TSC is ready to assume its responsibilities. _____

Completed by: _____ / _____
(PRINT/SIGNATURE)

ATTACHMENT 5

Page 1 of 4

RMS QUICK REFERENCE

1.0 HOPE CREEK**NOTE**

All ARM's in the Reactor Building have maximum ranges of $1.00\text{E}+04$ mR/hr, except for the Inner Tip Room Monitor (9RX699). The Inner Tip Room Monitor's maximum range is $1.00\text{E}+07$ mR/hr.

DAPA A and DAPA B (9RX635 and 9RX636) are high range ARMs in the Drywell. DAPA "A" is approximately twice as high as DAPA B under normal operating conditions. During a LOCA in the Drywell the two monitors should start to trend closer together due to the atmospheric conditions in the Drywell affecting both monitors equally. Increases on both of these monitors while DAPA A's reading stays about twice of what DAPA B is reading, would be an indication of fuel damage.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+08$ R/hr.

Tip Room Inner ARM (9RX699) is located on 102' elevation of the Reactor Building inside the Tip Room. This monitor has the highest range of any ARM in the Reactor Building and could give an idea of what the dose rates in the Reactor Building are after the other ARMs peg out high.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+07$ mR/hr

Main Steam Line A - D monitors (9RX509-512) are four ARMs located in the ceiling of the Main Steam Tunnel. Increases in these monitors would be an indication of fuel damage. These monitors could increase due to shine from the Reactor Building, after a radiological release.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+06$ mR/hr

Safeguard Instrument Room Monitor (9RX704) is an ARM located on 77' elevation of the Reactor Building. An increase on this monitor when the reactor SCRAMs with fuel damage could be due to shine from the Torus.

Ranges: $1.00\text{E}-01$ to $1.00\text{E}+04$ mR/hr

ATTACHMENT 5

Page 2 of 4

FRVS Effluent monitor (9RX680) monitors what is going out the FRVS Plant Vent. Under normal operating conditions Reactor Building ventilation would vent through the South Plant Vent. Under accident conditions or when manually initiated, Reactor Building Ventilation isolates and the Reactor Building will vent through the FRVS. FRVS is always a ground release. Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+12$ uCi/Sec (THIS IS A GROUND RELEASE AT ALL TIMES).

North Plant Vent Effluent (NPV) monitor (9RX590) monitors Offgas and the chemistry lab fume hoods. NPV could be a ground or elevated release depending on the time of year and wind speed. Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+12$ uCi/Sec (THIS COULD BE A GROUND, ELEVATED, OR SPLIT WAKE RELEASE. A SPLIT WAKE RELEASE IS NOT A TRUE GROUND OR ELEVATED RELEASE).

South Plant Vent Effluent (SPV) monitor (9RX580) monitors Service Radwaste Building, Turbine Building and the Reactor Building (if FRVS hasn't been initiated). Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+12$ uCi/Sec (THIS COULD BE A GROUND, ELEVATED, OR SPLIT WAKE RELEASE. A SPLIT WAKE RELEASE IS NOT A TRUE GROUND OR ELEVATED RELEASE).

Hardened Torus Vent Effluent (HTV) monitor (9RX518) would be used to vent the Drywell to relieve pressure. The path it would take would be through the Torus and take advantage of the scrubbing properties of the Torus water. Control Room operators would have to open a valve to use this release path. Sampling from the PASS Torus Gas Space should be performed to provide information as to what is being released. Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $0.00\text{E}+00$ to $2.09\text{E}+12$ uCi/Sec (THIS IS A GROUND RELEASE AT ALL TIMES).

2.0 SALEM RMS (UNIT 1 AND 2)

R2 is an Area Radiation Monitor (ARM) located in Containment on the 130' elevation.
Ranges: $1\text{E}-01$ to $1\text{E}+04$ mR/hr.

R7 is an ARM located in Containment on the 100' elevation, adjacent to the Seal Table Room.
Ranges: $1\text{E}-01$ to $1\text{E}+04$ mR/hr.

R10A is an ARM located in Containment on the 100' elevation next to the personnel airlock.
Ranges: $1\text{E}-01$ to $1\text{E}+04$ mR/hr.

ATTACHMENT 5

Page 3 of 4

R10B is an (ARM) located in Containment on the 130' elevation next to the personnel airlock.

Ranges: 1E-01 to 1E+04 mR/hr.

R16 Plant Vent Stack is located in the Plant Vent duct at 194' elevation and monitors what is going out the Plant Vent stack.

Ranges: 1E+01 to 1E+06 CPM

R34 is an ARM located in the Mechanical Penetration across from the 100' elevation Containment personnel Airlock.

Ranges: 1E-01 to 1E+06 mR/hr.

R44A is a High Range or Accident Area Radiation Monitor (HARM) located in Containment on the 130' elevation close to the personnel airlock.

Ranges: 1E+00 to 1E+07 R/hr.

R44B is a (HARM) located in Containment on the 100' elevation between the R10A and R7 ARMs.

Ranges: 1E+00 to 1E+07 R/hr.

R47 is an ARM located in the 78' Electrical Penetration. The PASS lines are located in the overhead. The skid and PASS lines may be the source of any increase in this area. This Penetration has its own ventilation flow path and will vent directly into the atmosphere. There is a potential for an unmonitored release from this Penetration.

Ranges: 1E-01 to 1E+07 mR/hr

NOTE

- All emergency Grab Samples (Noble Gas, Iodine and Particulate) should be taken from the R45 Skid located in the R45 Shed.
- Only one of the following Effluent Monitors (R41A, R41B, R41C, R45B or R45C) readings should be used in MIDAS Manual Mode.

R41A is the Low Range Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 1E-07 to 1E-01 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

ATTACHMENT 5

Page 4 of 4

R41B is the Mid Range Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 1E-04 to 1E-02 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

R41C is the High Range Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 1E-01 to 1E+05 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

R41D is the Effluent Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 0E+00 to 1E+13 uCi/Sec

(The R41D values should not be used in MIDAS to perform manual dose assessment calculations) (THIS IS A GROUND RELEASE AT ALL TIMES).

R45B is the "Backup" Mid Range Noble Gas Monitor and is located in the R45 Shed behind the Fuel Handling Building. This monitor should not be used unless the R41 monitors are inoperable.

Ranges: 1E-03 uCi/cc to 1E+01 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

R45C is the "Backup" High Range Noble Gas Monitors and is located in the R45 Shed behind the Fuel Handling Building. This monitor should not be used unless the R41 monitors are inoperable.

Ranges: 1E-01 uCi/cc to 1E+05 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

PSEG NUCLEAR

NC.EP-EP.ZZ-0303 (Q) - REV. 02

CONTROL POINT – RADIATION PROTECTION - RESPONSE

USE CATEGORY: II

PSE&G

CONTROL

COPY # EP10059

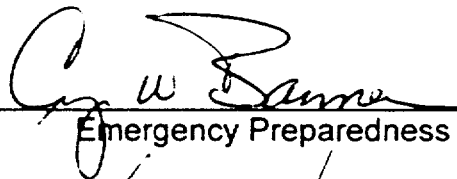
REVISION SUMMARY:

1. Added Step 3.1.5 concerning Assembly/Accountability to the Precautions/Limitations Section.
2. Revised Figure 2-1 to show a door should be posted no entry, instead of locking it. There is no locking mechanism in the door to allow the door to be locked.
3. Revised the title, Manger EP & IT to Emergency Preparedness Manager through out the procedure.
4. Contamination Control Guidance figures (1-1 through 1-4 & 2-1) were done and CAD and had to be added to the procedure. Redrew the figures, so they are now in the procedure.
5. This revision satisfies the requirement for a biennial review.

IMPLEMENTATION REQUIREMENTS:

Implementation Date: 07/03/2002

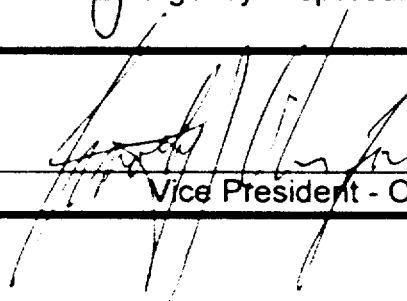
APPROVED: _____



Emergency Preparedness Manager

6/24/02
Date

APPROVED: _____



Vice President - Operations

6/24/02

Date

SHIFT RADIATION PROTECTION TECHNICIAN RESPONSE**TABLE OF CONTENTS**

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FIGURES

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1.0 **PURPOSE**

To outline and describe the Radiation Protection Technician's duties during a declared emergency at the Control Point.

2.0 **PREREQUISITES**

2.1 **Prerequisites To Be Followed Prior To Implementing This Procedure**

2.1.1 Implement this procedure at the discretion of the Operations Superintendent or Radiation Protection Supervision.

2.1.2 Upon a declaration of an Alert or greater emergency classification.

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precaution and Limitations To Be Followed Prior To Implementing This Procedure**

3.1.1 Elevator use should be limited to transporting equipment unless Site Protection indicates that elevator use should be utilized to move an injured person.

3.1.2 It is recommended that initials be used in the place keeping sign-offs, instead of checkmarks, if more than one person may implement this procedure.

3.1.3 Personnel who implement this procedure shall be trained and qualified IAW the Emergency Plan.

3.1.4 Steps listed in this procedure may be performed in the order deemed appropriate for the emergency situations. Only steps applicable to the specific emergency need be performed.

3.1.5 Refer to Attachment 4, Assembly/Accountability Instruction - Control Point, to implement **Assembly/Accountability** when appropriate.

4.0 **EQUIPMENT REQUIRED**

Equipment is provided at the Control Point and Control Room.

5.0 **PROCEDURE**

NOTE

- The Shift Radiation Protection Technician (SRPT) and Onshift Radiation Protection Technician (ORPT) report to the Operations Superintendent (OS) until the TSC is activated.
- **AT HOPE CREEK**, upon activation of the TSC, the SRPT and ORPT report to the Radiological Assessment Coordinator (RAC) and should implement Attachment 1.
- **AT SALEM**, upon activation of the TSC, the SRPT continues to report to the OS, while the ORPT reports to the RAC .
- **AT SALEM**, upon activation of the TSC, the ORPT should implement Attachment 1. The SRPT continues to implement SC.EP-EP.ZZ-0301(Q), Shift Radiation Protection Technician Response in the Salem Control Room.

5.1 **The SRPT, ORPT, Or Designee Should Perform The Following:**

- 5.1.1 REFER to Attachment 1, Radiation Protection - Control Point Checklist, and perform applicable duties.

6.0 **RECORDS**

Return completed procedure and any information or data thought to be pertinent by the SRPT or ORPT, to the EP Manager.

7.0 **REFERENCES**

7.1 **References**

PSEG Nuclear Emergency Plan

7.2 **Cross References**

NC.EP-EP.ZZ-0302(Q), Radiological Coordinator Response

HC.EP-EP.ZZ-0301(Q), Shift Radiation Protection Technician Response

SC.EP-EP.ZZ-0301(Q), Shift Radiation Protection Technician Response

ATTACHMENT 1

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RADIATION PROTECTION - CONTROL POINT CHECKLIST

Date/Time: ____/____/____

1.0 RADIATION PROTECTION CHECKLIST

1.1 Perform The Following:

1.1.1 ENSURE radiological habitability surveys of the Control Point (CP) and OSC are performed every 30 minutes, unless instructed otherwise by: _____

- ◆ SRPT
- ◆ RAC
- ◆ Radiation Protection Supervisor - Exposure Control (RPS-EXP)
- ◆ OS

1.1.2 RECORD results on Form – 1, Habitability Log. _____

1.1.3 REFER to evacuation criteria located in Attachment 2, Onsite Protective Action Guidelines. _____

1.1.4 IF evacuation is necessary, THEN follow the checklist provided in Attachment 3, Control Point Evacuation Checklist. _____

1.1.5 MAINTAIN access control. _____

1.1.6 SUPPORT Repair, Sampling, and Corrective Action Missions, as directed by the OSC or the TSC. _____

ATTACHMENT 1

Page 2 of 6

NOTE

1. An individual, in lieu of a team, may be dispatched by SRPT/ORPT/RPT after:
 - a. Receiving the RAC's concurrence or instructions to do so.
 - b. Notifying the RPS-EXP, located in the OSC.
 - c. Instructing the individual to check in with the Control Point every 15 minutes via some type of audio communications (plant page, radio, or telephone).
2. An individual should not be used under the following circumstances:
 - a. An individual's exposure could be expected to exceed 1000 mRem.
 - b. The task would require entry into a Harsh Environment Area such as a steam atmosphere or a heat stress environment.
 - c. Acts of sabotage.
3. Sending out an individual in lieu of a team should be the exception and not the norm.
4. Control Point Teams should be limited to performing Surveys, taking Air Samples, setting up Contamination Controls, Chemistry and Effluent Sampling.

1.1.7 ENSURE all Control Point teams are made up of at least two people unless a task meets the criteria from the above note for dispatching an individual.

1.1.8 BRIEF, or ENSURE a briefing takes place, for all Control Point Teams IAW Team Briefing Guidelines, found in NC.EP-EP.ZZ-0202(Q), OSC Activation And Operations, and ALARA Analysis, found in NC.EP-EP.ZZ-0304(Q), prior to allowing the team to go out.

1.1.9 IF general area dose rates at the work area is ≤ 1000 mR/hr, THEN no documented radiological briefing is necessary.

1.1.10 NOTIFY the RPS-EXP by phone that the team or individual is going out into the field and what their task is.

ATTACHMENT 1

Page 3 of 6

- 1.1.11 OBTAIN current updates of the emergency from the RAC, RPS-EXP, or their designees.

NOTE

Radiation Monitor System (RMS) values can be obtained from:

HOPE CREEK ONLY

The VAX LA120

RM-11

RMS Data Sheet

SALEM ONLY

Radiological Assessment Data Sheet

SPDS (Limited RMS Monitors)

- 1.1.12 ASSESS inplant radiation monitoring systems readings for habitability in areas of interest. Refer to Attachment 5, Operation of the VAX LA120, for operating instructions for the VAX LA120.

NOTE

1. Indications of a potential radioactive airborne problem in the Reactor Building or Auxiliary Building would be increases or alarms in the Reactor or Auxiliary Building:

HOPE CREEK ONLY

- Duct Monitors

- Effluent Monitors

- Area Radiation Monitors

- Air Monitoring Samplers

SALEM ONLY

Plant Vent Monitor

Effluent Monitors

Area Radiation Monitors

Air Monitoring Samplers

2. The **Hope Creek** Noble Gas (NG) Offsite Dose Calculation Manual/Federal Limits value is: **1.20E+04 uCi/second**.

3. The **Salem** NG Offsite Dose Calculation Manual/Federal Limits value is **2.42E+05 uCi/second**.

ATTACHMENT 1

Page 4 of 6

1.1.13 ESTABLISH contamination controls (no eating, no drinking, no smoking, proper postings, setting up step off pads and friskers) when any of the following have occurred: _____

- A radiological release of noble gas \geq Offsite Dose Calculation Manual/Federal Limits value is in progress.
- The potential of a radiological release $>$ Offsite Dose Calculation Manual/Federal Limits value.
- Normal RCA boundaries have been breached.
- At the discretion of the RAC.

1.1.14 REFER to Figures 1-1 through 1-4 (**HOPE CREEK ONLY**), and Figure 2- 1 (**SALEM ONLY**), Contamination Control Guidance, on how to limit access to certain areas and where to position SOPs during implementation of Contamination Controls. _____

1.1.15 ENSURE a RM-14 or equivalent count rate meter is positioned at all SOPs. _____

1.1.16 NOTIFY the RPS-EXP and the RAC of changing radiological conditions as determined from:

- Step 1.1.12
- Step 1.1.13
- Any Radiation **ALARMS** on fixed or portable Radiation Monitors. _____

1.1.17 PERFORM inplant surveys, air samples, and analysis as directed by the RAC, RPS-EXP, or appropriate Radiation Protection Station procedures. _____

1.1.18 REFER to NC.EP-EP.ZZ-0306, Emergency Air Sampling and Analysis, and NC.EP-EP.ZZ-0307(Q), Plant Vent Sampling as directed by the OS, RAC, or RPS-EXP. _____

1.1.19 ENSURE operational and response checks are done, prior to use, on all appropriate equipment in the:

- R.P. Count Room _____
- Instrument Issue Room _____

ATTACHMENT 1
Page 5 of 6

NOTE

An inventory is not necessary if the seal is not broken on the CP or CR Emergency Lockers.

Refer to EPIP 1006, Equipment Inventory-Radiation Protection, when performing an inventory on Emergency Locker equipment.

- Emergency Locker located at the CP. _____
- 1.1.20 ISSUE radiological monitoring equipment as necessary. _____
- 1.1.21 ISSUE dosimetry as necessary. _____
- 1.1.22 ENSURE appropriate RWP's are being utilized _____
- 1.1.23 SUPPORT the TSC as directed upon activation. _____
- 1.1.24 SUPPORT the OSC as directed upon activation. _____
- 1.1.25 COORDINATE the handling and storage of post accident
Samples (PASS), with the Chemistry Supervisor-CP/TSC
or the Chemistry CP Technician. _____
- 1.1.26 DECONTAMINATE personnel and equipment IAW appropriate
Radiation Protection Station procedure. _____
- 1.1.27 ASSIST in radioactive waste problems and activities as necessary. _____

ATTACHMENT 1

Page 6 of 6

NOTE

ASSEMBLY shall be implemented after the declaration of an Alert emergency classification.

ACCOUNTABILITY shall be implemented after the declaration of a Site Area Emergency, but may be implemented at any time after Assembly at the discretion of the OS/Emergency Duty Officer (EDO).

1.1.28 PERFORM Assembly/Accountability utilizing the guidance provided in Attachment 4, Assembly/Accountability Instruction - Control Point. _____

TURNOVER

Given By: _____ **Date/Time:** _____ / _____

Received By: _____ **Date/Time:** _____ / _____

ATTACHMENT 2

Page 1 of 1

ONSITE PROTECTIVE ACTION GUIDELINES

1.0 RADIATION LEVELS

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 100	Onsite	Evacuation of all nonessential personnel. Consider evacuation of other personnel.

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 100	Control Room OSC TSC Control Point	Consider evacuation within one hour, and/or relocation as appropriate.

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 1000	Onsite	Evacuation of all nonessential personnel. Consider immediate evacuation of remaining personnel.

<u>Dose Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 1000	Control Room OSC TSC Control Point	Consider immediate evacuation, and/or relocation upwind of the plume.

2.0 RADIOIODINE

If the Iodine-131 equivalent is calculated or measured in concentrations greater than or equal to 5.0×10^{-7} uCi/cc, consider the use of Potassium Iodide for thyroid blocking. This section is to be applied to areas, in which personnel are working or are planning to work. Refer to Emergency Procedure NC.EP-EP.ZZ-0305(Q), Stable Iodine Thyroid Blocking, for additional information.

ATTACHMENT 3
Page 1 of 2
CONTROL POINT EVACUATION CHECKLIST

1.0 EVACUATION OF THE CONTROL POINT

1.1 The Chemistry Supervisor-CP/TSC Or Designee Should:

- 1.1.1 ENSURE Radiation Protection are assisting Chemistry personnel in evacuation of the Control Point.
- 1.1.2 ENSURE that the TSC and Control Room are kept aware of the new location.
- 1.1.3 ENSURE the following equipment is included in the Control Point evacuation:
 - Movable Counting Room Equipment. _____
 - Dosimeters, additional TLDs from the Control Point. _____
 - Emergency Logbooks. _____
 - Portable Survey Equipment. _____
 - Survey materials (air sample filters etc.) _____
 - SCBA and spare tanks. _____
 - Respirators and canisters. _____
 - Protective Clothing. _____
 - Posting Materials and Barricades. _____
 - Emergency Plan Implementing Procedures. _____
 - Event Classification Guide. _____
 - Station Procedures. _____
- 1.1.4 NOTIFY the RAC of the new telephone numbers. _____
- 1.1.5 NOTIFY the RAC when the new Control Pont has become operational. _____
- 1.1.6 RE-ESTABLISH the operability of the evacuated equipment as soon as possible. _____

ATTACHMENT 3

Page 2 of 2

- 1.1.7 MONITOR continuously Radiation Protection personnel exposure. Rotate personnel as appropriate to ensure dose limits are not exceeded. _____
- 1.1.8 ENSURE all pertinent information is entered in log books. _____
- 1.1.9 USE the equipment checklist and note deficiencies. _____
- 1.1.10 IF additional materials or services are required due to relocation, THEN CONTACT the RAC. _____

NOTE

A list of categories, corresponding Vendors and telephone numbers is provided in the following pages. For PSEG stockroom items refer to SAP or other available listing of supplies/equipment.

- 1.1.11 WHEN requesting inventory status, GIVE due regard to habitability of particular areas. _____

ATTACHMENT 4

Page 1 of 2

ASSEMBLY/ACCOUNTABILITY INSTRUCTIONS - CONTROL POINT

1.0 IMPLEMENTATION OF ASSEMBLY AT THE CONTROL POINT

1.1 The SRPT/ORPT Or Designee SHALL:

NOTE

Assembly/Accountability actions at the Control Point are to be coordinated with the SRPT/ORPT and the RAC.

1.1.1 ASSEMBLE all Personnel at the Control Point. _____

1.1.2 DIRECT personnel exiting the RCA to proceed to their accountability station or direct them to assemble in change areas dependent on radiological conditions. _____

1.1.3 DIRECT personnel remaining at the Control Point to sign-in on the Accountability Station Attendance Sheet (Form - 2). _____

1.1.4 IF accountability implementation is called for, THEN PROCEED to Section 2.0 of this attachment. _____

2.0 IMPLEMENTATION OF ACCOUNTABILITY

2.1 The SRPT/ORPT Or Designee SHALL:

T – 0 MIN

2.1.1 IF the Radiation Alert Alarm and page announcement sounds, **"ALL ACCOUNTABILITY STATIONS IMPLEMENT ACCOUNTABILITY"**, THEN ENSURE all personnel at the Control Point, including all personnel in the Radiation Protection Break Room and Change Areas, have passed their photobadges through the accountability card reader located at the Control Point. _____

ATTACHMENT 4

Page 2 of 2

T - + 20 MIN

- 2.1.2 WHEN the page announcement sounds,
"ALL ACCOUNTABILITY STATIONS COMPLETE YOUR ACCOUNTABILITY", THEN ENSURE that any personnel arriving at the Control Point since the initial call for accountability also have passed their photo badges through the Control Point accountability card reader. _____
- 2.1.3 DIRECT all stragglers (personnel arriving at the Control Point after 30 minutes have lapsed) to pass their photo badge through the accountability card reader and report the badge number(s) of stragglers to the Security Center (Ext. 2223). _____
- 2.1.4 MAINTAIN continuous accountability until Hope Creek's/Salem's emergency is terminated. _____
- 2.1.5 IF the Automated Accountability System malfunctions, THEN REFER to Section 3.0. _____

3.0 AUTOMATED ACCOUNTABILITY SYSTEM MALFUNCTION

3.1 The Chemistry Supervisor-CP/TSC Or Designee SHALL:

- 3.1.1 IF the automated accountability system malfunctions, THEN PROVIDE a copy of the Accountability Station Attendance Sheet, Form - 2, to the Security Force Member dispatched to the Control Point. _____

ATTACHMENT 5

Page 1 of 3

OPERATION OF THE VAX LA120 TERMINAL

1.0 **METEOROLOGICAL DATA**1.1 **Perform The Following to Obtain Current 15 Minute Average Meteorological Data:**

1.1.1 DEPRESS the RETURN key. (USERNAME should be displayed). _____

1.1.2 ENTER MET and depress the RETURN key _____

NOTE

The most current meteorological data should be printed out followed by the Main Meteorological Menu. If no other keys are depressed, the current 15 minute average data will be printed out every 15 minutes

1.1.3 ENTER Option 3 (Disable Automatic Display of MET Data Every 15 minutes) and depress the RETURN key to stop the VAX LA120 from printing out meteorological data every 15 minutes. _____

1.1.4 ENTER Option 1 (Display Current Meteorological Data) and depress the RETURN key to receive the current 15 meteorological data print out. _____

1.2 **Perform The Following Steps to Obtain Archived Meteorological Data:**

1.2.1 DEPRESS the RETURN key. (USERNAME should be displayed) _____

1.2.2 ENTER MET and depress the RETURN key. (The most current meteorological data should be printed out followed by the Main Meteorological Menu). _____

ATTACHMENT 5

Page 2 of 3

- 1.2.3 ENTER Option 2 (Display Meteorological Data From Data Base) and depress the RETURN key. (Current system Date and Time will be displayed). _____
- 1.2.4 IF this is the data you want, THEN depress the RETURN key. (Your option will be printed out). _____
- 1.2.5 IF you want data from an another date and time, THEN go to Step 1.2.6. _____
- 1.2.6 ENTER start date and time as shown below and depress the RETURN key. (For December 27, 1989 at 0130 enter 27-DEC-1989 "depress the space bar once" and enter 01:30). _____
- 1.2.7 ENTER "Y" if the information is correct or "N" if the information is not correct and reenter it as shown in Step 1.2.6. _____
- 1.2.8 ENTER the end date and time as shown below and depress the RETURN key. (For December 28, 1989 at 0230 enter 28-DEC-1989 "depress the space bar once" and enter 02:30). _____
- 1.2.9 ENTER "Y" if the information is correct or "N" if the information is not correct and re-enter it as shown in Step 1.2.8. _____

2.0 RMS AND MET DATA (FOR HOPE CREEK ONLY)

- 2.1 Perform The Following Steps to Obtain Current Instantaneous RMS and MET Data:
- 2.1.1 DEPRESS the RETURN key. (USERNAME should be displayed). _____
- 2.1.2 ENTER EOF and depress the RETURN key. (A prompt should be displayed asking for PASSWORD). _____

ATTACHMENT 5

Page 3 of 3

- 2.1.3 ENTER the letters EOFUSER and depress the RETURN key. (The EOF Plant Menu should be displayed.) _____
- 2.1.4 SELECT Option 1 for Hope Creek. _____
- 2.1.5 DEPRESS the RETURN key. (The EOF Report Options Menu will be displayed). _____
- 2.1.6 ENTER Option 1 (Current RMS Status) and depress the RETURN key. (The most current instantaneous RMS and 15 minute MET data will be printed out.) _____
- 2.2 **Perform The Following Steps to Obtain 15 Minute Average RMS Data:**
- 2.2.1 DEPRESS the RETURN key. (USERNAME should be displayed). _____
- 2.2.2 ENTER EOF and depress the RETURN key. (A prompt should be displayed asking for PASSWORD). _____
- 2.2.3 ENTER EOFUSER and depress the RETURN key. (The EOF Plant Menu should be displayed). _____
- 2.2.4 SELECT option 1 for Hope Creek. _____
- 2.2.5 DEPRESS the RETURN key. (The EOF Report Options Menu should be displayed). _____
- 2.2.6 SELECT and enter option number 6 (15 Minute Historical Data). (Current system date and time should be displayed. A prompt should be displayed for start date and time) _____
- 2.2.7 DEPRESS the RETURN key for 15 minute average RMS and MET data. (Your selection will be printed). _____

FORM - 1
Page 1 of 1
HABITABILITY LOG
(FORM - 1)

DATE ____ / ____ / ____

TIME	LOCATION	DOSE RATE (mR/hr)	CONTAMINATION (CPM)	INITIALS

IF other means are used to ensure habitability, THEN list: _____

FORM – 2
Page 1 of 1

ACCOUNTABILITY STATION ATTENDANCE SHEET

Facility: CR, CP, TSC, OSC
(circle)

Date: _____

LAST NAME/FIRST NAME	BADGE NUMBER

Attach additional pages with appropriate information as needed.

FIGURE 1 - 1
GUIDANCE FOR CONTAMINATION CONTROL (HOPE CREEK ONLY)
 Page 1 of 4

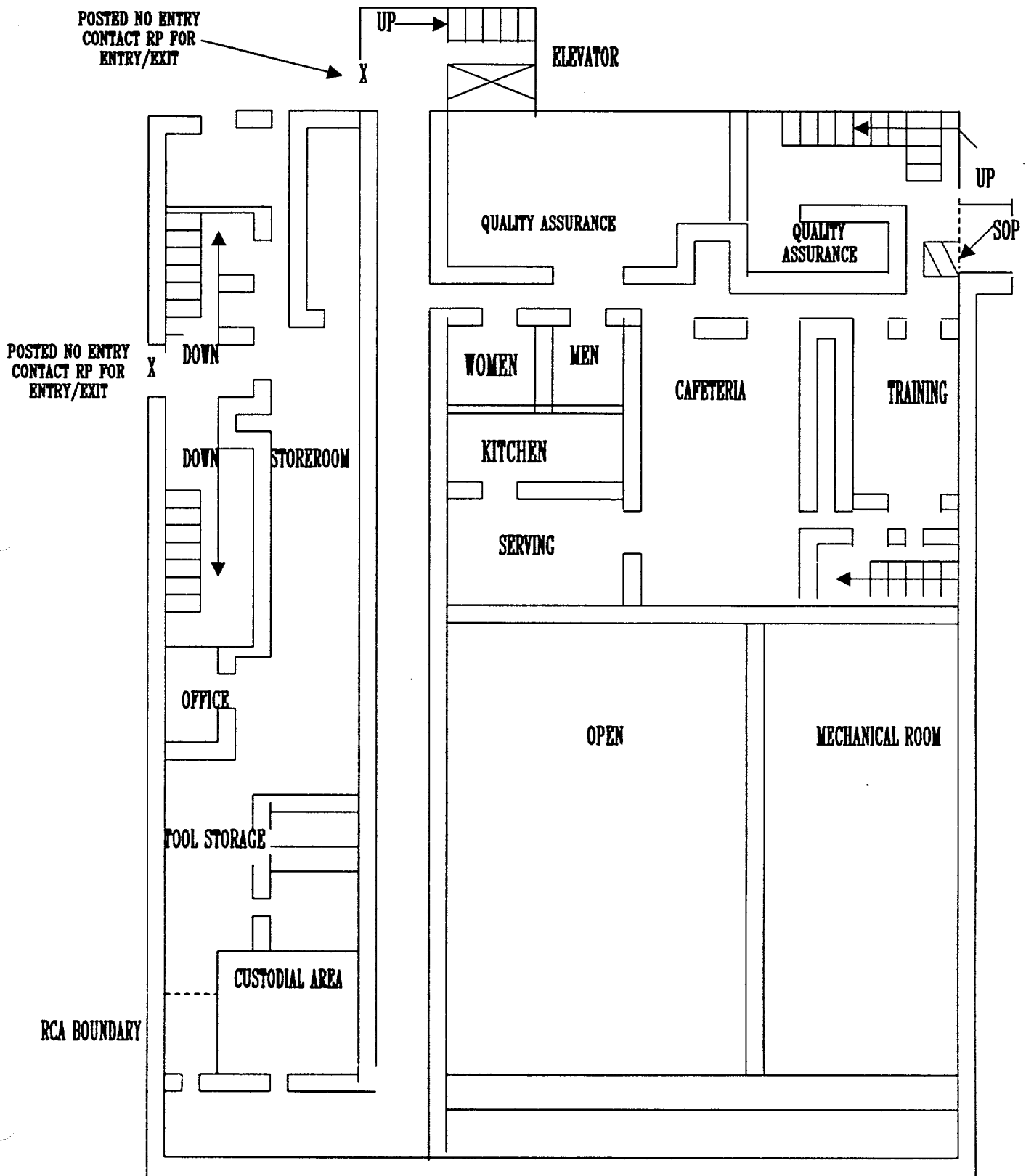


FIGURE 1 - 2

Page 2 of 4
UNRESTRICTED MACHINE SHOP

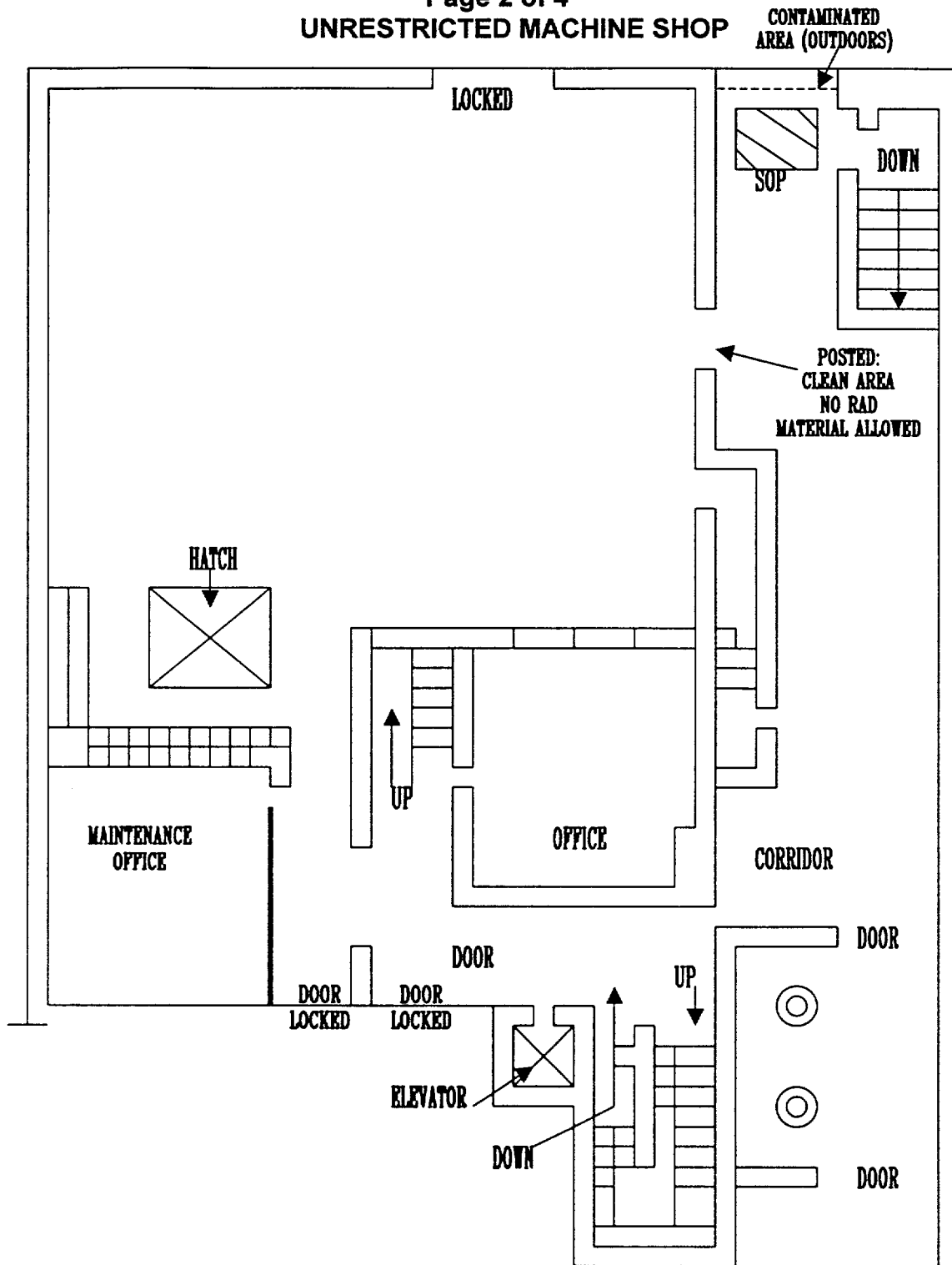


FIGURE 1 - 3
Page 3 of 4
137' S/RW "SOUTH END"

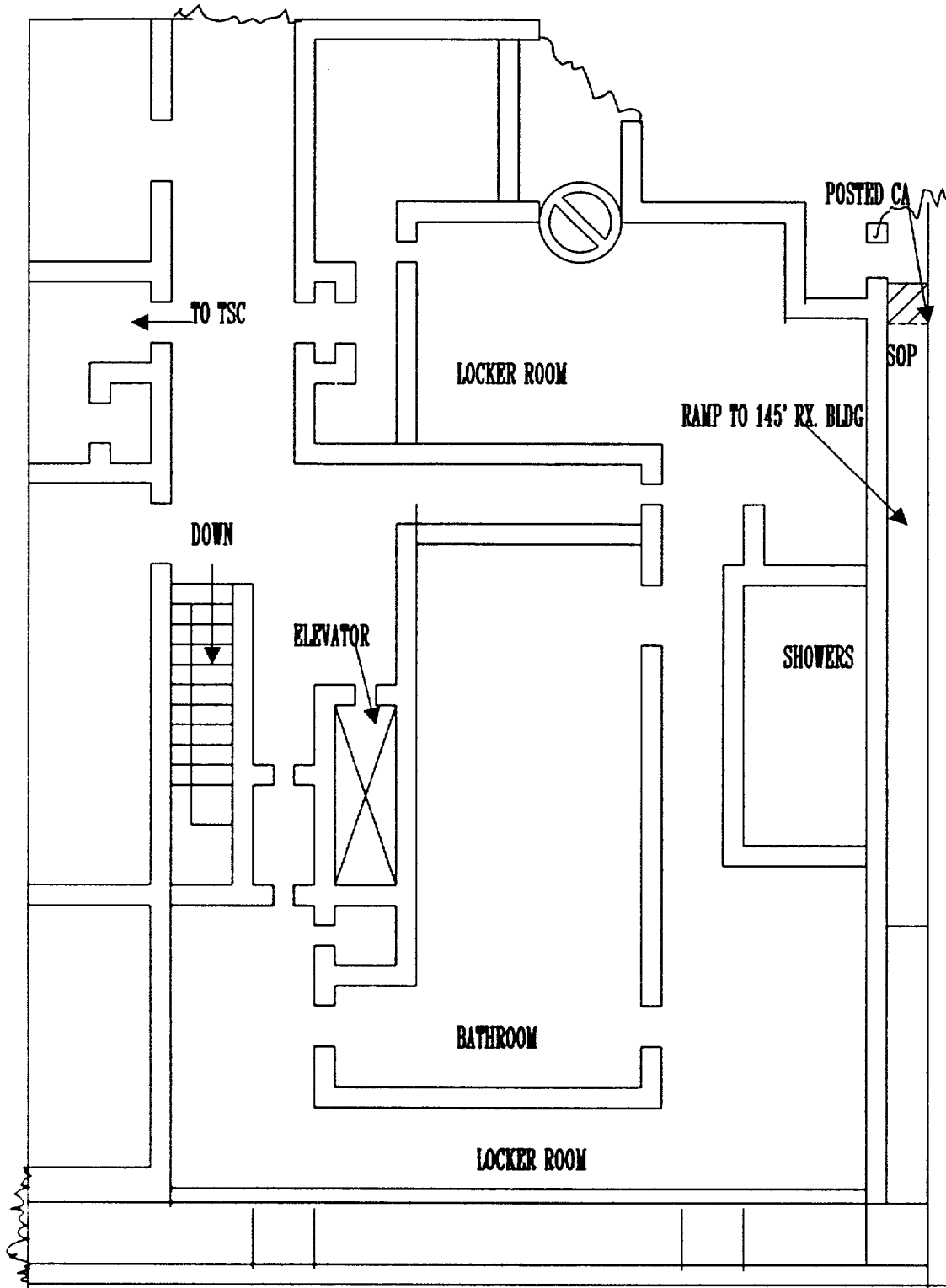


FIGURE 1 - 4
Page 4 of 4
RESTRICTED MACHINE SHOP

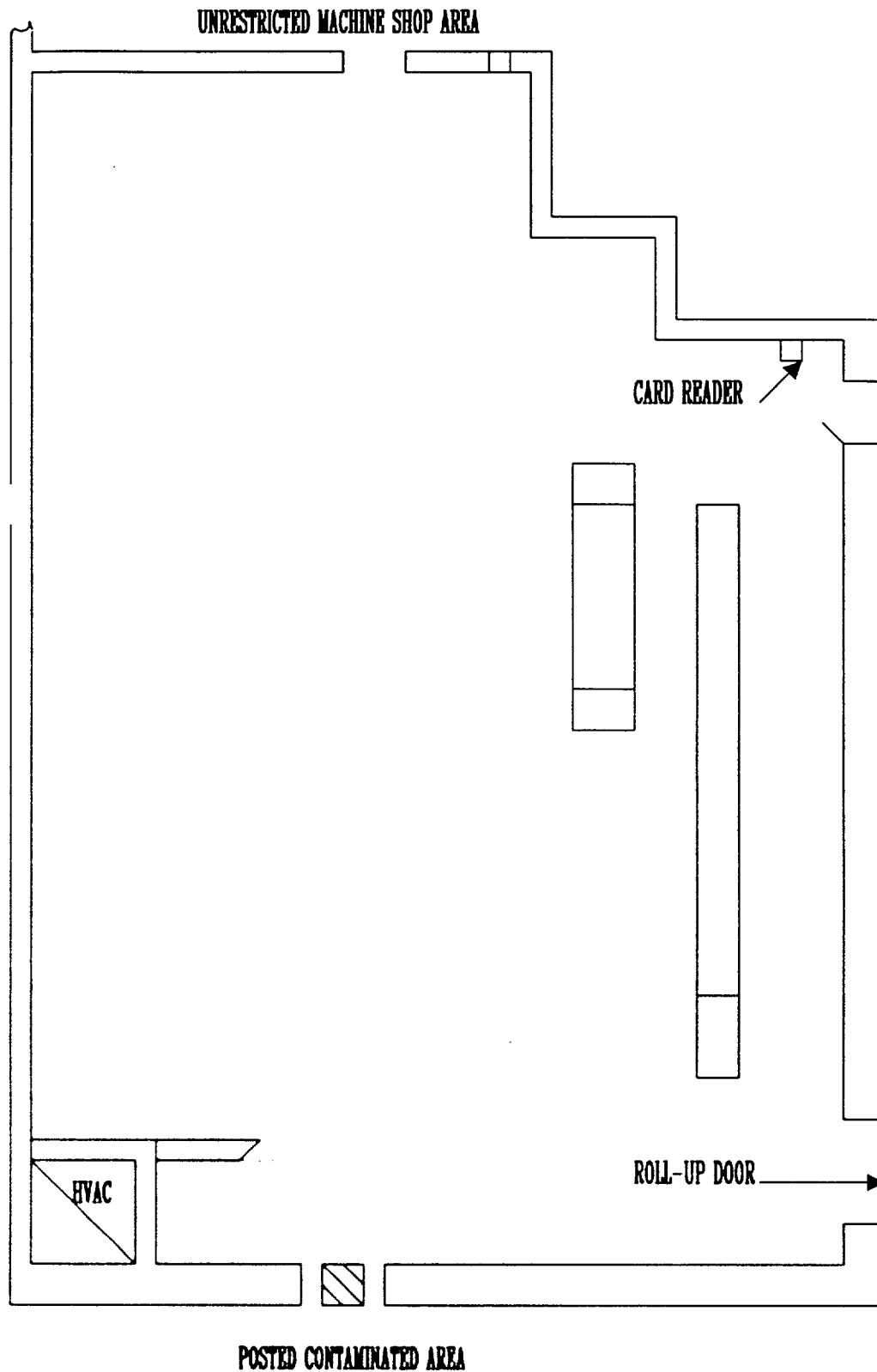
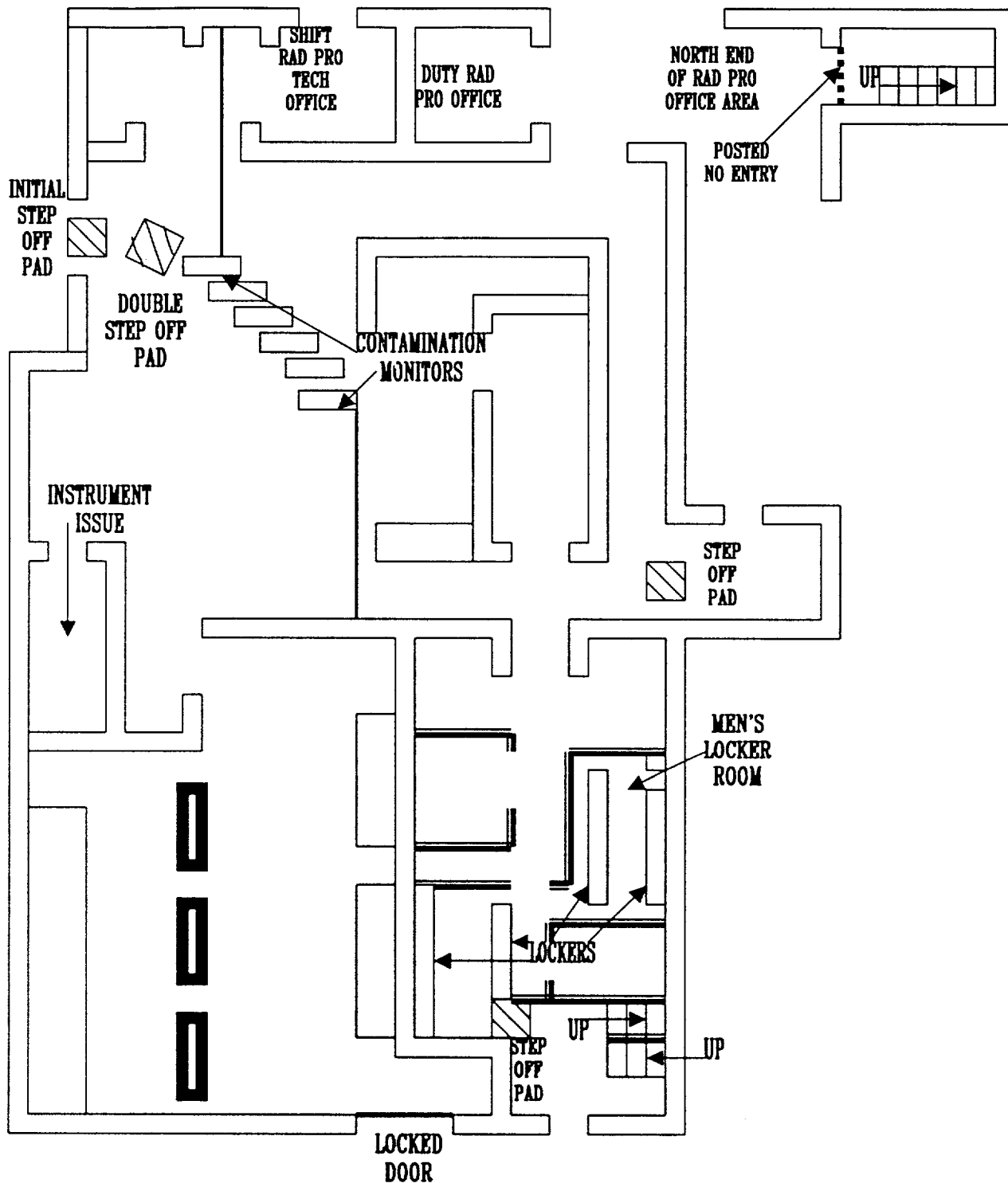


FIGURE 2 - 1

GUIDANCE FOR CONTAMINATION CONTROL (SALEM ONLY)

Page 1 of 1



OPERATIONAL SUPPORT CENTER (OSC) RADIATION PROTECTION RESPONSE

USE CATEGORY: II

REVISION SUMMARY:

1. This revision satisfies the requirement for a biennial review.
2. Added Attachment 6 (RMS Quick Reference).
3. Added Step 2.1.2 to the Prerequisites Section of this procedure that states, "All Onsite Emergency Response Organization members **MUST** have taken and PASSED Rad Worker Training/Rad Worker Requalification and have a TLD."
4. Deleted the TLD Log (formerly Form – 1) and all mention of giving out TLDs.
5. Renumbered Form – 2 to Form – 1, since Form – 1 was deleted.
6. Reworded and reformatted portions of Attachment 1 and added a form (Form – 2) to log in individual's dose information, if PRORAD cannot be used.

PSE&G

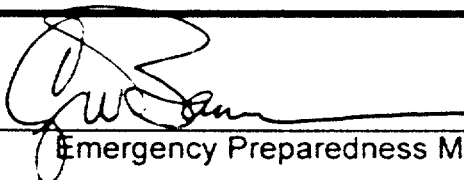
CONTROL

COPY # EPIR059

IMPLEMENTATION REQUIREMENTS

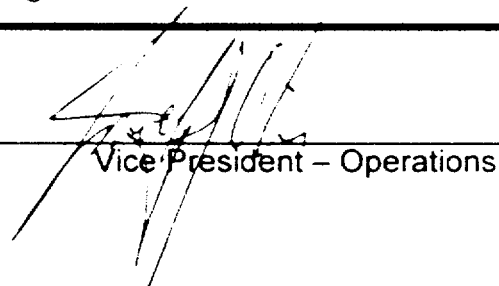
Implementation Date: 6/27/02

APPROVED: _____


Emergency Preparedness Manager

6/27/02
Date

APPROVED: _____


Vice President – Operations

6/27/02
Date

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1.0 **PURPOSE**

- 1.1 To outline and describe the duties Radiological Protection Supervisor – Exposure Control (RPS-EXP).
- 1.2 To provide guidance to emergency response personnel for administration of Radiation Protection Team Response for the Operational Support Center (OSC) during an emergency at Hope Creek or Salem Nuclear Generating Station.

2.0 **PREREQUISITES**

2.1 **Prerequisites To Be Followed Prior To Implementing This Procedure.**

- 2.1.1 Implement this procedure at:
 - The OS' discretion.
 - The manning of the OSC.
 - The declaration of an Alert.
- 2.1.2 All Onsite Emergency Response Organization members **MUST** have taken and PASSED Rad Worker Training/Rad Worker Reguification and have a TLD.
- 2.1.3 Personnel who implement this procedure shall be trained and qualified in accordance with (IAW) the Emergency Plan.

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precautions and Limitations To Be Followed Prior To Implementing This Procedure.**

3.1.1 **SALEM ONLY**

Dose Rates in the 78' Electrical Penetration Area could be higher than what is indicated on the R47 ARM. The R47 ARM is located across the room from the PASS lines.

CAUTION should be exercised when entering this area.

- 3.1.2 It is recommended that initials be used in the place-keeping sign-off, instead of checkmarks, if more than one person may implement this procedure.

4.0 **EQUIPMENT REQUIRED**

Equipment is provided In the Emergency Response Facility.

5.0 **PROCEDURE**

5.1 **The Radiation Protection Supervisor – Exposure Control Should Perform The Following:**

- 5.1.1 DIRECT habitability to be performed every 30 minutes and log the results on Form -1, Habitability Log. _____
- 5.1.2 COMPARE habitability results to Attachment 4, Onsite Protective Action Guidelines, and perform appropriate actions. _____
- 5.1.3 OBTAIN current status of the emergency from the OSCC. _____

NOTE

- An individual's yearly dose limit is automatically raised to 4500 mrem upon the declaration of an Alert or higher classification.
- The dose extension to 4500 mrem may be implemented in the PRORAD system. Attachment 1 has instructions on how to accomplish this task and return a person's dose limit to normal limits when appropriate.
- Dose Tracking may be performed using the PRORAD System instead of Attachment 1, Individual Radiation Exposure Record, if PRORAD is operational and the dose extension to 4500 mrem was implemented in the PRORAD system.
- No dose extension shall be allowed, if a person does not have a completed NRC Form 4 on record. The person's dose limit will be 400 mrem.

- 5.1.5 ENSURE 1.0 of Attachment 1 is completed for the onsite emergency response personnel assigned to the OSC/CP. _____
- 5.1.6 ENSURE control of Attachment 1 is maintained in order to expedite and provide a tracking mechanism for OSC/CP personnel activities and exposures. _____
- 5.1.7 NOTIFY the OSCC prior to any CP teams being sent out into the plant and ensure they are tracked on the OSC Team Status Board. _____

NOTE

An individual, in lieu of a team, may be dispatched by the OSCC. The individual should be in contact with the CP or OSC via some type of audio communications (page, radio, telephone, etc.) and should check-in every 15 or 30 minutes with the OSC or CP.

An individual should not be dispatched under the following circumstances:

- An individual's exposure is expected to exceed 1000 mrem External Dose Equivalent (EDE).
- The task would require entry into a "Harsh Environment Area", (i.e., steam atmosphere, a heat stress area, etc.).
- Acts of sabotage or suspected sabotage.

5.1.8 ENSURE all OSC and CP teams are made up of at least two people, unless a task meets the above note's criteria for dispatching an individual. _____

5.1.9 IF travel path dose rates, or dose rates at destination are ≥ 1000 mR/hr EDE,
THEN **COMPLETE** Attachment 2, ALARA Analysis Form. _____

5.1.10 IF travel path dose rates, or dose rates at destinations are ≤ 1000 mR/hr EDE,
THEN Attachment 2 does **NOT** have to be completed. _____

5.1.11 PROVIDE job status information to the Radiological Assessment Coordinator (RAC) concerning jobs, as thought appropriate. _____

NOTE

- Radiological briefings of teams should take place during pre-job briefing. Two separate briefings (pre-job and radiological) should not be the normal method of performing OSC pre-job briefings.
- No duplicate radiological briefings should take place at the Control Point prior to the OSC team entering the Radiological Control Area (RCA).
- Pre-job briefings should try to meet a goal of not lasting longer than 20 minutes. Circumstances may arise that make meeting this goal impossible, but the 20 minute target should be tried to be met.

5.1.11 BRIEF all OSC team members on appropriate radiological conditions. _____

5.1.13 DEBRIEF all teams and ensure 2.0 of Attachment 1 is completed. _____

5.1.14 OBTAIN plant status updates from the OSCC. _____

5.1.15 OBTAIN current RMS status from the most appropriate location listed below:

(HOPE CREEK ONLY)

- the VAX LA120 utilizing Attachment 5, Operation of the VAX LA120. _____
- Control Point personnel (RM-11). _____
- TSC Radiological Assessment personnel. _____

(SALEM ONLY)

- Shift Radiation Protection Technician (SRPT) _____
- Unit 2 RMS Computer _____
- TSC Radiological Assessment personnel. _____

NOTE

Noble Gas Offsite Dose Calculation Manual/Federal Limits for a Radiological Release are:

- **Hope Creek = 1.20E+04 uCi/Second**
- **Salem = 2.42E+05 uCi/Second**

5.1.16 ESTABLISH contamination controls (no eating, no drinking, no smoking, proper postings, setting up step off pads and friskers) when any of the following have occurred. _____

- A radiological release \geq Noble Gas Offsite Dose Calculation Manual/Federal Limits is in progress. _____
- The potential of a radiological release \geq Noble Gas Offsite Dose Calculation Manual/Federal Limits limit is in progress. _____

- Normal RCA boundaries have been breached. _____
- At the RAC's discretion. _____

5.1.17 IF conditions listed in Step 5.1.16 are met, THEN NOTIFY the RAC or SRPT of the changing conditions. _____

NOTE

It is part of the RAC's responsibilities to establish best routes in and out of the Owner Control Area, if Step 5.1.16 has been implemented.

HOPE CREEK ONLY

Movements of teams outside the Power Block should be coordinated with the RAC.

SALEM ONLY

Movements of teams in the Yard Area should be coordinated with the RAC.

5.1.18 COORDINATE with the OSCC and the RAC transportation of injured person(s) or person(s) receiving exposures of ≥ 5 rem acute EDE dose to appropriate medical facilities. _____

5.2 **Perform The Following Steps If Emergency Exposure Is Required:**

NOTE

- Voluntary consent, pre-job briefings, and EDO authorization for Life Saving Tasks, that require Emergency Exposure, should be done verbally prior to, or during, the OSC Team being dispatched.
- Attachment 3 should be completed as soon as possible, after the return of the OSC Life Saving Team's return.

5.2.1 IMPLEMENT Attachment 3, Selection and Authorization for Emergency Exposures. _____

6.0 **RECORDS**

Return completed procedure, original copies of Attachments to the Emergency Preparedness Manager.

7.0 **REFERENCES**

7.1 **References**

- 7.1.1 EPA 400-R-92-001: October 1991
- 7.1.2 Roger E. Linneman, M.D., Correspondence Dated November 24, 1993
- 7.1.3 10CFR20, Standards for Protection against Radiation, December 31, 1992.
- 7.1.4 Nuclear Business Unit Emergency Plan

7.2 **Cross References**

- 7.2.1 NC.EP-EP.ZZ-0302(Q), Radiological Assessment Coordinator Response
- 7.2.2 NC.EP-EP.ZZ-0301(Q), Shift Radiation Protection Response

7.3 **Closing Documents**

Closing Document-027Z (CD-027Z) NRC Inspection Item 354/85-44-01

ATTACHMENT 1

PAGE 1 OF 2

INDIVIDUAL RADIATION EXPOSURE RECORD

DATE/TIME: ____ - ____ - ____ / ____ : ____

1.0 INDIVIDUAL INFORMATION

Name: _____ Badge Number: _____

NOTE

Dose Tracking **SHOULD** be performed using the PRORAD System instead of Attachment 1, if PRORAD is operational and the dose extension to 4500 mrem was implemented in the PRORAD system.

1.1 PERFORM the following to implement the PRORAD dose extension to 4500 mrem:

1.1.2 CONTACT the Nuclear IT Network Operations to execute the SQL script titled "**Emergency Exposure Limits – Increase**" to raise Emergency Responder's dose limits to 4500 mRem in PRORAD.

The **NUCLEAR "IT" NETWORK OPERATIONS** PHONE NUMBERS are:

- **PRIMARY** PHONE NUMBER: DID x7008 [Located At Nuclear Administration Building (TB 2)]
- **SECONDARY** PHONE NUMBER: NETS x5009 (Located at EOF).

1.2 PERFORM the following to return dose limits to normal:

1.2.2 REQUEST the RAC's permission to contact the Nuclear IT Network Operations person to execute the SQL script titled "**Emergency Exposure Limits – Normal**" to return Emergency Responder's dose limits to normal in PRORAD upon termination of the emergency.

1.2.3 IF the RAC gives permission; CONTACT the Nuclear IT Network Operations person to execute the SQL script titled "**Emergency Exposure Limits – Normal**" to return Emergency Responder's dose limits to normal in PRORAD upon termination of the emergency using the phone numbers listed below:

The **NUCLEAR "IT" NETWORK OPERATIONS** PHONE NUMBERS

- **PRIMARY** PHONE NUMBER: DID x7008 [Located At Nuclear Administration Building (TB 2)]
- **SECONDARY** PHONE NUMBER: NETS x5009 (Located at EOF).

ATTACHMENT 1

PAGE 2 OF 2

2.0 OBTAIN the following information of all OSC Team Members, if PRORAD is not being used and log it on Form – 2, Individual's Current Yearly Dose.

- NAME
- BADGE NUMBER
- CURRENT YEARLY DOSE in (mRem)

2.1 Job Specific Information

Team Number	Dose Rec'd (mRem)	Yr. Remaining Dose (mRem)*	Initial When Entered into PRORAD

*Year Remaining Dose (mRem) = [(4500 mRem – Current Year Dose) – Dose Received]

ATTACHMENT 2

Page 1 of 2

ALARA ANALYSIS FORM

NOTE

Planned exposure to an individual that is projected to result in dose to an individual ≥ 4500 mrem(EDE) in this calendar year requires Emergency Exposure Authorization and needs to meet the criteria of accident mitigation or life saving tasks IAW Attachment 3.

1.0 Projected Dose Analysis:

1.1 Entry Route: _____

1.1.1 Time Required to reach job site: _____ (hours)

1.1.2 Dose Rate(s) in areas that need to be traversed: _____ (rem/hr)

1.1.3 Calculated Dose (individual dose): _____ (rem)
 $(1.1.1 * 1.1.2 = 1.1.3)$

1.2 Tasks to be Performed: _____

1.2.1 Time required to perform job: _____ (hours)

1.2.2 Dose rate in job areas: _____ (rem/hr)

1.2.3 Calculated Dose (individual dose): _____ (rem)
 $(1.2.1 * 1.2.2 = 1.2.3)$

1.3 Exit Routes: _____

1.3.1 Time Required to exit area: _____ (hours)

1.3.2 Dose Rate(s) in areas that need to be traversed: _____ (rem/hr)

1.3.3 Calculated Dose (individual dose): _____ (rem)
 $(1.3.1 * 1.3.2 = 1.3.3)$

1.4 Total Individual External Dose Equivalent: _____ (rem)
 $[(1.1.3 + 1.2.3 + 1.3.3 = 1.4) \text{ Total Individual EDE}]$

ATTACHMENT 2

Page 2 of 2

2.0 Team Briefing

2.1 Information Covered During Briefing: _____

2.2 Personnel Attending Briefing:

Name	Signature	Badge #	Name	Signature	Badge #

ATTACHMENT 3

Page 1 of 5

SELECTION AND AUTHORIZATION FOR EMERGENCY EXPOSURES

1.0 Effects Of Exposure To Radiation on the Human Body1.1 The Following Information Is Based on ACUTE EDE Exposure to Radiation.

RANGE	0 to 100 (rem)	100 to 200 (rem)	200 to 600 (rem)	600 to 1000 (rem)	1000 to 5000 (rem)	1000 to 5000 (rem)
Vomiting	None	5 to 50%	> 300 rem 100%	100%	100%	100%
Delay Time	-----	3 hr.	2 hr.	1 hr.	30 minutes	
Leading Organ	None	Bone Marrow			GI Tract	Central Nervous System
Characteristic Signs	None	Moderate leukopenia	Severe leukopenia, hemorrhage, infection, purpura, epilation at > 300 rem		Diarrhea, fever, electrolyte loss	Convulsions tremor, ataxia
Therapy	Reassurance	Blood Monitoring	Blood Transfusion Antibiotics	Marrow transplant? Growth factors?	Maintain electrolytes	Sedatives
Prognosis	Excellent	Excellent	Good	Guarded	Grave to Hopeless	
Incidence of Death	None	None	0 to 80%	80% to 90%	90 to 100%	

Leukopenia – drop in leukocyte (white blood cell) count.

Purpura – formation of small splotchy red or purple spots on the skin caused by rupture of a capillary with leakage of a small amount of blood under the skin layers.

Epilation – loss of hair. Will generally grow back within a month.

Ataxia – loss of muscular coordination.

2.0 GENERAL INFORMATIONLIFE SAVING EMERGENCY DOSE AUTHORIZATION:

- Voluntary consent, pre-job briefings, and EDO authorization that require Emergency Exposure for **LIFE SAVING TASKS** should be done verbally and can be performed during, the OSC Team being dispatched.
- This attachment (Attachment 3) should be completed as soon as possible, after the return of the OSC Life Saving Team's return.

ATTACHMENT 3**Page 2 of 5**

- Emergency Exposure should only be authorized by the Emergency Duty Officer (EDO) and cannot be delegated. The OS has this responsibility until the EDO assumes his responsibilities.
- EDO's Emergency Exposure authorization may be done via telephone.
- Emergency Exposure should be voluntary.
- Individual who do volunteer should:
 - ◆ Have attended and passed Radiation Worker Training
 - ◆ Be above age 45, if available, physically and technically qualified to perform the task.
 - ◆ Not have previously received Emergency Exposure.
- Emergency Exposure received should be added to the individual's current occupational radiation exposure history.
- An individual's exposure is not considered to be an Emergency Exposure if his or her total exposure for the year is ≤ 4.5 rem upon finishing an accident mitigation or life saving task and may still volunteer to receive Emergency Exposure.
- Declared pregnant women **SHALL NOT** be allowed to volunteer for Emergency Exposure.

3.0 EXPOSURE CRITERIA LIFE SAVING EMERGENCY

- Any and all actions necessary to preserve life, including, but not limited to:
 - ◆ Removal of injured personnel.
 - ◆ Providing medical treatment/first aid.
 - ◆ Providing ambulance service to injured personnel.
- Planned Emergency Exposure Limit (PEEL) for life saving is 75 rem EDE.

4.0 ACCIDENT MITIGATION EMERGENCY EXPOSURE CRITERIA

- Any and all actions necessary to mitigate an accident, including, but not limited to:
 - ◆ Performance of actions to prevent immediate deterioration of the plant status.

ATTACHMENT 3

Page 3 of 5

- ◆ Performance of actions to cause significant reduction of onsite or offsite radiological hazards.
- Planned Emergency Exposure Limit (PEEL) for accident mitigation is 25 rem EDE.

5.0 TEAM BRIEFING

Information Covered During Briefing: _____

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

ATTACHMENT 3

Page 4 of 5

6.0 VOLUNTARY CONSENT

I, the under signed, volunteer for Emergency Exposure:

PEEL (REM)	NAME	SIGNATURE	BADGE #

7.0 EMERGENCY EXPOSURE AUTHORIZATION

I hereby authorize the planned Emergency Exposure(s) for the individual(s) listed in Section 6 of (Voluntary Consent) of this Attachment.

Emergency Exposure Authorized by: (EDO) _____

DATE/TIME: ____ - ____ - ____ / ____: ____

ATTACHMENT 3

Page 5 of 5

8.0 ACTUAL EDE DOSE RECEIVED

Badge #	Name (Print)	Current Yr. Dose (REM)	Dose Received (REM)	Total Dose (REM)

Initial when entered into PRORAD: _____ DATE/TIME: ____-____-____/____:____

ATTACHMENT 4
Page 1 of 1
ONSITE PROTECTIVE ACTION GUIDELINES

1.0 RADIATION LEVELS

<u>Dose</u> <u>Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 100	Onsite	Evacuation of all nonessential personnel. Consider evacuation of other personnel.

<u>Dose</u> <u>Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 100	Control Room OSC TSC Control Point	Consider evacuation within one hour, and/or relocation as appropriate.

<u>Dose</u> <u>Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 1000	Onsite	Evacuation of all nonessential personnel Consider immediate evacuation of remaining personnel.

<u>Dose</u> <u>Rate (mR/hr)</u>	<u>Location</u>	<u>Action</u>
≥ 1000	Control Room OSC TSC Control Point	Consider immediate evacuation, and/or relocation upwind of the plume.

2.0 RADIOIODINE

If the Iodine-131 equivalent is calculated or measured in concentrations greater than or equal to 5.0×10^{-7} uCi/cc, consider the use of Potassium Iodide for thyroid blocking. This section is to be applied to areas, in which personnel are working or are planning to work. Refer to NC EP-EP.ZZ-0305(Q), Potassium Iodine (KI) Administration, for additional information.

ATTACHMENT 5

Page 1 of 3

OPERATION OF THE VAX LA120 TERMINAL

1.0 METEOROLOGICAL DATA1.1 Perform The Following to Obtain Current 15 Minute Average Meteorological Data:1.1.1 DEPRESS the **RETURN** key. (USERNAME should be displayed). _____1.1.2 TYPE **MET** and depress the **RETURN** key _____**NOTE**

The most current meteorological data should be printed out followed by the Main Meteorological Menu. If no other keys are depressed, the current 15 minute average data will be printed out every 15 minutes

1.1.3 ENTER **Option 1 (Display Current Meteorological Data)** and depress the **RETURN** key to receive the current 15 meteorological data print out. _____1.2 Perform The Following Steps to Obtain Archived Meteorological Data:1.2.1 DEPRESS the **RETURN** key. (USERNAME should be displayed) _____1.2.2 TYPE **MET** and depress the **RETURN** key. (The most current meteorological data should be printed out followed by the Main Meteorological Menu). _____1.2.3 ENTER **Option 2 (Display Meteorological Data From Data Base)** and depress the **RETURN** key. (Current system Date and Time will be displayed). _____1.2.4 IF this is the data you want, THEN depress the **RETURN** key. (Your option will be printed out). _____

1.2.5 IF you want data from an another date and time, THEN go to Step 1.2.6. _____

1.2.6 ENTER **START DATE and TIME** as shown below and depress the **RETURN** key. (For December 27, 1989 at 0130 enter 27-DEC-1989 "depress the space bar once" and enter 01:30). _____

ATTACHMENT 5

Page 2 of 3

- ENTER "Y" if the information is correct . _____
- ENTER "N" if the information is not correct and reenter it as shown in Step 1.2.6. _____

1.2.7 ENTER the **END DATE and TIME** as shown below and depress the **RETURN** key. (For December 28, 1989 at 0230 enter 28-DEC-1989 "depress the space bar once" and enter 02:30). _____

1.2.8 ENTER "Y" if the information is correct or "N" if the information is not correct and re-enter it as shown in Step 1.2.8. _____

2.0 RMS AND MET DATA (FOR HOPE CREEK ONLY)

4.1.1 2.1 Perform The Following Steps To Obtain Current Instantaneous

4.1.2 RMS And MET Data:

2.1.1 DEPRESS the **RETURN** key. (USERNAME should be displayed). _____

2.1.2 TYPE **EOF** and depress the **RETURN** key. (A prompt should be displayed asking for PASSWORD). _____

2.1.3 TYPE **EOFUSER** and depress the **RETURN** key. (EOF Plant Menu should be displayed.) _____

2.1.4 SELECT **Option 1** for Hope Creek. _____

2.1.5 DEPRESS the **RETURN** key. (The EOF Report Options Menu will be displayed). _____

2.1.6 ENTER **Option 1 (Current RMS Status)** and depress the **RETURN** key. (The most current instantaneous RMS and 15 minute MET data will be printed out.) _____

4.1.3 2.2 Perform The Following Steps To Obtain 15 Minute Average RMS Data:

2.2.1 DEPRESS the **RETURN** key. (USERNAME should be displayed). _____

2.2.2 TYPE **EOF** and depress the **RETURN** key. (A prompt should be displayed asking for PASSWORD). _____

2.2.3 TYPE **EOFUSER** and depress the **RETURN** key. (The EOF Plant Menu should be displayed). _____

ATTACHMENT 5

PAGE 3 OF 3

- 2.2.4 SELECT **Option 1** for Hope Creek. _____
- 2.2.5 DEPRESS the **RETURN** key. (The EOF Report Options Menu should be displayed). _____
- 2.2.6 SELECT and ENTER **Option 6 (15 Minute Historical Data)**.
(Current system date and time should be displayed. A prompt should be displayed for start date and time) _____
- 2.2.7 DEPRESS the **RETURN** key for 15 minute average RMS and MET data. (Your selection will be printed). _____

ATTACHMENT 6

Page 1 of 4

RMS QUICK REFERENCE

1.0 HOPE CREEKNOTE

All ARM's in the Reactor Building have **MAXIMUM RANGES** of $1.00\text{E}+04$ mR/hr, except for the Inner Tip Room Monitor (9RX699). The Inner Tip Room Monitor's **MAXIMUM RANGE** is $1.00\text{E}+07$ mR/hr.

DAPA A and DAPA B (9RX635 and 9RX636) are high range ARMs in the Drywell. DAPA "A" is approximately twice as high as DAPA B under normal operating conditions. During a LOCA in the Drywell the two monitors should start to trend closer together due to the atmospheric conditions in the Drywell affecting both monitors equally. Increases on both of these monitors while DAPA A's reading stays about twice of what DAPA B is reading, would be an indication of fuel damage.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+08$ R/hr.

Tip Room Inner ARM (9RX699) is located on 102' elevation of the Reactor Building inside the Tip Room. This monitor has the highest range of any ARM in the Reactor Building and could give an idea of what the dose rates in the Reactor Building are after the other ARMs peg out high.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+07$ mR/hr

Main Steam Line A - D monitors (9RX509-512) are four ARMs located in the ceiling of the Main Steam Tunnel. Increases in these monitors would be an indication of fuel damage. These monitors could increase due to shine from the Reactor Building, after a radiological release.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+06$ mR/hr

Safeguard Instrument Room Monitor (9RX704) is an ARM located on 77' elevation of the Reactor Building. An increase on this monitor when the reactor SCRAMs with fuel damage could be due to shine from the Torus.

Ranges: $1.00\text{E}-01$ to $1.00\text{E}+04$ mR/hr

ATTACHMENT 6

Page 2 of 4

FRVS Effluent monitor (9RX680) monitors what is going out the FRVS Plant Vent. Under normal operating conditions Reactor Building ventilation would vent through the South Plant Vent. Under accident conditions or when manually initiated, Reactor Building Ventilation isolates and the Reactor Building will vent through the FRVS. FRVS is always a ground release. Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+12$ uCi/Sec (THIS IS A GROUND RELEASE AT ALL TIMES).

North Plant Vent Effluent (NPV) monitor (9RX590) monitors Offgas and the chemistry lab fume hoods. NPV could be a ground or elevated release depending on the time of year and wind speed. Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+12$ uCi/Sec (THIS COULD BE A GROUND, ELEVATED, OR SPLIT WAKE RELEASE. A SPLIT WAKE RELEASE IS NOT A TRUE GROUND OR ELEVATED RELEASE).

South Plant Vent Effluent (SPV) monitor (9RX580) monitors Service Radwaste Building, Turbine Building and the Reactor Building (if FRVS hasn't been initiated). Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $1.00\text{E}+00$ to $1.00\text{E}+12$ uCi/Sec (THIS COULD BE A GROUND, ELEVATED, OR SPLIT WAKE RELEASE. A SPLIT WAKE RELEASE IS NOT A TRUE GROUND OR ELEVATED RELEASE).

Hardened Torus Vent Effluent (HTV) monitor (9RX518) would be used to vent the Drywell to relieve pressure. The path it would take would be through the Torus and take advantage of the scrubbing properties of the Torus water. Control Room operators would have to open a valve to use this release path. Sampling from the PASS Torus Gas Space should be performed to provide information as to what is being released. Values $\geq 1.20\text{E}+04$ uCi/Sec would be an indication that a radiological release is in progress.

Ranges: $0.00\text{E}+00$ to $2.09\text{E}+12$ uCi/Sec (THIS IS A GROUND RELEASE AT ALL TIMES).

2.0 SALEM RMS (UNIT 1 AND 2)

R2 is an Area Radiation Monitor (ARM) located in Containment on the 130' elevation.
Ranges: $1\text{E}-01$ to $1\text{E}+04$ mR/hr.

R7 is an ARM located in Containment on the 100' elevation, adjacent to the Seal Table Room.
Ranges: $1\text{E}-01$ to $1\text{E}+04$ mR/hr.

R10A is an ARM located in Containment on the 100' elevation next to the personnel airlock.
Ranges: $1\text{E}-01$ to $1\text{E}+04$ mR/hr.

ATTACHMENT 6

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R10B is an (ARM) located in Containment on the 130' elevation next to the personnel airlock.

Ranges: 1E-01 to 1E+04 mR/hr.

R16 Plant Vent Stack is located in the Plant Vent duct at 194' elevation and monitors what is going out the Plant Vent stack.

Ranges: 1E+01 to 1E+06 CPM

R34 is an ARM located in the Mechanical Penetration across from the 100' elevation Containment personnel Airlock.

Ranges: 1E-01 to 1E+06 mR/hr.

R44A is a High Range or Accident Area Radiation Monitor (HARM) located in Containment on the 130' elevation close to the personnel airlock.

Ranges: 1E+00 to 1E+07 R/hr.

R44B is a (HARM) located in Containment on the 100' elevation between the R10A and R7 ARMs.

Ranges: 1E+00 to 1E+07 R/hr.

R47 is an ARM located in the 78' Electrical Penetration. The PASS lines are located in the overhead. The skid and PASS lines may be the source of any increase in this area. This Penetration has its own ventilation flow path and will vent directly into the atmosphere. There is a potential for an unmonitored release from this Penetration.

Ranges: 1E-01 to 1E+07 mR/hr

NOTE

- All Emergency Grab Samples (Noble Gas, Iodine and Particulate) should be taken from the R45 Skid located in the R45 Shed.
- Only one of the following Effluent Monitors (R41A, R41B, R41C, R45B or R45C) readings should be used in MIDAS Manual Mode.

R41A is the Low Range Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 1E-07 to 1E-01 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

ATTACHMENT 6

Page 4 of 4

R41B is the Mid Range Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 1E-04 to 1E-02 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

R41C is the High Range Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 1E-01 to 1E+05 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

R41D is the Effluent Noble Gas Monitor and is located on the R41 Sample Skid on the 122' elevation of the Auxiliary Building next to the door to the stairs.

Ranges: 0E+00 to 1E+13 uCi/Sec

(The R41D values should not be used in MIDAS to perform manual dose assessment calculations) (THIS IS A GROUND RELEASE AT ALL TIMES).

R45B is the "Backup" Mid Range Noble Gas Monitor and is located in the R45 Shed behind the Fuel Handling Building. This monitor should not be used unless the R41 monitors are inoperable.

Ranges: 1E-03 uCi/cc to 1E+01 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

R45C is the "Backup" High Range Noble Gas Monitors and is located in the R45 Shed behind the Fuel Handling Building. This monitor should not be used unless the R41 monitors are inoperable.

Ranges: 1E-01 uCi/cc to 1E+05 uCi/cc (THIS IS A GROUND RELEASE AT ALL TIMES).

FORM - 1

Page 1 of 1

HABITABILITY LOG

DATE: / /

TIME	LOCATION	DOSE RATE (mR/hr)	CONTAMINATION (CPM)	INITIALS

IF other means are used to ensure habitability, THEN list: _____

PSE&G NUCLEAR BUSINESS UNIT

NC.EP-EP.ZZ-0305 (Q) - REV. 01

POTASSIUM IODIDE (KI) ADMINISTRATION

USE CATEGORY: II

PSE&G

CONTROL

COPY # EP10059

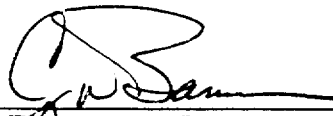
REVISION SUMMARY

1. Revised Attachment 1, Thyroid Committed Dose Rate vs. Iodine-131 Concentration, to remove the infant, child, and teen information from the graph.
2. Revised Attachment 2, Package Insert for Thyro-Block Tablets, to add additional precautions concerning taking KI.
3. This revision satisfies the requirement for a biennial review.

IMPLEMENTATION REQUIREMENTS

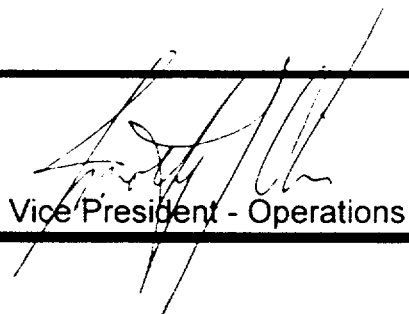
Procedure Implementation Date: 07/03/2002

APPROVED:


Emergency Preparedness Manager

6/24/02
Date

APPROVED:


Vice President - Operations

6/24/02
Date

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1.0 PURPOSE

This procedure provides guidance to emergency response personnel for administration of Potassium Iodide (KI) during an emergency at Hope Creek or Salem Nuclear Generating Stations.

2.0 PREREQUISITES

2.1 Prerequisites To Be Followed Prior To Implementing This Procedure

2.1.1 This procedure should be implemented by the Radiological Assessment Coordinator (RAC), or the Operations Superintendent (OS), if the RAC has not yet arrived.

2.1.2 Implement this procedure at:

- The discretion of the RAC, or the OS, if the RAC has not yet arrived.
- The discretion of the Radiological Support Manager (RSM), or the Operations Superintendent (OS) if the RSM has not yet arrived.
- When airborne I-131 levels are $\geq 5\text{E-}7$ uCi/cc.
- When a calculated dose of 10 Rem I-131 to the thyroid is likely to be received.

3.0 PRECAUTIONS AND LIMITATIONS

3.1 Precautions and Limitations To Be Followed Prior To Implementing This Procedure:

3.1.1 Administer KI to Emergency Response Personnel When:

- Airborne I-131 levels are $\geq 5\text{E-}7\mu\text{Ci/cc}$.
- A calculated dose of 10 Rem I-131 to the thyroid is likely to be received.
- When the RAC feels it is necessary.
- When the RSM feels it is necessary.

3.1.2 Authority to administer KI to **onsite** personnel shifts from the OS to the RAC, when the RAC assumes his/her duties.

3.1.3 The RSM assumes authority to administer KI to **offsite** personnel when the RSM assumes his/her duties.

- 3.1.4 Lack of available KI tablets should not prevent life-saving operations from being initiated.
- 3.1.5 KI may be taken up to four hours after an exposure and still provide a 50% reduction in dose received.
- 3.1.6 KI should be continued for ten days (one tablet per day), after KI is administered, radioiodine concentration is verified and/or calculated dose is determined.
- 3.1.7 The Medical Director must approve additional dosage.
- 3.1.8 It is recommended that initials be used in the place keeping sign-offs, instead of checkmarks, if more than one person may implement this procedure.
- 3.1.9 Personnel who implement this procedure shall be trained and qualified IAW the Emergency Plan.

4.0 **EQUIPMENT / MATERIAL REQUIRED**

Thyro-Block Tablets are supplied in the Emergency Response Facility equipment lockers and kits.

5.0 **PROCEDURE**

5.1 **Evaluate The Need For KI Use In The Following Manner:**

- 5.1.1 IF airborne I-131 levels are $\geq 5E-7\mu\text{Ci/cc}$, THEN the RAC or RSM should consider KI administration. _____
- 5.1.2 DETERMINE the Committed Dose Rate from the airborne I-131 cloud using Attachment 1, Thyroid Committed Dose Rate vs. Airborne Iodine-131 Concentration. _____

NOTE

KI is located in emergency equipment lockers in the Control Room, Control Point, TSC, and Onsite/Offsite Field Team Kits.

5.2 KI Issue And Documentation Should Be Performed In The Following Manner:

- 5.2.1 OBTAIN the KI tablets from emergency equipment lockers and kits. _____
- 5.2.2 ENSURE all personnel being administered KI read Attachment 2. Package Insert For Thyro-Block Tablets, prior to taking KI. _____
- 5.2.3 ENSURE all personnel being administered KI fill out and sign in appropriate area of page 1 of Form - 1, KI Side Effects/ Administration Sign Off Form, prior to taking KI. _____
- 5.2.4 ADMINISTER one KI tablet to each individual that could enter a high level of radioiodine concentration. _____
- 5.2.5 ENSURE Form – 1, page 2, is filled out after the administration of KI. _____
- 5.2.6 INFORM the Medical Department of individuals administered KI. _____

6.0 RECORDS

Return completed procedure, original copies of Forms to the EP Manager and forward or FAX copies of Form-1, page 2, to the Medical Department.

7.0 REFERENCES

7.1 References

- 7.1.1 Salem and Hope Creek UFSAR Section 13.3, Emergency Planning.
- 7.1.2 Federal Register, December 15, 1978: Potassium Iodide as a Thyroid Blocking Agent in a Radiation Emergency: Proposed Recommendation for Use.
- 7.1.3 Package Insert for THYRO-BLOCK TABLETS, IN-0472-01, Rev. 4/85, Wallace Laboratories, Division of Carter-Wallace, Inc; Cranbury, New Jersey 08512.
- 7.1.4 PSEG Nuclear Emergency Plan

7.2 Cross References

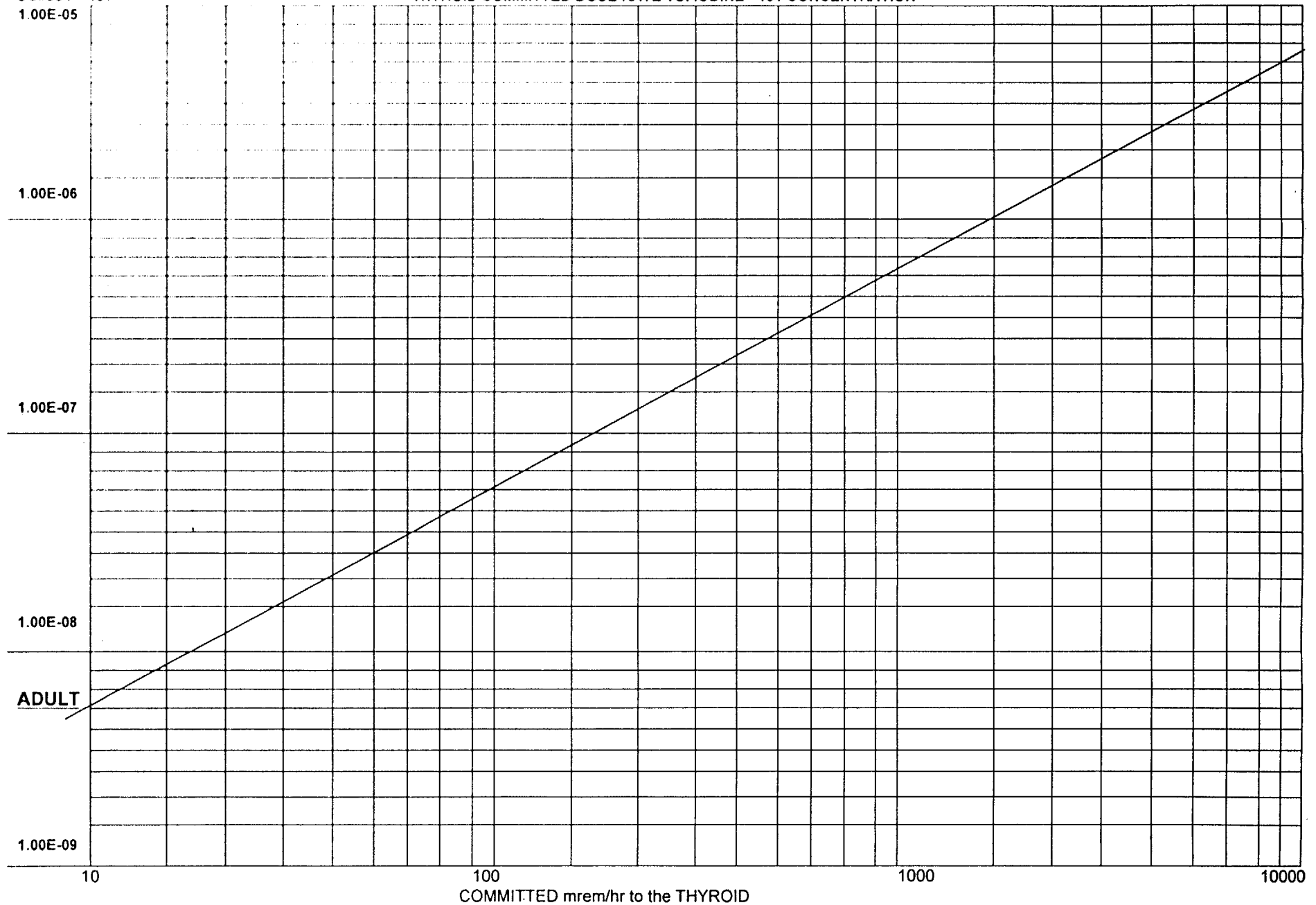
7.2.1 NC.EP-EP.ZZ-0301(Q), Shift radiation protection response

7.2.2 NC.EP-EP.ZZ-0302(Q). Radiological Assessment Coordinator Response

7.2.3 NC.EP-EP.ZZ-0310(Q), Radiation Protection Supervisor – Offsite and Field Monitoring Team Response

UCi/cc I - 131

THYROID COMMITTED DOSE RATE VS. IODINE - 131 CONCENTRATION



(This graph was generated using the I131 Dose Commitment Conversion Factor of approximately 2.0E+09 mR/hr/uci/cc for adult provided in the ODCM).

ATTACHMENT 2**PAGE 1 OF 2****PACKAGE INSERT FOR THYRO - BLOCK TABLETS****1.0 HOW POTASSIUM IODIDE WORKS**

- Certain forms of iodine help your thyroid gland function properly. Most people get the iodine they need from foods, and iodized salt. The thyroid can "store" or hold only a certain amount of iodine.
- In a radiological emergency, radioactive iodine may be released into the air. This material may be inhaled or ingested. It may enter the thyroid gland and cause damage. The damage would probably not be detected for years. Children are most sensitive to thyroid damage.
- If you take potassium iodide, it will fill your thyroid gland with non-radioactive iodine. The non-radioactive iodine acts as a blocking agent reducing the chance that harmful radioactive iodine will enter the thyroid gland.

2.0 WHO SHOULD NOT TAKE POTASSIUM IODIDE**NOTE**

You may take potassium iodide if you are taking medicine for a thyroid problem (for example, a thyroid hormone or anti-thyroid drug). Pregnant and nursing women, babies and children may also take potassium iodide.

2.1 People who should not take potassium iodide are:

- People who are allergic to iodine.
- People with kidney problems.
- Persons on certain high blood pressure medications (ACE Inhibitors).

3.0 HOW AND WHEN TO TAKE POTASSIUM IODIDE

- Potassium iodide should be taken as soon as possible after instructed by supervision. You should take one dose every 24 hours. More will not help you because the thyroid can "hold" only limited amounts of iodine. Larger doses will increase the risk of side effects. You will probably be told not to take the drug for more than ten days.

ATTACHMENT 2**PAGE 2 OF 2****4.0 SIDE EFFECTS**

- Usually, side effects of potassium iodide occur when people take higher doses for a long period of time. You should be careful not to take more than the recommended dose or take it for longer than instructed. Side effects are unlikely because of the low dose and the short time you will be taking the tablets.
- Possible side effects include skin rashes, swelling of the salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).
- A few people have an allergic reaction with more serious symptoms. Serious symptoms include fever and joint pains, or swelling of parts of the face and body, and at times severe shortness of breath requiring immediate medical attention.
- Taking potassium iodide rarely causes over activity of the thyroid gland, under activity of the thyroid gland or enlargement of the thyroid gland (goiter).

5.0 WHAT TO DO IF SIDE AFFECTS OCCUR

- If the side effects are severe or if you have an allergic reaction, stop taking potassium iodide and contact supervision.

FORM – 1

Page 1 of 2

KI SIDE EFFECTS/ADMINISTRATION SIGN - OFF FORM

AUTHORIZED BY: _____

ADMINISTERED BY: _____

My signature indicates that I have read and understand pages 1 and 2 of Attachment 2,
Package Insert For Thyroid-Block Tablets.

PRINT NAME	SOCIAL SEC. NO.	INDIVIDUAL'S SIGNATURE	DATE/TIME	COMMENTS

FORM – 1

Page 2 of 2

KI SIDE EFFECTS/ADMINISTRATION SIGN - OFF FORM

NAME OF INDIVIDUAL	SOCIAL SEC. NO.	KI DOSAGE	AUTHORIZED BY DATE/TIME	ADMINISTERED BY DATE/TIME	COMMENTS

PSE&G NUCLEAR BUSINESS UNIT

NC.EP-EP.ZZ-0307 (Q) - REV. 02

PLANT VENT SAMPLING

PSE&G
CONTROL

USE CATEGORY: II

COPY # EPD009

REVISION SUMMARY:

1. Revised the note prior to step 5.1 to clarify the priority and reason for performing the R45 grab sample and SA-16 sample.
2. Revised the order of the R45 Grab Sample and the SA-16 Sample sections to put the R45 Grab Sample section (5.1) first.
3. Enlarged the font and underlined 10 R/hr in the caution after step 5.2.32. Also rewrote one line for better clarity.
4. Attachments 1 and 2 were drawn by CAD and had to be added to the procedure. Redrew Attachments 1 and 2 in this revision of the procedure, so the drawings would be contained in the body of the procedure.
5. This revision satisfies the requirement for a biennial review.

IMPLEMENTATION REQUIREMENTS

Implementation Date: 07/03/2002

APPROVED: _____


Emergency Preparedness Manager

6/27/02
Date

APPROVED: _____

N/A
Vice President - Operations

N/A
Date

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1.0 **PURPOSE**

This procedure provides guidance to emergency response personnel for sampling the Plant Vent.

2.0 **PREREQUISITES**

2.1 **Prerequisites to be followed prior to implementing this procedure.**

Implement this procedure at the discretion of:

- The Operations Superintendent (OS).
- Radiation Protection Supervisor (RPS)
- The Radiological Assessment Coordinator (RAC)

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precautions and Limitations to be followed prior to implementing this procedure:**

- 3.1.1 It is recommended that initials be used in the place-keeping sign-off, instead of checkmarks, if more than one person may implement this procedure.
- 3.1.2 Personnel who implement this procedure shall be trained and qualified in accordance with (IAW) the Emergency Plan.
- 3.1.3 Steps listed in this procedure may be performed in the order deemed appropriate for the emergency situations. Only steps applicable to the specific emergency need be performed.

4.0 **EQUIPMENT REQUIRED**

As provided in the Emergency Response Facilities (Control Point (CP), Technical Support Center (TSC), Control Room (CR), & Operational support Center (OSC).

5.0 **PROCEDURE**

NOTE

Refer to HC.RP-TI.SP-0002(Q), Operation of the FRVSV Skid, to perform sampling of the FRVS skid. The remainder of this procedure is not applicable to the Hope Creek Nuclear Generating Station.

CAUTION

- Good ALARA and contamination control practices should be used in all aspects of sampling and transporting of sample to its designation.
- The R-45 Sampling Skid Team should secure sampling, leave the R-45 Shed, and contact Radiation Protection Supervision (RPS), if the general area dose rate is, or becomes, 10R/hr in the R45 Shed.

NOTE

- The R45 Plant Vent Grab Sample should be taken when the R41B or R41C is in operation and when isotopic sample results are needed for performing an isotopic dose assessment (MIDAS) calculation. Refer to Section 5.1 for instructions concerning performing this type of sampling.
- The SA-16 Plant Vent Sample should be taken when the total amount of a radiological release is required. This type of a sample should be taken at the end of a radiological release. Refer to Section 5.2 for instructions concerning performing this type of sampling.
- The SA-16 sample holder is a small, shielded cask attached to the Grab Sample Pallet by quick disconnections. See Attachment 1, Figure 2, R-45 Pallet Assembly, for further clarification.

5.1 **Perform The Following Steps To Obtain A R45 Grab Sample:**

- 5.1.1 OBTAIN a Working Copy of NC.EP-EP.ZZ-0307(Q) Plant Vent Sampling.

- 5.1.2 OBTAIN the R-45 Grab Sampling Rig from the Emergency Locker at the Control Point. _____
- 5.1.3 PREPARE the R-45 Grab Sampling Rig for Sample Collection IAW Attachment 1 (Sampling Rig), R-45 Skid. Ensure that the filter holder contains both a particulate and Silver Zeolite Cartridge. _____
- 5.1.4 OPEN the Petcocks on the Johnson Bomb, (J-Bomb). _____
- 5.1.5 LOCATE the appropriate R-45 Shed by referring to Attachment 2, R-45 Shed Location map. _____
- 5.1.6 ENTER the appropriate R-45 Shed through the front door. _____
- 5.1.7 VERIFY there is an indication of flow at the skid by referring to the flow rate rotameter located immediately to the lower right of the front door. _____
- 5.1.8 IF the the rotameter is not reading approximately 6 liters/minute, THEN exit the R-45 Shed and contact RP Supervision. _____
- 5.1.9 VERIFY the Purge Valve V2 is CLOSED and the Sample Inlet Valve V1 is OPEN. _____
- 5.1.10 LOCATE the appropriate R-45 Grab Sample Apparatus and equipment items by referring to Attachment 1. _____
- 5.1.11 CONNECT the R-45 Grab Sampling Rig to the Pallet. _____
- 5.1.12 OPEN fully the Valves V7 and V8. _____
- 5.1.13 CLOSE Valve V6. _____
- 5.1.14 ADJUST the flow regulating valve on the R-45 Grab Sampling Rig to obtain a sample flow rate of 800 cc/minute for 2 minutes. _____
- 5.1.15 RECORD the following information on ATTACHMENT 3, Sample Data Sheet, Section II:
- Start Date _____
 - Start Time _____
 - Start Flow Rate _____

- 5.1.16 CLOSE the J-Bomb Petcocks. _____
- 5.1.17 OPEN Valve V6. _____
- 5.1.18 CLOSE Valves V7 and V8. _____
- 5.1.19 DISCONNECT the R-45 Grab Sampling Rig from the R-45 Sample Skid. _____
- 5.1.20 RECORD the following information on ATTACHMENT 3, Section II:
- End Date _____
 - End Time _____
 - End Flow Rate _____
 - Contact and 30 cm Dose Rate on the J-Bomb and Silver Zeolite Cartridge. _____
 - Sample Storage Location (if applicable) _____
 - Air Sample Number (when known) _____
 - Who Collected the Sample _____
- 5.1.21 NOTIFY the RAC the R-45 Grab Samples have been taken. _____
- 5.1.22 INFORM RPS of the contact and 30 cm dose rates on the J-Bomb and Silver Zeolite Cartridge. _____
- 5.1.23 ASK RAC where to take the R-45 Grab Samples and record this information on ATTACHMENT 3, Section II. _____

NOTE

Lead blankets or some type of shield container should be considered to transport the R-45 Grab Samples, if the contact dose rate is 100 mR/hr or greater.

- 5.1.24 TRANSPORT the R-45 Grab Samples to their destination. _____
- 5.1.25 COMPLETE Attachment 3, Section II. _____
- 5.1.26 DELIVER Attachment 3 to the Count Room or appropriate location where the sample has been delivered. _____

- 5.1.27 IF the sample was delivered to another location other than the Count Room, THEN deliver Attachment 3 to the RAC., if the Sample was transported to another location, for retention and review.

5.2 Perform The Following to Obtain a SA-16 Sample:

- 5.2.1 OBTAIN a working Copy of NC.EP-EP.ZZ-0307(Q), Plant Vent Sampling and the replacement SA-16 Assembly located in the CP Emergency Locker. Ensure the Assembly has a Silver Zeolite Iodine Cartridge and a Particulate Filter in the holder.
- 5.2.2 REFER to Attachment 2, R-45 Shed Location Map, for location of the appropriate R-45 Shed.
- 5.2.3 TRANSPORT the SA-16 Sampling Assembly to the appropriate R-45 Shed.
- 5.2.4 ENTER the R-45 Shed using the front door. To the right for Unit 1, left for Unit 2, is the Local Data Acquisition Module 4 (DAM-4).

NOTE

The SA-16 Sample Assembly may be purged from the Control Room IAW SA.EP-EP.ZZ-0301(Q), Shift Radiation Protection Technician Response, Attachment 5, Operating Instructions for the R-45 Control Terminal.

- 5.2.5 LOCATE SA-16 skid equipment by referring to Attachment 1, R-45 Skid (Pallet Assembly), as necessary.
- 5.2.6 LOCATE the SA-16 Flow Indicator on the R-45 Sample Pallet and document the Flow Rate on Attachment 3, Section II.
- 5.2.7 PURGE the SA-16 Sample Assembly by depressing the FLUSH button located on the DAM-4 and document the Date and Time on Attachment 3, Section I.
- 5.2.8 VERIFY the V2 Valve is OPEN and the V1 Valve is CLOSED by observing the indicator lights on the R-45 Pallet.
- 5.2.9 FLUSH the SA-16 Sample Assembly for approximately one minute prior to changing out the Sample Assembly.

- 5.2.10 BRING in the replacement SA-16 Sample Assembly through the front door for Unit 1 and the side R-45 Shed door for Unit 2. _____
- 5.2.11 REMOVE the SA-16 Sample Assembly from the cart. _____
- 5.2.12 CLOSE the V4 and V5 valves. This should stop the airflow through the SA-16 Sample Assembly. _____
- 5.2.13 DISCONNECT the coaxial cable from the GM tube. _____
- 5.2.14 DISCONNECT the sample lines from the SA-16 by pulling the body of the quick disconnect Fittings away from the SA-16 Sample Assembly. _____
- 5.2.15 RELEASE the SA-16 Sample Assembly from the Pallet by lifting the lever portion of the four toggle clamps. _____
- 5.2.16 REMOVE the SA-16 Sample Assembly from the pallet and place it on the SA-16 Sample Assembly transportation cart. _____
- 5.2.17 PLACE the replacement SA-16 Sample Assembly on the pallet. _____
- 5.2.18 CONNECT the SA-16 Sample Assembly to the Pallet by pushing the lever portion of the four toggle clamps down until they lock in place. _____
- 5.2.19 RECONNECT the sample lines to the SA-16 Sample Assembly by pushing quickly disconnect fittings toward the SA-16 Sample Assembly. _____
- 5.2.20 RECONNECT the coaxial cable to the GM tube. _____
- 5.2.21 OPEN the V4 and V5 Valves. This should start the airflow through the SA-16 Sample Assembly. _____
- 5.2.22 DEPRESS the FLUSH button to stop the purging. _____
- 5.2.23 VERIFY Valve V1 is OPEN and Valve V2 is CLOSED by observing the indicator lights on the pallet. _____
- 5.2.24 CONFIRM the flow rate on the SA-16 Flow Indicator is 100 cc/minute. Adjust the Flow Indicator to 100 cc/minute if this is not the case. _____

5.2.25 RECORD the following information on Attachment 3, Section I:

- A. FLUSH OFF DATE _____
- B. FLUSH OFF Time _____
- C. FLUSH OFF Flow Rate _____
- D. Contact Dose Rate on SA-16 Sample Assembly that has
been removed from the pallet. _____
- E. 30 cm Dose Rate on SA-16 Sample Assembly that has
been removed from the pallet. _____

5.2.26 NOTIFY the RAC the SA-16 Sample Assembly has been
changed out. _____

5.2.27 INFORM RPS of the contact and 30-cm dose rates on the
Sample Assembly. _____

5.2.28 REQUEST the RAC where to take the SA-16 Sample Assembly
and record this information on Attachment 3, Section II. _____

NOTE

Use of lead blankets placed on the SA-16 Sample Assembly should be considered, prior to transporting the Sample Assembly, if the contact dose rate is greater than 100 mR/hr.

5.2.29 TRANSPORT the SA-16 Sample Assembly to it's destination. _____

5.2.30 COMPLETE Attachment 3, Section I. _____

5.2.31 DELIVER Attachment 3 to the Count Room, if the sample was
transported there. _____

5.2.32 DELIVER Attachment 3 to RAC, if the Sample was transported to
another location, for retention and review as needed. _____

CAUTION

The R-45 Skid Sampling Team should secure sample collection, leave the R-45 Shed, and contact RPS if the dose rate is or becomes greater than **10 R/hr (GENERAL AREA)**, in the R-45 Shed.

6.0 RECORDS

Return completed procedure, original copies of Sample Data Sheet to the Emergency Preparedness Manager.

7.0 REFERENCES

7.1 References

None

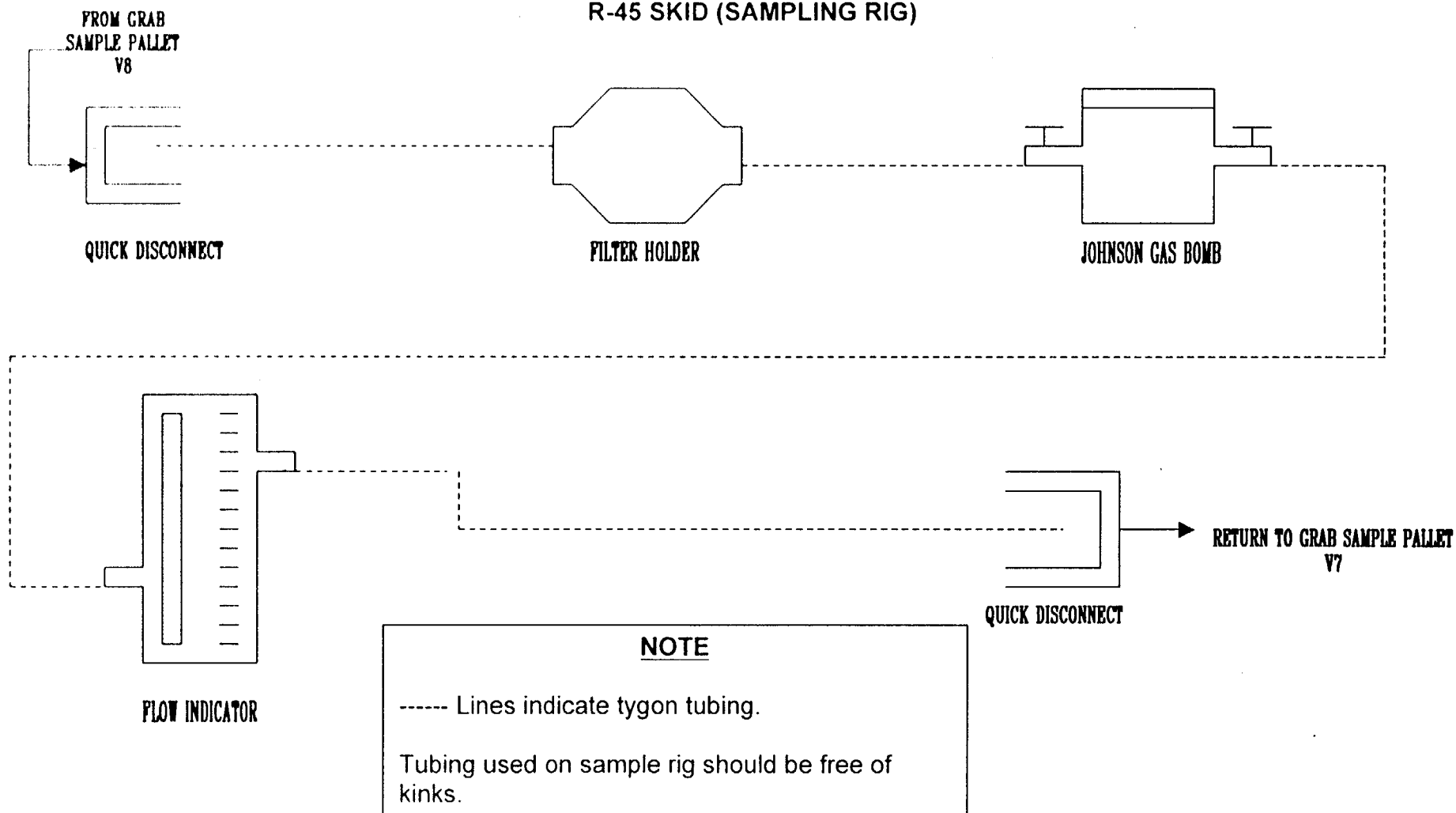
7.2 Cross References

PSEG Nuclear Emergency Plan

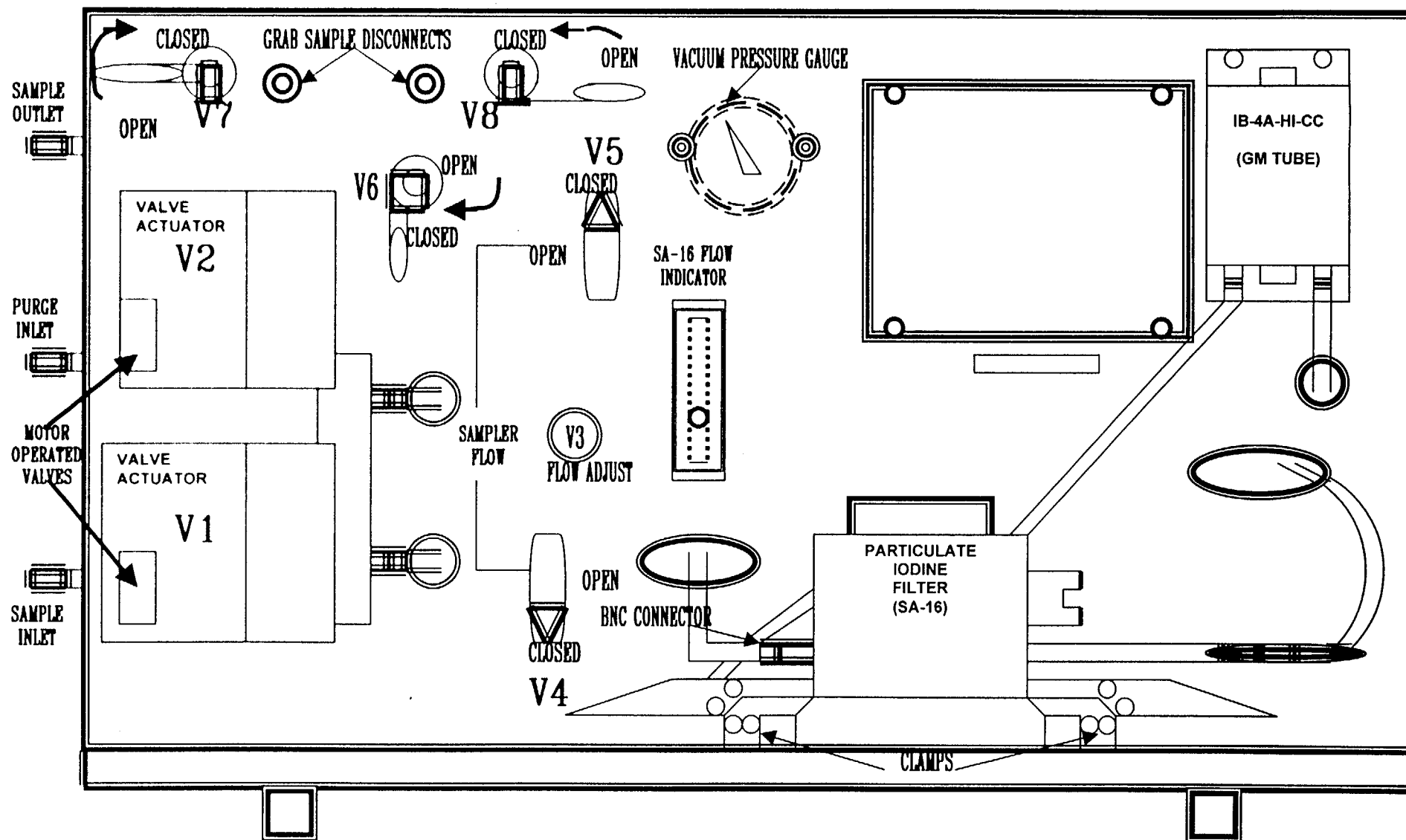
ATTACHMENT 1

PAGE 1 OF 2

R-45 SKID (SAMPLING RIG)



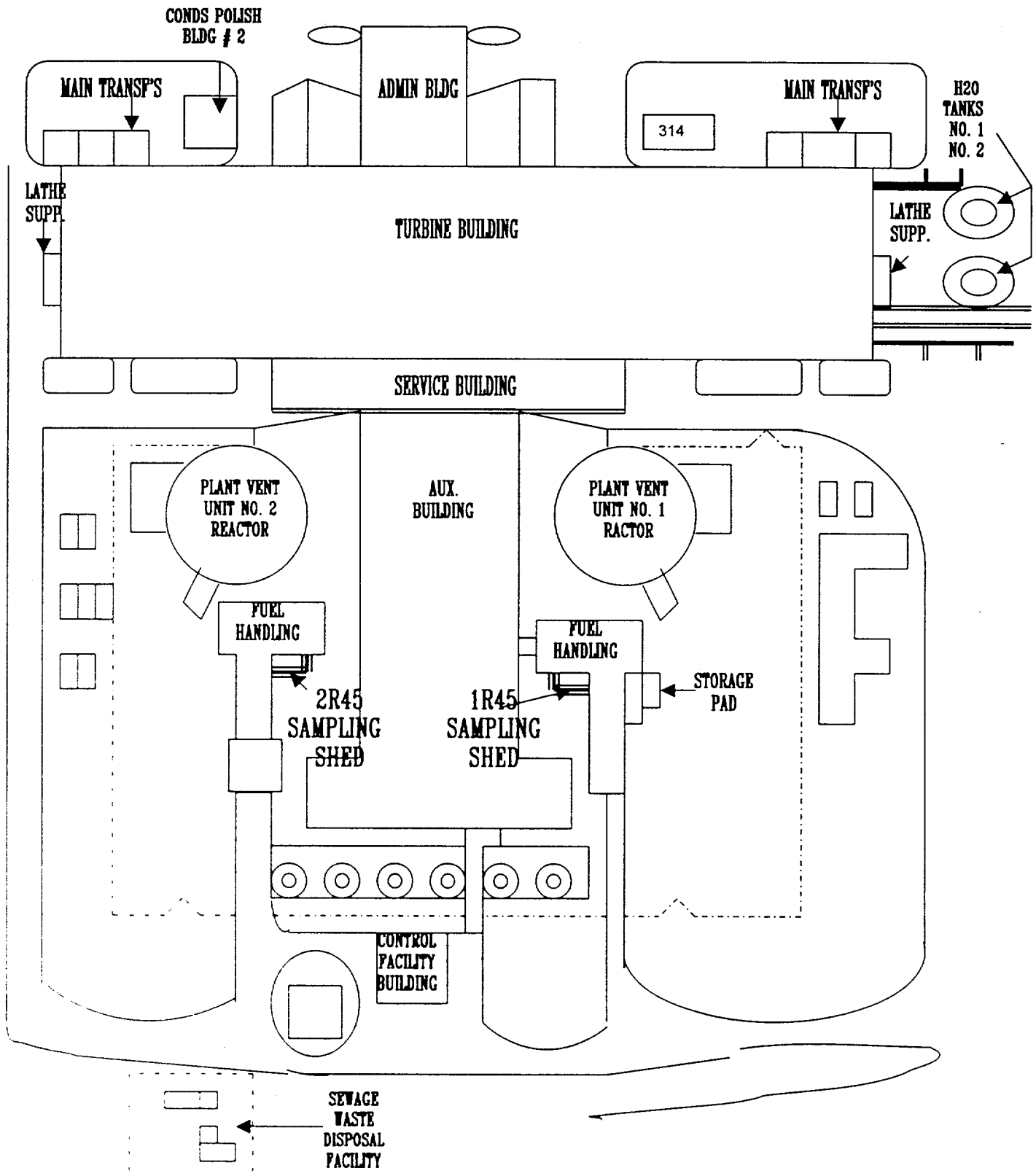
ATTACHMENT 1
PAGE 2 OF 2
(PALLET ASSEMBLY)



ATTACHMENT 2

PAGE 1 OF 1

R-45 SHED LOCATION MAP



ATTACHMENT 3

PAGE 1 OF 1

SAMPLE DATA SHEET

SECTION I: R-45 GRAB SAMPLE:**A. START SAMPLING**

1. Time: _____

2. Date: _____

3. *Flow Rate: _____ cc/min.

4. Contact Dose Rate (J-Bomb): _____ mR/hr

5. 30 cm Dose Rate (J-Bomb): _____ mR/hr

6. Contact Dose Rate (Cartridge): _____ mR/hr

7. 30 cm Dose Rate (Cartridge): _____ mR/hr

8. Sample Storage Location (J-Bomb): _____ Date/Time: _____ / _____

9. Sample Storage Location (Cartridge): _____ Date/Time: _____ / _____

10. Sample Collected By: _____

11. Air Sample Number: _____

B. STOP SAMPLING

1. Time: _____

2. Date: _____

3. **Flow Rate: _____ cc/min.

SECTION II: SA-16 GRAB SAMPLE:**A. FLUSH START**

1. Time: _____

2. Date: ____ - ____ - ____

3. *Flow Rate: _____ cc/min.

4. Contact Dose Rate: _____ mR/hr

5. 30 cm Dose Rate: _____ mR/hr

6. Sample Storage Location: _____

7. Date/Time ____ - ____ - ____ / ____ : ____ 8. Sample Collected By: _____

Air Sample Number _____

B. FLUSH STOP

1. Time: _____

2. Date: ____ / ____ / ____

3. **Flow Rate: _____ cc/min.

*Flow Rate should be taken prior to FLUSHING SA-16 Sample Assembly.

**Flow Rate should be taken after FLUSHING SA-16 Sample Assembly.

DOSE ASSESSMENT (MIDAS) INSTRUCTIONS

USE CATEGORY: **II**

PSE&G

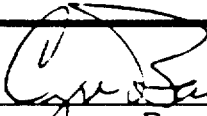
CONTROL

COPY # EPIR059REVISION SUMMARY:

1. This revision satisfies the requirement for a biennial review.
2. The following editorial and typographical corrections were made during revision of this procedure:
 - Corrected page number in Table Of Contents.
 - Changed confusing title of Section 5.2 by deleting the \geq .
 - Add a new step 5.7.10 to clarification old step and changed all steps and references to steps in that section of the procedure accordingly.
 - Corrected typo on page 20 (UNIT, not UNT).
 - Added (lbs/hr. for MSL) to step 5.6.26.
 - Removed the letter "p" from Temp in step 5.7.32, M to match what is on the MIDAS screen.
 - Clarified the operation to print a plume map in section 5.8.

IMPLEMENTATION REQUIREMENTSProcedure Implementation Date: 07/03/2012

APPROVED: _____


Emergency Preparedness Manager6-27-12
Date

APPROVED: _____

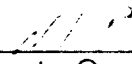

Vice President - Operations1/1/12
Date

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1.0 **PURPOSE**

This procedure provides guidance and operating instructions concerning performing basic dose assessment using the dose assessment program MIDAS.

2.0 **PREREQUISITES**

2.1 **Prerequisites to be Followed Prior to Implementing This Procedure**

Implement this procedure:

- Upon the declaration of an Unusual Event or higher emergency classification.
- At the request of the Operation Superintendent (OS).
- At the request of the Emergency Duty Officer (EDO).
- At the request of the Radiation Protection Duty Supervisor (RPDS) or Shift Radiation Protection Technician (SRPT).
- IAW HC.RP-AR.SP-0001(Q), Radiation Monitoring System Gaseous Monitor Alarm Response.

3.0 **PRECAUTIONS AND LIMITATIONS**

3.1 **Precautions and Limitations to be Followed Prior to Implementing this Procedure:**

- 3.1.1 **Sections/Steps in this procedure may be performed in the order deemed appropriate for the emergency situation. Only Sections/Steps that are applicable to the specific MIDAS dose assessment mode of operation that is being performed need to be followed.**
- 3.1.2 It is recommended that initials be used in the place keeping sign-offs, instead of checkmarks, if more than one person may implement this procedure.

3.1.3 This procedure is limited to performance of basic dose assessment calculations (Automatic Mode, Manual Mode, and Isotopic Mode)

3.1.4 Personnel who implement this procedure shall be trained and qualified IAW the Emergency Plan.

4.0 **EQUIPMENT REQUIRED**

Necessary equipment is provided in the Emergency Response Facilities.

5.0 PROCEDURE

NOTE

- Dose Assessment should be performed using 10 or 15-minute average RMS and Meteorological data, unless circumstances in Section 5.2 are met.
- Attachment 1, Operating Instructions for the VAX LA120 Terminal, should be referred to for directions on operating the VAX LA120.
- Attachment 2, Operating Instructions for Salem SPDS Radiological Screens, should be referred to for directions concerning operating the SPDS radiological screens, including the RM and RML Screens.

5.1 Sign-on Instructions For MIDAS

- 5.1.1 DEPRESS the **POWER** button. (The Microsoft Windows NT Screen will appear with a Begin Logon box displayed. The command inside the box will read, Press Ctrl + Alt + Delete to logon). _____
- 5.1.2 DEPRESS the **Ctrl, Alt, Delete** keys simultaneously. (The Logon Information box will be displayed with lines to enter User name and Password). _____
- 5.1.3 INPUT **midas** into the User name line. _____
- 5.1.4 INPUT **midas** into the Password line and depress the **RETURN** key. _____
- 5.1.5 POSITION the cursor on the **Midas** Icon and click the mouse twice. (The MIDAS unit selection screen will be displayed). _____
- 5.1.6 POSITION the mouse cursor + over the box of your selection (**Hope Creek, Salem Unit 1, or Salem Unit 2**) and click the mouse once. (Your selection will become highlighted). _____
- 5.1.7 POSITION the cursor over the **CONFIRM** box and click the mouse once. (The Function Selection screen will appear). _____

5.1.8 SELECT the appropriate Section for type of dose assessment mode from list below:

- Refer to **Section 5.2** to perform Dose Assessment **When Plant Vent Effluent Monitors Increase By A Factor of > 10.** _____
- Refer to **Section 5.3** for guidance concerning **Preplanned Alternate Methods** to perform Dose Assessment. _____
- Refer to **Section 5.4** for **Common MIDAS Commands:**
 - **Change Date and/or Time.** _____
 - **Exit MIDAS Utilizing CTRL, ALT, DELETE Keys.** _____
 - **Print a Screen, Report, Map, or an additional SSCL.** _____
- Refer to **Section 5.5** to perform Dose Assessment in **Automatic Mode.** _____
- Refer to **Section 5.6** to perform Dose Assessment in **Manual Mode.** _____
- Refer to **Section 5.7** to perform Dose Assessment in **Isotopic Mode.** _____
- Refer to **Section 5.8** to perform **Manipulate Maps Screens and Print Out a Map.** _____
- Refer to **Attachment 1** for **Operating Instructions for the VAX LA120 Terminal.** _____
- Refer to **Attachment 2** for **Operating Instructions for SALEM SPDS Radiological Screens.** _____

5.2 **Performance of Dose Assessment When Plant Vent Effluent Monitors Increase by a Factor of Greater Than Or Equal to 10:**

NOTE

Salem and Hope Creek Plant Vent Effluent Monitors are:

- **SALEM PLANT VENT EFFLUENT MONITORS**
 - ◆ Unit 1 or 2 R41 A, B, C
 - ◆ Unit 1 or 2 R45 B, C
- **HOPE CREEK PLANT VENT EFFLUENT MONITORS**
 - ◆ SPV – 9RX606, 9RX607, 9RX581
 - ◆ NPV – 9RX602, 9RX603, 9RX591
 - ◆ FRVSV – 9RX640, 9RX610, 9RX611
 - ◆ HTV – 9RX516, 9RX517

5.2.1 IF any Plant Vent Effluent Monitor(s) increase by a factor of 10 or more, THEN perform the following:

- A. PERFORM dose assessment calculations in the manual mode using instantaneous value(s) In Accordance With (IAW) Section 5.6 of this procedure.
- B. WRITE on top of the Station Status Checklist Page 2 (SSCL), **"RELEASE RATE CALCULATED FROM INSTANTANEOUS MONITOR VALUES."**
- C. RECOMMEND radiological PARs using the SSCL, IAW SC.EP-EP.ZZ-0301(Q), HC.EP-EP.ZZ-0301(Q), OR NC.EP-EP.ZZ-0602(Q), as appropriate.
- D. ADVISE the appropriate person (OS, RAC, RSM) that, **"The SSCL and radiological PAR (if any) was calculated from instantaneous Plant Vent data and may not reflect actual radiological conditions. An additional SSCL will be forth coming in approximately 20 minutes."**

- E. PERFORM another dose assessment in
approximately 15 to 20 minutes using 10 or
15-minute average data. _____
- F. Provide the SSCL and radiological PAR, if applicable, to the
appropriate person (OS, RAC, RSM). _____

5.3 Preplanned Alternative Guidance

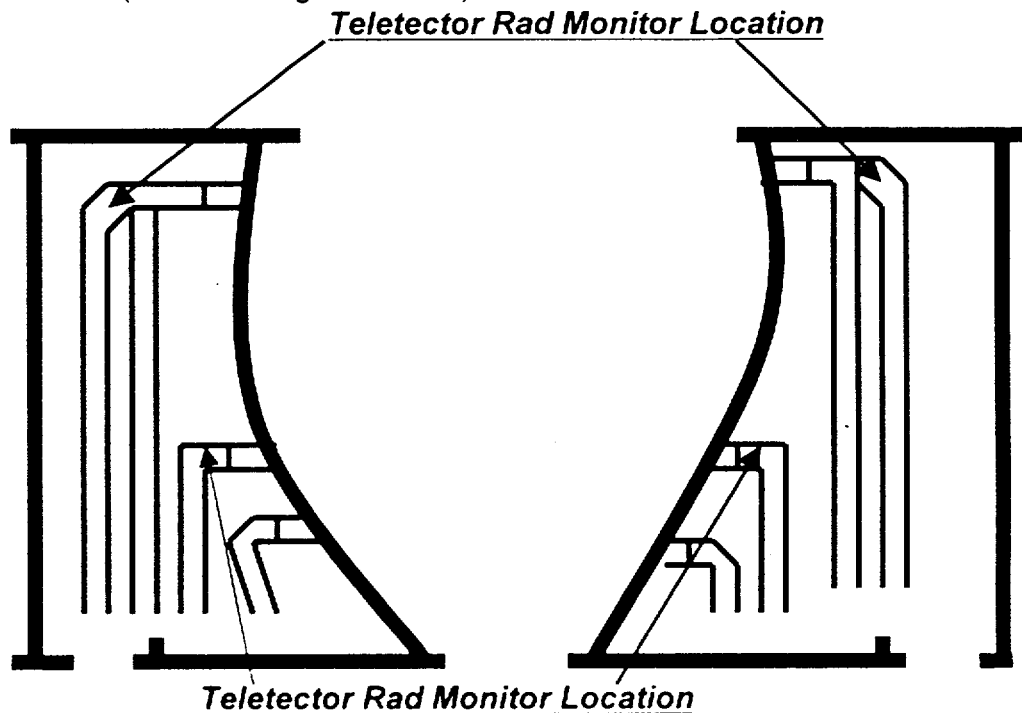
NOTE

SALEM UNIT 1/2 ONLY

Contact the OS prior to performing dose assessment calculations for preplanned alternative, if the 1R41 or 2R41 monitor(s) are out of service/inoperational and are needed to perform dose assessment calculations.

- 5.3.1 PERFORM the appropriate steps listed below, to calculate a SSCL, when the normal method to perform dose assessment at **SALEM UNIT 1 and/or SALEM UNIT 2** is **NOT** possible:

- A. IMPLEMENT **Section 5.6**, to perform dose assessment calculations using **Main Steam Line (MSL) Teletector Readings**. All contact teletector readings on the MSLs should be obtained on the curve of the line prior to the MSIV. (See the diagram below).



MAIN STEAM LINES 12, 14, 22, 24 ARE FOUND IN THE OUTSIDE PIPING PENETRATIONS.

MAIN STEAM LINES 11, 13, 21, 23 ARE ACCESSIBLE BY WAY OF THE CHILLER ROOMS AND ARE LOCATED IN THE INNER PIPE PENETRATIONS.

- B. IMPLEMENT **Section 5.6**, to perform dose assessment calculations based on the **R45 monitor values**. _____
- C. PERFORM steps 1 and 2 for Salem Unit 1/2 to calculate a value using the **R16 monitor** that can be used by MIDAS to perform dose assessment calculations, if the 1/2 R41A monitor is not operational. _____
- 1 DIVIDE the R16 value by 3.55E+07 to calculate a uCi/cc value. This calculated value will be used in MIDAS to perform a dose assessment calculation. _____
- $$\frac{\text{_____ (cpm)}}{3.55\text{E}+07 \text{ (cpm/uCi/cc)}} = \text{_____ uCi/cc}$$
- 2 INPUT the uCi/cc value into MIDAS under the R45 monitor header using **Manual MIDAS Mode (Section 5.6)**. _____

- 5.3.2 IF **ISOTOPIC DATA** is available, THEN IMPLEMENT **Section 5.7**, to perform dose assessment calculations based on isotopic sample values for Hope Creek, Salem Unit 1, or Salem Unit 2. _____

5.4 Common Commands For MIDAS

5.4.1 PERFORM the following steps to change the **DATE and/or TIME** for the PC based MIDAS dose assessment system for Hope Creek, Salem Unit 1, and Salem Unit 2:

- A. **POWER UP** the computer. (The Microsoft Windows NT Screen will appear with a Begin Logon box displayed. The command inside the box will read: Press Ctrl + Alt + Delete to logon). _____
- B. DEPRESS the **Ctrl, Alt, Delete** keys simultaneously. (The Logon Information box will be displayed with blanks to enter User name and Password). _____
- C. INPUT **admin** into the User name blank. _____
- D. INPUT **secret** into the Password blank and depress the **RETURN** key. (The Main Windows screen will be displayed with several icons. The CAPTURE Eze97 screen will appear momentarily, while it loads and then be displayed in a box in the lower left hand corner next to the Start box). _____
- E. POSITION the cursor over the **MY COMPUTER** icon and double click the mouse. (The MY COMPUTER box will be displayed with different icons in the box). _____
- F. POSITION the cursor over the **CONTROL PANEL** icon and double click the mouse. (The DATE/TIME icon will be displayed with several other icons). _____
- G. Position the cursor over the **DATE/TIME** icon and double click the mouse. (The DATE/TIME PROPERTIES screen will be displayed with the current month, date, and time highlighted). _____
- H. IF the DATE/TIME Properties screen is not displayed, THEN POSITION the cursor over the **DATE & TIME** file and click the mouse once. _____
- I. POSITION the cursor on the **DOWN ARROW** adjacent to the month, and click the mouse once. _____
- J. PERFORM the following to change the **MONTH**:
 - POSITION the cursor over the appropriate month and click the mouse once. _____

- K. PERFORM the following to change the **YEAR**:
- POSITION the cursor on the **UP or DOWN ARROW** next to the **CURRENT YEAR** box and click the mouse until the appropriate year is displayed. _____
- L. PERFORM the following to change the **CALENDAR DATE**:
- POSITION the cursor on the **CALENDAR DATE** you wish to change and click the mouse once. _____
- M. PERFORM the following to change the **CURRENT HOUR**:
- POSITION the cursor to the left side of the **CURRENT HOUR** that is displayed in the time box, and click the mouse until the appropriate hour is displayed.
[EXAMPLE: For 12:15:30 it would look like 12I:15:30. (I is the cursor)]. _____
- N. PERFORM the following to change the **CURRENT MINUTE**:
- POSITION the cursor to the left side of the **CURRENT MINUTE** that is displayed in the time box, and click the mouse until the appropriate minute is displayed.
[EXAMPLE: For 12:15:30 it would look like 12:15I:30. (I is the cursor)]. _____
- O. PERFORM the following to change the **CURRENT SECOND**:
- POSITION the cursor to the left side of the **CURRENT SECOND** that is displayed in the time box, and click the mouse until the appropriate minute is displayed.
[EXAMPLE: For 12:15:30 it would look like 12:15:30I. (I is the cursor)]. _____
- P. PERFORM the following to change from **PM to AM** or **AM to PM**:
- POSITION the cursor on the displayed AM/PM and click the mouse once. Use the **UP or DOWN ARROW** adjacent to the time box to change the AM/PM by clicking the mouse once. _____

Q. PERFORM the following to **APPLY THE CHANGES, EXIT OUT OF THIS MODE, AND RUN MIDAS:**

1. POSITION the cursor on the **APPLY** box and click the mouse once. _____
2. POSITION the cursor on the **OK** box and click the mouse once. _____
3. POSITION the cursor over the **X** located in the upper right hand corner of the CONTROL PANEL box and click the mouse once. _____
4. POSITION the cursor over the **X** located in the upper right hand corner of the MY COMPUTER box and click the mouse once. _____
5. POSITION the cursor on the **START** and click the mouse once. (The WINDOWS NT WORKSTATION box will be displayed). _____
6. POSITION the cursor on the **SHUT DOWN** box and click the mouse once. (The SHUT DOWN WINDOWS box will be displayed). _____
7. POSITION the cursor on the close **ALL PROGRAMS and LOG ON AS A DIFFERENT USER** circle and click the mouse once. (The circle will become filled in). _____
8. POSITION the cursor over the **YES** box and click the mouse once. (The computer will start to close all programs. The BEGIN LOGON box will appear). _____
9. DEPRESS the **Ctrl, Alt, Delete** keys simultaneously. (The Logon Information box will be displayed with lines to enter User name and Password). _____
10. INPUT **midas** into the User name line. _____
11. INPUT **midas** into the Password line and depress the **RETURN/ENTER** key. _____
12. POSITION the cursor over the **Midas** icon and double click the mouse. (The MIDAS Program will start). _____

5.4.2 PERFORM the following steps to **EXIT MIDAS** using **CTRL, ALT, and DELETE** keys for Hope Creek, Salem Unit 1, and Salem Unit 2:

- A. DEPRESS the **CTRL, ALT, and Delete** keys simultaneously. (The Windows NT Security box will be displayed). _____
- B. MOVE the cursor to the **Shut Down** box and click the mouse once. (The Shutdown Computer box will be displayed with the Shutdown circle filled in). _____
- C. MOVE cursor to the **OK** box and click the mouse once. (The MIDAS – FROZEN box will be displayed). _____
- D. MOVE the cursor to the **End Task** box and click the mouse once. The computer will begin to restart. (All data inputted and dose assessment calculations will be lost). _____
- E. POSITION the cursor over the **RESET** box and click the mouse once to reset data that is displayed in a data box. _____

NOTE

- The Station Status Checklist (SSCL) will printout automatically after the dose assessment calculations have finished.
- Step 5.4.3 provides instructions for using the SSCL Box to print an additional SSCL.
- Step 5.4.3 provides instructions for using the SSCL Box to print a SSCL to the screen, if the printer is malfunctioning. A blank SSCL page 2 can be found in ECG Attachment 8 or obtained from Communicator Number 2.

5.4.3 PERFORM the following to **PRINT A SSCL**.

- A. POSITION the cursor to the **SSCL Box** located on the **Reports Screen**. _____
- B. CLICK the mouse. The latest SSCL will be printed to the screen and the printer. _____

5.4.4 PERFORM the following to PRINT A SCREEN, REPORT, OR MAP:

A. DEPRESS ALT + ENTER

B. DEPRESS PRINT SCREEN keys.

C. DEPRESS the ALT + ENTER keys to
EXIT the print option and to continue with normal MIDAS
operation.

5.5 **PERFORM THE FOLLOWING TO PRODUCE A SSCL PAGE 2 USING THE AUTOMATIC DOSE ASSESSMENT MODE**

NOTE

- IF at any time while performing Automatic Data Acquisition, the following appears on the screen:

**NO RESPONSE FROM DADIS – (HOPE CREEK/SALEM) TO DADIS
DATA COLLECTION FROM DADIS WAS TERMINATED
ENTER OPTION: [YE] TRY DATA COLLECTION AGAIN
[NO] PROCEED WITH MANUAL ENTRY**

Respond in the following manner:

Select YE. IF the above message appears again, Select NO and proceed with data entry IAW Section 5.6.

- Dose Assessment MIDAS in automatic mode will not function correctly unless all appropriate Plant Vent Effluent monitor(s) and the Meteorological data are operational. Section 5.6 of this procedure should be used, if the appropriate Plant Vent Monitoring data point(s) or the Meteorological data point(s) are **NOT** available.

- 5.5.1 POSITION the cursor over **ACCIDENT DOSE CALCULATIONS (AC)** box and click the mouse once. (Your selection will become highlighted). _____
- 5.5.2 POSITION the cursor over the **CONFIRM** box and click the mouse once. (It will become highlighted and the Accident Dose Calculations (AC) screen will appear). _____
- 5.5.3 POSITION the cursor over the **Quick Dose Projection AUTO REAL TIME (Menu A)** box and click the mouse once. (Your selection will become highlighted). _____
- 5.5.4 POSITION the cursor over the **CONFIRM** box and click the mouse once. MIDAS will start to perform dose assessment calculations. (The calculating screen will appear. The SSCL will automatically printout and the 10-mile map will appear on the screen). _____
- 5.5.5 POSITION the cursor to the **CONTINUE** box on the bottom of the screen and click the mouse once. (The **NEXT REPORT** box will replace the **CONTINUE** box). _____

5.5.6 POSITION the cursor over the **NEXT REPORT** box and click the mouse once. (The **MORE REPORTS** box will replace the **NEXT REPORT** box).

5.5.7 POSITION the cursor over the **MORE REPORTS** box and click the mouse once. (The More Reports Selection screen will appear).

NOTE

- Step 5.5.8 provides instructions for utilizing the SSCL Box to print a SSCL to the screen, if the printer is malfunctioning.
- Step 5.5.8 provides instructions for utilizing the SSCL Box to print an additional SSCL.
- A blank SSCL page 2 can be found in ECG Attachment 8 or obtained from Communicator 2.

5.5.8 IF a SSCL needs be printed to the screen or an additional SSCL printed out, THEN:

- A. POSITION the cursor over the **SSCL Box** and click the mouse once.
- B. POSITION the cursor over the **CONFIRM** box and click the mouse once. (The SSCL will be printed to the screen, and if the printer is functioning, an additional SSCL will be printed out).

5.5.9 POSITION the cursor over the **EXIT** box and click the mouse once. (The box will become highlighted).

5.5.10 CLICK the mouse again. (The Function Selection screen will appear).

5.5.11 IF another dose assessment calculation and SSCL is needed, THEN REPEAT steps 5.5.1 through 5.5.9.

5.5.12 IF you need to exit the MIDAS program, THEN:

- A. POSITION the cursor over the **EXIT** box and click the mouse twice. (The Unit Selection screen will appear).
- B. POSITION the cursor over the **EXIT** box, click the mouse twice.

5.6 **PERFORM THE FOLLOWING TO PRODUCE A SSCL
PAGE 2 USING THE MANUAL DOSE ASSESSMENT
MODE**

NOTE

Manual Mode Dose Assessment, should be performed IF:

- A Plant Vent Effluent monitor is not operational.
- A surveillance of the Plant Vent Effluent monitor is ongoing.
- Automatic radiological data acquisition is not operational.
- Automatic meteorological data acquisition is not operational.
- To input the total isotopic noble gas and iodine 131 value.

- 5.6.1 POSITION the cursor over the **ACCIDENT DOSE CALCULATIONS (AC)** box and click the mouse once. (Your selection will become highlighted).
- 5.6.2 POSITION the cursor over the **CONFIRM** box and click the mouse once. (Your selection will become highlighted and the Accident Dose Calculations (AC) screen will appear).
- 5.6.3 POSITION the cursor over **MANUAL ENTRY ON SPREADSHEET (MENU C)** and click the mouse once. Your selection will become highlighted.
- 5.6.4 POSITION the cursor over the **CONFIRM** box and click the mouse once. (The box will become highlighted and the Scenario Data Table Control screen will appear).
- 5.6.5 SELECT the **appropriate box** by referring to the below guidance, And, position the cursor in that box:
- IF this is the first initial input or the first input after a radiological release \geq technical specifications, THEN SELECT **START NEW SCENARIO** box and click the mouse once. (The **START NEW SCENARIO** and **WARNING CURRENT DATA WILL BE ERASED** boxes will become highlighted).
 - IF this is updating dose assessment calculations, THEN SELECT **CURRENT SCENARIO EDIT** box and click the mouse once. (The **CURRENT SCENARIO EDIT** box will become highlighted).

- IF a previous dose assessment run has been calculated by MIDAS, and the user wishes to view the plume map from that previous run and **NOT** obtain a **VALID** SSCL, THEN **SELECT CURRENT SCENARIO NO EDIT** box and click the mouse once. (The **CURRENT SCENARIO NO EDIT** box will become highlighted).

NOTE

15-minute average Meteorological conditions should be inputted every 15 minutes. (MIDAS will treat the release as a puff release that lasted only 15 minutes, if appropriate 15-minute increments are not inputted).

- 5.6.6 **POSITION** the cursor over the **CONFIRM** box and click the mouse once. (The box will become highlighted and the Meteorological Spread Sheet screen will appear with the current time highlighted. A blue rectangle will be displayed under the **SPD33P (MPH)** column).

NOTE

The 300 foot wind speed should be used for the 33 foot wind speed, if the 33 foot wind speed is not available.

- 5.6.7 **MOVE** the blue rectangle down the **SPD33 (MPH)** column until it is next to the highlighted time using the down arrow key.
- 5.6.8 **INPUT appropriate data** for the 33 foot elevation wind speed.

NOTE

The 33 foot wind speed should be used for the 300 foot wind speed, if the 300 foot wind speed is not available.

- 5.6.9 **MOVE** the blue rectangle over to the **SPD300 (MPH)** column using the right arrow key.
- 5.6.10 **INPUT appropriate data** for the 300 foot elevation wind speed.
- 5.6.11 **MOVE** the blue rectangle over to the **DIR33P (DEG)** using the right arrow key.

5.6.12 INPUT **appropriate data** for the 33 foot elevation wind direction. _____

NOTE

The Default Value of one (1.0) should be used for DT300, if the delta t data is not available. This will produce an "E" stability class.

5.6.13 MOVE the blue rectangle over to the **DT300 (DEG C)** using the right arrow key. _____

5.6.14 INPUT **appropriate data** for the 300 - 33 foot delta temperature. _____

NOTE

MIDAS does not use the value for the ambient temperature. Twenty (20) degrees should be used for ambient temperature.

5.6.15 MOVE the blue rectangle over to the **TEM33 (DEG C)** using the right arrow key to input the ambient temperature. _____

5.6.16 INPUT **20** for the ambient temperature. _____

5.6.17 MOVE the blue rectangle over to the **RAINFL (IN)** using the right arrow key. _____

5.6.18 INPUT **appropriate data for the 15-minute average rainfall.**
(The values 0.08 for Heavy, 0.02 for Moderate, and 0.01 for Light, rainfall may be used if actual rainfall in inches is not known). _____

5.6.19 DEPRESS the **ENTER** key. _____

5.6.20 IF all inputs are correct, THEN Depress the **X** key. (The Gaseous Vent and Flow screen will appear with the current time highlighted). _____

5.6.21 IF all inputs are **NOT** correct, THEN use the arrow keys to go back to the appropriate column(s) and input correct data and depress the **X** key. (The Gaseous Vent and Flow screen will appear with the current time highlighted). _____

5.6.22 Refer to the **NOTE** below for guidance concerning which monitor(s) and value(s) to select and input into MIDAS. _____

NOTE**FOR HOPE CREEK AND SALEM UNIT 1 & 2**

- 10 or 15 Minute Average Plant vent (PV) monitor data and PV flow rates should be inputted every 15 Minutes.
- Monitoring Points with – DI next to them (i.e. FRVS – DI, R45 – DI) should be used to input the total I -131 isotopic value in uCi/cc, when available from a plant vent sample.

FOR HOPE CREEK ONLY

- The following monitoring points are available for use in manual dose assessment mode:
(NPV-P, NPV-I, NPV-NG, NPV-DI), (SPV-P, SPV-I, SPV-NG, SPV-DI), (FRVS-NG, FRVS-DI), (HTV-NG, HTV-DI)

FOR SALEM UNIT 1 & 2 ONLY

- Follow the below guidance to help in making the correct decision of which **R41** monitor value to use. Only **ONE** should be used in MIDAS for performing dose assessment.
 - **R41A** should be used if values are between **1E-08 uCi/cc to 9.99E-02 uCi/cc**.
 - **R41B** should be used if values are **> 1E-01 uCi/cc to 9.99E+01 uCi/cc**.
 - **R41C** should be used if values are **> 1E+02 uCi/cc to 1E+05 uCi/cc**.
- **The R45 monitors** are to be used **ONLY** if the R41B or R41C monitor values are not available.
Follow the below guidance in making the correct decision of which R45 monitor value to use. Only **ONE** should be used in MIDAS for performing dose assessment.
 - **R45B** should be used if values are **> 1E-03 uCi/cc to 1E+01 uCi/cc**.
 - **R45C** should be used if values are **> 1E+01 uCi/cc to 1E+05 uCi/cc**.
- **R46:** Dose assessment may be performed using the **R46 monitor** value during a primary to secondary leak or SGTR and entered in the R46MSL column in MIDAS.
- **Using Contact TELETECTOR VALUES From The MAIN STEAM LINES In MIDAS.**
 - Refer to section 5.2 concerning where contact readings on the Main Steam Lines should be taken.
 - The Teletector value obtained from contact reading on the MSL **MUST** be multiplied by the **Correction Factor of 9.33E-05** prior to being used in MIDAS.
 - The value should be entered in the R46MSL column.
 - The flow rate in lbs/hr may be obtained from the Control Room. (The value 4.50E+05 lbs/hr should be used as the default flow rate, if the actual flow rate is not known)
- **R44:** The **R44** Monitor values should be used for “WHAT IF” type Calculations or if the Containment has been breached and an unmonitored release is progress
The flow rate range for the R44's is 1 to 1000 cfm, with the 1000 being the worse case (most conservative) scenario.

5.6.23 MOVE the blue rectangle over to the right until the monitor of interest is highlighted using right arrow key.

NOTE

Hope Creek's Hardened Torus Vent should be inputted in uCi/second. **NO** Plant Vent Flow Rate should be inputted. All other Plant Vent Effluent data for **Hope Creek and Salem Unit 1 & 2** should be inputted in uCi/cc and include Plant Vent Flow Rates for each monitor that was inputted.

5.6.24 INPUT **appropriate 10 or 15 minute average radiological data**, or Instantaneous data, if the criteria listed in Section 5.2 are met.

5.6.25 MOVE the blue rectangle over to the right one position to flow rate for the monitor selected.

5.6.26 INPUT **appropriate flow rate** in cfm (or lbs/hr for MSL Data).

5.6.27 DEPRESS the **ENTER** key.

5.6.28 IF all inputs are correct, THEN DEPRESS the **X** key

5.6.29 IF an input is incorrect, THEN correct it and DEPRESS the **X** key. (The DBA Accident Type Selection screen will appear with the **UNKNOWN MIX** box highlighted).

NOTE

Unless directed by the RAC or RSM, **UNKNOWN MIX** should be used.

5.6.30 POSITION the cursor over the **CONFIRM** box and click the mouse once. (The **WARNING - SOURCE IS ZERO FOR SELECTED POINT(S)**, with the points of that the user didn't input data for will appear).

5.6.31 POSITION the cursor over the **CONTINUE** box and click the mouse once. (The box will become highlighted and the Release Timing Selection screen will appear with the Trip Date, Release Start Same As Trip Date, and Duration (Minutes) boxes will become highlighted).

5.6.32 INPUT the duration of a release in minutes by performing the following:

- A. POSITION the cursor over the **REMAINING DURATION (MIN)** box and CLICK the mouse once. (A pop-up screen will appear in the upper right hand corner of the screen). _____
- B. POSITION the cursor over the **appropriate number(s)** you wish to enter (**use 240 minutes for a four hour default release, if the duration of a release is not known**) and CLICK the mouse once. (The number you chose will be displayed in the top portion of the pop-up screen). _____
- C. POSITION the cursor over the **EN** box and CLICK the mouse once. (The value selected will now appear in the highlighted **REMAINING DURATION (MINUTES)** box). _____
- D. IF the information was inputted incorrectly, THEN position the cursor over the **CL** box and CLICK the mouse once to clear the entire input that is displayed in the top portion of pop-up screen and reenter. _____
- E. POSITION the cursor over the **CONFIRM** box and click the mouse once. (MIDAS will start to perform calculations. The calculating screen will appear. The SSCL will automatically printout and the 10-mile TEDE 4-DAY map will appear on the screen). _____

5.6.33 MOVE the cursor to the **CONTINUE** box on the bottom of the screen and click the mouse once. (The **NEXT REPORT** box will replace the **CONTINUE** box). _____

5.6.34 POSITION the cursor over the **NEXT REPORT** box and click the mouse once. (The **MORE REPORTS** box will replace the **NEXT REPORT** box). _____

5.6.35 POSITION the cursor over the **MORE REPORTS** box and click the mouse once. (The More Reports Selection screen will appear). _____

NOTE

- Step 5.6.36 provides instructions for using the SSCL Box to print a SSCL to the screen if the printer is malfunctioning.
- Step 5.6.36 provides instructions for using the SSCL Box to print an additional SSCL.
- A blank SSCL page 2 can be found in ECG Attachment 8 or obtained from Communicator 2.

5.6.36 IF a SSCL needs be printed to the screen or an additional SSCL is needed to be printed, THEN:

- A. POSITION the cursor over the **SSCL** Box and click the mouse once. _____
- B. POSITION the cursor over the **CONFIRM** box and click the mouse once. (The SSCL will be printed to the screen, and if the printer is functioning, an additional SSCL will be printed out. _____

5.6.37 POSITION the cursor over the **EXIT** box and click the mouse once. (The box will become highlighted). _____

5.6.38 CLICK the mouse again. (The Function Selection screen will appear). _____

5.6.39 IF another dose assessment calculation and SSCL is needed, THEN REPEAT steps 5.6.1 through 5.6.38. _____

5.6.40 IF you need to exit the MIDAS program, THEN:

- A. POSITION the cursor over the **EXIT** box and click the mouse twice. (The Unit Selection screen will appear). _____
- B. POSITION the cursor over the **EXIT** box, click the mouse twice. _____

5.7 **PERFORM THE FOLLOWING TO PRODUCE A SSCL
PAGE 2 USING THE ISOTOPIC DOSE ASSESSMENT
MODE**

NOTE

- Dose Assessment should be performed in Isotopic Mode, if Dose Assessment calculations are being performed using Isotopic Plant Vent Grab Sample data.
- IF at any time while performing Automatic Data Acquisition, the following appears on the screen:

**NO RESPONSE FROM DADIS - HOPE CREEK TO DADIS
DATA COLLECTION FROM DADIS WAS TERMINATED**

**ENTER OPTION: [YE] TRY DATA COLLECTION AGAIN
[NO] PROCEED WITH MANUAL ENTRY**

Respond in the following manner: Choose NO and proceed with following the steps listed in this section (5.7) of this procedure.

- 5.7.1 POSITION the cursor over the **ACCIDENT DOSE CALCULATIONS (AC)** box and CLICK the mouse once. (Your selection will become highlighted). _____
- 5.7.2 POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (Your selection will become highlighted and the Accident Dose Calculations (AC) screen will appear). _____
- 5.7.3 POSITION the cursor over **ADVANCED CALCS ALL SCREENS (MENU X)** and CLICK the mouse once. Your selection will become highlighted. _____
- 5.7.4 POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The box will become highlighted. MIDAS will attempt to collect automatic data. The Miscellaneous Parameters screen will then appear). _____
- 5.7.5 PERFORM the following to highlight appropriate selections:
- A. POSITION the cursor over the **RESET** box and CLICK the mouse. Boxes will no longer be highlighted. _____
 - B. POSITION the cursor over the **MANUAL** box and CLICK the mouse once. _____

- C. POSITION the cursor over the appropriate **RELEASE POINT(S)** and CLICK the mouse once. The box will become highlighted. _____
- D. POSITION the cursor over the **FLOW EX VEL (CFM)** box for the release point chosen and CLICK the mouse once. (A pop-up screen will appear). _____
- E. INPUT the exit velocity flow rate using the pop-up screen by positioning the cursor over the correct **value(s)** and CLICKING the mouse once. _____
- Exit Velocity For HOPE CREEK: ZERO (0) for all REL PTs.
 - Exit Velocity For SALEM: ZERO (0) for REL PTs. 1 and 4
 - Exit Velocity For SALEM: (95) for REL PT 2
- F. INPUT the exit velocity flow rate using the pop-up screen by positioning the cursor over the **correct value(s)**, selected from above, and CLICKING the mouse once. _____
- G. POSITION the cursor over the **EN** box when the appropriate values are inputted and CLICK the mouse once. (The box will become highlighted with the flow rate inside the box). _____
- H. POSITION the cursor over the **MAX DIST DOWNWIND (MILES)** box and CLICK the mouse once. A pop-up screen will appear. _____
- I. INPUT **10** using the pop-up screen. _____
- J. POSITION the cursor over the **EN** box and CLICK the mouse once. (The box will become highlighted with 10 appearing inside the box). _____
- 5.7.6 POSITION the cursor over the **AUTO SCENARIO INTEGRATION** box and CLICK the mouse once. (The box will become highlighted). _____
- 5.7.7 POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The box will become highlighted and Run Mode and Integration screen will appear). _____
- 5.7.8 POSITION the cursor over the **PROJECTED (FORECAST) DOSE** box and CLICK the mouse once. _____

- 5.7.9 POSITION the cursor over the **START DATE INTEG.**
CURRENT Box and CLICK the mouse once. _____
- 5.7.10 IF the **PROJ. TIMES (HRS)** box does have **.25, 1, 4, 24**
Displayed, THEN go to step 5.7.14. _____
- 5.7.11 IF the **PROJ. TIMES (HRS)** box doesn't have **.25, 1, 4, 24**
displayed and highlighted inside of the box, THEN POSITION the
cursor over the **PROJ. TIMES (HRS)** box and CLICK the mouse
once. (A pop-up screen will appear in the upper right of the
screen). _____
- 5.7.12 INPUT **.25, 1, 4, 24** using the pop-up screen. _____
- 5.7.13 POSITION the cursor over the **EN** box when
the appropriate values are inputted and CLICK the
mouse once. (The box will become highlighted with the
values displayed inside the box). _____
- 5.7.14 POSITION the cursor over the **CONFIRM** box and CLICK the
mouse once. (The box will become highlighted and the Release
Option Selection screen will appear). _____
- 5.7.15 POSITION the cursor over the **MANUAL ENTRY OF**
ISOTOPE CONCENTRATION box and CLICK the mouse
once. (The box will become highlighted). _____
- 5.7.16 POSITION the cursor over the **CONFIRM** box and CLICK the mouse
once. (The Isotope Concentrations screen for the release point
selected will appear). _____
- 5.7.17 POSITION the cursor over the **RESET** box and CLICK the mouse. _____
- 5.7.18 POSITION the cursor over the **appropriate isotope box(es)** and
CLICK the mouse once. [The box(es) will become highlighted
and a pop up screen will appear in the right corner of the screen]. _____
- 5.7.19 POSITION the cursor over the **appropriate number(s)** you wish to
enter and CLICK the mouse once. (The number you chose will be
displayed in the top portion of the pop up screen). _____
- 5.7.20 IF the value(s) displayed is correct, THEN PLACE the cursor
over the **EN** box and CLICK the mouse once. (The value selected
will be displayed in the box). _____
- 5.7.21 IF the value is incorrect, THEN position the cursor over the **CL**
box and CLICK the mouse once. (This will clear the input that is
displayed in the top portion of the pop-up screen and allow you to
reenter the value(s). _____

- 5.7.22 POSITION the cursor over the **SAMPLE STREAM FLOW RATE (CFM)** box to input the plant vent flow rate and CLICK the mouse once. (The box will become highlighted and a pop-up screen will appear in the right corner of the screen). _____
- 5.7.23 Input the **appropriate value(s)** using the pop-up screen. _____
- 5.7.24 IF the value(s) displayed is correct, THEN PLACE the cursor over the **EN** box and CLICK the mouse once. (The value selected will be displayed in the box). _____
- 5.7.25 IF the value(s) is incorrect, THEN position the cursor over the **CL** box and CLICK the mouse once. (This will clear the input that is displayed in the top portion of the pop-up screen and allow you to reenter the value(s). _____
- 5.7.26 POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The Release Timing Selection screen will appear). _____
- 5.7.27 POSITION the cursor over the **RELEASE CURRENT TIME** box and CLICK the mouse once. _____
- 5.7.28 POSITION the cursor over the **DURATION (MINUTES)** box and CLICK the box once. A pop-up screen will appear in the upper right corner of the screen. _____
- 5.7.29 INPUT the duration of the release in minutes (**240 minutes if the release duration is unknown**) using the pop-up screen. _____
- IF the value(s) displayed is correct, THEN PLACE the cursor over the **EN** box and CLICK the mouse once. (The value selected will be displayed in the box). _____
 - IF the value is incorrect, THEN position the cursor over the **CL** box and CLICK the mouse once. (This will clear the input that is displayed in the top portion of the pop-up screen and allow you to reenter the value(s). _____
- 5.7.30 CLICK the mouse once. (The **DURATION** box will become highlighted with the value displayed in the box). _____
- 5.7.31 POSITION the cursor over the **CONFIRM** box and click the mouse once. (The Weather Selection screen will appear). _____

5.7.32 PERFORM the following steps to input meteorological data :

NOTE

- The user will **NOT** be prompted for the SPD33P (MPH) if the release is an elevated release.
- The 300 foot wind speed should be used for the 33 foot wind speed, if the 33 foot wind speed is not available.

- A. POSITION the cursor over the **DIR33P (DEG)** box and CLICK the mouse once to input the 33 foot elevation from wind direction. _____
- B. POSITION the cursor over the **appropriate number(s)** you wish to enter and CLICK the mouse once. (The number you chose will be displayed in the top portion of the pop-up screen). _____
- C. MOVE the cursor over the **EN** box and CLICK the mouse once. [The value chosen will be displayed in specific weather parameter box that is being inputted (i.e. DIR33P DEG)]. _____
- D. POSITION the cursor over the **SPD33P (MPH)** box and CLICK the mouse once to input the 33 foot elevation wind speed. _____
- E. POSITION the cursor over the **appropriate number(s)** you wish to enter and CLICK the mouse once. (The number you chose will be displayed in the top portion of the pop-up screen). _____
- F. MOVE the cursor over the **EN** box and CLICK the mouse once. [The value chosen will be displayed in specific weather parameter box that is being inputted (i.e. SPD33P MPH)]. _____

NOTE

- The user will **NOT** be prompted for the SPD300 (MPH) if the release is a ground release.
- The 33 foot wind speed should be used for the 300 foot wind speed, if the 300 foot wind speed is not available.

- G. POSITION the cursor over the **SPD300 (MPH)** box and CLICK the mouse once to input the 300 foot elevation wind speed. _____
- H. POSITION the cursor over the **appropriate number(s)** you wish to enter and CLICK the mouse once. (The number you chose will be displayed in the top portion of the pop-up screen). _____
- I. MOVE the cursor over the **EN** box and CLICK the mouse once. (The value chosen will be displayed in specific weather parameter box). _____

NOTE

The Default Value of one (1.0) should be used for DT300, if the delta t data is not available. This will produce an "E" stability class.

- J. POSITION the cursor over the **DT300 (DEG.C)** box and CLICK the mouse once to input the 300 - 33 foot delta temperature. (The box will become highlighted). _____
- K. POSITION the cursor over the **appropriate number(s)** you wish to enter and CLICK the mouse once. (The number you chose will be displayed in the top portion of the pop-up screen). _____
- L. MOVE the cursor over the **EN** box and CLICK the mouse once. (The value chosen will be displayed in specific weather parameter box). _____

NOTE

MIDAS does not use the value used for the ambient temperature. Twenty (20) degrees should be used.

- M. POSITION the cursor over the **TEM33 (DEG.C)** box and CLICK the mouse once to input the ambient temperature. (The box will become highlighted). _____
- N. INPUT the value 20 and CLICK the mouse once. (The number 20 will be displayed in the top portion of the pop-up screen). _____

- O. MOVE the cursor over the **EN** box and CLICK the mouse once. (The value chosen will be displayed in specific weather parameter box). _____
- P. POSITION the cursor over the **RAIN (INCHES)** box and CLICK the mouse once to input the 15 minute average precipitation. (The box will become highlighted). _____

NOTE

The following values may be inputted if actual rainfall data is not known:

- 0.08 = (Heavy Rainfall)
- 0.02 = (Moderate Rainfall)
- 0.01 = (Light Rainfall)
- The number Zero "0", if it is not raining.

- Q. POSITION the cursor over the **appropriate number(s)** you wish to enter and CLICK the mouse once. (The number you chose will be displayed in the top portion of the pop-up screen). _____
- R. MOVE the cursor over the **EN** box and CLICK the mouse once. (The value chosen will be displayed in specific weather parameter box). _____

NOTE

The three boxes labeled **PCT CLOUD COVER REQUIRES SPEED, USE LAST MET DATE** and **USE DEFAULT MET** should **NOT** be used.

- S. POSITION the cursor over **CONFIRM** box and CLICK the mouse once. (The Release Point Data screen will appear). _____
- 5.7.33 POSITION the cursor over the **CONTINUE** box and CLICK the mouse once. (The box will become highlighted and Summary of Meteorological Data screen will appear). _____

5.7.34 POSITION the cursor over **CONTINUE** box and CLICK the mouse once. (The calculating screen will appear, while PC MIDAS performs dose assessment calculations. The SSCL will automatically printout and the 10 mile TEDE 4-DAY map will appear on the screen after the calculations are finished.) _____

5.7.35 POSITION the cursor to the **CONTINUE** box on the bottom of the screen and CLICK the mouse once. (The NEXT REPORT box will replace the CONTINUE box). _____

5.7.36 POSITION the cursor over the **NEXT REPORT** box and CLICK the mouse once. (The MORE REPORTS box will replace the NEXT REPORT box). _____

5.7.37 POSITION the cursor over the **MORE REPORTS** box and CLICK the mouse once. (The More Reports Selection screen will appear). _____

NOTE

- Step 5.7.38 provides instructions for utilizing the SSCL Box to print a SSCL to the screen, if the printer is malfunctioning.
- Step 5.7.38 provides instructions for utilizing the SSCL Box to print an additional SSCL.
- A blank SSCL page 2 can be found in ECG Attachment 8 or obtained from Communicator 2.

5.7.38 IF a SSCL needs be printed to the screen or an additional SSCL printed out, THEN:

A. POSITION the cursor over the **SSCL** Box and CLICK the mouse once. _____

B. POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The SSCL will be printed to the screen, and if the printer is functioning, an additional SSCL will be printed out). _____

5.7.39 POSITION the cursor over the **EXIT** box and CLICK the mouse once (The EXIT box will become highlighted). _____

5.7.40 CLICK the mouse again. (The Function Selection screen will appear). _____

5.7.41 IF another dose assessment calculation and SSCL is needed,
THEN REPEAT steps 5.7.1 through 5.7.39. _____

5.7.42 IF you need to exit the MIDAS program, THEN:

- A. POSITION the cursor over the **EXIT** box and click the
mouse twice. (The Unit Selection screen will appear). _____
- B. POSITION the cursor over the **EXIT** box, click the mouse
twice. _____

5.8 PERFORM THE APPROPRIATE OPERATIONAL INSTRUCTIONS TO MANIPULATE MAP SCREENS AND PRINTOUT MAPS

CAUTION

The user should wait until the SSCL has finished printing out prior to printing any maps or forms and should **NOT** perform any additional operations while printing out a map of form.

5.8.1 PERFORM the following to **PRINT a SCREEN, REPORT, or MAP:**

- A. DEPRESS the **ALT** key and **HOLD IT DOWN**. _____
- B. DEPRESS the **ENTER** key, while **HOLDING DOWN THE ALT KEY**. _____
- C. RELEASE the **ALT** and **ENTER** keys. _____
- D. DEPRESS the **PRINT SCREEN** key. _____

5.8.2 PERFORM the following to **RETURN to NORMAL MIDAS OPERATION.**

- A. DEPRESS the **ALT** key and **HOLD IT DOWN**. _____
- B. DEPRESS the **ENTER** key, while **HOLDING DOWN THE ALT KEY**. _____

5.8.3 PERFORM the Following Steps to Display A Point Of Interest (POI) Dose Rate:

- A. POSITION the cursor over the **POI** box located at the bottom of the map screen and **CLICK** the mouse once. (The Operational Choices menu located at the bottom of the screen next to the POI box is replaced with the **CURSOR HERE TO EXIT** box). _____
- B. POSITION the cursor to the POI on the map and **CLICK** the mouse once. (The dose rate of the POI will appear). _____
- C. POSITION the cursor to the **CURSOR HERE TO EXIT** box and **CLICK** the cursor once to return to the other map command options. _____

5.8.4 PERFORM the following steps to draw map features onto a map:

- A. POSITION the cursor over the **MAP FEATURES** box and **CLICK** the mouse once. (A Pop-up box will appear at the right side of the screen). _____

B. POSITION the cursor over the option(s) selected (**WIND SPIDER, COUNTY BOUNDARIES, ERPAS, and/or TEXT**) to be drawn on the map and CLICK the mouse once. (The options selected will become highlighted).

C. POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The Confirm box will become highlighted and the map will be redrawn with the option(s) selected illustrated on it).

5.8.5 PERFORM the following to add another or remove the Map Feature Selected Perform.

A. POSITION the cursor over the **MAP FEATURES** box and CLICK the mouse once. (A Pop-up box will appear at the right side of the screen).

B. POSITION the cursor over the option(s) selected (**WIND SPIDER, COUNTY BOUNDARIES, ERPAS, and/or TEXT**) to be added to or removed from the map and CLICK the mouse once. (Any additional options selected will be highlighted, while options to be removed from the map will go from being highlighted to not being highlighted).

C. POSITION the cursor over the **CONFIRM** box and click the mouse once. (The Confirm box will become highlighted and the map will be redrawn with the option(s) selected either deleted or illustrated on it).

5.8.6 PERFORM the following to select an area on a map to blowup:

A. POSITION the cursor over the **SELECT AREA** box and CLICK the mouse once. (The Operational Choices menu located on the bottom of the screen will disappear).

B. POSITION the cursor to one edge of the area you wish to enlarge on the screen and CLICK the mouse once. (A black dot will appear where the cross hairs of the cursor was).

C. POSITION the cursor to other edge of the area you wish to enlarge on the screen and CLICK the mouse once. (A black dot will appear where the cross hairs of the cursor was and the area you selected will appear on the screen enlarged with the Operational Choices menu reappearing on the bottom of the screen. This can be done as many times as the user wishes).

D. POSITION the cursor over the **RESTORE** box and CLICK the mouse once to return the map to its original size. _____

5.8.7 PERFORM the following steps to project the plume into the future using the current meteorological and radiological conditions:

A. POSITION the cursor over the **CONTINUE** box and CLICK the mouse once. (The Operational Choices menu located at the bottom of the screen will disappear being replaced by the PROJ. TIME 0.25 (HOURS), CONFIRM and NEXT REPORT boxes). _____

B. POSITION the cursor over the **PROJ. TIME 4.00 (HOURS)** box and: _____

1. CLICK the mouse to change the projection time to 24.00 hours. _____

2. CLICK the mouse again to change the projection time to 0.25 hours. _____

3. CLICK the mouse again to change the projection time to 1.00 hours. _____

4. CLICK the mouse again to change the projection time back to 4.00 hours. _____

C. POSITION the cursor over the **CONFIRM** box when the appropriate projection time has been selected and CLICK the mouse once. (The map will be redrawn showing the plume and radiological conditions projected into the future by the time increment chosen by the user. The map Operational Choices menu will also reappear at the bottom of the screen). _____

5.8.8 PERFORM the following steps to change the plume back to 4.00 hour projection time:

A. POSITION the cursor over the **CONTINUE** box and CLICK the mouse once. (The Operational Choices menu located at the bottom of the screen will disappear being replaced by the PROJ. TIME with 1.00, 4.00, or 24.00 HOURS, CONFIRM and NEXT REPORT boxes). _____

B. POSITION the cursor over the **PROJ. TIME** box and CLICK the mouse until 4.00 (HOURS) appears. _____

- C. POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The map will be redrawn showing the plume and radiological conditions returned to their original state. The map Operational Choices menu will also reappear at the bottom of the screen).
-

5.8.9 PERFORM the following steps to change the distance of a map displayed:

NOTE

A map **MUST** be already displayed prior to varying the map's distance.

- A. POSITION the cursor over the **CONTINUE** box and CLICK the mouse once. (The CONTINUE box will be replaced by the NEXT REPORT box).
-
- B. POSITION the mouse over the **NEXT REPORT** box and CLICK the mouse once. (The NEXT REPORT box will be replaced by the MORE REPORTS box).
-
- C. POSITION the cursor over the **MORE REPORTS** box and CLICK the mouse once. (The More Reports Selection Screen will appear).
-
- D. POSITION the mouse over the Report Plot the user would like to select and CLICK the mouse once. (The selection will become highlighted. Maps can be only drawn using REPORT PLOT choices).
-
- E. POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. The box will become highlighted and the Report Parameter Selection screen will appear with the user's selection enclosed in a box in the middle of the screen.
-
- F. POSITION the cursor over the **CONFIRM** box and CLICK the mouse once. (The Map Scale Selection screen will appear with the current map distance appearing highlighted in a box in the upper left-hand corner of the screen).
-
- G. POSITION the cursor over **MAP SCALE (MILES)** box and CLICK the mouse once. (A pop-up screen will appear in the upper right hand corner).
-

- H. POSITION the cursor over the appropriate number(s) you wish to enter and CLICK the mouse once. (The number(s) you chose will be displayed at the top of the pop-up screen).
- I. POSITION the cursor over the **EN** box in the pop-up screen and CLICK the mouse once.
- J. IF the number(s) displayed in the top of the pop up screen is incorrect, THEN position the cursor over the **CL** box and CLICK the mouse once. (This will clear the entire input that is displayed in the top of the pop up screen).
- K. POSITION the cursor over **CONFIRM** box and CLICK the mouse once. (The CONFIRM box will become highlighted and the map will be drawn to the scale selected).

6.0 RECORDS

Return completed procedure and any information or data thought to be pertinent by the dose assessor, to the EP Manager.

7.0 REFERENCES

7.1 References

- 7.1.1 EPA 400, Manual of Protective Action Guides And Protective Actions For Nuclear Incidents
- 7.1.2 MIDAS Documentation Volumes 1-5
- 7.1.3 Nuclear Business Unit Emergency Plan

7.2 Cross References

- 7.2.1 NC.EP-EP.ZZ-0310(Q), Radiation Protection Supervisor – Offsite
and Field Monitoring Team Response
- 7.2.2 HC.EP-EP.ZZ-0301(Q), Shift Radiation Protection Response
- 7.2.3 SC.EP-EP.ZZ-0301(Q), Shift Radiation Protection Response

ATTACHMENT 1

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OPERATING INSTRUCTIONS FOR THE VAX LA120 TERMINAL

1.0 METEOROLOGICAL DATA1.1 Perform The Following to Obtain Current 15 Minute Average Meteorological Data:

- 1.1.1 DEPRESS the **RETURN** key. (USERNAME should be displayed). _____
- 1.1.2 TYPE **MET** and depress the **RETURN** key. _____

NOTE

The most current meteorological data should be printed out followed by the Main Meteorological Menu. If no other keys are depressed, the current 15-minute average data will be printed out every 15 minutes

- 1.1.3 ENTER **Option 1** (Display Current Meteorological Data) and Depress the **RETURN** key to receive the current 15 meteorological data print out. _____

1.2 Perform The Following Steps to Obtain Archived Meteorological Data:

- 1.2.1 DEPRESS the **RETURN** key. (USERNAME should be displayed). _____
- 1.2.2 TYPE **MET** and depress the **RETURN** key. (The most current meteorological data should be printed out followed by the Main Meteorological Menu). _____
- 1.2.3 ENTER **Option 2** (Display Meteorological Data From Data Base) and depress the **RETURN** key. (Current system Date and Time will be displayed). _____
- 1.2.4 IF this is the data you want, THEN depress the **RETURN** key. (Your option will be printed out). _____
- 1.2.5 IF you want data from another date and time, THEN go to Step 1.2.6 _____

ATTACHMENT 1

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1.2.6 ENTER **START DATE and TIME** as shown below and depress the **RETURN** key. (For December 27, 1989 at 0130 enter 27-DEC-1989 "depress the space bar once" and enter 01:30).

- ENTER **"Y"** if the information is **correct**.
- ENTER **"N"** if the information is **not correct** and reenter data as shown in Step 1.2.6.

1.2.7 ENTER the **END DATE and TIME** as shown below and depress the **RETURN** key. (For December 28, 1989 at 0230 enter 28-DEC-1989 "depress the space bar once" and enter 02:30).

- ENTER **"Y"** if the information is **CORRECT**.
- ENTER **"N"** if the information is **NOT CORRECT** and reenter data as shown in Step 1.2.7.

2.0 **RMS AND MET DATA (FOR HOPE CREEK ONLY)**

2.1 **Perform The Following Steps to Obtain Current Instantaneous RMS and MET Data:**

2.1.1 DEPRESS the **RETURN** key. (USERNAME should be displayed).

2.1.2 TYPE **EOF** and depress the **RETURN** key. (A prompt should be displayed asking for PASSWORD).

2.1.3 TYPE the letters **EOFUSER** and depress the **RETURN** key.
(The EOF Plant Menu should be displayed.)

2.1.4 SELECT **Option 1** for Hope Creek.

2.1.5 DEPRESS the **RETURN** key. (The EOF Report Options Menu will be displayed).

2.1.6 ENTER **Option 1 (Current RMS Status)** and depress the **RETURN** key. (The most current instantaneous RMS and 15 minute MET data will be printed out.)

ATTACHMENT 1

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2.2 **Perform The Following Steps to Obtain 15 Minute Average RMS Data:**

- 2.2.1 DEPRESS the **RETURN** key. (USERNAME should be displayed). _____
- 2.2.2 TYPE **EOF** and depress the **RETURN** key. (A prompt should be displayed asking for PASSWORD). _____
- 2.2.3 TYPE **EOFUSER** and depress the **RETURN** key. (The EOF Plant Menu should be displayed). _____
- 2.2.4 SELECT **Option 1** for Hope Creek. _____
- 2.2.5 DEPRESS the **RETURN** key. (The EOF Report Options Menu should be displayed). _____
- 2.2.6 SELECT and ENTER **Option 6 (15 Minute Historical Data)**.
(Current system date and time should be displayed. A prompt should be displayed for start date and time) _____
- 2.2.7 DEPRESS the **RETURN** key for 15 minute average RMS and MET data. (Your selection will be printed). _____

ATTACHMENT 2

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OPERATING INSTRUCTIONS FOR SALEM SPDS RADIOLOGICAL SCREENS1.0 SALEM 1 & 2 SPDS RADIOLOGICAL SCREEN INSTRUCTIONS1.1 Follow The Steps Below In The Listed Order, To Display SPDS Radiological Screens.**NOTE**

- Values in Red are in HIGH HIGH ALARM.
- Values in YELLOW with are in HIGH ALARM.
- Form – 1, SPDS RMS Log, may be used to record SPDS RMS values.

11.1.1 DEPRESS the **UNIT MASTER MENU** Key

1.1.2 DEPRESS and hold the "**SHIFT**" key, while depressing the **Number 5 Key**. [Radiation Monitor Screen 1 will be displayed. This screen (Radiation Monitor Screen 1) consists of instantaneous values for the RMS monitors listed below].

- R46A-E Main Steam Line Mon
- R44A/B Containment Post LOCA Rad Mon
- R11A Containment Particulate
- R12A Containment Noble Gas
- R12B Containment Iodine
- R44A/B Integ Dose Containment Post LOCA Rad Mon

1.1.3 DEPRESS and hold the "**SHIFT**" key, while depressing the **Number 2 Key**. (Radiation Monitor Screen 2 will be Displayed). This screen (Radiation Monitor Screen 2) consists of RMS instantaneous monitor values listed below)

ATTACHMENT 2

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- R45B Plant Vent Accident Mon (Medium Range Noble Gas)
- R45C Plant Vent Accident Mon (High Range Noble Gas)
- R16 Plant Vent Gas Effluent
- R41A Low Range Noble Gas
- R41B Mid Range Noble Gas
- R41C High Range Noble Gas
- R43 Aux Building Roof Mon
- Unit 1 or 2 Noble Gas Release Rate
- Combined Noble Gas Release Rate

1.1.4 DEPRESS and hold the "**SHIFT**" key, while depressing the **Number 3 Key**. (Radiation Monitor Screen 3 will be displayed). This screen (Radiation Monitor Screen 3) consists of RMS 15 minute average monitor values listed below).

- R46A-E Main Steam Line Mon
- R44A/B Containment Post LOCA Rad Mon
- R11A Containment Particulate
- R12A Containment Noble Gas
- R12B Containment Iodine

1.1.5 DEPRESS and hold the "**SHIFT**" key, while depressing the **Number 4 Key**. (Radiation Monitor Screen 4 will be displayed.) This screen (Radiation Monitor Screen 4) consists of RMS 15 minute average monitor values listed below).

- Plant Vent Airflow to Atmosphere (Plant Vent Flow Rate)

ATTACHMENT 2

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- R45B Plant Vent Accident Mon (Medium Range Noble Gas)
- R45C Plant Vent Accident Mon (High Range Noble Gas)
- R16 Plant Vent Gas Effluent
- R41A Low Range Noble Gas
- R41B Mid Range Noble Gas
- R41C High Range Noble Gas
- R43 Aux Building Roof Mon

1.1.6 RECORD RMS values on Form - 1, SPDS RMS Log (Salem Only).

2.0 SALEM 1 & 2 SPDS RADIOLOGICAL SCREEN TRENDING INSTRUCTIONS

2.1 Perform The Steps Listed Below In The Listed Order, To Trend SPDS Radiological Monitors.

2.1.1 DISPLAY the screen that lists the monitor you want to trend.

2.1.2 DEPRESS the "DATA ENTRY FORWARD" key to move the cursor to the radiation monitor that is to be trended.

2.1.3 DEPRESS the "TREND" key.

2.1.4 DEPRESS the "Page Down" key to display the trending of the monitor.

2.1.5 DEPRESS the "Page Up" key to return to Radiation Monitor Screen 1.

3.0 RML SCREEN INSTRUCTIONS

DEPRESS The **RML** Key To Display The Dome Screen (Instantaneous RMS Values will be displayed).

4.0 RML SCREEN INSTRUCTIONS

DEPRESS The **RM** Key To Display Any **Abnormal Or Potentially Abnormal Radiological Releases In Progress**

FORM – 1

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SPDS RMS LOG (SALEM ONLY)

Date/Time: ____ - ____ - ____ / ____ : ____
Unit ____

Salem

Location on SPDS	Monitor Number	Description of Monitor	Value of Monitor	Units
Screen 1/3	R46A	Main Steam Line Mon	_____	mR/hr
Screen 1/3	R46B	Main Steam Line Mon	_____	mR/hr
Screen 1/3	R46C	Main Steam Line Mon	_____	mR/hr
Screen 1/3	R46D	Main Steam Line Mon	_____	mR/hr
Screen 1/3	R46E	Main Steam Line Mon	_____	mR/hr
Screen 1/3	R44A	CNTMT Post LCOA Mon	_____	R/hr
Screen 1/3	R44B	CNTMT Post LOCA Mon	_____	R/hr
Screen 1/3	R11A	CNTMT Particulate Mon	_____	cpm
Screen 1/3	R12A	CNTMT Noble Gas Mon	_____	cpm
Screen 1/3	R12B	CNTMT Iodine Mon	_____	cpm
Screen 4	R16	Plant Vent Gas Mon	_____	cpm
Screen 2/4	R41A	Low Range Noble Gas Mon	_____	uCi/cc
Screen 2/4	R41B	Mid Range Noble Gas Mon	_____	uCi/cc
Screen 2/4	R41C	High Range Noble Gas Mon	_____	uCi/cc
Screen 2/4	R45B	Plant Vent Accident Mon (Min Range Noble Gas Back-up)	_____	uCi/cc
Screen 2/4	R45C	Plant Vent Accident Mon (High Range Noble Gas Back-up)	_____	uCi/cc