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VERMONT YANKEE CONTROLLED DOCUMENT TRANSMITTAL FORM

*License No DPR-28*  
*Doc No 50-271*

SECTION 1

DOCUMENT TITLE: IMPLEMENTING PROCEDURES TO THE E-PLAN

COPY NUMBER: 54

CHANGE NUMBER: #195

ISSUE DATE: October 3, 2001

INSTRUCTIONS:

- a. Attached is an authorized controlled copy to the above listed document for retention as your assigned copy.
- b. Review the revised material.
- c. Incorporate new change into the controlled document by document issue date, if applicable.
- d. Ensure that those who use the document are aware of the change.
- e. Destroy all superseded pages.
- f. Destroy obsolete forms and insert new forms into the files.
- g. Sign and date this form and return to the Executive Secretary (ES) or Document Control Center (DCC).
- h. Complete appropriate change information on VY Controlled Document Record of Changes.

TRANSMITTED BY: *Diane McLean*  
ES or DCC Signature

**AFTER COMPLYING WITH THE ABOVE  
INSTRUCTIONS, PLEASE RETURN TO THE ES OR  
DCC WITHIN 10 DAYS OF THE ISSUE DATE.**


SECTION 2

The undersigned acknowledges completion of the preceding instructions.

Signature of Recipient: \_\_\_\_\_ Date: \_\_\_\_\_

*A045*

## Eplan Implementing Plant Procedures

To: Eplan Implementing Procedure Controlled Set Holders  
From: Diane McCle   
Date: 10/03/01  
Re: VY Eplan Implementing Procedure Change #195, Instruction Sheet

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**REVISIONS:** Please replace the following procedures: -

<u>Proc/Rev #</u>	<u>Procedure Title</u>
OP 3509/17	Environmental Sample Collection During an Emergency
OP 3510/25	Off-Site and Site Boundary Monitoring

A new Table of Contents is provided.

**LPC's:** The following LPC should be incorporated into the appropriate procedures:

<u>Proc/Rev #</u>	<u>LPC #</u>	<u>Procedure Title</u>
OP 3531/14	1	Emergency Call-In Method
OP 3541/0	1	Activation of the TSC

# Vermont Yankee Emergency Plan Implementing Procedures

## Table of Contents

October 9, 2001

Emergency Plan Classification and Action Level Scheme	AP 3125	Rev. 18	"R"
Emergency Communications	OP 3504	Rev. 33	"R"
Emergency Preparedness Exercises and Drills	OP 3505	Rev. 23	"I"
Emergency Equipment Readiness Check	OP 3506	Rev. 40	"R"
Emergency Radiation Exposure Control	OP 3507	Rev. 29	"R"
On-Site Medical Emergency Procedure	OP 3508	Rev. 22	"R"
Environmental Sample Collection During an Emergency	OP 3509	Rev. 17	"R"
Off-Site and Site Boundary Monitoring	OP 3510	Rev. 25	"R"
Off-Site Protective Action Recommendations	OP 3511	Rev. 11	"R"
Evaluation of Off-Site Radiological Conditions	OP 3513	Rev. 20	"R"
Emergency Actions to Ensure Accountability and Security Response	OP 3524	Rev. 17	"R"
Radiological Coordination	OP 3525	Rev. 9	"R"
Emergency Call-In Method	OP 3531	Rev. 14	"R"
Emergency Preparedness Organization	AP 3532	Rev. 10	"I"
Post Accident Sampling of Reactor Coolant	OP 3533	Rev. 4	"C"
Post Accident Sampling of Plant Stack Gaseous Releases	OP 3534	Rev. 3	"C"
Post Accident Sampling and Analysis of Primary Containment	OP 3535	Rev. 3	"C"
In Plant Air Sample Analysis with Abnormal Condition	OP 3536	Rev. 1	"C"
Control Room Actions During an Emergency	OP 3540	Rev. 0	"R"
Activation of the Technical Support Center	OP 3541	Rev. 0	"R"
Operation of the Technical Support Center	OP 3542	Rev. 0	"R"
Operation of the Operations Support Center	OP 3544	Rev. 0	"R"
Activation of the Emergency Operations Facility/Recovery Center	OP 3545	Rev. 0	"R"
Operation of the Emergency Operations Facility/Recovery Center	OP 3546	Rev. 0	"R"
Security Actions During an Emergency	OP 3547	Rev. 0	"R"
Emergency Plan Training	OP 3712	Rev. 15	"I"

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3509

REVISION 17

ENVIRONMENTAL SAMPLE COLLECTION DURING AN EMERGENCY

USE CLASSIFICATION: REFERENCE

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/09/2001

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## PURPOSE

To specify the procedure to be used for the collection of environmental samples during an emergency.

## DISCUSSION

The Off-site Environmental Monitoring System provides data on radioactive releases from the plant following an incident. This 6-station environmental monitoring system includes continuous air sampling equipment and thermoluminescent dosimeters at various locations within a 15 mile radius of the plant.

As personnel availability and emergency conditions permit, the Radiological Coordinator will direct the collection of air filters and TLD's from downwind locations listed in Appendix A.

Additionally, other environmental samples such as milk, ground water, and vegetation should be collected according to the methods prescribed in OP 4605, Environmental Radiation Sampling and Analysis, and at the discretion of the Radiological Coordinator.

## ATTACHMENTS

- |    |            |   |
|----|------------|---|
| 1. | Appendix A | Environmental Monitoring Station Locations                        |
| 2. | Appendix B | Method for Sampling Snow to Determine Deposition of Radionuclides |

## REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents
  - a. None
2. Codes, Standards, and Regulations
  - a. None
3. Commitments
  - a. None
4. Supplemental References
  - a. OP 4605, Environmental Radiation Sampling and Analysis

## PREREQUISITES

1. Apparatus Required:
  - a. Keys for the environmental stations and the River Station Gate are contained in the off-site emergency kits.

## PROCEDURE

1. Proceed to the downwind locations listed in Appendix A and collect air particulate filters, charcoal cartridges, and TLD's observing the procedural steps specified in OP 4605, Environmental Radiation Sampling and Analysis.
2. Replace collected air particulate filters, charcoal cartridges, and TLD's.
3. Deliver the air particulate filters, charcoal cartridges, and TLD's to the Radiological Coordinator for analysis.

### **NOTE**

TLD analysis requires use of reader from Duke Engineering Services Environmental Laboratory.

4. Acquire and prepare for analysis and/or shipment any other environmental samples as directed by the Radiological Coordinator.

### **NOTE**

The mobile laboratory may not be able to use calibrated geometries for other environmental sample types such as vegetation and soil.

5. If requested, sample snow cover for radionuclide deposition by utilizing Appendix B of this procedure.
6. Report results to the Radiological Coordinator.

## FINAL CONDITIONS

1. Radiological Coordinator has received results of the sample collection.

# APPENDIX A

## ENVIRONMENTAL MONITORING STATION LOCATIONS

<u>Station</u>	<u>General Location</u>	<u>Specific Location</u>
11 River Station	Off Vt. Rte. 142 south of plant near Vernon Nursing Home.	Turn off Rte. 142 at Nursing Home (Stebbins Rd), proceed to transmission lines, turn left (north) under lines and proceed to small building on bank of river.
12 North Hinsdale	N.H. Rte. 119, in North Hinsdale near Race Track.	On power pole directly opposite north (Service) entrance to Race Track.
13 Hinsdale Substation	Off N.H. Rte. 119 at Hinsdale Town Hall (Bldg. with tower and clock) in middle of town.	Turn south at Town Hall, cross bridge and railroad tracks. On power pole just south of tracks beside power substation.
14 Northfield	South of Northfield at junction of Mass. Rtes. #63 and #10 (to Bernardston).	Mounted on power pole east side of intersection.
15 Tyler Hill Road (1)	Off Vt. Rte. 142 north of plant on road to Guilford at intersection with Franklin Road.	Look for monitor on power pole in woods just west of Franklin Road.
21 Spofford Lake	Just off N.H. Rte. 9 on Rte. 9-A east of Spofford village.	Follow Rte. 9 east past intersection with #63 (blinker light). <u>Do not</u> take 9-A to left. Proceed on 9 until 9-A rejoins 9 east of Spofford. Double back on 9-A about 100 yards and look for monitor on power pole on north (right) side of road.

(1) No TLD at this location.



## APPENDIX B

### METHOD FOR SAMPLING SNOW TO DETERMINE DEPOSITION OF RADIONUCLIDES

#### Equipment Needed:

Shovel  
Meter Stick  
Plastic Bag(s)  
1 Gallon Sample Containers (cubitainers or equivalent)  
Graduated Cylinder  
Marking Pens

#### Procedure:

1. Determine location of snow to be sampled.
2. Mark off one (1) square meter surface area.
3. Remove all snow from this area down to the ground (avoid any debris such as leaves, twigs, and soil in the sample).
  - If snow is excessively deep, remove only the surface one (1) to two (2) feet and record this plus the total depth of the snow in that location on the sample submittal form.
4. Place snow in plastic bag(s) for transport to the preparation area.
5. Melt snow in bags and determine the total volume of sampled snow (melted).
6. Pour the melted snow into 1 gallon plastic containers.
7. Label and deliver to the Radiological Coordinator for analysis.
8. Request that the sample results be reported in units of deposited activity (pCi,  $\mu$ Ci, etc.) per square meter ( $m^2$ ).

VERMONT YANKEE NUCLEAR POWER STATION

**OPERATING PROCEDURE**

**OP 3510**

**REVISION 25**

**OFF-SITE AND SITE BOUNDARY MONITORING**

**USE CLASSIFICATION: REFERENCE**

LPC No.	Effective Date	Affected Pages

**Implementation Statement: N/A**

Issue Date: 10/09/2001

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## PURPOSE

To establish a procedure for surveying and reporting off-site and site boundary radiological conditions to the Emergency Operations Facility (EOF) Coordinator.

This procedure also specifies the methods used for surveying plant evacuees reporting to the Governor Hunt House.

## DISCUSSION

The prime objective of the Off-Site and Site Boundary Monitoring Teams is to rapidly survey areas downwind of the plant site in order to determine the extent and magnitude of any release of radioactive material following an incident. Decisions regarding the extent and types of protective actions required by the public will be based upon initial data reported by the survey teams.

The task of each monitoring team is to collect radiological data and air samples, and transmit the results to the EOF. Prior to the EOF becoming operational, the OSC will assign personnel to the monitoring teams. When radio communication is established with the TSC, the TSC will assume responsibility for and direct the monitoring teams as needed. When the EOF becomes operational, the Radiological Coordinator will assume responsibility and lead the overall direction of the teams. Unless directed otherwise by the Radiological Coordinator, the basic duties and responsibilities of the monitoring teams are as follows:

### Site Boundary Team

Obtains a dose rate reading and an air sample, at the site boundary downwind location where maximum radiation levels are detected. The data obtained are radioed to the EOF or PED if the EOF is not activated.

### Off-Site (Green)

Proceeds off-site to inner predetermined sample location in downwind sector (i.e., green dot in appropriate downwind sector on area map) obtaining radiation level readings enroute and an air sample when on station. The data obtained are radioed to the EOF.

### Off-Site (Blue)

Proceeds off-site to the vicinity of the outer predetermined sample location in downwind section (i.e., blue dot in appropriate downwind sector of area map) and transverse the plume to determine maximum radiation levels, or the plume centerline. An air sample is taken at that location and data obtained are radioed to the EOF.

An additional off-site team may be deployed at the discretion of the Radiological Coordinator. The color designation will be the "Black" Team and will be directed by the Radiological Coordinator. The same procedure will be followed as with the Green or Blue Teams.

The overriding consideration in the initial survey is speed combined with reasonable accuracy. Information is required with as little delay as possible; therefore, the survey consists of simple methods to approximate the magnitude of the accident. Once the initial urgency of the situation is satisfied, subsequent surveys and/or analysis may be made to obtain more accurate detailed information and a more precise evaluation. Additionally, samples will be collected and returned to the EOF for further analysis as the emergency and recovery phases continue.

The Governor Hunt House (GHH) serves as an assembly and monitoring area for contractors and visitors under conditions which require plant evacuation. The GHH Monitoring Team at the Site Area Emergency or General Emergency (not preceded by an Alert Declaration), monitor all personnel for contamination as they arrive from the plant. Contaminated personnel are dressed in appropriate protective clothing and sent to the EOF/RC for decontamination.

Members of the GHH Monitoring Team are assigned by and report to the OSC Coordinator.

## ATTACHMENTS

- |    |          |  |
|----|----------|--|
| 1. | Table I  | 10 Cubic Feet Air Sample I-131 Cartridge Results     |
| 2. | Figure 1 | Filter/Cartridge Collection Envelope - Example Label |

## REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents
  - a. None
2. Codes, Standards, and Regulations
  - a. None
3. Commitments
  - a. EPEX-9905C2\_00
  - b. EPEX8803CPE1
4. Supplemental References
  - a. DP 0530, Report #51
  - b. OP 3525, Radiological Coordination
  - c. AP 6807, Collection, Temporary Storage and Retrieval of QA Records

## PRECAUTIONS/LIMITATIONS

1. Use care not to contaminate monitoring equipment.
2. During foul weather, use care not to damage filters by exposing them to the elements (e.g., sample under hood or inside car).
3. The individual driving the vehicle shall not perform radio communications or take radiological readings while he is driving the vehicle.
4. Boundary and off-site teams should attempt to minimize their radiation exposure while performing their duties.
5. The monitoring teams should inventory their kits on the mezzanine of the Administration Building not in the OSC hallway.

### NOTES

- The deployment of Site Boundary and Off-Site Teams will be initially directed by the Technical Support Center (TSC). Once the EOF becomes operational, the Radiological Coordinator will assume the responsibility and direction of these teams. The Site Boundary Team may be dispatched initially by the Plant Emergency Director (PED).
- The radio base units will be designated and referred to as:
  1. TSC
  2. EOF
  3. PED

## PREREQUISITES

1. If any equipment malfunctions or is missing, notify the appropriate facility.

## PROCEDURE

### A. Site Boundary Team

Team Members:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Time: \_\_\_\_\_

Initial

1. Obtain Site Boundary Monitoring Kit, battery-powered air sampler, Eberline RM-14, and dose rate meter (PIC-6).
2. Perform the following checks:

**NOTE**

Steps 1, 2, 3, and 4 can be performed in parallel.

a. Air Sampler

**NOTE**

During a drill, silver zeolite will be simulated with charcoal cartridges.

- 1) Ensure that a new filter paper and silver zeolite cartridge are properly installed in their respective holders.

\_\_\_\_\_

- 2) Perform operability check.

**NOTE**

The purpose of the operability check of the battery-powered air sampler is to verify that it is functional prior to leaving the plant.

- a) Remove a battery from the charger (located in the E-Kit storage area in the OSC) or use a vehicle battery prior to leaving the plant.
    - (1) IF the air sampler has a plug-in type electrical connection, THEN plug it into the battery.
    - (2) IF the air sampler has a jumper cable type electrical connection, THEN attach the positive jumper cable to the positive terminal on the battery and the negative jumper cable to the negative terminal on the battery.
  - b) Place the switch in the ON position.
  - c) Verify that the air sampler is drawing air across the filter paper.  
(EPEX-99OSC2\_00)
- 3) Record the serial #: \_\_\_\_\_
- 4) Check calibration date: \_\_\_\_\_



## b. RM-14

- 1) Turn range switch to BATTERY CHECK position and ensure meter reads in the BATT OK range. \_\_\_\_\_
- 2) Ensure that the response switch is in SLOW position and that the test switch in back (if present) is in the DOWN position. \_\_\_\_\_
- 3) Verify an upscale meter response on all 3 scales by use of the check source in the Emergency Kit. \_\_\_\_\_
- 4) Record serial #: \_\_\_\_\_
- 5) Check calibration date: \_\_\_\_\_

## c. PIC-6

- 1) Turn range switch to BATTERY CHECK position and verify that the battery condition is within the BATT OK range. \_\_\_\_\_
- 2) Verify an upscale meter response on the mR/hr scale by use of the check source in the Emergency Kit. \_\_\_\_\_
- 3) Record serial #: \_\_\_\_\_
- 4) Check calibration date: \_\_\_\_\_

- d. Re-zero high range dosimeter if necessary and note initial reading of each. Check and note exposure periodically.

**NOTE**

Inform the appropriate facility by radio in the event a high range dosimeter exceeds 1 R while performing this procedure.

NAME	REM	TIME	REM	TIME	TOTAL
					REM
					REM
					REM

**NOTE**

If the OSC is not activated the PED will provide the (KI) and the Rad Protection Tech. will provide guidance on usage of respirators.

3. Obtain potassium iodide (KI) and respirators from OSC. The Rad Assistant will provide guidance on usage of KI and respirators per OP 3525.

4. Obtain one portable radio per team from Gate 2.
  - a. Check operability of radio as follows:
    - 1) Place frequency selector switch to position 3.

**NOTE**

In the event of failure of Freq. 3 in the field, switch to Freq. 1.

- 2) In a normal voice and with microphone approximately 8-10 inches in front of mouth, push microphone button and say: "(TSC, PED or EOF) this is the Site Boundary Team requesting a radio check. Do you read me?" Release microphone button. (The facility base radio should respond to your call).
  - b. Radio operable and contact made with TSC/EOF/PED. \_\_\_\_\_
5. Contact the appropriate facility and say: "(TSC, PED or EOF) this is the Site Boundary Team. We are in the ready condition, what is the wind direction and type of release? Over."
  - a. Record Wind Direction: \_\_\_\_\_
  - b. Record Type of Release: \_\_\_\_\_

"Site Boundary Team will be proceeding to the downwind sector unless you have special instructions for us. Over."
6. Determine downwind location at site boundary where maximum radiation levels are detected. Wear respiratory protection during this evolution.

7. Perform the following surveys (steps G.1 through 3 can be performed in parallel).
- a. Using the PIC-6, perform the following survey: (Use RM-14 if dose rate is less than 1 mR/hr.)

**NOTE**

All teams report the following readings by radio to the appropriate facility.

- 1) Monitor the radiation level at waist height. \_\_\_\_\_
- Counts per minute \_\_\_\_\_, or
- mR/hr \_\_\_\_\_, or
- R/hr \_\_\_\_\_
- Time \_\_\_\_\_
- 2) Check the radiation level 2 inches above the ground. \_\_\_\_\_
- Counts per minute \_\_\_\_\_, or
- mR/hr \_\_\_\_\_, or
- R/hr \_\_\_\_\_

- b. If using the Radeco H-809C air sampler or HV-1BC air sampler:

**NOTE**

A "Standard" air sample is collected at 1 cfm for ten minutes (or a total of 10 cubic feet).

- 1) Connect the leads to the car battery or the portable battery. Turn the power switch ON. Record start time and start the stopwatch.

Start Time: \_\_\_\_\_

- 2) Record the flow (in cfm) for the beginning of the 10 minute (or as otherwise directed) sample on the air sample envelope.

Flow: \_\_\_\_\_ cfm

- 3) After the sample time has elapsed, note the flow (in cfm) and record on the air sample envelope.

Flow: \_\_\_\_\_ cfm

- 4) Turn the power switch to the OFF position. Record time off and stop the stopwatch and record total minutes. Disconnect the air sampler from the battery.

Time Off: \_\_\_\_\_ Total Minutes: \_\_\_\_\_

- c. Move to a low background area and use the RM-14 to perform the following:

- 1) Check RM-14 background level. Find an area that is <2000 cpm.

Record background: \_\_\_\_\_ cpm \_\_\_\_\_

- 2) Remove silver zeolite cartridge, wrap in parafilm, and place in probe holder on RM-14. Place filter paper in properly labeled envelope (see Fig. 1).

- 3) Place the probe directly over the silver zeolite and obtain count rate of sample after the needle stabilizes.

Record gross count rate: \_\_\_\_\_ cpm \_\_\_\_\_

- 4) Correct for background in the following manner:

Gross Count Rate (from Step G.3.c) \_\_\_\_\_ cpm

minus -

Background (from Step G.3.a) \_\_\_\_\_ cpm

equals =

NET cpm \_\_\_\_\_ cpm \_\_\_\_\_

## 8. Reporting air sample results:

## a. If the air sample was a "Standard" air sample:

- 1) Refer to Table I "NET cpm" column and locate net cpm value of Step G.3.d above and note the corresponding "Air Code" number.

Record "Air Code" number: \_\_\_\_\_

- 2) Report the "Air Code" number and the sample collection time to the appropriate facility. \_\_\_\_\_

b. If the air sample is not a standard air sample, inform the appropriate facility that this is a "NON-Standard" air sample and record and report as applicable:

1) Time ON: \_\_\_\_\_

2) Flow ON: \_\_\_\_\_ cfm

3) Time OFF: \_\_\_\_\_ or total minutes: \_\_\_\_\_

4) Flow OFF: \_\_\_\_\_ cfm

5) Air sample NET cpm from Step G.3.d above. \_\_\_\_\_

## c. Place cartridge and particulate filter in separate envelopes (see Fig. 1) and contact the appropriate facility to determine instructions on how fast they desire the sample, plus the method/time frame for delivery to Radiological Coordinator. \_\_\_\_\_

## 9. Check and log on Section 1, Step B.4 high range dosimeter reading. Notify the appropriate facility by radio in the event of high range dosimeter exceeds 1 R. \_\_\_\_\_

## 10. Contact the appropriate facility and request further instructions. \_\_\_\_\_

## 11. If a new location is assigned, repeat Steps G through K as required.

B. Off-Site (Green and Blue Teams)

Team Name: \_\_\_\_\_

Team Members: \_\_\_\_\_ Date: \_\_\_\_\_

\_\_\_\_\_ Time: \_\_\_\_\_

\_\_\_\_\_

1. Obtain Off-Site Monitoring Kit, air sampler, Eberline RM-14, and dose rate meter (PIC-6). \_\_\_\_\_
2. Perform the following checks:

**NOTE**

Steps 1, 2, 3 and 4 can be performed in parallel.

a. Air Sampler

**NOTE**

During a drill, silver zeolite will be simulated with charcoal cartridges.

- 1) Ensure that a new filter paper and silver zeolite cartridge are properly installed in their respective holders. \_\_\_\_\_



- 2) Perform operability check.

**NOTE**

The purpose of the operability check of the battery-powered air sampler is to verify that it is functional prior to leaving the plant.

- a) Remove a battery from the charger (located in the E-Kit storage area in the OSC) or use a vehicle battery prior to leaving the plant.
    - (1) IF the air sampler has a plug-in type electrical connection, THEN plug it into the battery.
    - (2) IF the air sampler has a jumper cable type electrical connection, THEN attach the positive jumper cable to the positive terminal on the battery and the negative jumper cable to the negative terminal on the battery.
  - b) Place the switch in the ON position.
  - c) Verify that the air sampler is drawing air across the filter paper.  
(EPEX-99OSC2\_00)
- 3) Record the serial #:\_\_\_\_\_
- 4) Check calibration date:\_\_\_\_\_

b. RM-14

- 1) Turn range switch to BATTERY CHECK position and ensure meter reads in the BATT OK range. \_\_\_\_\_
- 2) Ensure that the response switch is in SLOW position and that the test switch in back (if present) is in the DOWN position. \_\_\_\_\_
- 3) Verify an upscale meter response on all 3 scales by use of the check source in the Emergency Kit. \_\_\_\_\_
- 4) Record the serial #: \_\_\_\_\_
- 5) Check calibration date: \_\_\_\_\_

c. PIC-6

- 1) Turn range switch to BATTERY CHECK position and verify that the battery condition is within the BATT OK range. \_\_\_\_\_
- 2) Verify an upscale meter response on the mR/hr scale by use of the check source in the Emergency Kit. \_\_\_\_\_
- 3) Record the serial #: \_\_\_\_\_
- 4) Check calibration date: \_\_\_\_\_

- d. Re-zero high range dosimeters, if necessary, and note initial reading of each. Check and note exposure periodically.

**NOTE**

Inform the appropriate facility by radio in the event a high range dosimeter exceeds 1 R while performing this procedure.

NAME	REM	TIME	REM	TIME	TOTAL
					REM
					REM
					REM

3. Obtain potassium iodide (KI) and respirators from OSC. The Rad Assistant will provide guidance on usage of KI and respirators per OP 3525.
4. Obtain a company vehicle from Gate 2. Complete radio operability check before leaving site.
- a. Check operability of radio as follows:
- 1) Place frequency selector switch to position 3.

**NOTE**

In the event of failure of Freq. 3 in the field, switch to Freq. 1.

- 2) In a normal voice and with microphone approximately 8-10 inches in front of mouth, push microphone button and say: "TSC or EOF (whichever is in control), this is (specify team) Team requesting a radio check. Do you read me?" Release microphone button. (The facility base radio should respond to your call.)
- b. Radio operable and contact made with the EOF.

5. Contact the appropriate facility and say: (EOF or TSC) this is (specify team) Team. We are in the ready condition, what is the wind direction and type of release? Over."

- a. Record Wind Direction: \_\_\_\_\_
- b. Record Type of Release: \_\_\_\_\_
- c. Record RM-14 Background Level: \_\_\_\_\_cpm

"(Specify team) Team will be proceeding to the downwind sector unless you have special instructions for us. Over."

6. Unless otherwise specified by the EOF or TSC, as applicable:

Green Team proceeds directly to inner (green) down wind sample location.

Blue Team proceeds to vicinity of outer (blue) sample location and attempts to locate the approximate centerline of plume prior to taking air sample.

**NOTE**

The following step is intended to locate the approximate plume boundary. Do not stop to determine a precise location.

7. While enroute, team passenger holds probe of RM-14 inside car window (shielded from wind) and notes the approximate location at which the background level recorded in E.3) above doubles.

Record Location: \_\_\_\_\_

8. While enroute, record additional readings at easily identified landmarks:

<u>Location</u>	<u>Time</u>	<u>Reading (Circle one)</u>
_____	_____	_____ (RM-14) (PIC-6)
_____	_____	_____ (RM-14) (PIC-6)
_____	_____	_____ (RM-14) (PIC-6)
_____	_____	_____ (RM-14) (PIC-6)
_____	_____	_____ (RM-14) (PIC-6)

**NOTES**

- Announce actual measurements over radio: simply refer to them as "counts per minute", "mR/hr", or "R/hr".
- Step I below for "blue" team only. (Green team proceed to step J.)

9. Blue Team, in the vicinity of the outer (blue) sample location on map, seek out nearest roads crossing the direction of the plume and determine the location of the maximum reading as precisely as possible.

**NOTE**

While crossing the plume, a rapid dose rate change is not anticipated. Look for a wide maximum plateau and do not spend more than 5 minutes in selecting a sampling location.

- a. Record the following:

Location: \_\_\_\_\_

\_\_\_\_\_

Circle One

Dose Rate Reading: \_\_\_\_\_ (RM-14) (PIC-6)

Time: \_\_\_\_\_

- b. Contact the appropriate facility and advise the radio operator your team is on location and summarize the results of Steps G, H, and I. \_\_\_\_\_

10. Green Team, contact the appropriate facility and advise radio operator your team is on location and summarize the results of Steps G and H. \_\_\_\_\_

**NOTE**

While on station, keep the appropriate facility advised of any significant changes in radiation levels, wind direction, rain, etc.

11. Upon arrival at sampling location, ensure that the release cloud has arrived by observing stable elevated RM-14 or PIC-6 background, or by calculating arrival time based on wind speed.
12. Perform the following surveys: (steps L.1 through 3 can be performed in parallel).
- a. Using the PIC-6, perform the following survey: (Use RM-14 if dose rate is less than 1 mR/hr.)

**NOTE**

All teams report the following readings by radio to the appropriate facility.

- 1) Monitor the radiation level at waist height. \_\_\_\_\_

Counts per minute \_\_\_\_\_, or

mR/hr \_\_\_\_\_, or

R/hr \_\_\_\_\_

Time \_\_\_\_\_

- 2) Check the radiation level 2 inches above the ground. \_\_\_\_\_

Counts per minute \_\_\_\_\_, or

mR/hr \_\_\_\_\_, or

R/hr \_\_\_\_\_

- b. If using the Radeco H-809C air sampler or HV-1BC air sampler:

**NOTE**

A "Standard" air sample is collected at 1 cfm for ten minutes (or a total of ten cubic feet).

- 1) Connect the leads to the car battery or portable battery. Turn the power switch ON, record start time, and start the stopwatch.

Start Time: \_\_\_\_\_

- 2) Record the flow (in cfm) for the beginning of the 10 minute (or as otherwise directed) sample on the air sample envelope.

Flow: \_\_\_\_\_ cfm

- 3) After the sample time has elapsed, note the flow (in cfm), and record on the air sample envelope.

Flow: \_\_\_\_\_ cfm

- 4) Turn the power switch to the OFF position. Record time OFF, and stop the stopwatch and record total minutes. Disconnect the air sampler from the battery.

Time Off: \_\_\_\_\_ Total Minutes: \_\_\_\_\_

- c. Move to a low background area and use the RM-14 to perform the following:

- 1) Check RM-14 background level. Find an area that is <2000 cpm.

Record Background: \_\_\_\_\_ cpm \_\_\_\_\_

- 2) Remove silver zeolite cartridge, wrap in parafilm, and place in probe holder on RM-14. Place filter paper in properly labeled envelope (see Fig. 1).

- 3) Place the probe directly over the silver zeolite and obtain count rate of sample after the needle stabilizes.

Record gross count rate: \_\_\_\_\_ cpm \_\_\_\_\_

- 4) Correct for background in the following manner:

Gross Count Rate (from Step L.3.c) \_\_\_\_\_ cpm

minus -

Background (from Step L.3.a) \_\_\_\_\_ cpm

equals =

NET cpm \_\_\_\_\_ cpm \_\_\_\_\_



**NOTE**

Telephone - In the event of a radio breakdown, proceed to nearest available phone and call 802-257-7711 or 802-257-5271.

## 13. Reporting air sample results:

## a. If the air sample is a "Standard" air sample:

- 1) Refer to Table 1: "Net cpm" column and locate Net cpm value of Step L.3.d above and note the corresponding "Air Code" number.

"Air Code" number: \_\_\_\_\_

- 2) Report the "Air Code" number, the sample collection time, and location to the appropriate facility.

## a) To make initial call, say:

"(EOF or TSC), this is \_\_\_\_\_ (specify team color) Team. Over." \_\_\_\_\_

## b) When the facility responds, say:

"We are located at \_\_\_\_\_ and our sample is from \_\_\_\_\_. The sample result is Air Code # \_\_\_\_\_. The sample collection time is \_\_\_\_\_. Over". \_\_\_\_\_

- c) In the event radio communications cannot be established at sampling locations, seek higher elevations, then attempt to contact appropriate facility or relay message through other teams.

b. If the air sample is not a standard air sample, record as applicable:

- 1) Time ON: \_\_\_\_\_
- 2) Flow ON: \_\_\_\_\_ cfm
- 3) Time OFF: \_\_\_\_\_ or total minutes: \_\_\_\_\_
- 4) Flow OFF: \_\_\_\_\_ cfm

- 5) Air sample Net cpm from Step L.3.d above.
- 6) Report the air sample information and location to the appropriate facility.
  - a) To make initial call, say:

"(EOF or TSC), this is \_\_\_\_\_ (specify team color) Team. Over." \_\_\_\_\_
  - b) When the facility responds, say:

"We are located at \_\_\_\_\_ and our sample is from \_\_\_\_\_. The air sample results are (report results from 2)a), 2)b), 2)c), 2)d), 2)e), above). This is a "NON-Standard" air sample. Over". \_\_\_\_\_
  - c) In the event radio communications cannot be established at sampling locations, seek higher elevations, then attempt to contact appropriate facility or relay message through other teams.
- c. Place cartridge and particulate filter in separate envelopes (see Figure 1) and contact the appropriate facility to determine instructions on how fast they desire the sample, plus the method/time frame for delivery to Radiological Coordinator. \_\_\_\_\_
14. Check and log on Section 2 Step B.4 high range dosimeter. Notify the appropriate facility by radio in the event a high range dosimeter exceeds 1 R. \_\_\_\_\_
15. Survey your equipment and yourselves for contamination using the RM-14.
16. If contamination is found, notify the appropriate facility.
17. Contact the appropriate facility and request further instructions.
18. If a new location is assigned, perform Section 2 as required.

## C. Governor Hunt House Monitoring Team

Team Members:

\_\_\_\_\_ (Leader)                      Date: \_\_\_\_\_  
 \_\_\_\_\_                                      Time: \_\_\_\_\_  
 \_\_\_\_\_

The Team Leader or designee performs the following steps  
 (EPEX8803CPE1):

1. Obtain RM-14s, one PIC-6A, and a portable radio (from Gate 2 or Gate 1), and perform the following checks:

a. RM-14

- 1) Turn range switch to BATTERY CHECK position and ensure meter reads in the BATT OK range. \_\_\_\_\_
- 2) Ensure that the response switch is in SLOW position and that the test switch in back (if present) is in the DOWN position. \_\_\_\_\_
- 3) Verify an upscale meter response on all 3 scales by use of the check source in the Emergency Kit. \_\_\_\_\_
- 4) Check calibration date. \_\_\_\_\_

b. PIC-6A

- 1) Turn range switch to BATTERY CHECK position and verify that the battery condition is within the BATT OK range. \_\_\_\_\_
- 2) Verify an upscale meter response on the mR/hr scale by use of the check source in the Emergency Kit. \_\_\_\_\_
- 3) Check calibration date. \_\_\_\_\_

2. Report to the GHH or as directed by the OSC Coordinator. \_\_\_\_\_

3. Periodically inform the OSC Coordinator of any pertinent radiological or other significant information. If the background in the GHH is greater than 2000 cpm, immediately notify the OSC Coordinator to determine an alternate monitoring location.

**NOTE**

Utilize the best means available to communicate with required personnel (plant telephone, PA system, radio etc.).

4. Notify the OSC Coordinator to obtain current plant status and pertinent release information.
5. Keep personnel at the GHH aware of significant changes in plant conditions.
6. Implement the following steps for the applicable emergency classification:
  - a. Alert
    - 1) Await further instructions from the TSC or OSC.
    - 2) If an escalation in the emergency class (from an Alert) is declared, notify all VY personnel to report to the EOF unless directed otherwise, and have all other personnel evacuate the GHH. Frisking of personnel or vehicles is not required unless otherwise directed by the TSC or OSC.

- b. Site Area Emergency or General Emergency not preceded by a Declaration of an Alert
  - 1) Frisk all contractors and visitors as they arrive (low background area).
  - 2) Release personnel if readings are less than 2X background or < 2000 net cpm. If contamination found is greater than 2X background or 2000 net cpm, whichever is less, perform the following:
    - a) Assess contaminated areas and dress personnel in appropriate protective clothing (paper coveralls, cloth gloves, booties, etc.).
    - b) Send personnel to EOF/RC for decontamination.
    - c) Notify the Personnel Equipment Monitoring Team at the EOF/RC the names of the personnel to be reporting to the facility.
  - 3) Give "CONTRACTOR EXIT PASSES" to all contractors and visitors that have been monitored.
  - 4) Direct contractors and visitors to retrieve their vehicles from the parking lot, hand their "CONTRACTOR EXIT PASS" to the security officer at Gatehouse 1 and leave site.
- 7. Upon completion of duties, notify OSC Coordinator for additional instruction or assistance that may be required.
- 8. Return to the OSC, and report any pertinent information to the OSC Coordinator or designated Assistant for the RP Log.

## FINAL CONDITIONS

1. Return radio to proper location.
2. Return Emergency Kit and equipment to the Operations Support Center.
3. Submit completed copy of this procedure to the Radiological Assistant at the EOF.
4. Turn in all dosimeters to the Radiological Assistant at the EOF.
5. The Emergency Plan Coordinator will ensure records are filed in accordance with AP 6807.

TABLE I

## 10 CUBIC FEET AIR SAMPLE I-131 CARTRIDGE RESULTS

<u>"AIR CODE"</u>	<u>NET cpm</u>
0	<40
1	40
3	80
4	100
5	125
6	150
7	175
8	200
9	225
10	250
11	275
12	300
13	325
14	350
15	375
16	400
17	425
18	450
19	500
20	750
21	1000
22	1250
23	1500
24	1750
25	2000
26	2250
27	2500
28	2750
29	3000
30	3250
31	3500
32	3750
33	4000
34	4250
35	4500
36	5000
37	7500
38	10000
39	12500
40	15000
41	17500
42	20000
43	25000
44	30000
45	35000
46	40000
47	50000

FIGURE 1

FILTER/CARTRIDGE COLLECTION ENVELOPE - EXAMPLE LABEL

	<u>AIR SAMPLER TIMES</u>	<u>AIR SAMPLER FLOW RATES</u>
DATE:		
TEAM:	START: _____	START: _____ CFM
LOCATION:	STOP: _____	STOP: _____ CFM
<u>ENCLOSED (CHECK ONE)</u>	ELAPSED: _____ (MIN)	
<input type="checkbox"/> FILTER	<u>SAMPLE COUNT (CPM)</u>	
<input type="checkbox"/> CARTRIDGE	GROSS: _____ (CPM)	
<u>SIGNATURE:</u>	BACKGROUND: _____ (CPM)	
	NET: _____ (CPM)	



**LPC's**

VERMONT YANKEE NUCLEAR POWER STATION

**OPERATING PROCEDURE**

**OP 3531**

**REVISION 14**

**EMERGENCY CALL-IN METHOD**

**USE CLASSIFICATION: REFERENCE**

LPC No.	Effective Date	Affected Pages
1	08/24/01	5,7 & 8 of 19

**Implementation Statement: N/A**

Issue Date: 08/07/01

## PROCEDURE

### I. EMERGENCY CALL-IN METHOD

#### NOTES

- If the initial Emergency Classification is an Unusual Event, the emergency call-in method is activated for the Unusual Event. If there are subsequent escalations in the Emergency Classification, the emergency call-in method is only activated for that first subsequent escalation in the Emergency Classification.
- If the initial Emergency Classification is an Alert or higher, the emergency call-in method is activated for that initial Emergency Classification. For any subsequent escalation in the Emergency Classification, the emergency call-in method is not activated.
- Steps may be performed concurrently.

I LPC 1

- A. Upon receiving notification of an Unusual Event, Unusual Event (Terminated), Alert, Site Area Emergency, or General Emergency, the SSS or designated alternate shall:
1. Activate the Emergency Call-In Notification System as follows:
    - a. Contact the Community Alert Network (CAN) Operator at 9-1-800-██████████.
    - b. If you are connected to the CAN Hotline recording, do the following, otherwise go to Step 1.c:
      - 1) Provide the following message when requested:

"This is \_\_\_\_\_, the Security Shift Supervisor at Vermont Yankee.

My password is \_\_\_\_\_.

My callback number is \_\_\_\_\_."
      - 2) Proceed to Step 1.c when CAN callback is received.
      - 3) If the call-back is not received in a reasonable amount of time given the current emergency circumstances, proceed to Section V to implement the Alternate Emergency Call-In Method.

d. Activate the VY Pager System as follows:

- 1) Dial 9- [REDACTED].
- 2) After hearing the verbal prompt, dial in password 5787.

NOTE

A display of "111" is used for Unusual Event (Terminated).

- 3) After hearing the verbal prompt, press the buttons listed below for the appropriate Emergency Classification and pager holder call-back number (determined in Step c), and then hang up:

NOTE

XXX XXXX is the 7-digit pager holder call-back telephone no.  
determined in the previous step.

EMERGENCY CLASSIFICATION    BUTTONS PRESSED

Unusual Event	-	111 XXX XXXX
Alert	-	222 XXX XXXX
Site Area	-	333 XXX XXXX
General	-	444 XXX XXXX

- 4) If indications are received that the group paging capability is out of service, implement the emergency paging company notification specified in Section IV.

e. Contact the Plant Support Building by dialing 3999 and announcing the emergency classification and declaration time over the office paging system.

Date \_\_\_\_\_ Time \_\_\_\_\_ Initials (Security): \_\_\_\_\_

LPC 1

- f. Contact the Corporate Building in Brattleboro by dialing 4699 and announcing the emergency classification and declaration time over the office paging system.

Date\_\_\_\_\_ Time\_\_\_\_\_ Initials (Security):\_\_\_\_\_

- g. Activate the DE&S Personnel Pager system as follows:

- 1) Dial 9-1-800-██████████.
- 2) Wait for one (1) long tone on phone and dial in code number 10597.

**NOTES**

- The five-digit code number activates the DE&S group call system.
- Use "14 1 #" for Unusual Event (Terminated).

- 3) After hearing another tone, press the buttons listed below for the appropriate Emergency classification:

UNUSUAL EVENT - 14 1 #

ALERT - 14 2 #

SITE AREA - 14 3 #

GENERAL - 14 4 #

**NOTE**

If the verbal closeout is not heard, repeat Steps g.1) through g.4).

- 1) Listen for the verbal closeout and a busy signal, and hang up. Your message has been transmitted.
- h. If a CAN callback to confirm successful activation is not received within 5 minutes, call the CAN Operator at 9-1-800-██████████ to determine status.
- i. If indications are received from the CAN Operator that the method failed to activate, implement the Alternate Emergency Call-In Method specified in Section V.

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3541

ORIGINAL

ACTIVATION OF THE TECHNICAL SUPPORT CENTER (TSC)

USE CLASSIFICATION: REFERENCE

LPC No.	Effective Date	Affected Pages
1	08/30/01	Fig. 1 Pg 1 of 1

Implementation Statement: N/A

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FIGURE 1  
TECHNICAL SUPPORT CENTER FOOTPRINT

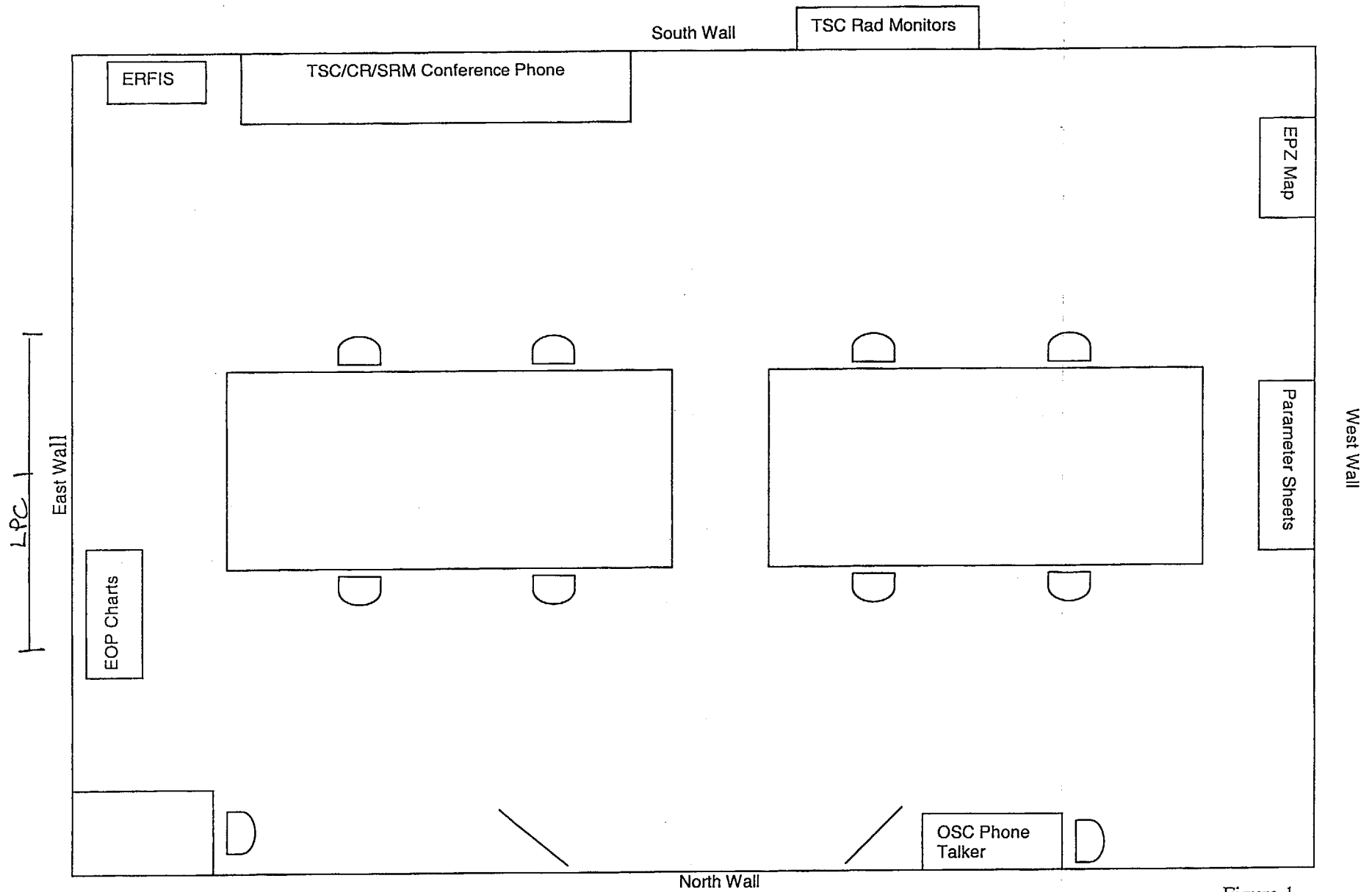


Figure 1  
OP 3541 Original  
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LPC #1