Entergy Nuclear Northeast
Vermont Yankee
P.O. Box 0500
185 Old Ferry Road
Brattleboro, VT 05302-0500
Tel 802 257 5271

October 29, 2003
BVY 03-96

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Subject: Vermont Yankee Nuclear Power Station
License No. DPR-28 (Docket No. 50-271)
Vermont Yankee Emergency Plan Implementing Procedure Changes

In accordance with 10 CFR 50.54(q), enclosed is the latest changes to the Vermont Yankee Emergency Plan Implementing Procedures including the change memos and the 10 CFR 50.54(q) Evaluation Checklists:

OP 3508, Rev. 24
OP 3509, Rev. 18
OP 3510, Rev. 27, LPC #1
OP 3511, Rev. 13
OP 3513, Rev. 22
OP 3525, Rev. 11
OP 3533, Rev. 6, LPC #2
OP 3544, Rev. 3, LPC #1
OP 3546, Rev. 4

These changes were determined to not need prior NRC review and approval.

If you have any questions, please contact Audra Williams, Emergency Planning Coordinator, in our Brattleboro office at (802) 258-4177.

Sincerely,

ENTERGY NUCLEAR NORTHEAST
VERMONT YANKEE

Lori Tkaczyk
Emergency Planning Manager

Attachments
cc: USNRC Region 1 Administrator
USNRC Resident Inspector – VYNPS
USNRC Project Manager – VYNPS (no attachments)
David M. Silk, Senior Emergency Preparedness Specialist,
USNRC Region 1
Vermont Department of Public Service

A045

E-Plan Implementing Plant Procedures

To: E-Plan Implementing Procedure Controlled Set Holders

From: Technical Support - DCC - Jeanne A. Gill

Date: 10/29/03

Re: Entergy Vermont Yankee Emergency Plan Implementing Procedure Change 221, Instruction Sheet

A new Table of Contents is included.

LPCs: The following LPC should be incorporated into the appropriate procedures:

Proc/Rev #	LPC #	Procedure Title
OP 3510/27	1	Off-Site and Site Boundary Monitoring
OP 3533/6	2	Post Accident Sampling of Reactor Coolant
OP 3544/3	1	Operation of the Operations Support Center (OSC)

REVISIONS: The following Revs should replace the appropriate procedures:

Proc/Rev #	Procedure Title
OP 3508/24	On-Site Medical Emergency Procedure
OP 3509/18	Environmental Sample Collection During an Emergency
OP 3511/13	Off-Site Protective Action Recommendations
OP 3513/22	Evaluations of Off-Site Radiological Conditions
OP 3525/11	Radiological Coordination
OP 3546/4	Operation of the Emergency Operations Facility/Recovery Center (EOF/RC)

Vermont Yankee Emergency Plan Implementing Procedures				
Table of Contents				
October 29, 2003				
Title	**Number**	**Revision**	**LPC #**	**Use Classification**
Emergency Plan Classification and Action Level Scheme	AP 3125	Rev. 19		"Reference"
Emergency Communications	OP 3504	Rev. 36	2	"Reference"
Emergency Preparedness Exercises and Drills	OP 3505	Rev. 24	2	"Information"
Emergency Equipment Readiness Check	OP 3506	Rev. 43	1	"Reference"
Emergency Radiation Exposure Control	OP 3507	Rev. 30		"Reference"
On-Site Medical Emergency Procedure	OP 3508	Rev. 24		"Reference"
Environmental Sample Collection During an Emergency	OP 3509	Rev. 18		"Reference"
Off-Site and Site Boundary Monitoring	OP 3510	Rev. 27	1	"Reference"
Off-Site Protective Action Recommendations	OP 3511	Rev. 13		"Reference"
Evaluation of Off-Site Radiological Conditions	OP 3513	Rev. 22		"Reference"
Emergency Actions to Ensure Initial Accountability and Security Response	OP 3524	Rev. 20		"Reference"
Radiological Coordination	OP 3525	Rev. 11		"Reference"
Emergency Call-In Method	OP 3531	Rev. 16		"Reference"
Emergency Preparedness Organization	AP 3532	Rev. 11		"Information"
Post Accident Sampling of Reactor Coolant	OP 3533	Rev. 6	2	"Continuous"
st Accident Sampling of Plant Stack Gaseous Releases	OP 3534	Rev. 4		"Continuous"
Post Accident Sampling and Analysis of Primary Containment	OP 3535	Rev. 4		"Continuous"
In Plant Air Sample Analysis with Abnormal Condition	OP 3536	Rev. 2		"Continuous"
Control Room Actions During an Emergency	OP 3540	Rev. 3		"Reference"
Activation of the Technical Support Center (TSC)	OP 3541	Rev. 2		"Reference"
Operation of the Technical Support Center (TSC)	OP 3542	Rev. 2		"Reference"
Activation of the Operations Support Center (OSC)	OP 3543	Rev. 0		"Reference"
Operation of the Operations Support Center (OSC)	OP 3544	Rev. 3	1	"Reference"
Activation of the Emergency Operations Facility/Recovery Center (EOF/RC)	OP 3545	Rev. 2		"Reference"
Operation of the Emergency Operations Facility/Recovery Center (EOF/RC)	OP 3546	Rev. 4		"Reference"
Security Actions During an Emergency	OP 3547	Rev. 2		"Reference"
Emergency Plan Training	OP 3712	Rev. 17		"Information"

REVISED PROCEDURE CONTROL FORM

ART 1 - Initiation

A. Procedure No.	New Revision	Title
OP 3508	No. 24	On-Site Medical Emergency Procedure

B. Review Criteria: ☐ Partial ☐ Editorial ☒ Complete

C. Periodic Review Cycle: ☒ 2 Year (Event Driven) ☐ N/A

D. List DIs & LPCs: N/A

E. Description and Reasons for Procedure/Changes:

- Redefined the Medical Response Team's responsibilities when reporting to medical emergency.
- Phone number changes for physicians. • Added wording for security events (und-2003-370-04)
- Redefined Control Room Personnel's responsibilities for announcements related to medical emergencies.
- Adding wording throughout procedure to more clearly define steps.
- Removed VYOPF 3508.01 and added Table 1 – Severity Categories for Contamination on Patient

F. Originator Name: (App. A was used as references to create this revision, App. C is completed and attached unless Part 1.B above is "Editorial".) **Telephone Extension:** x4177

(Print/sign/date) Audra Williams Audra Williams 3/4/03

PART 2 - Reviews

A. Walk-Through Validation: ☐ Required ☒ N/A

☐ Field Walk-Through
☐ Table-Top ☐ Simulator Validation

B. Technical Verification Reviewer ☐ N/A
(App. B used as a reference)
(Print/Sign/Date) Michael F. Empey / Michael F. Empey / 7/22/03

C. Cross-Discipline Reviews: ☐ N/A

Department	Name	Signature	Date
~~Safety~~	~~Lisa Stockwell~~		
Safety	John Boothroyd	John F Boothroyd	08-26-03
Operations	John Twarog		9/12/03

D. 50.59 Review Per AP 6002, Preparing 50.59 Evaluations ☐ N/A

☐ 50.59 AD previously performed and documented in the text of this procedure and is still applicable.
☒ 50.59 Applicability Determination completed and attached; 50.59 Screening NOT required.
☐ 50.59 Review Screening completed and attached, 50.59 Evaluation NOT required.
☐ 50.59 Evaluation completed and attached.

E. QUALIFIED REVIEWER: Use App. D as a reference (May perform 50.59 Applicability Determination) (Part 2.D)
(Print/Sign/Date) John Boothroyd John F Boothroyd 08-26-03

F. ORIGINATOR: ☑ Comments Resolved ☑ Re-verify All DIs & LPCs Considered
☑ Sent for Final Type (CDS or STC (SPs only)) Initial/Date AmH 3/17/03
☑ Proofread after Final Type
(Print/Sign/Date) Audra Williams Audra Williams 9.8.03

PART 3 - Training/Notification Requirements

A. Indicate training or notifications required to implement procedure: (Required for Administrative Procedures)

☒ **Include in formal training (TCR submitted):**

☒ **E-Mail notification:**

☐ **Crew Briefings:**

☐ **Other:** ☐ **N/A**

PART 4 - PORC

Plant Operation Review Committee: ☐ Required ☒ N/A

Meeting No: **PORC Secretary:** **Date:** **Plant Manager:**

PART 5 - Approval

A. Responsible Procedure Owner: (Print/Signature/Date)

Brian M Finn Brian M. Finn 10/15/3

B. Plant Manager (Print/Sign/Date) (For SPs Only)
N/A

C. Special Instructions: ☐ N/A

☐ Approved for Training

☑ Issue on DATE: 10-29-03

☐ Submit Surveillance Database Change per AP 4000

☐ Other:

PART 6 - Issuance

Procedure Change No.: #221

Date procedure issued: 10/29/03

Notes:

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3508, Rev. 24
Reviewer/Date (Print) Audra Williams 3/4/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		X
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.		X
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X

APPENDIX D

QUALIFIED REVIEWER CHECKLIST

Required to be completed for new procedures.
Required to be used as a reference for procedure revisions.

Procedure Number/Revision OP 3508 Rev. 24
Qualified Reviewer John Boothroyd / 8-26-03
Print Date

At a minimum, this review shall include a 50.59 Applicability Determination per AP 6002, Preparing 50.59 Evaluations, (if not already performed).

NOTE

Guidance is provided in AP 6036 for determining if the new or revised procedure is consistent with the existing UFSAR information including interim changes or requires the addition of new UFSAR information. AP 6036 provides the process for initiating the required UFSAR change.

Verify compliance with:

- UFSAR and Interim Changes
- T.S
- ODCM
- TRM (including Bases)
- VOQAM
- Design Basis Documents (DBDs)

Compliance Verified		
YES	NO	N/A
		✓
		✓
		✓
		✓
		✓
		✓

Document completion of the review on VYAPF 0096.01, .02, or.04 Part 2 as applicable

APPLICABILITY DETERMINATION

'ivity/Document Number: OP 3508 Revision Number: 24

Title: On-Site Medical Emergency Procedure

Provide or attach a brief description of activities (section 6.3 of RM):

- Redefined the Medical Response Team's responsibilities when reporting to medical emergency.
- Phone number changes for physicians.
- Redefined Control Room Personnel's responsibilities for announcements related to medical emergencies.
- Adding wording throughout procedure to more clearly define steps.
- Removed VYOPF 3508.01 and added Table 1 – Severity Categories for Contamination on Patient

Address the questions below for all aspects of the activity. If the answer is "YES" for any portion of the activity, apply the identified process to that portion of the activity. It is not unusual to have more than one process apply to a given activity. For example, a change to a door that is a fire door, a security door and a secondary containment door would require an evaluation to the Fire Protection license condition, 10CFR50.54 (p) and a 50.59 screen. See Section 4 of the "50.59 Resource Manual" (RM) for additional guidance.

I. Does the proposed activity involve a change to the:		Section 4.2.1 of the RM
1. Technical Specifications or Operating License (10CFR50.90)? Note that stand-alone changes to the TS Bases are evaluated in accordance with 10CFR50.59 per AP 0063.	☒ NO ☐ YES	(If YES process per AP 0063)
2. Quality Assurance Plan, related implementing procedures identified in PP 7802 or facility changes (10CFR50.54(a))?	☒ NO ☐ YES	(If YES contact QA for 10CFR50.54(a)(3) assessment)
3. Security Plan, related implementing procedures or facility changes (10CFR50.54(p))?	☒ NO ☐ YES	(If YES contact Security for 10CFR50.54(p) assessment)
4. Emergency Plan, related implementing procedures or facility changes (10CFR50.54(q))?	☐ NO ☒ YES	(If YES contact E-Plan for 10CFR50.54(q) assessment per AP 3532)
5. IST Program Plan, related implementing procedures or facility changes (10CFR50.55a(f))?	☒ NO ☐ YES	(If YES, and a deviation from the code requirement is required, contact Licensing to ensure applicable NRC approval is obtained per AP 0058)
6. ISI Program Plan, related implementing procedures or facility changes (10CFR50.55a(g))?	☒ NO ☐ YES	(If YES, and a deviation from the code requirement is required, contact Licensing to ensure applicable NRC approval is obtained per AP 0058)
7. Fire protection program, related implementing procedures or facility changes (License Condition 3.F)?	☒ NO ☐ YES	(If YES provide an evaluation that satisfies License Condition 3.F)

II. Does the proposed activity involve:		Section 4.2.2 of the RM
1. Maintenance which restores SSCs to their original condition.	☒ NO ☐ YES	(If YES perform maintenance in accordance with plant procedures (e.g. AP 0021, AP 0049, AP 0050)
2. A temporary alteration supporting maintenance that will be in effect during at-power operations for 90 days or less that has been (or will be) evaluated under 10CFR50.65(a)(4) prior to implementation?	☒ NO ☐ YES	(If YES process in accordance with AP 0091.)
III. Does the proposed activity involve a change to the UFSAR (including documents *incorporated by reference*) excluded from the requirement to perform a 50.59 Review (NEI 96–07 or NEI 98–03)?	☒ NO ☐ YES	Section 4.2.3 of the RM (If YES, process FSAR change per AP 6036 "FSAR Revision Process". Include basis for excluding 10CFR50.59 evaluation below.)
IV. Does the proposed activity involve a change to the:		Section 4.2.4 of the RM
1. Managerial or administrative procedures governing the conduct of Facility operations, maintenance and training (subject to the control of 10CFR50, Appendix B) (RM section 4.2.4). Some procedures may be VOQAM implementing procedures requiring evaluation per 10CFR50.54(a)(3) (prompted above). Also, Maintenance procedure changes that include changes to Design Information, not evaluated under a design change process, shall be evaluated in accordance with 10CFR50.59	☒ NO ☐ YES	(If YES process per procedure change process (e.g. AP 0095, AP 0096, AP 0097))
2. Regulatory commitment where changing commitment is not covered by another regulation based change process (NEI 99-04)?	☒ NO ☐ YES	(If YES process per AP 0055 "Regulatory Commitment Management".)
V. Does the activity impact other plant specific programs (e.g., The ODCM and PCLRTP controlled per TS 6.7 and the PCP controlled per TRM Section 6) which are controlled by regulations, the Operating License, the Technical Specifications or TRM ?	☒ NO ☐ YES	(If YES process per the procedure(s) for the appropriate activity.)
VI. Is the activity covered by any other specific regulatory change process not discussed above that would preclude the need to evaluate under 10CFR50.59 ? (e.g., 10CFR50.46 for changes to ECCS models and PCT changes, 10CFR50.12 for Exemption Requests, etc)	☒ NO ☐ YES	(If YES document below and process per applicable regulatory requirements.)
VII Does the activity require a 50.59 Screen based on the following Generic NRC correspondence? GL 95-02 for performing Analog-to-Digital upgrades, IEB 80-10 for Contamination of non-radioactive systems, IEC 80-18 for changes to radioactive waste systems and GL 91-18 for compensatory actions including using manual actions in-lieu of automatic actions or use-as-is dispositions affecting the FSAR. GL 95-02 assessments need to look at both system and component level failures (ER20000558_01)	☒ NO ☐ YES	(If YES complete 50.59 Screen for the subject activity.)

☒ All aspects of the activity are controlled by one or more of the processes above, therefore a 50.59 Screen is not required. If checked, provide any additional comments below and sign and date below.

☐ Any portion of the activity is not controlled by one or more of the processes above, therefore a 50.59 Screen or 50.59 Evaluation is required. If, checked, provide any additional comments below, sign and date below and complete 50.59 Screen for identified activities.

Additional Applicability Considerations:

Applicability Signoffs: Preparer: Audra Williams (Print name) (Sign) Date: 3/4/03

Reviewer: Lori A Tkaczyk (Sign) Date: 3/28/03

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3508, Rev. 24, On-Site Medical Emergency Procedure

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

1. Could the proposed change affect our ability to meet the following standards of 10 CFR 50.47(b):

   (1) Assignment of Emergency Response Organization responsibilities — YES (NO)

   (2) Assignment of on-shift Emergency Response Organization personnel — YES (NO)

   (3) Arrangements for Emergency Response Support and Resources — YES (NO)

   (4) Emergency Classification and Action levels, including facility system and effluent parameters — YES (NO)

   (5) Notification Methods and Procedures — YES (NO)

   (6) Emergency Communications among principal response organizations and the public — YES (NO)

   (7) Public Education and Information — YES (NO)

   (8) Adequacy of Emergency Facilities and Equipment — YES (NO)

   (9) Adequacy of Accident Assessment methods, systems and equipment — YES (NO)

   (10) Plume exposure pathway EPZ protective actions — YES (NO)

   (11) Emergency Worker Radiological Exposure Control — YES (NO)

   (12) Medical Services for contaminated injured individuals — (YES) NO

   (13) Recovery and Reentry Plans — YES (NO)

   (14) Emergency response periodic drills and exercises — YES (NO)

   (15) Radiological Emergency Response Training — YES (NO)

   (16) Plan development, review and distribution — YES (NO)

2. Could the change affect our ability to meet the following requirements of Appendix E to 10 CFR 50.

(1) Section IV. A - Organization	YES (NO)
(2) Section IV. B - Assessment Actions	YES (NO)
(3) Section IV. C - Activation of Emergency Organizations	YES (NO)
(4) Section IV. D - Notification Procedures	YES (NO)
(5) Section IV. E - Emergency Facilities and Equipment	YES (NO)
(6) Section IV. F - Training	YES (NO)
(7) Section IV. G - Maintaining Emergency Preparedness	YES (NO)
(8) Section IV. H - Recovery	YES (NO)

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10 CFR 50.47(b) and Appendix E to 10 CFR 50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10 CFR 50.47 (12) of Section A above, this change (DOES) DOES NOT) decrease the effectiveness of the Emergency Plan and (DOES) DOES NOT) continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

The changes made enhance and clearly define the roles of the medical emergency responders. The changes ~~changes~~ to the Medical Response Team define what type of information must be communicated to the Control Room and how members are to respond to announcements. For the Radiation Personnel a step was added to report contamination levels to the hospital, for contaminated patients, using a newly developed Table of terminology. It also defines what to do if they accompany the patient to the hospital and how to use the hospital's plans. This revision added specific announcements to be made by the Control Room depending upon the medical emergency in progress. It also added the Cheshire Medical Center as an alternate hospital. These changes more clearly define the roles of all involved in a medical emergency and do not decrease the effectiveness of the Plan and continues to meet the requirements.

10 CFR 50.54(q) Evaluation Checklist (Continued)

C. Conclusion (Fill out appropriate information)

☑ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10 CFR 50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search: _____

☑ This change does not affect any other documents.

☐ This change does affect other documents.

Document(s) affected: _____

Section(s) affected: _____

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search: _____

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 3/4/03
(Print/Sign)

Reviewed By: Lori A. Tkaczyk Lori A. Tkaczyk Date: 7/29/03
(Emergency Plan Coordinator) (Print/Sign)

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3508

REVISION 24

ON-SITE MEDICAL EMERGENCY PROCEDURE

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/29/03

TABLE OF CONTENTS

PURPOSE

To outline the actions of plant personnel responsible for implementing emergency search, care, rescue, and handling of individuals who are injured, and may be contaminated or have been exposed to high radiation levels.

DISCUSSION

This procedure involves accidents or occurrences on-site during which emergency medical treatment of one or more individuals is required. Proper handling of the injured, irradiated, or a contaminated individual requires the coordinated efforts of Control Room personnel, Radiation Protection, Medical Response Team Members, Security, and possibly the local ambulance and hospital.

Specific exposure guidelines for entry or re-entry into plant areas under emergency conditions are defined in OP 3507. The lead Medical Response Team member and the senior Radiation Protection person present should discuss the hazards involved in rescue procedures with the members of the response team prior to undertaking any rescue mission.

This procedure provides instructions for search and rescue, and for the initial care and treatment of the injured person(s) at the plant site with emergency care and preventative radiation protection practices upheld until more definitive care is secured at the local hospital.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the scope of the procedure or program is not revised to include a different type of activity. The basis for this conclusion is that this document is an Emergency Implementing Procedure and is subject to 10CFR50.54(q) to determine if the changes decrease the effectiveness of the Emergency Plan and if they have the potential to affect our ability to meet the standards of 10CFR50.47(b) and the requirements of 10CFR50 Appendix E.

ATTACHMENTS

1.	VYOPF 3508.01	Deleted
2.	Table 1	Severity Categories for Contamination on Patient

QA REQUIREMENTS CROSS REFERENCE

1. None

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. Special Project Report No. 0008, "Gross Beta/Gamma Instrument Conversion Factors", dated 1/30/88 (VYDPF 0530.02)
   b. Massachusetts Nuclear Incident Advisory Team Handbook
   c. Safety Standard No. 105, Reporting and Investigating Injuries, Illnesses, and Near Miss Accidents
   d. AP 0021, Work Orders
   e. AP 0156, Notification of Significant Events
   f. RP 0520, Personnel Skin Dose Assessment
   g. AP 0529, Cancelled 3/15/96
   h. DP 0530, Radiation Protection Data and Information Logging
   i. OP 3020, Fire Emergency Response Procedure
   j. OP 3506, Emergency Equipment Readiness Check
   k. OP 3507, Emergency Radiation Exposure Control
   l. OP 3524, Emergency Actions to Ensure Initial Accountability and Security Response
   m. OP 3540, Control Room Actions During an Emergency
   n. OP 3541, Activation of the Technical Support Center
   o. OP 3542, Operation of the Technical Support Center
   p. OP 3544, Operation of the Operations Support Center
   q. OP 3545, Activation of the Emergency Operations Facility/Recovery Center
   r. OP 3546, Operation of the Emergency Operations Facility/Recovery Center
   s. OP 3547, Security Actions During an Emergency
   t. OP 4530, Dose Rate Radiation Surveys
   u. RP 4532, Personnel Monitoring When Exiting Restricted Areas
   v. AP 6807, Collection, Temporary Storage and Retrieval of QA Records

PRECAUTIONS/LIMITATIONS

1. During a Code Red Security Event, Medical Response Team announcement and deployment may be delayed until it is determined that the threat has been terminated and movement of personnel around the plant can be accomplished safely.

PREREQUISITES

1. In a non-fire situation (Fire Brigade not activated), Medical Response Team members or Security personnel shall notify the Control Room, or the Technical Support Center (TSC), when responding and upon returning from an emergency.

2. In a fire related response, the Medical Team will contact the Fire Brigade Leader for directions on where to respond. Upon arriving at the location they will report to the Fire Brigade Leader, who will have overall scene command.

DEFINITIONS

1. Minor Injury or Illness - Any situation where the patient(s) does not need urgent treatment or attention and is not physically or mentally impaired. Examples include small abrasions, lacerations, punctures, minor headaches due to tension, and slivers. Initiation of this procedure is not warranted for minor injuries or illnesses, See Safety Standard No. 105, Section 5.0.

2. Major Injury or Illness - Any situation where the patient(s) needs immediate attention by medically trained individuals. Examples include any bleeding, breathing difficulties, chest pain, possible fractures, confusion, disorientation, or other major injuries. This procedure shall be initiated immediately.

> **NOTE**
>
> A medical emergency shall be initiated if bleeding cannot be controlled. When any amount of blood is present, it needs to be properly cleaned up. Safety, Medical Team members or Hazmat-qualified individuals have been trained in the proper clean-up steps.

If in doubt as to whether an injury or illness is minor or major, do not hesitate to treat as major injury.

PROCEDURE

A. Immediate Actions to be Taken in the Event of a Medical Emergency

1. Any individual discovering a medical emergency shall immediately notify the Control Room by the most expeditious means available and inform the Control Room of the location, condition, and number of patients.

2. The individual(s) at the site of the medical emergency shall administer first aid treatment consistent with their level of training until more advanced medical support arrives.

3. **Control Room:**

> **NOTE**
>
> In a fire situation, the Medical Team will be dispatched in accordance with OP 3020 and report to the Fire Brigade Leader for assignment.

a. Control Room personnel shall turn the Page System Volume Increase Switch to the "Alert" position, and make the following announcement on the plant page system:

"MEDICAL EMERGENCY, MEDICAL EMERGENCY
MEDICAL ASSISTANCE NEEDED (LOCATION), MEDICAL RESPONSE TEAM RESPOND
MEDICAL ASSISTANCE NEEDED (LOCATION), MEDICAL RESPONSE TEAM RESPOND"

b. Control Room personnel shall notify the Plant Support Building and the Power Uprate Building by dialing 3999 and making the following announcement on the office paging system:

"MEDICAL EMERGENCY, MEDICAL EMERGENCY
MEDICAL ASSISTANCE NEEDED (LOCATION), MEDICAL RESPONSE TEAM RESPOND
MEDICAL ASSISTANCE NEEDED (LOCATION), MEDICAL RESPONSE TEAM RESPOND"

c. Continue announcements every two (2) minutes for three (3) cycles if no Medical Team Member has assumed Medical Command or responded. If no Medical Team Member responds after three (3) cycles of announcements, then call Rescue, Inc via 911 to respond to render assistance.

4. Control Room refer to Section B.2. for subsequent actions.

B. Subsequent Actions in Response to a Medical Emergency

1. **The Medical Response Team:**

> **NOTE**
>
> In a fire situation, the Medical Team will be dispatched in accordance with OP 3020 and report to the Fire Brigade Leader for assignment.

a. The highest qualified member of the Medical Response Team to reach the injured person shall establish "Medical Command" and will lead the medical response effort unless or until relieved by a member of the medical team with equal or higher medical training,

> **NOTE**
>
> The Safety Coordinator will maintain a list of Designated Lead Medical Team Members and keep them aware of their status.

1) Upon establishment of "Medical Command", the Medical Team Response Leader will notify the Control Room (or TSC, if activated) as follows: "This is (NAME). I am assuming command of the Medical Team." (except in a fire situation where they will report to the Fire Brigade Leader.)

> **NOTES**
>
> - Treatment of the injured person is the first priority of the Medical Response Team.
> - Steps for assuming command should be repeated if command is transferred.

a) Request radiological conditions of the area if known, or request that an RP Tech be dispatched to assist,

b) Provide the Control Room with an initial report including patient description (approximate age, sex, main complaint, and apparent condition, i.e., conscious and breathing, etc.)

c) Request the Control Room call an ambulance from 911 if, or when, necessary in accordance with Section B.6.

d) Assign a "communicator" to keep the Control Room (or TSC, if activated) informed of the status of the medical emergency, including:

(1) when sufficient personnel are present

(2) if they are under control

(3) if the response can be canceled

(4) when the patient has been transferred to off-site EMS personnel, if applicable

(5) arrival and departure of the ambulance, if one was called for

(6) any other communications the team leader directs be made to the Control Room

e) Assign other available qualified personnel pertinent duties in regard to the care of the injured person, i.e., C-Spine stabilization, recorder to document all pertinent medical data, etc.

f) If the risk of radiation exposure is high, move the patient to a lower radiation area for further treatment ensuring the patient's physical condition will not be jeopardized by the move.

g) Medical Team members may contact the Brattleboro Memorial Hospital Medical Control directly as needed per local protocols.

h) The Medical Team may update the responding ambulance or hospital on the patient's condition by radio or telephone, as needed using the following Emergency Room phone numbers:

- Brattleboro Memorial Hospital [redacted]
- Franklin Medical Center [redacted]
- Cheshire Medical Center [redacted]

b. All available members of the medical team should proceed to the location of the injured person, unless an announcement of "Sufficient medical team members are available" or "Medical Emergency is under control or terminated" is heard.

c. En route to the specified location, team members shall take or bring emergency medical equipment from first aid stations around the plant and report to the announced Medical Team Leader.

d. The Medical Response Team Leader shall transfer care of the patient to ambulance personnel when deemed medically appropriate.

e. Under limited conditions, ambulance personnel may request Medical Team members to assist them with medical treatment en route to the hospital.

2. **Control Room personnel shall:**

a. Record all pertinent information provided to the Control Room by the Medical Response Team or Security in the Control Room Log,

b. Upon notification of a medical team member assuming or transferring "Medical Command", announce who the Medical Team Leader for the incident is as follows:

"Attention in the Plant. Attention in the Plant. (NAME) has assumed command of the ongoing Medical Emergency, (NAME) has assumed command of the ongoing Medical Emergency."

c. Upon being informed of any of the following by the announced Medical Team leader or communicator, make the appropriate announcement as follows:

The Medical Response is no longer medically required:
"Attention in the Plant. Attention in the Plant. Cancel the Medical Team response, cancel the Medical Team response."

The Medical Emergency is under control:
"Attention in the Plant. Attention in the Plant. The Medical Emergency is under control. The Medical Emergency is under control."

Sufficient Medical Team personnel have responded:
"Attention in the Plant. Attention in the Plant. No further Medical Team members are required for the ongoing emergency. No further Medical Team members are required for the ongoing emergency."

d. Upon notification by Medical Response Team members or Security that transportation off-site of the accident patient is required:

1) Notify RESCUE, INC. via 911

- 911 Dispatch should be made aware of whether or not the person(s) to be transported is contaminated.
- Vermont Yankee's 911 address is 546 Governor Hunt Road, Vernon, Vermont.
- Identify to 911 Dispatch if there is more than one casualty requiring more than one ambulance.

NOTE

If for some unforeseen reason off-site transportation is unavailable, the patient will be transported to the hospital via the best means available.

2) Notify Brattleboro Memorial Hospital at [redacted]. ASK FOR THE EMERGENCY DEPARTMENT SUPERVISOR. Provide the Emergency Room personnel with as much information as possible, including whether or not the person is contaminated, how much, and what isotopes, if known.

3) If more than one patient will require hospital treatment, the back-up hospitals should be notified after working out with 911 Dispatch which hospital is being used. The first back-up hospital, Franklin Medical Center, shall be notified at [redacted]. ASK FOR THE EMERGENCY ROOM SUPERVISOR. The second back-up hospital, Cheshire Medical Center, shall be notified at [redacted] Emergency Room Desk. Provide the Emergency Room with as much information as possible, including whether or not the person is contaminated, how much, and what isotopes, if known.

4) Contact the Radiation Protection Superintendent or his alternate to ensure that a Radiation Protection representative accompanies or meets the patient at the hospital if contamination or other Radiation Protection concerns are involved.

5) Contact VY Physician (see below) and inform him of the accident.

George Idelkope, MD	(Work)	[redacted]
	(Home)	[redacted]

e. If the patient is contaminated and transported to an off-site medical facility, or the incident resulted in an on-site fatality, refer to AP 0156.

3. **Security Personnel shall:**

NOTE

During a Code Red Security Event, Security personnel shall provide assistance as soon as possible to the Medical Response Team upon declaration of an all clear.

a. dispatch an officer to the emergency area with a two-way radio upon notification of the Medical Emergency and make themselves available as a communicator to the announced Medical Team Leader.

b. provide first aid to highest level for which trained if no medical team member is present,

c. notify the SSS upon determination that the Medical Response Team has requested Rescue Inc. to provide assistance or transportation to the hospital.

NOTE

The ambulance crew and vehicle need not be searched prior to entering the Protected Area during a medical emergency.

d. expedite access of ambulance personnel to the emergency area by assigning an officer as an escort to the crew and issuing dosimetry and visitors badges to the ambulance crew,

e. via their two-way radio, the dispatched Security Officer or other Medical Response Team communicators may update the Control Room regarding the patient's status and vital signs,

f. prior to the patient's departure from the plant site, Security will remove the patient's dosimetry and Protected Area badge.

g. As soon as possible, security personnel shall determine if the injury or illness of the patient involved is due to potential suspicious activity. At no time should this process prevent or delay treatment of the patient.

h. If it is determined that this injury or illness is suspicious, appropriate compensatory measures shall be taken in accordance with Security Contingency procedures.

4. **Radiation Protection personnel shall:**

a. respond to Medical Emergency if the location is in a portion of the plant where radiological conditions could be a factor and report to the announced Medical Team Leader,

b. make a radiological assessment and determine probable conditions using experience, plant knowledge, postings in the area, and quick surveys to make this determination,

NOTES

- If the patient is seriously injured, do not delay medical treatment by attempting decontamination. Package the patient for transport to the hospital.
- It is important to realize the primary goal is to stabilize the patient. General area dose rates of less than 10 R/hr and contamination levels less than 1,000,000 dpm/100cm^2 (280 mRad/hr smearable) are to be of secondary concern until the patient is stabilized.

c. if radiological conditions are deemed significant, inform the Medical Response Team leader and make appropriate recommendations,

d. ensure the Control Room, or TSC, if activated, is informed of the radiological conditions in the area and the probability of the patient being contaminated,

e. when it is medically safe, move the patient to an appropriate location and perform a complete survey of the patient using an RM-14 with an HP 210 probe, or other appropriate survey instrument.

f. if the patient is contaminated, every effort should be made to decontaminate to releasable limits if the medical conditions will allow it.

g. if the patient is contaminated or potentially contaminated, ensure Radiation Protection personnel accompany the ambulance, or meet the ambulance at the hospital. Report contamination levels to the hospital using the terminology provided in Table I.

NOTE

Dose measurements may be accomplished in one of several ways (i.e., dosimetry on Radiation Protection Technician, new dosimetry on patient, calculation, dosimetry on ambulance personnel).

h. if the patient is contaminated to the extent that general area dose rates of greater than 50 mR/hr would occur, then provisions should be made to measure dose to ambulance attendants,

i. keep the Control Room informed of progress,

j. ensure the Radiation Protection Superintendent is informed if a contaminated patient is being transported to the hospital.

5. **Radiation Protection Management Personnel:**

For cases of high radiation exposures (i.e., greater than 50 R Total Effective Dose Equivalent), the Radiation Protection Superintendent or Plant Health Supervisor Radiation Control will be contacted as soon as possible and must contact the following:

NOTE

In the case of high external radiation exposures (above 10 rem) send the person immediately to the hospital so that biological assessment can commence immediately. Have the NIAT and/or other consulting physicians contact the hospital.

a. The Nuclear Incident Advisory Team (NIAT) physician, or if not available, the Massachusetts Department of Public Health (MDPH) Radiation Control Program representative who will, in turn, implement from the NIAT Handbook, Section D.10 entitled "Radiation Overexposure Treatment Assistance."

Aaron B. Brill, MD	(Work)	[redacted]
(NIAT Physician)	(Alt. Work)	[redacted]
	(Home)	[redacted]
Mr. Robert Walker	(Work)	[redacted]
(MDPH)	(Home)	[redacted]
Mr. Robert Gallagher	(Work)	[redacted]
(MDPH)	(Home)	[redacted]
	(Home)	[redacted]
Mr. Thomas Matthews	(Work)	[redacted]
(MDPH)	(Home)	[redacted]

b. Vermont Yankee's Radiological Medical Consultant (see below) and inform him of the high radiation exposure incident.

David E. Drum, MD	(Work)	[redacted]
	(Home)	[redacted]
	(Voice Mail)	[redacted]

c. REAC/TS (24 Hours) [redacted]
(24 Hours) [redacted]

6. **Radiation Protection personnel** who are required to accompany or meet a contaminated patient at the hospital shall take the following actions upon arrival:

> **NOTE**
>
> This survey may be delayed, but should be done as soon as practicable.

a. Follow the hospital procedures and their exposure control and contamination control limits (see step B.4.c below). Keep the radiation survey instrument probe covered by a thin plastic bag. You will have to don Tyvek protective clothing to get into the Emergency Room area. Tyvek clothing is available at the hospital. Make sure that the only contamination that goes into the ER is that which is on the patient.

b. Advise ambulance attendants they are not to leave the hospital until they and the ambulance are monitored for contamination. If you perform the ambulance surveys, then use the forms provided in the hospital's plan or as provided by the hospital ER staff to document the surveys of ambulance personnel and the ambulance.

c. The hospital plan specifies a release limit for contamination. Since different instruments are involved, the contamination release limit is provided in units of mR/hr instead of cpm. All are measured at 1 to 2 inches from the surface. The limits are as follows:

1)	Brattleboro Memorial Hospital	0.2 mR/hr
2)	Franklin Medical Center	0.2 mR/hr
3)	Cheshire Medical Center	0.1 mR/hr

d. The hospital's administrative exposure limits for personnel are as follows:

1)	Brattleboro Memorial Hospital	100 millirem
2)	Franklin Medical Center	175 millirem
3)	Cheshire Medical Center	125 millirem

These limits are as measured on a direct reading dosimeter and can be increased by hospital supervision if additional personnel cannot be obtained.

NOTE

Avoid speaking in technical terms unless you are certain they are understood. Instead, use descriptive words such as "slightly", "extremely", "low-level", "trace", "life-threatening", etc.

e. Advise the attending physician/treatment nurse of the patient's radiological complications, such as:

   1) significant total external dose,

   2) contamination levels detected on the patient,

   3) probable isotopes in wound,

   4) radioactivity probably inhaled or ingested at accident scene,

   5) contamination level of object causing the wound(s) if known,

   6) other similar appropriate information.

f. Suggest to the attending physician actions you feel should be done; such as excreta samples, if ingestion was involved, nasal tissue samples, if inhalation was probable, etc.

g. Provide dose rate or contamination levels to attending personnel periodically, or as requested, and interpret them into meaningful terms.

h. Advise ER staff on contamination control, i.e., change gloves as appropriate to minimize spread of contamination, etc.

i. Assist in the decontamination of the patient as appropriate.

j. Assist in the final survey and cleanup of the treatment area and return all contaminated equipment and wastes to Vermont Yankee.

C. Personnel Search and Rescue During a Plant Emergency

NOTE

Search and rescue team should include team leader familiar with the area to be searched, medical response team member(s), RP personnel, Fire Brigade member and an armed Security Officer whenever possible.

1. Immediate Life-Saving Rescue Required

   a. Evaluate available information and discuss best apparent rescue approach with senior Medical and Radiation Protection personnel prior to attempt if practicable.

   b. Limit exposure of rescuers in accordance with OP 3507, Emergency Radiation Exposure Control.

   c. Keep the Control Room, or Technical Support Center (TSC), if activated, advised of the situation and closely monitor the time in a high radiation area.

NOTE

Work as quickly as is consistent with safety and avoid sources of high dose rates in the rescue area.

   d. Perform rescue mission consistent with good first aid practices and as dictated by dose rates encountered.

2. Organized Search and Rescue - Following a Personnel Accountability Check

NOTE

Use of active Radiation Work Permits (RWPs) or Security's On-Site Computer Report may assist with possible location of individuals.

a. Obtain the following information prior to conducting search and rescue efforts:

1) Name of individual(s).

2) Last known location(s) or possible present location(s) of individual(s).

3) Any significant plant conditions that may affect the search effort (e.g., known or suspected hazards).

b. Form and conduct search and rescue efforts as follows:

1) Limit exposure of search and rescue team members in accordance with OP 3507, Emergency Radiation Exposure Control.

2) Coordinate the search efforts to minimize duplication, especially if the search area is large.

3) Initiate the search effort at the last known or possible known location(s).

4) Conduct the search effort by keeping all members of the team in the same general area (i.e., frequent visual checks), and move from one area to the next area as a team, but each searching independently.

5) When a missing individual is located, immediately notify the TSC and provide information on individual's condition and additional relevant information (e.g., need for medical or rescue assistance, plant conditions encountered, etc.).

c. If individuals are found injured or need medical treatment, initiate Sections A and B of this procedure.

FINAL CONDITIONS

1. Inventory and replace all used equipment and supplies in accordance with OP 3506.

2. Log all information in appropriate logs or in the Radiation Protection Log at the Control Point.

TABLE 1

SEVERITY CATEGORIES FOR CONTAMINATION ON PATIENT

	MINIMAL	SLIGHT	SERIOUS	MAJOR
GM Survey Instrument at 12 inches (30 cm) from patient	Less than 3x background or less than 0.3 mr/hr	3x background to 2 mr/hr	2 to 100 mr/hr	Greater than 100 mr/hr
Protective Actions	Universal precautions	Add protective clothing	• Add protective clothing • Issue dosimeters to workers • 1 hour limit • Maximum distance	• Add protective clothing • Issue dosimeters to workers • Rotate staff • Consider use of shielding • Seek consultation
Analogous Hospital Setting	Research laboratory	Nuclear medicine lung scan	3 feet (1 meter) from Cesium-137 implant for cancer	Patient's exposure in fluoroscopy
Posted Warning Required	None	Radioactive Materials Area	Radiation Area	High Radiation Area
Rationale	No measurable exposure would be accumulated	Less than 2 mr/hr generally defined as "unrestricted area"	Typical "restricted area" with trained radiation workers equipped with dosimeters	Not a permissible work area for prolonged periods

mr/hr = millirem per hour

HP-210 pancake probe with RM-14 meter, 1 mr/hr = 3500 cpm for Cs-137

REVISED PROCEDURE CONTROL FORM

PART 1 - Initiation

A. Procedure No. OP 3509	New Revision No. 18	Title: Environmental Sample collection During an Emergency
B. Review Criteria: ☐ Partial ☐ Editorial ☒ Complete		C. Periodic Review Cycle: ☒ 2 Year (Event Driven) ☐ N/A

D. List DIs & LPCs: N/A

E. Description and Reasons for Procedure/Changes:

- Discussion Section: Changed 6-station to 7-station environmental monitoring system
- Changed Duke to Framatome
- App. A – added station 40 Governor Hunt House
- Added text to control the need for future Applicability Determinations.
- Added clarification that Chemistry personnel will be contacted as needed by Rad Coordinator.

F. Originator Name: (App. A was used as references to create this revision, App. C is completed and attached unless Part 1.B above is "Editorial".) **Telephone Extension:** x4177

(Print/sign/date) Audra Williams Audra Williams 9/8/03

PART 2 - Reviews

A. Walk-Through Validation: ☐ Required ☒ N/A

☐ Field Walk-Through
☐ Table-Top ☐ Simulator Validation

B. Technical Verification Reviewer ☐ N/A
(App. B used as a reference)
(Print/Sign/Date)
Lori A. Tkaczyk Lori A. Tkaczyk 9/11/03

C. Cross-Discipline Reviews: ☐ N/A

Department	Name	Signature	Date
Chemistry	Stephen P. Skibniowsky	Stephen P. Skibniowsky	9/22/03

D. 50.59 Review Per AP 6002, Preparing 50.59 Evaluations ☐ N/A

☐ **50.59 AD** previously performed and documented in the text of this procedure and is still applicable.
☒ **50.59 Applicability Determination** completed and attached; 50.59 Screening NOT required.
☐ **50.59 Review Screening** completed and attached, 50.59 Evaluation **NOT** required.
☐ **50.59 Evaluation** completed and attached.

E. QUALIFIED REVIEWER: Use App. D as a reference (May perform 50.59 Applicability Determination) **(Part 2.D)**
(Print/Sign/Date) Audra Williams Audra Williams 10.5.03

F. ORIGINATOR: ☑ Comments Resolved ☑ Re-verify All DIs & LPCs Considered
☑ Sent for Final Type (CDS or STC (SPs only)) Initial/Date MCS 10/9/03
☑ Proofread after Final Type
(Print/Sign/Date) Audra Williams Audra Williams 10.15.03

PART 3 - Training/Notification Requirements

1. **Indicate training or notifications required to implement procedure:** (Required for Administrative Procedures)

☐ **Include in formal training (TCR submitted):**

AW ☑ **E-Mail notification:**

☐ **Crew Briefings:**

☐ **Other:** N/A ☒ N/A

PART 4 - PORC

Plant Operation Review Committee: ☐ Required ☒ N/A

Meeting No: **PORC Secretary:** **Date:** **Plant Manager:**

PART 5 - Approval

A. Responsible Procedure Owner: (Print/Signature/Date)

Brian M. Finn Brian M. Finn 10/24/03

Plant Manager (Print/Sign/Date) (For SPs Only)

N/A

C. Special Instructions: ☐ N/A

☐ Approved for Training

☑ Issue on DATE: 10·29·03

☐ Submit Surveillance Database Change per AP 4000

☐ Other:

PART 6 - Issuance

Procedure Change No: ~~#~~ 221

Date procedure issued: 10/29/03

Notes:

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3509, Rev. 18, Environmental Sample Collection During an Emergency

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities		X
(2)	Assignment of on-shift Emergency Response Organization personnel		X
(3)	Arrangements for Emergency Response Support and Resources		X
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		X
(5)	Notification Methods and Procedures		X
(6)	Emergency Communications among principal response organizations and the public		X
(7)	Public Education and Information		X
(8)	Adequacy of Emergency Facilities and Equipment		X
(9)	Adequacy of Accident Assessment methods, systems and equipment		X
(10)	Plume exposure pathway EPZ protective actions		X
(11)	Emergency Worker Radiological Exposure Control		X
(12)	Medical Services for contaminated injured individuals		X
(13)	Recovery and Reentry Plans		X
(14)	Emergency response periodic drills and exercises		X
(15)	Radiological Emergency Response Training		X
(16)	Plan development, review and distribution		X

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization		X
(2) Section IV. B - Assessment Actions		X
(3) Section IV. C - Activation of Emergency Organizations		X
(4) Section IV. D - Notification Procedures		X
(5) Section IV. E - Emergency Facilities and Equipment		X
(6) Section IV. F - Training		X
(7) Section IV. G - Maintaining Emergency Preparedness		X
(8) Section IV. H - Recovery		X

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50. n/a of Section A above, this change
☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

Procedure was revised to include the addition of a seventh environmental monitoring station location at the GHH. Added text to better identify that the Rad Coordinator is to assign responsibility of sample collections to Chemistry personnel. Changed Duke to Framatome and added text to control future Applicability Determinations. None of these changes decrease the effectiveness of the Plan.

10 CFR 50.54(q) Evaluation Checklist (Continued)

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search:_____

☒ This change does not affect any other documents.

☐ This change does affect other documents.

Document(s) affected:_____

Section(s) affected:_____

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search:_____

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 9/15/03
(Print/Sign)

Reviewed By: Lori A. Tkaczyk Lori A. Tkaczyk Date: 9/17/03
(Emergency Plan Coordinator) (Print/Sign)

APPLICABILITY DETERMINATION

Activity/Document Number: OP 3509 Revision Number: 18

Title: Environmental Sample Collection During an Emergency

Provide or attach a brief description of activities (section 6.3 of RM):

Address the questions below for all aspects of the activity. If the answer is "YES" for any portion of the activity, apply the identified process to that portion of the activity. It is not unusual to have more than one process apply to a given activity. For example, a change to a door that is a fire door, a security door and a secondary containment door would require an evaluation to the Fire Protection license condition, 10CFR50.54 (p) and a 50.59 screen. See Section 4 of the "50.59 Resource Manual" (RM) for additional guidance.

I. Does the proposed activity involve a change to the:		Section 4.2.1 of the RM
1. Technical Specifications or Operating License (10CFR50.90)? Note that stand-alone changes to the TS Bases are evaluated in accordance with 10CFR50.59 per AP 0063.	☑ NO ☐ YES	(If YES process per AP 0063)
2. Quality Assurance Plan, related implementing procedures identified in PP 7802 or facility changes (10CFR50.54(a))?	☑ NO ☐ YES	(If YES contact QA for 10CFR50.54(a)(3) assessment)
3. Security Plan, related implementing procedures or facility changes (10CFR50.54(p))?	☑ NO ☐ YES	(If YES contact Security for 10CFR50.54(p) assessment)
4. Emergency Plan, related implementing procedures or facility changes (10CFR50.54(q))?	☐ NO ☑ YES	(If YES contact E-Plan for 10CFR50.54(q) assessment per AP 3532)
5. IST Program Plan, related implementing procedures or facility changes (10CFR50.55a(f))?	☑ NO ☐ YES	(If YES, and a deviation from the code requirement is required, contact Licensing to ensure applicable NRC approval is obtained per AP 0058)
6. ISI Program Plan, related implementing procedures or facility changes (10CFR50.55a(g))?	☑ NO ☐ YES	(If YES, and a deviation from the code requirement is required, contact Licensing to ensure applicable NRC approval is obtained per AP 0058)
7. Fire protection program, related implementing procedures or facility changes (License Condition 3.F)?	☑ NO ☐ YES	(If YES provide an evaluation that satisfies License Condition 3.F)

APPLICABILITY DETERMINATION (Continued)

II. Does the proposed activity involve:		Section 4.2.2 of the RM
1. Maintenance which restores SSCs to their original condition.	☑ NO ☐ YES	(If YES perform maintenance in accordance with plant procedures (e.g. AP 0021, AP 0049, AP 0050)
2. A temporary alteration supporting maintenance that will be in effect during at-power operations for 90 days or less that has been (or will be) evaluated under 10CFR50.65(a)(4) prior to implementation?	☑ NO ☐ YES	(If YES process in accordance with AP 0091.)
III. Does the proposed activity involve a change to the UFSAR (including documents *incorporated by reference*) excluded from the requirement to perform a 50.59 Review (NEI 96-07 or NEI 98-03)?	☑ NO ☐ YES	Section 4.2.3 of the RM (If YES, process FSAR change per AP 6036 "FSAR Revision Process". Include basis for excluding 10CFR50.59 evaluation below.)
IV. Does the proposed activity involve a change to the:		Section 4.2.4 of the RM
1. Managerial or administrative procedures governing the conduct of Facility operations, maintenance and training (subject to the control of 10CFR50, Appendix B) (RM section 4.2.4). Some procedures may be VOQAM implementing procedures requiring evaluation per 10CFR50.54(a)(3) (prompted above). Also, Maintenance procedure changes that include changes to Design Information, not evaluated under a design change process, shall be evaluated in accordance with 10CFR50.59	☑ NO ☐ YES	(If YES process per procedure change process (e.g. AP 0095, AP 0096, AP 0097))
2. Regulatory commitment where changing commitment is not covered by another regulation based change process (NEI 99-04)?	☑ NO ☐ YES	(If YES process per AP 0055 "Regulatory Commitment Management".)
V. Does the activity impact other plant specific programs (e.g., The ODCM and PCLRTP controlled per TS 6.7 and the PCP controlled per TRM Section 6) which are controlled by regulations, the Operating License, the Technical Specifications or TRM ?	☑ NO ☐ YES	(If YES process per the procedure(s) for the appropriate activity.)
VI. Is the activity covered by any other specific regulatory change process not discussed above that would preclude the need to evaluate under 10CFR50.59 ? (e.g., 10CFR50.46 for changes to ECCS models and PCT changes, 10CFR50.12 for Exemption Requests, etc)	☑ NO ☐ YES	(If YES document below and process per applicable regulatory requirements.)
VII Does the activity require a 50.59 Screen based on the following Generic NRC correspondence? GL 95-02 for performing Analog-to-Digital upgrades, IEB 80-10 for Contamination of non-radioactive systems, IEC 80-18 for changes to radioactive waste systems and GL 91-18 for compensatory actions including using manual actions in-lieu of automatic actions or use-as-is dispositions affecting the FSAR. GL 95-02 assessments need to look at both system and component level failures (ER20000558_01)	☑ NO ☐ YES	(If YES complete 50.59 Screen for the subject activity.)

APPLICABILITY DETERMINATION (Continued)

☑ All aspects of the activity are controlled by one or more of the processes above, therefore a 50.59 Screen is not required. If checked, provide any additional comments below and sign and date below.

☐ Any portion of the activity is not controlled by one or more of the processes above, therefore a 50.59 Screen or 50.59 Evaluation is required. If, checked, provide any additional comments below, sign and date below and complete 50.59 Screen for identified activities.

Additional Applicability Considerations:

Applicability Signoffs: Preparer: Audra Williams (Print name) Audra Williams (Sign) Date: 9/15/03

Reviewer: Lori A. Tkaczyk (Print name) Lori A. Tkaczyk (Sign) Date: 9/17/03

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3509, Rev. 18
Reviewer/Date (Print)Audra Williams 9/8/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.	X	
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		X
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.		X
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3509

REVISION 18

ENVIRONMENTAL SAMPLE COLLECTION DURING AN EMERGENCY

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/29/03

TABLE OF CONTENTS

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 7-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 Chemistry personnel in the collection of air filters and TLDs 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.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the scope of the procedure or program is not revised to include a different type of activity. The basis for this conclusion is that this document is an Emergency Implementing Procedure and is subject to 10CFR50.54(q) to determine if the changes decrease the effectiveness of the Emergency Plan and if they have the potential to affect our ability to meet the standards of 10CFR50.47(b) and the requirements of 10CFR50 Appendix E.

ATTACHMENTS

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

QA REQUIREMENTS CROSS REFERENCE

1. None

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
   b. AP 6002, Preparing 50.59 Evaluations

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 TLDs observing the procedural steps specified in OP 4605, Environmental Radiation Sampling and Analysis.

2. Replace collected air particulate filters, charcoal cartridges, and TLDs.

3. Deliver the air particulate filters, charcoal cartridges, and TLDs to the Radiological Coordinator for analysis.

> **NOTE**
>
> TLD analysis requires use of reader from Framatome ANL 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

Station		General Location	Specific Location
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). Do not 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.
40	Gov. Hunt House	Back lawn on fence line	Back lawn on fence line overlooking plant.

(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, μCi, etc.) per square meter (m^2).

REVISED PROCEDURE CONTROL FORM

PART 1 - Initiation

A. Procedure No.	New Revision	Title
OP 3511	No. 13	Off-Site Protective Action Recommendations

B. Review Criteria: ☐ Partial ☐ Editorial ☒ Complete

C. Periodic Review Cycle: ☒ 2 Year (Event Driven) ☐ N/A

D. List DIs & LPCs: None

E. Description and Reasons for Procedure/Changes:

- Added ER-2003-0481_01 to Commitments.
- Added to Precautions – a need for a dose assessment based PAR.
- Added to Note (pg 6) –use of field teams to verify plume direction.
- Added to Subsequent Actions - use of field teams to verify plume direction.
- Changed Note (pg 9) – from using dispersion wheel to using METPAC. Added "What if" instruction. Added that Stability classes E, F, G to evacuate all towns as listed in table 4 and 5. Added use of field teams to verify plume direction.
- Added river valley effect on choice of towns in the PAR (Tables 3,4,5) and made tables consistent with each other.
- Fig. 1 – Added a decision box to address releases without core damage.

F. Originator Name: (App. A was used as references to create this revision, App. C is completed and attached unless Part 1.B above is "Editorial".) **Telephone Extension:** x4177

(Print/sign/date) Audra Williams Audra Williams 8/27/03

PART 2 - Reviews

A. Walk-Through Validation: ☒ Required ☐ N/A

☐ Field Walk-Through
☒ Table-Top ☐ Simulator Validation

B. Technical Verification Reviewer ☐ N/A
(App. B used as a reference)
(Print/Sign/Date)
Mike Empey 9/26/03

C. Cross-Discipline Reviews: ☐ N/A

Department	Name	Signature	Date
Rad Protection	M. Lee Morgan		9/25/03
Operations	David Hallonquist	D.B. Hallonquist	10/06/03

D. 50.59 Review Per AP 6002, Preparing 50.59 Evaluations ☐ N/A

☒ **50.59 AD** previously performed and documented in the text of this procedure and is still applicable.
☐ **50.59 Applicability Determination** completed and attached; 50.59 Screening NOT required.
☐ **50.59 Review Screening** completed and attached, 50.59 Evaluation **NOT** required.
☐ **50.59 Evaluation** completed and attached.

E. QUALIFIED REVIEWER: Use App. D as a reference (May perform 50.59 Applicability Determination) (Part 2.D)
(Print/Sign/Date) Audra Williams Audra Williams 10.15.03

F. ORIGINATOR: ☑ Comments Resolved ☑ Re-verify All DIs & LPCs Considered
☑ Sent for Final Type (CDS or STC (SPs only)) Initial/Date DWR 10/10/03)
☑ Proofread after Final Type
(Print/Sign/Date) Audra Williams Audra Williams 10.15.03

ART 3 - Training/Notification Requirements

A. Indicate training or notifications required to implement procedure: (Required for Administrative Procedures)

☑ **Include in formal training (TCR submitted):**

☑ **E-Mail notification:** w/trainersoft module

☐ **Crew Briefings:**

☐ **Other:** ☐ **N/A**

PART 4 - PORC

Plant Operation Review Committee: ☐ Required ☒ N/A

Meeting No: **PORC Secretary:** **Date:** **Plant Manager:**

PART 5 - Approval

A. Responsible Procedure Owner: (Print/Signature/Date)

Brian M. Finia Brian M. Finia 10/15/03

Plant Manager (Print/Sign/Date) (For SPs Only)
N/A

C. Special Instructions: ☐ N/A

☐ Approved for Training

☑ Issue on DATE: 10·29·03

☐ Submit Surveillance Database Change per AP 4000

☐ Other:

PART 6 - Issuance

Procedure Change No.: #221

Date procedure issued: 10/29/03

Notes:

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3511, Rev. 13, Off-Site Protective Action Recommendations

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities		X
(2)	Assignment of on-shift Emergency Response Organization personnel		X
(3)	Arrangements for Emergency Response Support and Resources		X
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		X
(5)	Notification Methods and Procedures		X
(6)	Emergency Communications among principal response organizations and the public		X
(7)	Public Education and Information		X
(8)	Adequacy of Emergency Facilities and Equipment		X
(9)	Adequacy of Accident Assessment methods, systems and equipment	X	
(10)	Plume exposure pathway EPZ protective actions	X	
(11)	Emergency Worker Radiological Exposure Control		X
(12)	Medical Services for contaminated injured individuals		X
(13)	Recovery and Reentry Plans		X
(14)	Emergency response periodic drills and exercises		X
(15)	Radiological Emergency Response Training		X
(16)	Plan development, review and distribution		X

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization		X
(2) Section IV. B - Assessment Actions	X	
(3) Section IV. C - Activation of Emergency Organizations		X
(4) Section IV. D - Notification Procedures		X
(5) Section IV. E - Emergency Facilities and Equipment		X
(6) Section IV. F - Training		X
(7) Section IV. G - Maintaining Emergency Preparedness		X
(8) Section IV. H - Recovery		X

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50.47(b)(9)&(10) and Appendix E, Section IV. B of Section A above, this change
☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

During the April 8, 2003, exercise issues were raised concerning the validity of the affected towns as listed in Tables 3,4 and 5. For certain wind directions and Stability class, METPAC uses the topography to redirect the plume independent of prevailing wind direction. For this reason using the Standard approach of downwind direction and one sector on either side will cause a discrepancy with the METPAC projected plume footprint.

Tables 3, 4 and 5 were validated using the Standard approach of towns in the downwind direction and one sector on either side. Also towns were added to include the valley affect for stability classes E, F and G where the METPAC projected plume footprint is significantly different than the prevailing wind direction.

Consistency between Table 3, 4 and 5 was ensured so that when upgrading the PAR from a plant conditions approach to a dose assessment approach there should be similar towns in the 5 mile downwind direction if wind direction has not changed.

None of these changes decrease the effectiveness of the Emergency Plan and continue to meet all requirements.

10 CFR 50.54(q) Evaluation Checklist (Continued)

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search: _____

☐ This change does not affect any other documents.

☒ This change does affect other documents.

Document(s) affected: OP 3513, OP 3525

Section(s) affected: _____

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search: _____

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 9/30/03
(Print/Sign)

Reviewed By: Lori A. Tkaczyk per telecon Joanne A. Gill Date: _____
(Emergency Plan Coordinator) (Print/Sign)

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3511, Rev. 13
Reviewer/Date (Print) Audra Williams 4/29/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.	X	
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.	X	
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3511

REVISION 13

OFF-SITE PROTECTIVE ACTION RECOMMENDATIONS

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/29/03

TABLE OF CONTENTS

PURPOSE

To specify the criteria that is utilized for making a Protective Action Recommendation (PAR) to the appropriate Emergency Planning Zone States.

DISCUSSION

Responsibilities:

1. Shift Supervisor/Plant Emergency Director (SS/PED):

   Authorizes the initial Protective Action Recommendation to the State authorities until relieved by the TSC Coordinator or Site Recovery Manager.

2. Technical Support Center (TSC) Coordinator:

   Authorizes Protective Action Recommendation to the State authorities until relieved by the Site Recovery Manager.

3. EOF Coordinator/Radiological Assistant:

   Evaluates radiological data used to determine the appropriate Protective Action Recommendation and provides recommendation to the Site Recovery Manager at the EOF/RC.

4. Site Recovery Manager (SRM):

   The cognizant individual with the overall responsibility and authority to provide the appropriate Protective Action Recommendation to the State authorities.

The decision making process to determine the Protective Action Recommendation for the plume exposure emergency planning zone is based on two criteria. The criteria include the consideration of plant conditions at the General Emergency classification, and projected and measured radiological doses in the environment.

For a Protective Action Recommendation based on plant conditions at the General Emergency classification, information is obtained on in-core fuel conditions, fission product inventory in containment, containment integrity, and release conditions. This information is then utilized to determine the appropriate Protective Action Recommendation (i.e., shelter or evacuation) based upon the guidance contained in Figure 1.

For a Protective Action Recommendation based on release of radioactivity, the appropriate information concerning projected and measured dose rates in the environment is utilized. Determination of the population at risk is based upon meteorological data (wind speed, wind direction, and stability class). The exposure time is based upon available information such as plant conditions or type of accident. In the event that this cannot be readily approximated, a default release duration estimate is utilized. The projected and measured dose is calculated from this information.

The projected or measured dose is then utilized to determine the appropriate Protective Action Recommendation based upon Environmental Protection Agency (EPA) guidance.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the procedure scope is not changed. The basis for this conclusion is that this document is a managerial and an administrative monitoring process, subject to 10CFR50 Appendix B, that does not alter the design, performance requirements, operation, or control of Systems, Structures, or Components (SSCs).

ATTACHMENTS

1.	VYOPF 3511.01	Protective Action Recommendation Worksheet
2.	VYOPF 3511.02	Deleted
3.	Table 1	Deleted
4.	Table 2	Deleted
5.	Table 3	General Emergency Protective Action Guidelines Based on Plant Conditions
6.	Table 4	Dose Projection Protective Action Guidelines - Towns 10 Miles Downwind
7.	Table 5	Dose Projection Protective Action Guidelines - Towns 5 Miles Downwind
8.	Figure 1	Flow Chart - General Emergency Protective Action Recommendations

QA REQUIREMENTS CROSS REFERENCE

1. None

REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents

   a. None

2. Codes, Standards, and Regulations

   a. NUREG 0654, Rev. 1, "Criteria for Preparation and Evaluation of the Radiological Emergency Response Plans at Nuclear Power Plants."

3. Commitments

   a. ER2003-0481_01

4. Supplemental References

a. EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Accidents.", October 1991
b. USNRC IE Notice 83-28, "Criteria for Protective Action Recommendations for General Emergencies", May 4, 1983
c. Vermont Yankee Nuclear Power Station Emergency Plan
d. YAEC Memorandum J.G. Parillo to S.R. Miller, "Monitor Indications for Failed Fuel", dated 6/27/95, REG 110/95
e. AP 3125, Emergency Plan Classification and Action Level Scheme
f. OP 3504, Emergency Communications
g. OP 3513, Evaluation of Off-Site Radiological Conditions
h. OP 3540, Control Room Actions During an Emergency
i. OP 3542, Operation of the Technical Support Center (TSC)
j. OP 3544, Operation of the Operations Support Center (OSC)
k. OP 3546, Operation of the Emergency Operations Facility/Recovery Center (EOF/RC)
l. OP 3547, Security Actions During an Emergency
m. AP 6807, Collection, Temporary Storage and Retrieval of QA Records

PRECAUTIONS/LIMITATIONS

1. Emphasize to States' representatives that no compensation in the recommendation is made for the time to implement and complete protective actions.

2. An immediate Protective Action Recommendation based on General Emergency classification level must be implemented as delineated in Section I of this procedure.

3. If time does not permit making a timely PAR based on dose assessment then make an initial PAR based on plant conditions and using Section I of VYOPF 3511.01. Follow up with a second PAR based on Dose assessment if it is different from the first PAR using Section II of VYOPF 3511.01.

4. A Protective Action Recommendation is reviewed against protective action actually implemented prior to re-issuing an updated recommendation.

5. If possible and if time permits, confer with the appropriate State and Federal authorities to ensure that questions on protective actions to be applied are answered prior to formal recommendation.

NOTES

- If a Protective Action Recommendation (shelter or evacuation) is warranted, ensure that a General Emergency has been declared, consistent with AP 3125.
- A Protective Action Recommendation is approved by the senior manager in charge of emergency activities at the time the recommendation is made. This person reviews and approves the recommendation, then transmits it to the states.
- Section I or II may be performed out of sequence and independent of each other.

I. Protective Action Recommendation Based on Plant Conditions

A. Immediate actions by the senior manager in charge or designated alternate (General Emergency Declared)

NOTES

- Initial notification of the General Emergency based on plant conditions, with determined Protective Action Recommendation, must be initiated to state authorities within 15 minutes.
- A Protective Action Recommendation, that is being upgraded, becomes valid and the 15-minute clock begins when the senior manager in charge of emergency activities at the time the recommendation is made approves and signs VYOPF 3511.01.
- Initial notification of the General Emergency based on plant conditions, with determined Protective Action Recommendation, should not be delayed due to performing dose projections or awaiting their results.
- Two individuals should be assigned to formulate the PAR independently to ensure accuracy.
- In all cases, if possible, use field team data to verify the actual downwind direction of the plume. Adjust the PAR as appropriate.

1. Use Figure 1 and Table 3 (ER2000-1363, ER2003-0481) to determine the appropriate Protective Action Recommendation (PAR) based on plant conditions.

a. If the actual or potential release pathway is a stack release, use the upper wind direction.

b. If the actual or potential release pathway is a ground release, use the lower wind direction.

c. If the actual or potential release pathway is a multiple release (stack and ground), use both the upper and lower wind direction.

2. If available, a second individual should independently verify the PAR. The verification may be performed by the individual who is approving the PAR (PED, TSC Coordinator, or Site Recovery Manager).

NOTE
Any prior protective action recommendations that are still in effect shall be included with updated information and documentation (VYOPF 3511.01).

3. Record appropriate PAR information in Section I of VYOPF 3511.01.

4. Review PAR with the Site Recovery Manager or senior manager in charge to obtain approval.

5. Transmit approved PAR to State authorities as delineated in OP 3540 (PED or TSC Coord.) (use VYOPF 3540.06) or OP 3546 (Site Recovery Manager) (use VYOPF 3546.02).

6. Forward completed VYOPF 3511.01 to the Site Recovery Manager or senior manager in charge.

B. Subsequent Actions

1. Continue to obtain updated information on plant conditions.

2. If significant changes occur with plant or meteorological conditions, repeat steps in Section I.A. to re-evaluate Protective Action Recommendation.

3. When possible, use field teams to verify the actual downwind direction of the plume. Adjust the PAR as appropriate.

II. Protective Action Recommendation Based on Radiological Dose Information

A. Immediate Actions by the EOF Coordinator/Radiological Assistant

> **NOTE**
>
> If EOF/RC is not activated, the SS/PED or TSC Coordinator will be responsible for implementing this section.

1. Obtain current off-site dose projection results and meteorological data (wind direction and stability class) from OP 3513.

> **NOTE**
>
> ODPS and METPAC will automatically compare EPA Protective Action Guidelines with off-site dose projection results. Each computer program provides PAR for selected downwind distances in program printouts and computer screens.

2. Determine appropriate Protective Action Recommendations (PAR) as follows: (Use Section II of VYOPF 3511.01).

   a. Compare the calculated dose projection results with EPA Protective Action Guidelines delineated below to determine whether EPA Protective Action Guidelines have been exceeded.

EPA PROTECTIVE ACTION GUIDELINES

Total Effective Dose Equivalent (TEDE)	Committed Dose Equivalent (CDE) to the Thyroid	Protective Action
≥1 rem	≥5 rem	**EVACUATION** Note: Sheltering may be the preferred protective action if the following are present: • severe weather, • competing disasters, • local physical factors which impede evacuation LOCAL/STATE OFF-SITE OFFICIALS WILL DETERMINE THE SIGNIFICANCE OF THESE FACTORS TO THE PAR SUBSEQUENT TO THE ISSUANCE OF THE PAR BY VY.

NOTES

- Table 4 and Table 5 are conservatively based on METPAC plume trajectories, the river valley effect for stability classes E, F and G, and plume width.
- The town of Marlboro, VT is not a VY EPZ town.
- In the EOF, in the initial stages of the event, determine the plume trajectory by calculating a "what if" METPAC 10-mile plume projection with a default source term and actual meteorology. Use the METPAC Batch Mode with 8 time steps. See OP 3513, Appendix K.
- For Stability Classes E, F and G and variable wind direction from the NE or the SW sectors, it would be prudent to consider evacuating all the towns as listed in these sections of Tables 4 and 5.
- In all cases, use the field team data to verify the actual downwind direction of the plume. Adjust the PAR as appropriate.

b. Choose the towns affected by the PAR as follows:

1) **If Appendix B.1.a., Nomogram method of OP 3513 shows that the PAR (evacuation) is exceeded**, then use **TABLE 5** and appropriate meteorological data (**wind direction and stability class A**) to obtain affected towns out to **five miles** downwind.

2) **If ODPS shows that the PAR (evacuation) is exceeded between five and ten miles,** then use **TABLE 4** and appropriate meteorological data (**wind direction and stability class**) to obtain affected towns out to **ten miles** downwind.

3) **If ODPS shows that the PAR (evacuation) is exceeded between the site boundary and five miles,** then use **TABLE 5** and appropriate meteorological data (**wind direction and stability class**) to obtain affected towns out to **five miles** downwind.

4) **If METPAC is used,** towns affected by the PAR are determined by using one or more of the following:

a) METPAC Plume Plot

b) METPAC PAG Report

c) METPAC Tracking Report

d) Field Monitoring Results

e) Table 4

f) Table 5

NOTE

Any prior protective action recommendations that are still in effect should be included with updated information and documentation (VYOPF 3511.01).

c. Record appropriate PAR information in Section II of VYOPF 3511.01

3. Forward completed VYOPF 3511.01 to the Site Recovery Manager or senior manager in charge.

4. Review the PARs with the Site Recovery Manager or senior manager in charge to obtain approval.

5. Transmit approved PARs to State authorities as delineated in OP 3540 (PED or TSC Coord.). (Use VYOPF 3540.06) or OP 3546 (Site Recovery Manager) (use VYOPF 3546.02)

B. Subsequent Actions

1. Continue to obtain updated information concerning off-site release information and status from OP 3513.

2. If significant changes occur on plant radiological release or meteorological conditions, repeat steps in Section II.A to re-evaluate Protective Action Recommendation.

FINAL CONDITIONS

1. Ensure that all documentation is maintained in an orderly fashion and route all documentation to the Emergency Plan Coordinator for review and filing at the conclusion of the emergency response process.

2. The Emergency Plan Coordinator will ensure that completed records are filed in accordance with AP 6807.

PROTECTIVE ACTION RECOMMENDATION WORKSHEET

INFORMATION CURRENT AT:_____/_____(Time/Date)

PROTECTIVE ACTION RECOMMENDATIONS

SECTION I: PLANT CONDITIONS
(Fill in with appropriate letter designation for affected towns from Table 3)

S= Shelter in Place
OR
E= Evacuate

VERMONT TOWNS

_____ Brattleboro
_____ Guilford
_____ Vernon

NEW HAMPSHIRE TOWNS

_____ Hinsdale
_____ Winchester

MASSACHUSETTS TOWNS

_____ Bernardston
_____ Northfield

Performed By:_____

Verified By:_____

SECTION II: RADIOLOGICAL DOSE
(Fill in with letter designation for affected towns)
E= Evacuate

OR

(Check if appropriate)
_____ NO PARs Based on Radiological Dose

VERMONT TOWNS

_____ Brattleboro
_____ Dummerston
_____ Guilford
_____ Halifax
_____ Vernon

NEW HAMPSHIRE TOWNS

_____ Chesterfield
_____ Hinsdale
_____ Richmond
_____ Swanzey
_____ Winchester

MASSACHUSETTS TOWNS

_____ Bernardston
_____ Colrain
_____ Gill
_____ Greenfield
_____ Leyden
_____ Northfield
_____ Warwick

The following was used (Check as applicable):
☐Nomogram ☐ODPS ☐METPAC ☐Field Data

Performed By:_____

Verified By:_____

(The following information to be filled in by Senior Manager in charge or designated alternate)

Approved By:_____ (Time/date)_____
☐PED ☐TSC Coordinator ☐Site Recovery Manager (Check one)

Transmit approved PAR to State Authorities as delineated in OP 3540 (PED or TSC Coordinator using OP 3540.06) or OP 3546 (Site Recovery Manager using OP 3546.02)

TABLE 3

GENERAL EMERGENCY PROTECTIVE ACTION GUIDELINES BASED ON PLANT CONDITIONS

WIND IS FROM:	TOWNS 5 MILES DOWNWIND	
Sector A (348.75° - 11.25°) North	Vernon Hinsdale	Bernardston Northfield Winchester
Sector B (11.25° - 33.75°) NorthNorthEast	Vernon Bernardston Hinsdale	Northfield Guilford Winchester
Sector C (33.75° - 56.25°) NorthEast	Vernon Hinsdale	Brattleboro Bernardston Northfield Guilford Winchester
Sector D (56.25° - 78.75°) EastNorthEast	Vernon Hinsdale	Brattleboro Guilford Bernardston
Sector E (78.75° - 101.25°) East	Vernon Hinsdale	Brattleboro Guilford Bernardston
Sector F (101.25° - 123.75°) EastSouthEast	Vernon Hinsdale	Brattleboro Guilford
Sector G (123.75° - 146.25°) SouthEast	Vernon Hinsdale	Brattleboro Guilford
Sector H (146.25° - 168.75°) SouthSouthEast	Vernon Hinsdale	Brattleboro Guilford
Sector J (168.75° - 191.25°) South	Vernon Hinsdale	Brattleboro Guilford Winchester
Sector K (191.25° - 213.75°) SouthSouthWest	Vernon Hinsdale	Brattleboro Guilford Winchester
Sector L (213.75° - 236.25°) SouthWest	Vernon Hinsdale	Brattleboro Guilford Winchester Northfield
Sector M (236.75° - 258.75°) WestSouthWest	Vernon Hinsdale	Winchester Northfield

TABLE 3 (Continued)

WIND IS FROM:	TOWNS 5 MILES DOWNWIND	
Sector N (258.75° - 281.25°) West	Vernon Hinsdale	Winchester Northfield
Sector P (281.25° - 303.75°) WestNorthWest	Vernon Hinsdale	Winchester Northfield
Sector Q (303.75° - 325.25°) NorthWest	Vernon Hinsdale	Winchester Northfield
Sector R (325.25° - 348.75°) NorthNorthWest	Vernon Hinsdale	Winchester Northfield Bernardston

Note: Rev. 13 includes a consideration of valley effect for certain stability classes.

TABLE 4

DOSE PROJECTION PROTECTIVE ACTION GUIDELINES - **TOWNS 10 MILES DOWNWIND**

Wind From/ Stability Class	Sector A (348.75°-11.25°) North	Sector B (11.25°-33.75°) NorthNorthEast	Sector C (33.75°-56.25°) NorthEast	Sector D (56.25°-78.75°) EastNorthEast
A, B, C (Unstable)	Vernon Hinsdale Bernardston Gill Greenfield Leyden Northfield	Guilford Vernon Hinsdale Bernardston Colrain Gill Greenfield Leyden Northfield	Guilford Vernon Hinsdale Bernardston Colrain Greenfield Leyden	Guilford Halifax Vernon Hinsdale Bernardston Colrain Leyden
D (Neutral)	Vernon Hinsdale Bernardston Gill Greenfield Northfield	Vernon Hinsdale Bernardston Colrain Gill Greenfield Leyden Northfield	Guilford Vernon Hinsdale Bernardston Colrain Greenfield Leyden	Guilford Halifax Vernon Hinsdale Bernardston Colrain Leyden
E, F, G (Stable)	Vernon Hinsdale Bernardston Gill Northfield Winchester	Vernon Hinsdale Bernardston Gill Northfield Winchester	Brattleboro Dummerston Guilford Vernon Hinsdale Chesterfield Winchester Bernardston Northfield Gill	Brattleboro Dummerston Guilford Halifax Vernon Hinsdale Chesterfield

TABLE 4 (Continued)

DOSE PROJECTION PROTECTIVE ACTION GUIDELINES - **TOWNS 10 MILES DOWNWIND**

Wind From/ Stability Class	Sector E (78.75°-101.25°) East	Sector F (101.25°-123.75°) EastSouthEast	Sector G (123.75°-146.25°) SouthEast	Sector H (146.25°-168.75°) SouthSouthEast
A, B, C (Unstable)	Guilford Halifax Vernon Hinsdale Colrain Leyden Bernardston	Brattleboro Guilford Halifax Vernon Hinsdale	Brattleboro Dummerston Guilford Halifax Vernon Hinsdale	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale
D (Neutral)	Guilford Halifax Vernon Hinsdale Colrain Leyden	Brattleboro Guilford Halifax Vernon Hinsdale	Brattleboro Dummerston Guilford Vernon Hinsdale	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale
E, F, G (Stable)	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale
Wind From/ Stability Class	**Sector J (168.75°-191.25°) South**	**Sector K (191.25°-213.75°) SouthSouthWest**	**Sector L (213.75°-236.25°) SouthWest**	**Sector M (236.25°-258.75°) WestSouthWest**
A, B, C (Unstable)	Brattleboro Dummerston Vernon Chesterfield Hinsdale Winchester	Brattleboro Dummerston Vernon Chesterfield Hinsdale Swanzey Winchester	Vernon Chesterfield Hinsdale Swanzey Winchester	Vernon Chesterfield Hinsdale Richmond Swanzey Winchester
D (Neutral)	Brattleboro Dummerston Vernon Chesterfield Hinsdale	Vernon Chesterfield Hinsdale Winchester	Vernon Chesterfield Hinsdale Swanzey Winchester	Vernon Chesterfield Hinsdale Richmond Swanzey Winchester
E, F, G (Stable)	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale	Brattleboro Dummerston Guilford Vernon Chesterfield Hinsdale Winchester	Brattleboro Guilford Dummerston Vernon Chesterfield Hinsdale Winchester Northfield Gill	Vernon Hinsdale Richmond Winchester Northfield Gill Bernardston

TABLE 4 (Continued)

DOSE PROJECTION PROTECTIVE ACTION GUIDELINES - TOWNS 10 MILES DOWNWIND

Wind From/ Stability Class	Sector N (258.75°-281.25°) West	Sector P (281.25°-303.75°) WestNorthWest	Sector Q (303.75°-325.25°) NorthWest	Sector R (325.25°-348.74°) NorthNorthWest
A, B, C (Unstable)	Vernon Hinsdale Richmond Swanzey Winchester Warwick	Vernon Hinsdale Richmond Winchester Northfield Warwick	Vernon Hinsdale Winchester Northfield Warwick	Vernon Hinsdale Bernardston Gill Northfield Warwick
D (Neutral)	Vernon Hinsdale Richmond Swanzey Winchester	Vernon Hinsdale Richmond Winchester Northfield Warwick	Vernon Hinsdale Winchester Northfield Warwick	Vernon Hinsdale Bernardston Gill Northfield Warwick
E, F, G (Stable)	Vernon Hinsdale Winchester Bernardston Gill Northfield	Vernon Hinsdale Winchester Bernardston Gill Northfield	Vernon Hinsdale Winchester Bernardston Gill Northfield	Vernon Hinsdale Winchester Bernardston Gill Northfield

Note: Rev. 13 includes a consideration of valley effect for stability classes E, F and G.

TABLE 5

DOSE PROJECTION PROTECTIVE ACTION GUIDELINES - TOWNS 5 MILES DOWNWIND

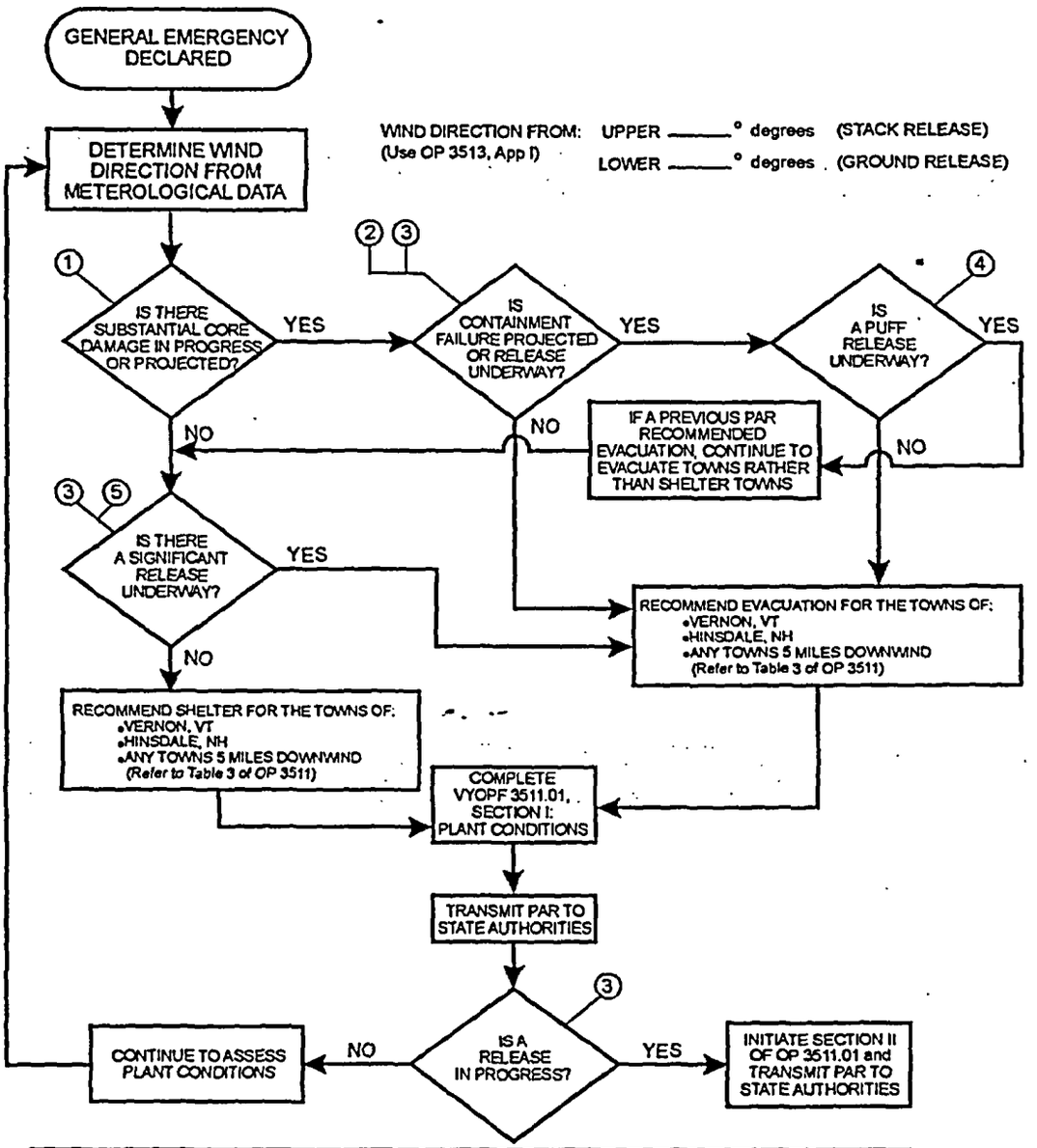
Wind From/ Stability Class	Sector A (348.75°-11.25°) North	Sector B (11.25°-33.75°) NorthNorthEast	Sector C (33.75°-56.25°) NorthEast	Sector D (56.25°-78.75°) EastNorthEast
A, B, C (Unstable)	Vernon Hinsdale Bernardston Northfield	Guilford Vernon Hinsdale Bernardston Northfield	Guilford Vernon Hinsdale Bernardston	Guilford Vernon Hinsdale Bernardston
D (Neutral)	Vernon Hinsdale Bernardston Northfield	Vernon Hinsdale Bernardston Northfield	Guilford Vernon Hinsdale Bernardston	Guilford Vernon Hinsdale Bernardston
E, F, G (Stable)	Vernon Hinsdale Winchester Bernardston Northfield	Vernon Hinsdale Winchester Bernardston Northfield	Brattleboro Guilford Vernon Hinsdale Winchester Bernardston Northfield	Brattleboro Guilford Vernon Hinsdale
Wind From/ Stability Class	**Sector E (78.75°-101.25°) East**	**Sector F (101.25°-123.75°) EastSouthEast**	**Sector G (123.75°-146.25°) SouthEast**	**Sector H (146.25°-168.75°) SouthSouthEast**
A, B, C (Unstable)	Guilford Vernon Hinsdale Bernardston	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale
D (Neutral)	Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale
E, F, G (Stable)	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale

TABLE 5 (Continued)

Wind From/ Stability Class	Sector J (168.75°-191.25°) South	Sector K (191.25°-213.75°) SouthSouthWest	Sector L (213.75°-236.25°) SouthWest	Sector M (236.25°-258.75°) WestSouthWest
A, B, C (Unstable)	Brattleboro Guilford Vernon Hinsdale Winchester	Vernon Hinsdale Winchester	Vernon Hinsdale Winchester	Vernon Hinsdale Winchester
D (Neutral)	Brattleboro Vernon Hinsdale	Vernon Hinsdale Winchester	Vernon Hinsdale Winchester	Vernon Hinsdale Winchester
E, F, G (Stable)	Brattleboro Guilford Vernon Hinsdale	Brattleboro Guilford Vernon Hinsdale Winchester	Brattleboro Guilford Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Winchester Northfield
Wind From/ Stability Class	**Sector N (258.75°-281.25°) West**	**Sector P (281.25°-303.75°) WestNorthWest**	**Sector Q (303.75°-325.25°) NorthWest**	**Sector R (325.26°-348.74°) NorthNorthWest**
A, B, C (Unstable)	Vernon Hinsdale Winchester	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Bernardston Northfield
D (Neutral)	Vernon Hinsdale Winchester	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Bernardston Northfield
E, F, G (Stable)	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Winchester Northfield	Vernon Hinsdale Winchester Bernardston Northfield

Note: Rev. 13 includes a consideration of valley effect for stability classes E, F and G.

FIGURE 1
GENERAL EMERGENCY PROTECTIVE ACTION RECOMMENDATIONS



NOTES

(1) INDICATORS OF SUBSTANTIAL CORE DAMAGE MAY INCLUDE:
- Significant Radioactive Inventory in Primary Containment
  - Containment radiation monitor readings >5000 R/hr
- Loss of Critical Functions for Core Protection
  - Reactor water level <TAF
  - ECCS not available to maintain core cooling

(2) INDICATORS OF CONTAINMENT FAILURE MAY INCLUDE:
- Drywell Pressure >42 psig and Increasing
- PCIS Failure to Isolate Containment
- Primary Containment H_2/O_2 Concentration Increasing

(3) INDICATORS OF SIGNIFICANT RELEASE OF RADIOACTIVITY TO ENVIRONMENT MAY INCLUDE:
- Increasing and Elevated Stack High Range Monitor Readings (>5000 mr/hr indicates core damage)
- Measurable Radiation Levels Above Background at or Beyond Site Boundary
- Extremely High and Increasing Reactor Building ARM Readings

(4) INDICATORS OF A PUFF RELEASE MAY INCLUDE:
- Predictable Release Duration for Short Time Period (e.g., Release Duration <1Hour)
- Controlled Release Where the Timing of the Duration Is Known

(5) Sets threshold for evacuation versus shelter at 1 Rem TEDE off-site for stack releases.

REVISED PROCEDURE CONTROL FORM

PART 1 - Initiation

A. Procedure No.	New Revision	Title
OP 3513	No. 22	Evaluations of Off-Site Radiological Conditions

B. Review Criteria: ☐ Partial ☐ Editorial ☒ Complete

C. Periodic Review Cycle: ☒ 2 Year (Event Driven) ☐ N/A

D. List DIs & LPCs: N/A

E. Description and Reasons for Procedure/Changes:

- Made the Field Data Status Log into seperate logs for site Boundary, green, blue teams.
- removed using orange overlay directions not to use dispersion wheel for Stability Classes E, F, G
- explained how metpac's plume trajectory is different than prevailing winds (pg 6)
- added to verify plume trajectory using field team readings. (pg 6)
- added note for App. K (pg 8)
- added step to verify metpac w/ field team data (pg 10)
- App I - phone # changes
- App K - added step to determine 10-mile plume trajectory w/ metpac.
- Figure 1 - updated w/ correct procedure form references
- App B - changed instantaneous data to avg 15 min avg on f) g)

F. Originator Name: (App. A was used as references to create this revision, App. C is completed and attached unless Part 1.B above is "Editorial".) **Telephone Extension:** x4177

(Print/sign/date) Audra Williams Audra Williams 4/29/03

PART 2 - Reviews

A. Walk-Through Validation: ☒ Required ☒ N/A (ALW)

☐ Field Walk-Through
☒ Table-Top ☐ Simulator Validation

B. Technical Verification Reviewer ☐ N/A
(App. B used as a reference)
(Print/Sign/Date)
M. F. EMAEY / M. F. Emaey / 9/26/03

C. Cross-Discipline Reviews: ☐ N/A

Department	Name	Signature	Date
Rad Protection	Mike Morgan	Mike Morgan	6/19/03
Operations	Jim Brooks	Jim Brooks	9/20/03

D. 50.59 Review Per AP 6002, Preparing 50.59 Evaluations ☐ N/A

☒ **50.59 AD** previously performed and documented in the text of this procedure and is still applicable.
☐ **50.59 Applicability Determination** completed and attached; 50.59 Screening NOT required.
☐ **50.59 Review Screening** completed and attached, 50.59 Evaluation **NOT** required.
☐ **50.59 Evaluation** completed and attached.

E. QUALIFIED REVIEWER: Use App. D as a reference (May perform 50.59 Applicability Determination) (Part 2.D)
(Print/Sign/Date) Audra Williams Audra Williams 9.26.03

F. ORIGINATOR: ☑ Comments Resolved ☑ Re-verify All DIs & LPCs Considered
☑ Sent for Final Type (CDS or STC (SPs only)) Initial/Date DWR 10/6/03
☑ Proofread after Final Type
(Print/Sign/Date) Audra Williams Audra Williams 10.22.03

PART 3 - Training/Notification Requirements

A. **Indicate training or notifications required to implement procedure:** (Required for Administrative Procedures)

☒ **Include in formal training (TCR submitted):**

☒ **E-Mail notification:** Trainersoft module

☐ **Crew Briefings:**

☐ **Other:** ☐ **N/A**

PART 4 - PORC

Plant Operation Review Committee: ☐ Required ☒ N/A

Meeting No: **PORC Secretary:** **Date:** **Plant Manager:**

PART 5 - Approval

A. **Responsible Procedure Owner:** (Print/Signature/Date)
Brian M. Finn Brian M. Finn 10/20/03

B. **Plant Manager** (Print/Sign/Date) (For SPs Only)
N/A
~~Brian M. Finn Brian M. Finn 10/20~~

C. **Special Instructions:** ☐ N/A

☐ Approved for Training

☒ Issue on DATE: 10.29.03

☐ Submit Surveillance Database Change per AP 4000

☐ Other:

PART 6 - Issuance

Procedure Change No.: ~~#~~ 221

Date procedure issued: 10/29/03

Notes:

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3513, Rev. 22, Evaluations of Off-Site Radiological Conditions

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities		X
(2)	Assignment of on-shift Emergency Response Organization personnel		X
(3)	Arrangements for Emergency Response Support and Resources		X
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		X
(5)	Notification Methods and Procedures		X
(6)	Emergency Communications among principal response organizations and the public		X
(7)	Public Education and Information		X
(8)	Adequacy of Emergency Facilities and Equipment		X
(9)	Adequacy of Accident Assessment methods, systems and equipment	X	
(10)	Plume exposure pathway EPZ protective actions	X	
(11)	Emergency Worker Radiological Exposure Control		X
(12)	Medical Services for contaminated injured individuals		X
(13)	Recovery and Reentry Plans		X
(14)	Emergency response periodic drills and exercises		X
(15)	Radiological Emergency Response Training		X
(16)	Plan development, review and distribution		X

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization		X
(2) Section IV. B - Assessment Actions	X	
(3) Section IV. C - Activation of Emergency Organizations		X
(4) Section IV. D - Notification Procedures		X
(5) Section IV. E - Emergency Facilities and Equipment		X
(6) Section IV. F - Training		X
(7) Section IV. G - Maintaining Emergency Preparedness		X
(8) Section IV. H - Recovery		X

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50.47(b)(9)&(10) and Appendix E, Section IV. B of Section A above, this change
☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

During the April 8, 2003, exercise issues were raised concerning the validity of the affected towns as listed in Tables 3,4 and 5. For certain wind directions and Stability class, METPAC uses the topography to redirect the plume independent of prevailing wind direction. For this reason using the Standard approach of downwind direction and one sector on either side will cause a discrepancy with the METPAC projected plume footprint.

Tables 3, 4 and 5 were validated using the Standard approach of towns in the downwind direction and one sector on either side. Also towns were added to include the valley affect for stability classes E, F and G where the METPAC projected plume footprint is significantly different than the prevailing wind direction.

Consistency between Table 3, 4 and 5 was ensured so that when upgrading the PAR from a plant conditions approach to a dose assessment approach there should be similar towns in the 5 mile

downwind direction if wind direction has not changed.

Other changes were to update phone numbers, correct procedure references and changed the instantaneous data to 15 min avg.

None of these changes decrease the effectiveness of the Emergency Plan and continue to meet all requirements.

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search:_____

☐ This change does not affect any other documents.

☐ This change does affect other documents.

Document(s) affected: OP 3511, OP 3525

Section(s) affected:_____

10 CFR 50.54(q) Evaluation Checklist (Continued)

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search: _____

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 9/30/03
(Print/Sign)

Reviewed By: Lori A. Ikaczyk Lori A. Ikaczyk Date: 10/23/03
(Emergency Plan Coordinator) (Print/Sign)

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3513, Rev. 22
Reviewer/Date (Print) Audra Williams 8/26/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		X
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.	X	
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3513

REVISION 22

EVALUATIONS OF OFF-SITE RADIOLOGICAL CONDITIONS

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/29/03

TABLE OF CONTENTS

PURPOSE

To specify the methodology utilized to evaluate the off-site radiological consequences involving an elevated (stack) or ground level release of radioactivity during accident conditions.

DISCUSSION

This procedure consists of two sections as follows:

SECTION	TITLE	RESPONSIBILITY	METHODS
I	Initial Evaluation	CONTROL ROOM - Shift Supervisor/Plant Emergency Director (SS/PED)	ODPS (Off-Site Dose Projection System), Off-Site Dose Nomogram, or Measured Site Boundary Dose Rate
II	Subsequent Evaluation	EOF Radiological Assistant	METPAC Computer (Primary), ODPS (Backup), or Off-Site Dose Nomogram (Backup)

During the initial stages of an emergency where an actual release of radioactivity has occurred, the SS/PED will be responsible to perform the initial evaluation of off-site radiological conditions. For other emergencies involving a potential release of radioactivity, (e.g., high level activity in containment, but no actual release), the Radiological Assistant will be responsible to perform the initial evaluation of off-site radiological conditions should an actual release occur.

The initial evaluation of off-site radiological conditions will be accomplished by utilizing the Off-Site Dose Projection System (ODPS), the Off-Site Dose Nomogram or Measured Site Boundary Dose Rate (refer to Section I of this procedure).

Following the initial evaluation and upon activation of the EOF, a subsequent method to further evaluate and refine the initial off-site dose projections will be performed by appropriate personnel located at the EOF. The METPAC Computer System and field-data monitoring information will be utilized to perform subsequent evaluation of off-site radiological conditions (refer to Section II of this procedure).

In order to help qualitatively define plume width, a transparent overlay has been prepared for the area base map. This transparency consists of three colored angles as follows:

Blue - For all unstable meteorological classes (Stability Class A, B, or C)
Red - For neutral meteorology (Stability Class D)

Do not use the dispersion wheel for Stability Classes E, F and G as METPAC predicts a plume trajectory that is different from the prevailing wind direction.

Included within each angle are areas lateral to the plume centerline having I^{131} concentrations of at least 5% of the plume centerline value. Centering the stability-dependent angles over the appropriate downwind direction on the area base map will help qualitatively define the plume width. Using the sector/zone designation appropriate to the plume width, Vermont Yankee can provide State officials with the affected area and corresponding off-site radiological dose projections out to ten miles.

Off-site protective action recommendations shall be made based on the guidelines established in OP 3511.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the scope of the procedure or program is not revised to include a different type of activity. The basis for this conclusion is that this document is an Emergency Implementing Procedure and is subject to 10CFR50.54(q) to determine if the changes decrease the effectiveness of the Emergency Plan and if they have the potential to affect our ability to meet the standards of 10CFR50.47(b) and the requirements of 10CFR50 Appendix E.

ATTACHMENTS

1.	Table 1	Deleted
2.	Table 2	VY Primary and Backup Towers ΔT/Stability Criteria
3.	Table 3	Air Sample Codes for I-131 Air Concentrations
4.	VYOPF 3513.01	Dose Assessment Status Form
5.	VYOPF 3513.02	Isotopic Analysis
6.	VYOPF 3513.03	Site Boundary Team Status Log
7.	VYOPF 3513.04	Doses at Selected Locations
8.	VYOPF 3513.05	Deleted
9.	VYOPF 3513.06	Green Team Status Log
10.	VYOPF 3513.07	Blue Team Status Log
11.	Figure 1	Initial Dose Assessment & PAR Sequence
12.	Figure 2	Vermont Yankee Emergency Dose Rate Nomogram
13.	Figure 3	Field Sample Thyroid Dose Nomogram
14.	Appendix A	Deleted
15.	Appendix B	Off-Site Dose Projection Methodology When ODPS is Inoperable
16.	Appendix C	Field Data Monitoring
17.	Appendix D	METPAC Computer Input Sequence and Instructions
18.	Appendix E	Description of METPAC Options and Operational Features
19.	Appendix F	Deleted
20.	Appendix G	Off-Site Dose Projection System (ODPS) Input Sequence and Format
21.	Appendix H	Manual Source Term Data Acquisition
22.	Appendix I	Manual Meteorological Data Acquisition
23.	Appendix J	Multiple Release Assessment
24.	Appendix K	Guidelines for "What If" Projection of Potential Radioactive Material Releases

QA REQUIREMENTS CROSS REFERENCE

1. None

REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents

   a. None

2. Codes, Standards, and Regulations

   a. 10CFR50, Appendix E

3. Commitments

   a. ER2003-0481_01

4. Supplemental References

   a. VY Meteorology System Manual
   b. METPAC, Technical Reference Manual
   c. Report 0051, RM-14/HP 210 Efficiency - I-131 (E-Plan Air Sampling) VYDPF 0530.02
   d. OP 2611, Stack Effluent Sampling and Analysis
   e. AP 3125, Emergency Plan Classification and Action Level Scheme
   f. OP 3510, Off-Site and Site Boundary Monitoring
   g. OP 3511, Off-Site Protective Action Recommendations
   h. AP 6807, Collection, Temporary Storage and Retrieval of QA Records

PRECAUTIONS/LIMITATIONS

1. Since significant changes in meteorological, plant radiological, and plant status conditions can occur, frequent checks on conditions are important.

2. Meteorological data obtained from Met Data History 1 and 2 on ERFIS are data averaged over 15-minute intervals, presented over the past six hours. A separate screen, METPAC PARAMETERS (MPP), represents instantaneous readings at the designated time.

3. The Off-Site Dose Nomogram method will conservatively provide higher dose predictions at the site boundary than the ODPS or METPAC method due to model sophistication involving the effective stack height and formulation of meteorological parameters. The Off-Site Dose Nomogram basic purpose is to initially scope the magnitude of the release rather than provide a precise site boundary dose rate.

4. Comparison between dose projection methods and off-site monitoring measurements should be reviewed carefully. The user should realize that dose projection methods use meteorological conditions that reflect a 15-minute average condition. However, wide variation in wind speed and direction can occur during that time interval which real-time off-site monitoring measurements would reflect.

5. Accurate reported locations of off-site monitoring team data are necessary, given the significance of these data in the evaluation of off-site radiological conditions.

6. To run ODPS for an unmonitored (ground) release, a site boundary dose rate and the estimated time of release are necessary input.

7. For stability classes E, F and G, because of the valley affect, METPAC will predict a plume trajectory that is significantly different than the prevailing downwind direction. Also, for the stability classes E, F and G, and with a variable wind direction from the NE or SW, METPAC can predict the plume trajectory to reverse direction up and down the river valley.

8. It is prudent to verify the plume trajectory using field team readings. Do not be totally reliant on the METPAC predictions of the plume trajectory.

RESPONSIBILITIES

1. Shift Manager/Plant Emergency Director (SM/PED):

   Responsible for performing the initial dose calculations within this procedure until relieved by the appropriate personnel at the Emergency Operations Facility (EOF).

2. Radiological Assistant:

   Responsible for performing the subsequent dose calculations and evaluations within this procedure.

I. Initial Evaluation

A. Immediate Action by the SM/PED or Designated Plant Staff Member

1. Upon receiving an indication of a significant release of radioactivity is occurring and the EOF has not been activated, initiate or assign a qualified individual to perform the appropriate calculations in this procedure to evaluate the off-site radiological conditions.

NOTE

Figure 1 is a flow chart available to assist in the identification of dose assessment activities to be considered and implemented.

2. For an actual ground release, dispatch a Site Boundary Team to obtain a whole body dose rate reading at the fence line in the downwind direction of the release in accordance with OP 3510, and record field data on VYOPF 3513.03.

3. If the Stack High Range Monitor equals or exceeds 20 mR/hr, request the Chemistry Technician to obtain a silver zeolite cartridge air sample from the main stack sample point for an iodine release rate determination.

4. If ODPS is operable, then implement Appendix G to access off-site dose projection information from ODPS.

5. If ODPS is inoperable, then implement Appendix B to perform the applicable off-site dose projections.

B. Subsequent Actions

1. If significant changes occur in meteorological or radiological conditions, repeat applicable steps in Section I.A to re-evaluate off-site radiological conditions.

2. Upon activation of the EOF, the TSC Coordinator or designated individual will forward applicable dose assessment results and data to the Radiological Assistant if necessary or required.

II. Subsequent Evaluation

A. Actions by the Radiological Assistant or Designated Qualified Individual

1. If release has started before EOF activation, determine the status of actions performed in Section I of this procedure from the TSC Coordinator or designated individual.

NOTES

- Appendix H and Appendix I provide methods to acquire radiological (source term) and meteorological data, respectively.
- Appendix K provides a method to use METPAC to predict the plume trajectory out to 10 miles.

2. Obtain information on radiological (source term) and meteorological data to evaluate off-site radiological conditions to include as needed the following information (refer to VYOPF 3513.01):

a. Time and date of the reactor scram.

b. Time and date of start of any release(s).

c. Type of any release(s).

d. Duration of any release(s).

e. Stack High Range Monitor reading, stack flow rate, and site boundary dose rate.

f. Quarter-hour meteorological data from the beginning of any release(s).

g. Latest estimated projected doses and plume arrival time at the site boundary, 2, 5, 10 miles.

h. In-plant chemistry sample information (if available) to include reactor coolant, drywell, and plant stack sample results.

i. Containment High Range Monitor readings, in-plant area and process rad monitor readings, and SBGTS status information.

j. Protective Action Recommendation(s) if any were made to state authorities.

3. Based on plant conditions and information obtained from radiological and meteorological data, coordinate the assessment of off-site dose projections and calculations by using one or more of the following methods:

   a. METPAC (Primary) - Refer to Appendix D.

   b. ODPS - Refer to Appendix G.

   c. Nomogram - Refer to Appendix B.

   d. Field Data Monitoring Results - Refer to Appendix C.

   e. Multiple Release Assessment - Refer to Appendix J.

   f. Guidelines for "What If" Projection of Potential Radioactive Material Releases - Refer to Appendix K.

4. Review dose assessment calculation results and dose calculation parameters/assumptions utilized.

5. As dose projection information becomes available, perform the following actions:

   a. As time permits, verify the METPAC prediction of the plume trajectory with field team data. This is especially important for stability classes E, F and G.

   b. Implement Section II of OP 3511 to formulate Protective Action Recommendations for that state's authorities.

   c. Review AP 3125 to evaluate the emergency classification based on site boundary radiological dose conditions and immediately inform the EOF Coordinator if site boundary radiological dose condition EALs have been reached or exceeded.

   d. Forward applicable information on VYOPF 3513.01.

   e. Post appropriate dose assessment information on status boards.

   f. Maintain a file of printouts and completed input data forms.

6. Contact the Chemistry Manager for status of in-plant chemistry sample information to include isotopic breakdown of reactor coolant, drywell air, and effluent release data (e.g., plant stack), and utilize the results of these samples to determine source term release rate information as needed.

7. Periodically brief the EOF Coordinator on off-site dose assessment results and pertinent changes, especially updates regarding protective action recommendations.

8. Brief the Radiological Assistant staff periodically on the status of plant conditions, meteorological changes, plant radiological effluent conditions and dose assessment results.

9. As new or additional information becomes available, ensure that status boards and forms are updated and the updated information is forwarded to the EOF Coordinator for distribution.

10. Continue to update and evaluate off-site dose projections as required.

FINAL CONDITIONS

1. Turn in all data log sheets, calculations, and printouts to the Emergency Plan Coordinator for proper filing in accordance with AP 6807.

TABLE 2

VY PRIMARY AND BACKUP TOWERS ΔT/STABILITY CRITERIA

PRIMARY TOWER
ΔT(°F)

Ground Release	Elevated Release	Stability Class	Stability Category	Use Angle
$\Delta T \leq -1.72$	$\Delta T \leq -2.74$	A	Extremely Unstable	Blue
$-1.71 \leq \Delta T \leq -1.54$	$-2.73 \leq \Delta T \leq -2.45$	B	Moderately Unstable	Blue
$-1.53 \leq \Delta T \leq -1.36$	$-2.44 \leq \Delta T \leq -2.16$	C	Slightly Unstable	Blue
$-1.35 \leq \Delta T \leq -0.46$	$-2.15 \leq \Delta T \leq -0.72$	D	Neutral	Red
$-0.45 \leq \Delta T \leq +1.35$	$-0.71 \leq \Delta T \leq +2.15$	E	Slightly Stable	Orange
$+1.36 \leq \Delta T \leq +3.62$	$+2.16 \leq \Delta T \leq +5.74$	F	Moderately Stable	Orange
$+3.63 \leq \Delta T$	$+5.75 \leq \Delta T$	G	Extremely Stable	Orange

BACKUP TOWER (33 ft. - 135 ft.)
ΔT (°F)

RANGE	CLASS	METPAC LOWER ΔT*	METPAC UPPER ΔT*
$\Delta T \leq -1.07$	A	-2.0	-3.0
$-1.06 \leq \Delta T \leq -0.96$	B	-1.6	-2.5
$-0.95 \leq \Delta T \leq -0.84$	C	-1.4	-2.2
$-0.83 \leq \Delta T \leq -0.28$	D	-1.0	-1.0
$-0.27 \leq \Delta T \leq +0.83$	E	+1.0	+1.0
$+0.84 \leq \Delta T \leq +2.23$	F	+2.0	+3.0
$+2.24 \leq \Delta T$	G	+4.0	+6.0

* Input this number into missing delta temperature field to obtain appropriate stability class.

TABLE 3

AIR SAMPLE CODES FOR I-131 AIR CONCENTRATIONS

Air Code	Net CPM	*I-131 Air Concentration µCi/cc	Air Code	Net CPM	*I-131 Air Concentration µCi/cc
0	<40	N/A	24	1750	1.11E-06
1	40	2.55E-08	25	2000	1.27E-06
2	60	3.82E-08	26	2250	1.43E-06
3	80	5.09E-08	27	2500	1.59E-06
4	100	6.37E-08	28	2750	1.75E-06
5	125	7.96E-08	29	3000	1.91E-06
6	150	9.55E-08	30	3250	2.07E-06
7	175	1.11E-07	31	3500	2.23E-06
8	200	1.27E-07	32	3750	2.39E-06
9	225	1.43E-07	33	4000	2.55E-06
10	250	1.59E-07	34	4250	2.71E-06
11	275	1.75E-07	35	4500	2.87E-06
12	300	1.91E-07	36	5000	3.18E-06
13	325	2.07E-07	37	7500	4.78E-06
14	350	2.23E-07	38	10000	6.37E-06
15	375	2.39E-07	39	12500	7.96E-06
16	400	2.55E-07	40	15000	9.55E-06
17	425	2.71E-07	41	17500	1.11E-05
18	450	2.87E-07	42	20000	1.27E-05
19	500	3.18E-07	43	25000	1.59E-05
20	750	4.78E-07	44	30000	1.91E-05
21	1000	6.37E-07	45	35000	2.23E-05
22	1250	7.96E-07	46	40000	2.55E-05
23	1500	9.55E-07	47	50000	3.18E-05

* These I-131 air concentration values are only to be used when a "standard" air sample has been taken (i.e., flow rate = 1CFM;; collection time = 10 min.; RM-14 used to count the silver zeolite cartridges). The I-131 air concentration values for all other air samples will be calculated by using the equation in Method 2 of Appendix C.

DOSE ASSESSMENT STATUS FORM

Time of Shutdown: _____ Form Prepared By: _____

RELEASE INFORMATION Date: _____ Time: _____

Stack: _____ Ground: _____ Combination: _____

Release Started At: _____ hr Anticipated: _____ hr

Estimated Release Duration: _____ hrs SBGT: ☐ On ☐ Off

CLASSIFICATION

☐ Unusual Event ☐ Alert ☐ Site Area ☐ General

METEOROLOGICAL/STACK/DATA AT: Date: _____ Time: _____

PARAMETER (15 MIN. AVE.)	UNITS	UPPER (for Stack Release)	LOWER (for Ground Release)
Wind Speed	mph		
Wind Direction	deg		
Delta T	deg (F)		
Stability Class	A,B,C = Blue Angle D = Red Angle E,F,G = Orange Angle		
Precipitation	in/15 min.		
Stack High Range (Use instantaneous reading.)	mR/hr		
Stack Flow (use instantaneous)	scfm		
Site Boundary Dose Rate (Measured)	mR/hr		
Sample Analysis Performed? ☐ YES ☐ NO			
Weather Forecast:			

CALCULATED DOSE OR DOSE ASSESSMENT RESULTS ATTACHED: ☐ ODPS ☐ METPAC

		ELEVATED		GROUND		COMBINATION	
DISTANCE	PLUME ARRIVAL TIME	TEDE (R)	CDE THYROID (R)	TEDE (R)	CDE THYROID (R)	TEDE (R)	CDE THYROID (R)
At 0.35-Mile							
At 2-Mile							
At 5-Mile							
At 10-Mile							

Reviewed By: _____
Rad Assistant (Print/Sign)

DISTRIBUTION
- Rad. Ass't to EOF Coord., EOF States' Reps
- EOF Coord. to SRM
- SRM to NRC, ESC and JNC

ISOTOPIC ANALYSIS

A. SAMPLE DESCRIPTION

Sample Location: _____

Sample Time: _____

Sample Date: _____

B. ISOTOPIC SAMPLE RESULTS

I^{131}	_____ μCi/cc	Xe^{133}	_____ μCi/cc
I^{132}	_____ μCi/cc	Xe^{135}	_____ μCi/cc
I^{133}	_____ μCi/cc	Xe^{135m}	_____ μCi/cc
I^{134}	_____ μCi/cc		
I^{135}	_____ μCi/cc		

Other Isotopes: _____

_____

C. DOSE ASSESSMENT RESULTS

Dose Projections Attached? ☐ YES ☐ NO

Comments: _____

_____

_____

_____

_____

_____

Performed By: _____
(Print/Sign)

Reviewed By: _____
(Print/Sign)

DISTRIBUTION
- Rad. Ass't to EOF Coordinator
- EOF Coordinator to SRM
- SRM to EOF States' Reps., NRC, ESC, and JNC

SITE BOUNDARY TEAM STATUS LOG

INFO Current at: Time _____ Date _____

Sample Location: _____

A. WHOLE BODY DOSE RATE RESULTS

1. Reading - RM-14:
   a. Waist Height _____ GCPM b. 2" Above Ground _____ GCPM
2. Dose Rate Reading - PIC-6:
   a. Waist Height _____ mR/hr b. 2" Above Ground _____ mR/hr

NOTE

To ensure that the Radiological Assistant receives the whole body dose rate results expeditiously, forward whole body dose rate results to Radiological Coordinator in EOF before an air sample is taken.

B. AIR SAMPLE RESULTS

1. "Standard" Air Sample:
   a. Air Code _____
   b. Sample Collection Time _____
   c. I-131 Concentration (Table 3) _____ µCi/cc

OR

2. "Non-Standard" Air Sample:
   a. Air Sample "Time ON" _____
   b. Air Sample "Flow ON" _____ ☐ LPM ☐ CFM
   c. Air Sample "Time OFF" _____ or Total minutes _____
   d. Air Sample "Flow OFF" _____ ☐ LPM ☐ CFM
   e. Air Sample "NET cpm" _____
   f. I-131 Concentration (Appendix C - Method 2) _____ µCi/cc

C. FIELD SAMPLE THYROID DOSE NOMOGRAM RESULTS

1. I-131 Concentration _____ µCi/cc
2. Inhalation Time _____ hours
3. Adult Thyroid CDE (Figure 3) _____ REM

Performed By: _____
(Print/Sign)

Reviewed By: _____
(Print/Sign)

Copies Distributed To: Radiological Assistant

DOSES AT SELECTED LOCATIONS

Date	Time	Sample Location	Gamma Dose Rate (mR/hr)	I^{131} Conc. (μCi/cc)	Sample Storage Location	Initials

GREEN TEAM STATUS LOG

INFO Current at: Time _____ Date _____

Sample Location: _____ (from page 2)

D. WHOLE BODY DOSE RATE RESULTS

1. Reading - RM-14:

   a. Waist Height _____ GCPM b. 2" Above Ground _____ GCPM

2. Dose Rate Reading - PIC-6:

   a. Waist Height _____ mR/hr b. 2" Above Ground _____ mR/hr

> **NOTE**
>
> To ensure that the Radiological Assistant receives the whole body dose rate results expeditiously, forward whole body dose rate results to Radiological Coordinator in EOF before an air sample is taken.

E. AIR SAMPLE RESULTS

1. "Standard" Air Sample:

   a. Air Code _____

   b. Sample Collection Time _____

   c. I-131 Concentration (Table 3) _____ µCi/cc

OR

2. "Non-Standard" Air Sample:

   a. Air Sample "Time ON" _____

   b. Air Sample "Flow ON" _____ ☐ LPM ☐ CFM

   c. Air Sample "Time OFF" _____ or Total minutes _____

   d. Air Sample "Flow OFF" _____ ☐ LPM ☐ CFM

   e. Air Sample "NET cpm" _____

   f. I-131 Concentration (Appendix C - Method 2) _____ µCi/cc

F. FIELD SAMPLE THYROID DOSE NOMOGRAM RESULTS

1. I-131 Concentration _____ µCi/cc

2. Inhalation Time _____ hours

3. Adult Thyroid CDE (Figure 3) _____ REM

Performed By: _____
(Print/Sign)

Reviewed By: _____
(Print/Sign)

Copies Distributed To: Radiological Assistant

PRE-DETERMINED DOWNWIND SAMPLE LOCATIONS

NO.	LOCATION
1	Rte. 119 at Ash Ratook, approx. 0.2 miles south of Hinsdale Raceway Entrance
2	Rte. 119 near access road to midstream tower across from beige house, 1.3 miles south of racetrack.
3	Rte. 119, Hinsdale, NH, 1st pole north of Robust, Inc.
4	Rte. 119, Hinsdale, NH at former air sample station.
5	Rte. 119, Hinsdale, NH, pole nearest swimming pool near schools.
6	Stage Rd. (behind high school), Hinsdale, NH, at bend in road near horse stables.
7	Northfield Rd., (Rte. 63 south), Hinsdale, NH, 0.7 mile south of Rte. 63 Country Store.
8	Stebbins Rd., Vernon, VT, 0.5 mile from the south intersection with Rte. 142.
9	Rte. 142, Vernon, VT, across from Stebbins Rd. North of intersection.
10	Corner of Washburn Way and Pond Rd., Vernon, VT, just west of Pond Rd. underpass.
11	Rte. 142, Vernon, VT, 0.5 mile south of the Vernon Town Offices.
12	Rte. 142, Vernon, VT, 0.3 mile south of the Vernon Town Offices.
13	Rte. 142, Vernon, VT, 0.1 mile south of the Vernon Town Offices.
14	Governor Hunt Rd., across from the Vernon Town Hall.
15	Rte. 142, Vernon, VT, across from Tyler Hill Rd.
16	Rte. 142, Vernon, VT, 1.0 miles north from the Tyler Hill intersection.

BLUE TEAM STATUS LOG

INFO Current at: Time _____ Date _____

Sample Location: _____ (from page 2)

G. WHOLE BODY DOSE RATE RESULTS

1. Reading - RM-14:
   a. Waist Height _____ GCPM b. 2" Above Ground _____ GCPM
2. Dose Rate Reading - PIC-6:
   a. Waist Height _____ mR/hr b. 2" Above Ground _____ mR/hr

NOTE

To ensure that the Radiological Assistant receives the whole body dose rate results expeditiously, forward whole body dose rate results to Radiological Coordinator in EOF before an air sample is taken.

H. AIR SAMPLE RESULTS

1. "Standard" Air Sample:
   a. Air Code _____
   b. Sample Collection Time _____
   c. I-131 Concentration (Table 3) _____ µCi/cc

OR

2. "Non-Standard" Air Sample:
   a. Air Sample "Time ON" _____
   b. Air Sample "Flow ON" _____ ☐ LPM ☐ CFM
   c. Air Sample "Time OFF" _____ or Total minutes _____
   d. Air Sample "Flow OFF" _____ ☐ LPM ☐ CFM
   e. Air Sample "NET cpm" _____
   f. I-131 Concentration (Appendix C - Method 2) _____ µCi/cc

I. FIELD SAMPLE THYROID DOSE NOMOGRAM RESULTS

1. I-131 Concentration _____ µCi/cc
2. Inhalation Time _____ hours
3. Adult Thyroid CDE (Figure 3) _____ REM

Performed By: _____
(Print/Sign)

Reviewed By: _____
(Print/Sign)

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PRE-DETERMINED DOWNWIND SAMPLE LOCATIONS

NO.	LOCATION
51	Monument Rd., Hinsdale, NH, 1.2 miles east of Bridgeport Metal
52	Plain Rd., Hinsdale, NH, at Liscombe Brook, 0.9 miles south of Monument Rd. intersection.
53	Rte. 63, Chesterfield Rd., Hinsdale, NH, 1.2 miles north of Rte. 119.
54	Corner of Main St. at Rte. 63 and 119 intersections, opposite the Cheshire National Bank, Hinsdale, NH.
55	Corner of Depot St. and Tower Hill Rd., south of Depot St., Hinsdale, NH.
56	Laurel Acres, 1.2 miles north on Scofield Mt. Rd., off intersection at Perham's Garage on Rte. 63 south from Hinsdale, NH.
57	Blodgett Rd., Vernon, VT, in front of truck garage.
58	Newton Rd., Vernon, VT, 0.1 miles east of Newton Hills, at dirt road.
59	Huckle Hill Rd., Vernon, VT, 0.3 miles from Pond Rd.
60	West Rd., Vernon, VT, at Sak Rd. intersection.
61	Fairman Rd., Vernon, VT, 0.8 miles from Pond Rd. on West Rd., at former air sample station 0.2 miles from West Rd.
62	Rte. 5, 2.2 miles south from the Tyler Hill Rd. intersection.
63	Rte. 5, 0.5 miles south from the Tyler Hill Rd. intersection.
64	Rte. 5, 0.15 miles north from the Tyler Hill Rd. intersection.
65	Rte. 5, 0.7 miles north of the Guilford Country Store.
66	Monument Rd., across from Bridgeport Metal, Hinsdale, NH.

FIGURE 1

INITIAL DOSE ASSESSMENT & PAR SEQUENCE

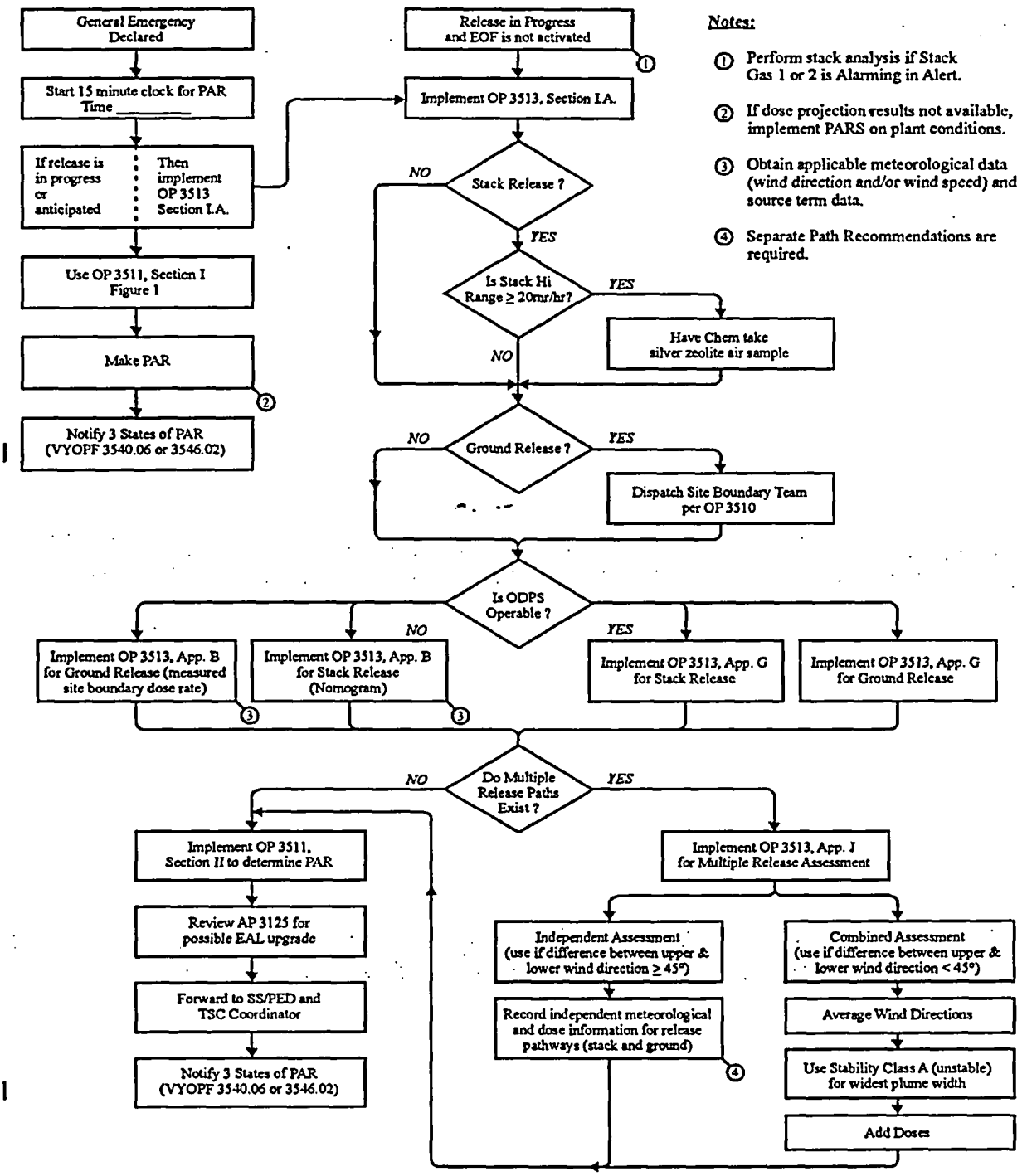


FIGURE 2

VERMONT YANKEE EMERGENCY DOSE RATE NOMOGRAM

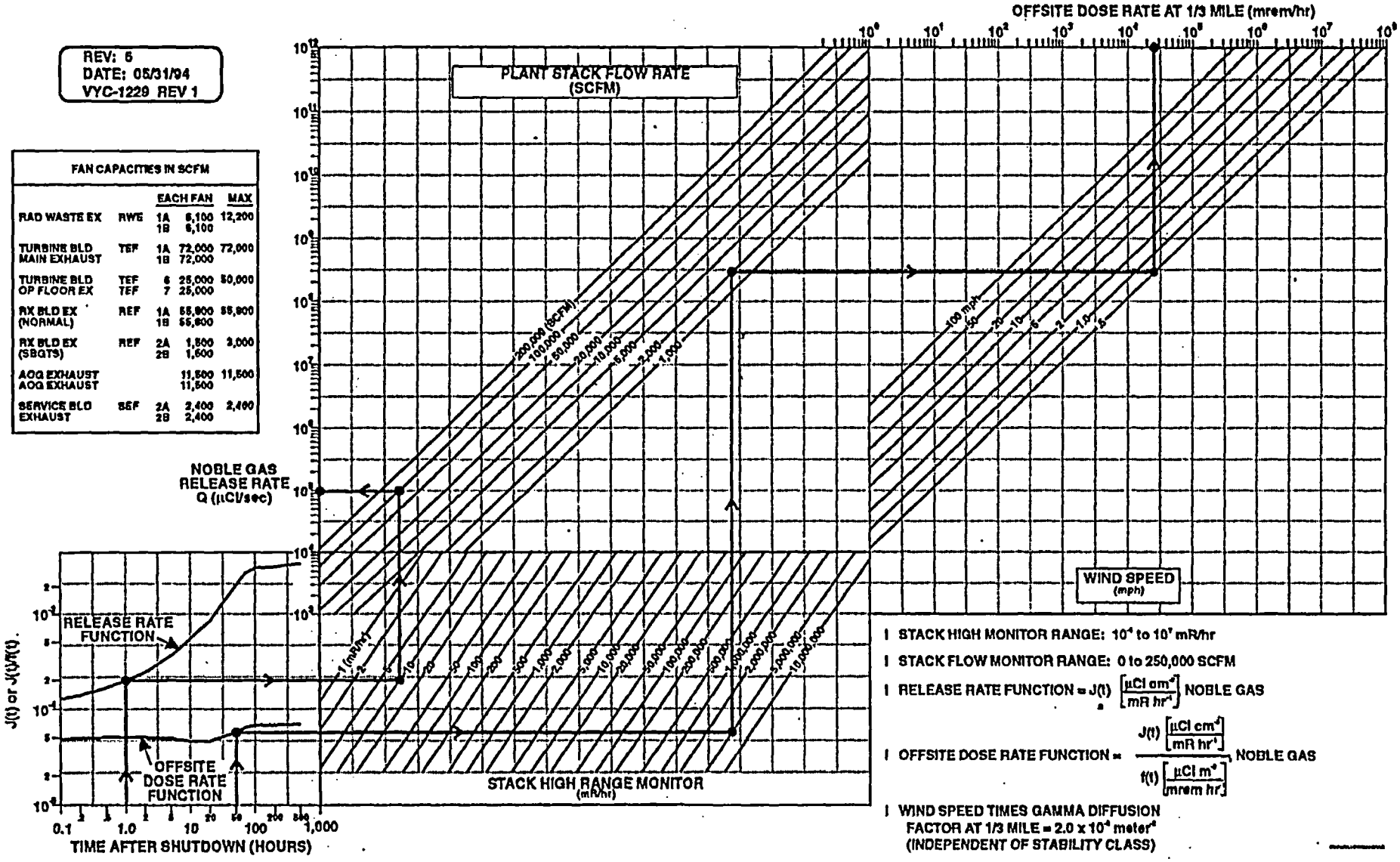
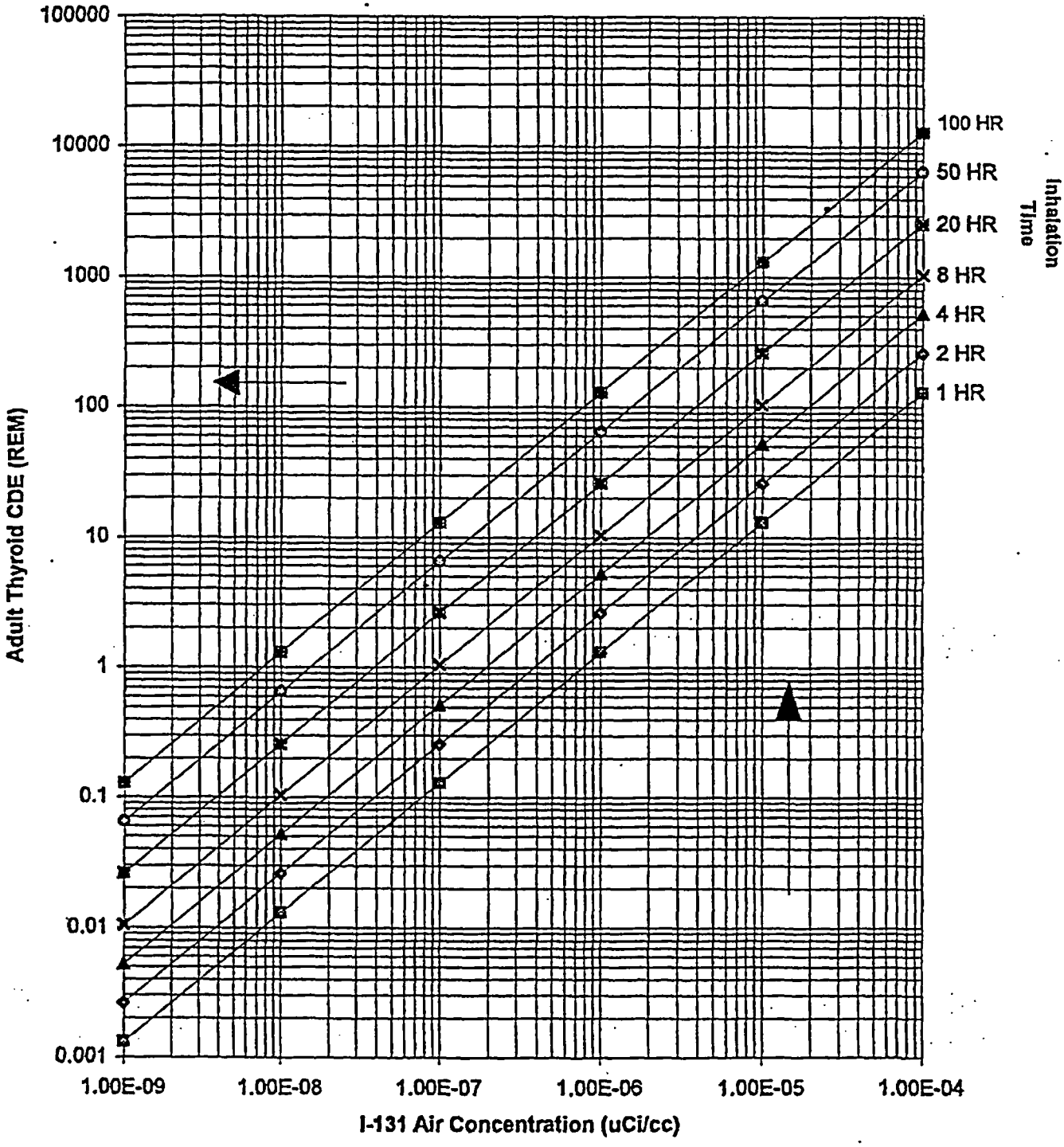


FIGURE 3
FIELD SAMPLE THYROID DOSE NOMOGRAM



APPENDIX B

OFF-SITE DOSE PROJECTION METHODOLOGY WHEN ODPS IS INOPERABLE

1. Obtain the necessary off-site dose projection information for stack and ground release as follows:

a. IF A STACK RELEASE IS OCCURRING: (NOMOGRAM METHOD - FIGURE 2)

1) Obtain and record input data as follows:

a) Date/Time _____ / _____

b) Elapsed time following reactor shutdown _____hrs

NOTES

- For elevated release use upper wind speed and direction, or as directed if necessary by Appendix I.
- Wind direction and stability class are used in OP 3511 to determine towns affected by possible Protective Action Recommendation.

c) Upper Wind Speed _____mph
(Use 15 min avg data from MET DATA HISTORY-1
or use alternate methods on Appendix I)

d) Upper Wind Direction _____°
(Use 15 min avg data from MET DATA HISTORY-1
or use alternate methods on Appendix I)

e) Assume Stability Class is as follows: A (Unstable)

NOTE

Appendix H provides alternate methods to obtain source term data.

f) Stack High Range Monitor _____mR/hr
(Use 15 min avg data from MET DATA HISTORY-1
or use alternate methods on Appendix I)

g) Stack Flow _____scfm
(Use 15 min avg data from MET DATA HISTORY-1
or use alternate methods on Appendix I)

2) Use full scale Nomogram (if available) with appropriate input data information from above to determine the Site Boundary Dose Rate (.35 miles) and record below Stack Site Boundary Dose Rate.

Stack Site Boundary Dose Rate: _____mR/hr

NOTE

Unless a more definitive number is available for the release duration, a value of 8 hours will be used.

3) Calculate the Stack Site Boundary Dose (R) and record below as follows:

$$\text{Dose (R)} = \frac{\text{Stack Site Boundary Dose Rate in mR/hr}}{1000\frac{\text{mR}}{\text{R}}} \text{ x Release Duration in Hours}$$

Stack Site Boundary Dose: _____R

4) If no ground release is occurring, skip Appendix B, Step 1.b and then continue with Appendix B, Step 2.

b. <u>IF A GROUND RELEASE IS OCCURRING: (MEASURED SITE BOUNDARY DOSE RATE)</u>

1) Obtain and record input data as follows:

NOTES

- For ground release, use lower wind direction.
- Wind direction and stability class are used in OP 3511 to determine towns affected by possible Protective Action Recommendation.

a) Lower Wind Direction _____°
(Use 15 min avg data from MET DATA HISTORY-1 or use alternate methods on Appendix I)

b) Assume Stability Class is as follows: <u>A (Unstable)</u>

c) Obtain and record below the Whole Body Dose Rate (waist height reading) from the Site Boundary Team.

Whole Body Dose Rate: _____mR/hr

NOTE

Unless a more definitive number is available for the release duration, a value of 8 hours will be used.

2) Calculate the Ground Site Boundary Dose (R) and record below as follows:

$$\text{Dose (R)} = \frac{\text{Site Boundary Whole Body Dose Rate in mR/hr}}{1000\,\frac{\text{mR}}{\text{R}}} \times \text{Release Duration in Hours}$$

Ground Site Boundary Dose: _____R

3) Continue with Appendix B, Step 2.

2. Use the applicable meteorological data (wind direction and stability class) and Site Boundary Dose results from above to do the following:

a. If multiple release points exist (stack and ground), then analyze information using Appendix J, "Multiple Release Assessment."

b. If only one release point exists(stack or ground), then continue with the following actions:

1) Implement OP 3511 Section II, Step A.2 to formulate Protective Action Recommendations for State authorities.

2) Review AP 3125 to determine whether site boundary radiological dose EALs have been reached or exceeded.

3) Forward results to the SS/PED and TSC Coordinator.

APPENDIX C

FIELD DATA MONITORING

Receipt and Logging of Field Data Information

1. As monitoring teams report air sample and dose rate information, the Rad Assistant's radio operator will record this information on VYOPF 3513.03 and forward to the Rad Coordinator.

2. The Rad Coordinator will interpret the "Air Code" numbers into air concentration by one of the following methods:

   a. Method 1:

      If a "standard" air sample was taken, use Table 3 to determine the corresponding air concentration.

      NOTE

      Unless otherwise specified, a "standard" sample is as follows:

      Counting efficiency (RM-14) = 0.25%
      Flow rate = 1CFM
      Collection Time = 10 minutes

   b. Method 2:

      If a "non-standard" air sample was taken, use the following equation to calculate air concentration:

$$\text{Conc } (\mu Ci/cc) = \frac{C \times CF}{E \times V \times T}$$

      Where:
      - C = Net cpm from air sample
      - CF = Conversion Factor (4.5×10^{-10} µCi-L/dpm-cc for flow rate in LPM or 1.6×10^{-11} µCi-ft^3/dpm-cc for flow rate in CFM)
      - E = Efficiency (0.0025 for RM-14)
      - V = Flow rate of sample in LPM or CFM
      - T = Sample collection time in minutes

   c. Record results on VYOPF 3513.03.

3. Proceed to Figure 3 to determine thyroid dose at the sample location and record results on VYOPF 3513.03.

4. Ensure that field monitoring information on dose rates and I-131 concentrations are recorded on VYOPF 3513.04.

APPENDIX D

METPAC COMPUTER INPUT SEQUENCE AND INSTRUCTIONS

A. Initial Start-up and Operation

1. Turn on the computer, line printer, and monitor.

NOTES

- The computer will boot-up by executing a RAM memory test and loading appropriate start-up files and mouse driver. When the computer has completed its booting process, the monitor screen will be at the DOS prompt (i.e., C:\>).
- MM = current month, DD = current day, YY = current year, HH = current hour, mm = current minutes.
- "(Enter)" indicates that user inputs are entered by depressing the "Enter" key.

2. Type "Date" (Enter). Enter current date in format MM-DD-YY (Enter).

3. Type "Time" (Enter). Enter the current time in format: HH:mm (Enter).

4. Type "METPAC" (Enter) to start program.

NOTES

- The current analysis condition and Main Menu will be displayed on the screen at this time.
- Refer to Appendix E for information on METPAC options and operational features of the program.

5. Select the desired option from the Main Menu (as shown below) by typing the number (letter) or using the cursor control (arrow) keys, then (Enter).

1	=	START NEW ACCIDENT
2	=	CONTINUE ACCIDENT
3	=	ELIMINATE LAST 1/4 HOUR ANALYSIS
4	=	OBTAIN OUTPUT
5	=	BATCH EXECUTION
Q	=	QUIT

NOTE

If the "START NEW ACCIDENT" is selected, the program will respond with: Are You Sure? If Y is entered, a new accident analysis will be initiated and the previous data base will be deleted. If N is entered, the program will return to the Main Menu screen to allow user to select another option.

6. Type and enter a "1" if starting a new analysis, or a "2" if continuing an analysis.

7. Upon entering the desired option (1 or 2), the date screen will be displayed. Enter appropriate information on date and time of reactor shutdown and date and time of release occurring, as necessary.

NOTES

- METPAC does not use a negative value for time-after-shutdown. Any time-after-shutdown which is negative is reassigned the value of zero. Time-after-shutdown is calculated as the difference between the end time of analysis and the time of shutdown.
- The program accepts only 2 characters. Backspace may be used to edit input.
- With the exception of exiting from the displayed screen, it is not necessary to press the "Enter" key; moving the cursor to next location makes the previous input value accepted.
- If there are errors with the input, the terminal will beep, a message will appear above the input screen, and the cursor will automatically move to the input location that is in error. The corrected values must be inputted and followed by a RETURN.
- If this is the start of a new analysis and there are both a ground and an elevated release, then the hour and minute of both releases must be in the same fifteen-minute period.

8. Using arrow keys, move the cursor to "RAD SCREEN" (Enter). The radiological data input screen will appear (only input for the designated release paths will be displayed).

9. Using arrow keys, position the cursor and enter the following appropriate radiological data using information from VYOPF 3513.01, Dose Assessment Status Form, or as directed by the Radiological Assistant:

> **NOTE**
>
> An estimated flow rate for the unmonitored release pathway is required only if isotopic data for that pathway are used.

a. Stack high range monitor (mR/hr), if release is from the stack, or measured field data (i.e., centerline dose rate, I-131 air concentration, and location of measurement), if release is from an unmonitored pathway.

b. Stack flow rate (scfm), if release is from the stack.

c. If requested and available, enter isotopic data for the release pathway using information obtained from in-plant samples, and implement the following steps:

1) Type and enter "Y" at the "ISOTOPICS" prompt.

2) Position the cursor and input data for detected isotopes.

3) Record isotopic information used in program on VYOPF 3513.02 or print out the METPAC isotopic report after running dose calculation by accessing the report function key F1.

4) Move the cursor to "EXIT" (Enter) to return to Rad Screen.

10. Move the cursor to "MET SCREEN" (Enter). The meteorological data input screen will appear.

NOTE

Data from backup Met tower are not required if primary Met tower data are available.

11. Using arrow keys, position the cursor and enter the following meteorological data using information from VYOPF 3513.01, Dose Assessment Status Form, or as directed by the Radiological Assistant.

    a. Enter upper or lower wind speed (mph), depending on release pathway selected.

    b. Enter upper or lower wind direction (deg. from), depending on release pathway selected.

    c. Enter upper or lower ΔT (deg. F), depending on release pathway selected.

    d. Enter amount of precipitation (inches/quarter hr) or if no precipitation, then enter zero.

12. Ensure that the release condition for release pathway is correct (0 = release stopped, 1 = release continuing).

13. Move cursor to "RUN" (Enter).

NOTES

- The dose rates indicated are projected rates at the end of a 15 minute period located at ground level relative to the plume centerline. The outside boundaries of the plume parallel to the centerline are the 1% projected dose rates.
- After the dispersion and dose projection calculations are completed, a color background map with the plume and a function key menu will appear on the monitor.
- The description of the function keys are as follows:

F1 - Allows user to obtain METPAC reports. Selecting this option brings up the following menu.

F1 - Tracking Report
F2 - PAG Comparison Report
F3 - TID and other reports. Selecting this option brings up the following menu:

F1 - total dose (TEDE and thyroid CDE) accumulated since start of release.
F2 - dose (EDE) rate due to accumulated ground deposition.
F3 - total accumulated ground deposition (μCi/m2) report.
F4 - accumulated ground deposition by isotope report.
F5 - accumulated external dose (EDE) due to plume.
F6 - accumulated dose (EDE) due to inhalation.
F7 - accumulated dose (EDE) due to ground deposition.
F8 - TEDE and thyroid CDE for last 15 min. time period.
F9 - all of the above reports.
F10 - exit to previous menu.

F4 - Isotopic Report
F5 through F9 - No function
F10 - Exit to previous menu.

(NOTE Continued on Next Page)

(NOTE Continued from Previous Page)

F2 - Displays the ground plume.
F3 - Displays the elevated plume.
F4 - No function.
F5 - No function.
F6 - Provides the following options for modifying the plume plot:

F1 - Draws/removes 5 and 10 mile radius circles and 16 cardinal direction sectors.
F2 - Draws/removes evacuation roads.
F3 - Displays/removes locations for points of interest. Utilize Table 1 for additional points of interest. Depress Return to exit.
F4 - Displays/removes town names.
F5 - Zooms in on a specified area of the map.
F6 - Toggles between the boundaries legend and the plume legend.
F7 - Displays/removes TID plot.
F8 - Provides dose rates at selected points on the plume plot and ground deposition plot, and doses at selected points on the TID plot.

a. Move and click the mouse to the point of interest to obtain:

1) distance from site,

2) angle in degrees from site.

b. Repeat for other points.

c. To exit, move mouse to EXIT location and click on Exit.

F9 - Displays/removes the ground deposition plot.
F10 - Exit to previous menu.

(NOTE Continued on Next Page)

(NOTE Continued from Previous Page)

F7 - Displays summary table for plume points. Selecting this feature brings up the following menu:

F1 - allows user to obtain METPAC reports (see F1 above).
F2 - displays summary table for ground level release.
F3 - displays summary table for elevated release.
F4 through F6 - no function.
F7 - return to plume plot (exit to previous menu).
F8 and F9 - no function.
F10 - exit graphics program to Main Menu.

F8 - Allows user to obtain a dose rate for a location of interest on the map (see F8 description under plot modifying feature above).
F9 - Makes a hard copy of the graphics screen.
F10 - Exit to Main Menu.
Space bar - user to switch plume display between TEDE and thyroid CDE.

14. From the displayed function key menu on monitor, select the specific function desired by pressing the appropriate function key on keyboard.

15. Repeat above data entry steps for each 15 minute interval to the current time period if needed.

NOTE

Line printer must be on-line now.

16. Print out appropriate reports and graphic plume plots as directed by the Radiological Assistant.

17. As METPAC dose projection information becomes available, provide the dose projection printouts and associated data to the Radiological Assistant for evaluation.

NOTE

METPAC is intended to run on a real time basis and analysis should be updated and run at 15 minute intervals if possible.

18. Continue to update METPAC dose projections as information becomes available, especially for the next quarter hour analysis.

NOTE

The total integrated dose feature automatically calculates and accumulates doses and ground deposition during each quarter hour analysis. TID reports can be obtained from the function menu option. Also, since the TID estimates are dependent on METPAC input data, they are subject to the same conservatisms and assumptions that apply to dose rate projections.

B. Batch Execution Mode

1. If requested to run the METPAC Batch Execution mode, implement the following steps:

   a. Select option 5 from the Main Menu, then press (Enter).

   b. Select the appropriate batch option displayed (refer to Appendix E for option descriptions).

   c. Enter the following, depending on selected batch option:

      1) Dates and time for shutdown and release.

      2) Number of quarter hours to project.

      3) Radiological and meteorological data.

NOTE

Upon entry of last data, the program begins dispersion and dose calculations, followed by the display of the plume plot for the batch execution.

   d. Depress the F10 key when ready to exit the plot.

e. Enter "Y" if the batch execution is to be saved as part of the current analysis, or "N" if it is not.

C. METPAC Termination

NOTE
METPAC should be terminated by returning to the Main Menu screen to prevent loss of data files.

1. Select "Q" from the Main Menu, then press (Enter) (The program will terminate with the data files being saved for future use).

APPENDIX E

DESCRIPTION OF METPAC OPTIONS AND OPERATIONAL FEATURES

I. METPAC OPTIONS

A. Continuing an Accident

To continue the analysis of the accident and obtain a new printout of protective action guideline comparisons, the user must enter a 2 (Enter) in response to the Main Menu (Screen 1). This allows the user to update the release based on the next 15-minute radiological and meteorological data.

The second screen, the Date Screen, appears with the time of shutdown and the time of the chosen release path displayed at the top. An inactive release pathway and the date and time of analysis appears in the middle of the screen. The date and time of analysis is filled in, and the time is already incremented by 15 minutes. To continue, hit "Enter" key.

The third screen, the Rad Screen, appears with the data fields filled in from the previous quarter hour input. If the data has not changed, hit "Enter" key. If new data must be entered, the data can be modified, as in the previous section. Position the cursor to "MET SCREEN" and hit "Enter" key. The fourth screen, the Met Screen, appears with all data fields filled in from the previous quarter hour input. If the data have not changed, hit "Enter" key. If new data must be entered, the data can be modified, as in the previous section. Position the cursor to "RUN" and hit "Enter" key. The program calculates dispersion and dose and display the graphics, as in the previous section.

B. Eliminate Last Quarter Hour

Starting at Main Menu, to eliminate a quarter hour analysis, the user should type "3" (Enter). The Main Menu Screen updates with the "END TIME OF ANALYSIS" reduced by 15 minutes. This option eliminates the last 15-minute database record from the database file.

C. Viewing a Plot and Obtaining a Printout

Starting from the Main Menu, to view a plot or obtain an output report from a previous time period, the user should type "4" (Enter). At the bottom of the Main Menu, the user is asked to enter the time of interest. If the user does not wish to execute this option, hit "Enter" key. If a valid time is entered followed by a (Enter), the program displays the requested plot. Valid times are between the start time of analysis and the end of time of analysis.

The user can now design the plot screen or obtain the desired report as in Appendix D. To exit, depress the F10 key. This returns the user to the Main Menu.

D. Editing Data

To edit a mistake in a previous quarter hour data record, the user proceeds through the Main Menu as if continuing an accident. When the Date Screen is presented, the user enters the quarter hour that the error occurred in the time of analysis input line. This is done by entering the hour and the minute on the "EDIT QUARTER HR" line. When the time has been edited, the user moves the cursor to "RAD SCREEN" and hits the "Enter" key.

The user may change any value on the Rad Screen by moving the cursor to the error location and typing the corrected value. After all editing has been completed, move the cursor to "MET SCREEN" and hit "Enter" key. The fourth screen is displayed. The user may edit any value by moving the cursor to the error location, and entering the correct value. After editing has been completed, position the cursor to "RUN", and hit "Enter" key. Since the program uses persistence when continuing an analysis, the program may have continued that the error in subsequent quarter hours. To verify subsequent quarter hours, position the cursor on "NEXT QTR HR" rather than on "RUN". The program presents the Rad Screen, then the Met Screen for the subsequent quarter hours, but does not change the field that was corrected. If the user finds that the error persists, it can be corrected at this time. The program does this for all quarter hours from the time of the error to the last time analyzed.

After the last quarter hour has been verified, the program continues as in Appendix D. All quarter hours from the time of the error to the last analysis time are reanalyzed, but only the last quarter hour is displayed. Hit the "F10" key to continue.

E. Viewing Input

To view a previous quarter hour input screen, the user proceeds through the Main Menu as if continuing an accident. When the Date Screen is presented, the user enters the quarter hour that is desired in the time of analysis input line. The user moves the cursor to "RAD SCREEN" and hits "Enter" key. The Rad Screen appears for review. After reviewing the rad data, verify that the cursor is positioned on "MET SCREEN", then hit "Enter" key. When the user is done reviewing the Met Screen, move the cursor to "DATE SCREEN" and hit "Enter" key. This brings the user back to the second screen. At this time, the user may continue the accident, edit data, view another input screen or return to the Main Menu.

F. Starting Another Release Path

To start a second release path, the user proceeds through the Main Menu as if continuing an accident. When the Date Screen is presented, the user moves the cursor to the line on which entry of the release path date and time occurs. The user can then enter the data for the date and time, as is done in Appendix D. This date and time must be after the date and time of the first release and before the date and time of the current analysis. The user moves the cursor to "RAD SCREEN" and hit "Enter" key.

When the Rad Screen appears, it contains data for the first time of analysis in which the release started. The user may update this record to contain the appropriate radiological measures, then choose "MET SCREEN". The meteorological data values can be updated appropriately. Once this has been done and the "RUN" option has been chosen, the program displays the input screen for the next time of analysis. This continues until the user has had a chance to update all input screens up to the current time of analysis.

After the last quarter hour has been updated, the program continues as in Appendix D. All quarter hours from the time of the start of the new release path to the current analysis time are reanalyzed, but only the last quarter is displayed. Hit "F10" key to continue.

G. Batch Execution

To execute the batch feature, the user selects option 5 from the Main Menu and hits "Enter" key. This action brings up the Batch Menu Input Screen, which allows the user to specify one of three ways the batch execution will take place.

Batch option 1 is chosen when the user wishes to add quarter hours which are exactly the same as the last quarter hour to an existing accident. After the number of quarter hours to be projected has been entered, the program performs the dispersion and dose calculations, then displays the plume plot. The operator can now modify the plot screen, print the plot, or go to report processing. To exit, hit the "F10" key. The program asks the operator whether or not to save the batch generated data. Entering "Y" saves the batch data. Entering "N" keeps the accident analysis as it was before batch execution.

Batch option 2 is used to add quarter hours with different data from the last quarter hour of the current analysis. After entering the number of quarter hours to be projected, the radiological and meteorological screens are presented. Data values for these screens can remain the same or be modified as described above. After the operator enters the data values for the Met Screen, "NEXT QTR HR" must be selected to enter data for the subsequent time period. This selection must be made for all subsequent time periods in order to enter different values. The Met Screen for the last quarter hour period in a batch execution does not display "NEXT QTR HR". If the operator wishes to use current values for all remaining quarter hour periods in a batch execution, the "RUN" option on the Met Screen can be selected. After positioning the cursor on "RUN" in the final quarter hour and hitting the "Enter" key, the dispersion and dose calculations are performed, followed by the display of the plume plot. The operator can now modify the plot screen, print the plot, or go to report processing. To exit, hit the "F10" key. The program asks the operator whether or not to save the batch generated data. Entering "Y" saves the batch data. Entering "N" keeps the accident analysis as it was before batch execution.

Batch option 3 is selected when an entirely different analysis, separate from the current accident, is to be performed. Selection of this option results in the display of the Date Screen which requires the user to enter the dates and times of reactor shutdown and release. After the dates and times have been entered, the user is requested to enter the number of quarter hours over which the projection is to occur. Next, the Rad and Met Screens are presented in the same manner as continuing an accident. After entering data for the first quarter hour, the operator selects "NEXT QTR HR" if data values differ for subsequent quarter hour time periods, or "RUN" if the data values are to remain the same in subsequent time periods. After positioning the cursor on "RUN" in the final quarter hour of the batch execution and hitting the "Enter" key, the dispersion and dose calculations are performed and the Output Main Menu is displayed. The operator can now modify the plot, print the plot, or go to report processing.

The program asks the operator whether or not to save the batch generated data. Entering "Y" saves the batch data. Entering "N" keeps the accident analysis as it was before batch execution.

II. METPAC OPERATIONAL FEATURES

A. Stack Release Pathway

For the stack release pathway, METPAC allows the user to define whether the program should use a default isotopic mix (monitor reading) or user-defined mix (isotopic input) for calculating the release rate. The stack release rate options with the define flag settings are as follows:

1. Entering Stack Monitor Reading and Stack Flow Rate (Flag Setting of 0 - Assumed)

   (User-defined stack monitor reading and stack flow rate is used. User-defined isotopic mixture in the isotopic input screen is not used or included).

   METPAC uses the stack monitor reading and stack flow rate to calculate the release rate for determining the TEDE and CDE to the thyroid.

2. Entering Stack Monitor Reading and Measured Stack Iodine Isotopic Data with Stack Flow Rate (Flag Setting of 1 - Combo)

   (User-defined stack monitor reading and measured stack iodine isotopic data with stack flow rate is used. User-defined isotopic mixture in the isotopic input screen includes only iodine).

   METPAC uses the default noble gas isotopic mixture based on the stack monitor reading to calculate the release rate for determining its contribution to the TEDE. METPAC also uses the user-defined iodine mixture in the isotopic input screen to calculate the iodine release rate for determining its contribution to the TEDE and CDE to the thyroid.

3. Entering Measured Stack Isotopic Data with Stack Flow Rate (Flag Setting of 2 - Measure)

   (User-defined measured stack isotopic data with stack flow rate is used. User-defined isotopic mixture includes noble gas or particulate radionuclides in the isotopic input screen).

   METPAC uses the user-defined isotopic mixture to calculate the release rate for determining the TEDE and CDE to the thyroid. However, if no iodine isotopic mixture is included in the isotopic screen, then the I-131 dose equivalent to noble gas ratio is used in order to calculate the iodine release rate for determining the CDE to the thyroid. This I-131 dose equivalent release rate is based on the user-defined total noble gas isotopic mixture (concentration).

B. Unmonitored Release Pathway

For the unmonitored release pathway, METPAC allows the user to define whether the program should use field measurements (dose rate/I-131 conc., distance and sector) or user-defined mix (isotopic input) from the release point for calculating the release rate. The unmonitored release rate options with the define flag settings are as follows:

NOTE

User must enter a dose rate, distance, and sector to run the unmonitored release option. The "Sector" is the compass direction where the field sample was taken and defined as a number. The compass "Sector" number designations are as follows:

N=1, NNE=2, NE=3, ENE=4, E=5, ESE=6, SE=7, SSE=8, S=9, SSW=10, SW=11, WSW=12, W=13, WNW=14, NW=15, and NNW=16.

The limitation of this feature is that the field measurements must be taken at or beyond site boundary. Field measurements as input are treated as centerline values by the model. Only one dose rate measurement and one airborne I-131 measurement is accepted by model during a quarter hour period.

1. Entering Field Team Data (Flag Setting of 0 - Field)

   (User-defined dose rate meter reading, distance and sector is used with the option to enter I-131 concentration, distance and sector).

   METPAC uses the dose rate reading, distance, and sector to back-calculate the noble gas release rate for determining the TEDE. If an I-131 concentration is entered, then METPAC back-calculates the iodine release rate for determining its contribution to the TEDE and CDE to the thyroid.

2. Entering Field Team Dose Rate Data and Measured Iodine Isotopic Data with Estimated Flow Rate From Release Point (Flag Setting of 1 - Combo)

   (User-defined dose rate meter reading, distance and sector is used and also the user-defined iodine isotopic mixture and estimated flow rate is used.

   METPAC uses the dose rate meter reading, distance and sector to back-calculate the noble gas release rate for determining its contribution to the TEDE. METPAC also uses the user-defined iodine mixture in the isotopic input screen to calculate the iodine release rate for determining its contribution to the TEDE and CDE to the thyroid.

3. Entering Measured Isotopic and Estimated Flow Rate Data from Release Point (Flag Setting of 2 - Isotopic)

(User-defined isotopic mixture and estimated flow rate from the measured isotopic concentrations at the release point is used).

METPAC uses the user-defined isotopic mixture to calculate the release rate for determining the TEDE and CDE to the thyroid. If the iodine mixture in the isotopic input screen is entered, then METPAC uses the iodine mixture for determining its contribution to the TEDE and CDE to the thyroid.

APPENDIX G

OFF-SITE DOSE PROJECTION SYSTEM (ODPS) INPUT SEQUENCE AND FORMAT

1. Obtain the necessary off-site dose projection information for stack and ground release as follows:

a. **IF A STACK RELEASE IS OCCURRING:**

> **NOTE**
>
> Meteorological and source term data are automatically input to model. Manual input of data is not necessary.

1) Press the "ODPS" ERFIS terminal key to access the "ODPS Menu" screen.

2) Click on the "SOURCE TERM DATA" box to display screen.

> **NOTE**
>
> ERFIS Printer must be on-line now.

3) Click on the PRINTER icon to obtain record of stack release projection information (Reactor Trip Status and Stack).

4) Press the "ODPS" ERFIS terminal key to return to the "ODPS Menu" screen.

5) Click on the "PROTECTIVE ACTION RECOMMENDATIONS LIVE STACK MR/HR" box to display screen.

6) If ODPS aborts due to bad input (as indicated on screen display), refer to Appendix G - Table G.1.

7) When "PROTECTIVE ACTION RECOMMENDATION" screen is displayed, click on the PRINTER icon to obtain stack release off-site dose projection information.

8) Press the "ODPS" ERFIS terminal key to return to the "ODPS Menu" screen.

9) If no ground release is occurring, skip Appendix G, Step 1.b for ground release and then continue with Appendix G, Step 2.

b. **IF A GROUND RELEASE IS OCCURRING:**

> **NOTE**
>
> Meteorological data are automatically input to model. Manual input of meteorological data is not necessary.

1) Press the "ODPS" ERFIS terminal key to access the "ODPS Menu" screen.

2) Click on the "INPUT SITE BOUNDARY MR/HR (UNMONITORED)" box which will display the password entry screen.

3) Leave the User Name entry field blank then type the password currently designated for Control Room use and click on OK.

4) Enter the appropriate site boundary dose rate (MR/HR) reading from the Site Boundary Team (team dispatched per OP 3510) in field space provided.

> **NOTE**
>
> This reading is assumed to be taken in the downwind sector at a distance of 0.35 miles.

5) Next, enter the estimated time that the release started in field spaces provided (Format in HH and MM).

> **NOTE**
>
> ERFIS Printer must be on-line now.

6) Click on the PRINTER icon to obtain record of input data.

7) Press the "Enter" button on the display to update the input data.

8) When "ODPS MENU" screen is displayed, click on "PROTECTIVE ACTION RECOMMENDATIONS BOUNDARY MR/HR" box to display screen.

9) If ODPS aborts due to bad input (as indicated on screen display), refer to Appendix G - Table G.1.

10) When "PROTECTIVE ACTION RECOMMENDATIONS" screen is displayed, click on the PRINTER icon to obtain ground release off-site dose projection information.

NOTE
"ADULT THY" values are not calculated for a ground release.

11) Press the "ODPS" ERFIS terminal key to return to the "ODPS Menu" screen.

12) Continue with Appendix G, Step 2 below.

2. Use printed screen information from above to do the following:

a. If multiple release points exist (stack and ground), then analyze information using Appendix J, "Multiple Release Assessment."

b. If only one release point exists (stack or ground), then continue with the following actions:

1) Implement OP 3511 Section II, Step A.2 to formulate Protective Action Recommendations for State authorities.

2) Review AP 3125 to determine whether site boundary radiological dose EALs have been reached or exceeded.

3) Forward results to SS/PED and TSC Coordinator.

TABLE G.1

If ODPS aborts due to bad input (as indicated by screen display), do the following:

1. Press the "CAV" key which will bring up the password entry screen.

2. Leave the User Name entry field blank.

3. Type the password currently designated for Control Room use and click on OK.

4. Use the "Tab" key to tab to the PTID input field, then press the "Enter" key.

5. Type the PTID (See below) of the point to be overridden into the Point Search Text field.

Release Type	PTID	Description
Stack	U014	Stack Gas III Monitor High Range
	C198	Average Stack Flow FT-108-22
	C179	Upper Wind Speed (15 min. ave.)
	C187	Upper Wind Direction (15 min. ave.)
	C181	Upper Delta T (15 min. ave.)
	C192	Precipitation (15 min. total)
Ground	C178	Lower Wind Speed (15 min. ave.)
	C186	Lower Wind Direction (15 min. ave.)
	C180	Lower Delta T (15 min. ave.)
	C192	Precipitation (15 min. total)

6. Click on "FIND/FIND NEXT" until the point is found, then click on OK.

7. Use the "Tab" key to tab to the SCAN STATUS toggle field.

8. Press the "ENTER" key to toggle from ACTIVE to INACTIVE.

9. Use the "Tab" key to tab to the VALUE input field.

10. Type in the override value to be used and press the "ENTER" key.

    a. To manually access back-up meteorological data, refer to Appendix I, Step 2.

    b. To manually access back-up source term data, refer to Appendix H, Step 5.

11. Press the "ODPS" key, go back to Appendix G, Step 1.

APPENDIX H

MANUAL SOURCE TERM DATA ACQUISITION

To determine the source term data for dose assessment, perform the following steps and record applicable data (refer to VYOPF 3513.01):

1. Obtain and record the time and date of reactor shutdown.

2. Determine and record the type of release(s) (i.e., stack, ground, or combination).

3. Determine and record the time and date of the identified release(s).

4. Determine and record the release duration of the identified release(s).

> **NOTE**
>
> Unless a more definitive number is available for release duration, a value of 8 hours duration will be used.

5. Obtain and record release pathway monitoring data as delineated below:

   a. FOR ELEVATED RELEASE (stack)

> **NOTE**
>
> The stack high range monitor is a Victoreen ion chamber which measures the radiation in the base of the stack. The monitor has a readout in the Control Room on CRP 9-2 with a range from 0.1 mR/hr to 1 x 10^7 mR/hr.

> **CAUTION**
>
> **Use instantaneous reading, not the 15 minute average.**

   1) Stack High Range Monitoring Reading (mR/hr) from one of the following:

      a) Control Room Panel (RM 17-155 on CRP 9-2), or

      b) METPAC PARAMETERS display on ERFIS monitor (depress "ODPS" key, then select METPAC PARAMETERS (MPP) poke box).

2) Stack Flow Rate (scfm) from one of the following:

a) Control Room panel (FI-108-22 on CRP 9-2), or

b) Local readout in the stack monitoring room, or

c) ERFIS Data Point C198 (15-minute average), or

d) METPAC PARAMETERS display on ERFIS monitor (depress "ODPS" key, then select METPAC PARAMETERS (MPP) poke box), or

e) OP 2611, Section entitled, "Determine Stack Flow Rate".

b. FOR GROUND RELEASE

1) Site boundary whole body dose rate (mR/hr) at the fence line downwind location.

6. If the Stack High Range Monitor equals or exceeds 20 mR/hr, request the Chemistry Technician to obtain a silver zeolite cartridge air sample from the main stack sample point for an iodine release rate determination.

7. If available, obtain and utilize stack sample analysis or field data monitoring information. Record isotopic information on VYOPF 3513.02 and field data on VYOPF 3513.03.

APPENDIX I

MANUAL METEOROLOGICAL DATA ACQUISITION

To determine the meteorological data for dose assessment, obtain and record applicable information as delineated below:

NOTES

- FOR ELEVATED RELEASE (stack), ensure that upper meteorological values are obtained and utilized.
- FOR GROUND RELEASE, ensure that the lower meteorological values are obtained and utilized.

CAUTION

Use 15 minute average met data, not the instantaneous data.

1. Access MET DATA HISTORY-1 display on ERFIS monitor by depressing the "ODPS" key and then selecting the MH1 poke box.

2. If the primary meteorological tower instrumentation is not functioning, but ERFIS is operable, obtain meteorological data from the secondary tower. Access MET DATA HISTORY-2 display on the ERFIS monitor by depressing the "ODPS" key and then selecting the MH2 poke box.

3. If the primary meteorological tower instrumentation is functioning, but the MET DATA HISTORY-1 display on the ERFIS monitor is not available, determine the required meteorological data from the video graphic recorders in the Relay House.

4. If the primary meteorological tower instrumentation is not functioning, and the MET DATA HISTORY-1 and MET DATA HISTORY-2 displays on the ERFIS monitor are not available, obtain readouts of wind speed, wind direction, ambient temperature, and one value of delta T from the secondary (backup) tower from CRP 9-48.

5. If primary and secondary meteorological tower instrumentation is not available, consult Albany National Weather Service Station (Tel. No.'s 518-435-9574 [Primary] or 800-833-9880 [Backup], and ask for "Public Forecaster") regarding meteorological observations.

6. Stability Class can be determined from one of the following:

   a. If a delta T value was obtained from either the primary or back-up tower, use the appropriate section of Table 2.

   b. If a delta T value is not available from either the primary or back-up tower, a generalized determination of atmospheric stability may be made by observing the cloud cover as follows:

      B = Clear sky in daytime

      D = Heavy overcast day or night

      F = Clear sky at night

   c. Obtain from ODPS or METPAC printout.

APPENDIX J

MULTIPLE RELEASE ASSESSMENT

NOTE
Wind direction and stability class are used in OP 3511 to determine towns affected by possible Protective Action Recommendation.

A. **COMBINED ASSESSMENT (USE THIS SECTION IF THE DIFFERENCE BETWEEN THE UPPER & LOWER WIND DIRECTION IS <45°, IF ≥45° PROCEED WITH SECTION B)**

1. Average the upper and lower wind directions to determine the wind direction applicable for the combined release pathway and record below.

   Average Wind Direction for Combined Release Pathway: _____°

2. Assume Stability Class for the combined release pathway is as follows: A (Unstable)

3. Add doses from each pathway (stack and ground) to calculate the cumulative dose at the designated downwind distances and record information as indicated below:

NOTE
If Appendix B was used to calculate doses, assume the Site Boundary dose results are applicable out to 5 miles.

COMBINED DOSE CALCULATION RESULTS

	CUMULATIVE DOSES (STACK & GROUND)	
DISTANCE	TEDE (REM)	CDE THYROID (REM)
At Site Boundary (0.35 miles)		
At 2 Miles		
At 5 Miles		
At 10 Miles		

4. Use the applicable meteorological data (wind direction and stability class) and dose calculation results recorded above to continue with the following actions:

   a. Implement OP 3511 Section II to formulate Protective Action Recommendations for State authorities.

   b. Review AP 3125 to determine whether site boundary radiological dose EALs have been reached or exceeded.

   c. Forward results to SS/PED and TSC Coordinator.

B. **INDEPENDENT ASSESSMENT (USE THIS SECTION IF THE DIFFERENCE BETWEEN THE UPPER & LOWER WIND DIRECTION IS ≥45°)**

1. Record the independent wind direction and stability class from each release pathway (stack and ground) as indicated below:

Release Pathway	Wind Directions (deg°)	Stability Class*
Stack		
Ground		

* A, B, C, D, E, F, or G

NOTE

If Appendix B was used to calculate doses, assume the Site Boundary dose results are applicable out to 5 miles.

2. Record the independent dose information from each release pathway at the designated downwind distances (stack and ground) as indicated below:

INDEPENDENT DOSE CALCULATION RESULTS

	STACK		GROUND	
DISTANCE	TEDE (REM)	CDE THYROID (REM)	TEDE (REM)	CDE THYROID (REM)
At Site Boundary (0.35-Miles)				
At 2-Miles				
At 5-Miles				
At 10-Miles				

3. Use the applicable meteorological data (wind direction and stability class) and dose calculation results recorded above to continue with the following actions:

   a. Implement OP 3511 Section II to formulate Protective Action Recommendations for State authorities.

   b. Review AP 3125 to determine whether site boundary radiological dose EALs have been reached or exceeded.

   c. Forward results to SS/PED and TSC Coordinator.

APPENDIX K

GUIDELINES FOR "WHAT IF" PROJECTION OF
POTENTIAL RADIOACTIVE MATERIAL RELEASES

NOTE

The following series of calculations is one example of obtaining data for release projections. It is acceptable to use other methods as necessary based on the emergency situation.

1. In the initial stages of the event, determine the 10-mile plume trajectory using METPAC. This information will be useful for both PAR formulations and for field team deployment strategy. Use a "what if" source term and actual meteorology. Repeat the calculation if wind direction changes by more than 10 degrees. For elevated releases, use a source term of 10,000 mR/hr, and a stack flow rate of 100,000 cfm. Run METPAC in the Batch Mode for at least 8 time steps (quarter hour steps).

2. Determine available source term by making an assumption of fuel conditions based on plant conditions.

NOTE

Figure 5.2 from the Core Damage Methodology Assessment [part of Severe Accident Management (SAM) Guideline] may be helpful in determining extent of fuel conditions.

Source Term (ST) - µCi

	Clad Failure	Fuel Overheat	Fuel Melt
Noble Gas	1E12	5E13	1E14
I-131	4E9	2E13	2E13
Particulate (Cs^{137})	4E8	2E12	2E12

Clad failure assumes a 1% noble gas, 0.01% iodine and particulate release. Fuel overheat assumes a 50% noble gas, iodine and particulate release. Fuel melt assumes a 100% noble gas, 50% iodine and particulate release. The available source term is assumed to be 1E14 µCi noble gas, 4E13 µCi I^{131} and 4E12 particulate (Cs^{137}).

3. Calculate the containment concentration (CC).

$$CC(\mu Ci/cc) = \frac{ST(\mu Ci)}{CV(cc)} = \frac{ST(\mu Ci)}{6.7E9\ cc} = \_\_\_\_\_ \mu Ci/cc$$

CV = Containment Volume which is 6.7E9 cc for combined Drywell and Torus Gas. See volumes list in information fact sheet for additional numbers.

4. Postulate a release mechanism.

> **NOTE**
>
> Containment leakage is a percentage of the Design Containment Leakage. Containment leakage may be obtained from the TSC or an estimate may be obtained from the ESC.

a. Slow containment leakage (<10%/day) to stack via Reactor Building (Elevated Release).

b. Fast containment leakage (≥10%/day) to stack via Reactor Building (Elevated Release).

c. Containment failure to environment via Reactor Building blowout panels (Ground Level Release).

5. Calculate Metpac/Nomogram input values.

a. Slow containment leakage (<10%/day) to stack via Reactor Building (Elevated). Assumes Stack Release Rate (SRR) is equal to the containment release rate.

SRR(μCi/sec) = CC(μCi/cc) x CLR(cc/sec) x F = _____ μCi/sec

CLR = Containment release rate. The design containment release rate is 7.8E2 cc/sec. See information fact sheet for additional information.

F = SBGT retention values.
F = 1, SBGT not in use
F = 1, SBGT noble gas retention
F = 0.05, SBGT iodine and particulate retention

b. Fast containment leakage (≥10%/day) to stack via Reactor Building (Elevated). Assumes immediate uniform mixing in the Reactor Building.

$$SRR(\mu Ci/sec) = \frac{CC(\mu Ci/cc) \times CV(cc) \times RBFR(cc/sec) \times F}{RV(cc) + CV(cc)}$$

$$= \frac{CC(\mu Ci/cc) \times RBFR(cc/sec) \times F}{5.2} = \_\_\_\_\_ \mu Ci/sec$$

RV = Reactor Building volume which is 2.8E10 cc.

RBFR = Reactor Building Flow Rate which depends upon a combination of SBGT and Reactor Building ventilation alignment. Ventilation alignment and number of fans may be obtained from the TSC. Flow rates are listed below and on the Nomogram.

F = SBGT retention values.
F = 1, SBGT not in use
F = 1, SBGT noble gas retention
F = 0.05, SBGT iodine and particulate retention

c. Fast or slow containment leakage when Reactor Building Air Concentrations are known.

SRR(μCi/sec) = RBC(μCi/cc) x RBFR(cc/sec) x F = _____ μCi/sec

RBC = Reactor Building air concentration.

d. Containment failure to environment via Reactor Building blowout panels (Ground Level). Assumes immediate uniform mixing of the Reactor Building with Containment and 50% of the Reactor Building volume is released to the environment in 15 minutes.

GLRR = Ground Level release rate is 1.6E7 cc/sec assuming 50% of the Reactor Building volume is released in 15 minutes.

$$RBC(\mu Ci/cc) = \frac{CC(\mu Ci/cc) \times CV(cc)}{RV(cc) + CV(cc)} = \frac{CC(\mu Ci/cc)}{5.2} = \_\_\_\_\_ \mu Ci/cc$$

6. If Elevated release, obtain Stack High Range Monitor reading SHRM from Nomogram for elevated release using SRR value calculated earlier.

SHRM = _____ mR/hr

7. If requested, Stack air concentrations can be calculated using the following formula:

$$\text{Stack Air Concentration}(\mu\text{Ci/cc}) = \frac{\text{SRR}(\mu\text{Ci/sec})}{\text{Stack Flow Rate(cc/sec)}}$$

8. Insert previously calculated values into Metpac or Nomogram as appropriate to complete release projection.

9. All "what if" dose projections must be clearly marked with appropriate stamp or label. "What if" dose projection stamp is available in the EOF Emergency Cabinet #3.

INFORMATION FACT SHEET

VOLUMES:

Primary System	(Liquid)	7,700ft^3	=	2.2E8cc
Primary System	(Gas)	6,300ft^3	=	1.8E8cc
Drywell	(Gas)	131,850ft^3	=	3.7E9cc
Torus	(Liquid)	70,000ft^3	=	2.0E9cc
Torus	(Gas)	106,250ft^3	=	3.0E9cc
Reactor Building	(Gas)	1E6ft^3	=	2.8E10cc

FLOW RATES:

Reactor Building Ventilation	55,800 cfm	=	2.6E7 cc/sec
Standby Gas Treatment	3,000 cfm	=	1.4E6 cc/sec (2 fans running)
Turbine Building Ventilation	122,000 cfm	=	5.8E7 cc/sec (TEF1A or 1B and TEF 6 & 7)
Radwaste Ventilation	12,200 cfm	=	5.8E6 cc/sec (2 fans running)
AOG Building Ventilation	11,500 cfm	=	5.4E6 cc/sec
Stack with Normal Ventilation	206,000 cfm	=	9.7E7 cc/sec

MISCELLANEOUS FACTS:

Design Containment Leakage = 1% of the radioactive inventory/day
= 2.4E3ft^3/day = 6.7E7 cc/day = 7.8E2 cc/sec

RB Air Turnover Rate Using SBGT - 1/day

If blowout panel goes, assume 1/2 RB volume is released

CONVERSION FACTORS:

472 cc/sec/cfm

28,300 cc/ft^3

REVISED PROCEDURE CONTROL FORM

PART 1 - Initiation

A. Procedure No.	New Revision	Title
OP 3525	No. 11	Radiological Coordination

B. Review Criteria: ☐ Partial ☐ Editorial ☒ Complete

C. Periodic Review Cycle: ☒ 2 Year (Event Driven) ☐ N/A

D. List DIs & LPCs: N/A

E. Description and Reasons for Procedure/Changes:

- Added notes to implement overall field team deployment strategy.... and wind direction info for stability classes E, F & G.
- Added Step #5 - implement overall strategy for deployment of field teams.
- Step 6 - exchange field team data w/ VT, MA, NH.
- Added App. A - Off site field team deployment strategy.

F. Originator Name: (App. A was used as references to create this revision, App. C is completed and attached unless Part 1.B above is "Editorial".) **Telephone Extension:** x4177

(Print/sign/date) Audra Williams Audra Williams 4/29/03

PART 2 - Reviews

A. Walk-Through Validation: ☐ Required ☒ N/A
☐ Field Walk-Through
☐ Table-Top ☐ Simulator Validation

B. Technical Verification Reviewer ☐ N/A
(App. B used as a reference)
(Print/Sign/Date)
Lori A. Thaczyk Lori A. Thaczyk 10/6/03

C. Cross-Discipline Reviews: ☐ N/A

Department	Name	Signature	Date
Rad Protection	Michael Morgan		6/15/03

D. 50.59 Review Per AP 6002, Preparing 50.59 Evaluations ☐ N/A

☒ **50.59 AD** previously performed and documented in the text of this procedure and is still applicable.
☐ **50.59 Applicability Determination** completed and attached; 50.59 Screening NOT required.
☐ **50.59 Review Screening** completed and attached, 50.59 Evaluation **NOT** required.
☐ **50.59 Evaluation** completed and attached.

E. QUALIFIED REVIEWER: Use App. D as a reference (May perform 50.59 Applicability Determination) **(Part 2.D)**
(Print/Sign/Date) Audra Williams Audra Williams 10.10.03

F. ORIGINATOR: ☑ Comments Resolved ☑ Re-verify All DIs & LPCs Considered
☑ Sent for Final Type (CDS or STC (SPs only)) Initial/Date DWR 10/2/03
☑ Proofread after Final Type
(Print/Sign/Date) Audra Williams Audra Williams 10.10.03

PART 3 - Training/Notification Requirements

. **Indicate training or notifications required to implement procedure:** (Required for Administrative Procedures)

☒ **Include in formal training (TCR submitted):**

☒ **E-Mail notification:**

☐ **Crew Briefings:**

☐ **Other:** ☐ **N/A**

PART 4 - PORC

Plant Operation Review Committee: ☐ Required ☒ N/A

Meeting No: **PORC Secretary:** **Date:** **Plant Manager:**

PART 5 - Approval

A. Responsible Procedure Owner: (Print/Signature/Date)

Brian M. Finn Brian M Finn 10/23/03

B. Plant Manager (Print/Sign/Date) (For SPs Only)

N/A BF

C. Special Instructions: ☐ N/A

☐ Approved for Training

☑ Issue on DATE: 10·29·03

☐ Submit Surveillance Database Change per AP 4000

☐ Other:

PART 6 - Issuance

Procedure Change No.: # 221

Date procedure issued: 10/29/03

Notes:

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3525, Rev. 11, Radiological Coordination

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities		X
(2)	Assignment of on-shift Emergency Response Organization personnel		X
(3)	Arrangements for Emergency Response Support and Resources		X
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		X
(5)	Notification Methods and Procedures		X
(6)	Emergency Communications among principal response organizations and the public		X
(7)	Public Education and Information		X
(8)	Adequacy of Emergency Facilities and Equipment		X
(9)	Adequacy of Accident Assessment methods, systems and equipment	X	
(10)	Plume exposure pathway EPZ protective actions	X	
(11)	Emergency Worker Radiological Exposure Control		X
(12)	Medical Services for contaminated injured individuals		X
(13)	Recovery and Reentry Plans		X
(14)	Emergency response periodic drills and exercises		X
(15)	Radiological Emergency Response Training		X
(16)	Plan development, review and distribution		X

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization		X
(2) Section IV. B - Assessment Actions	X	
(3) Section IV. C - Activation of Emergency Organizations		X
(4) Section IV. D - Notification Procedures		X
(5) Section IV. E - Emergency Facilities and Equipment		X
(6) Section IV. F - Training		X
(7) Section IV. G - Maintaining Emergency Preparedness		X
(8) Section IV. H - Recovery		X

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50.47(b)(9)&(10) and Appendix E, Section IV. B of Section A above, this change
☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

During the April 8, 2003, exercise issues were raised concerning the validity of the affected towns as listed in Tables 3,4 and 5. For certain wind directions and Stability class, METPAC uses the topography to redirect the plume independent of prevailing wind direction. For this reason using the Standard approach of downwind direction and one sector on either side will cause a discrepancy with the METPAC projected plume footprint.

Tables 3, 4 and 5 were validated using the Standard approach of towns in the downwind direction and one sector on either side. Also towns were added to include the valley affect for stability classes E, F and G where the METPAC projected plume footprint is significantly different than the prevailing wind direction.

Consistency between Table 3, 4 and 5 was ensured so that when upgrading the PAR from a plant conditions approach to a dose assessment approach there should be similar towns in the 5 mile

downwind direction if wind direction has not changed. These changes were made in OP 3513. This procedure requires the use of OP 3513 and has been revised to reflect the changes made in OP 3513.

An Off-Site Field Team Deployment Strategy was developed to be used by the teams to verify METPAC predictions.

None of these changes decrease the effectiveness of the Emergency Plan and continue to meet all requirements.

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search:_____

☐ This change does not affect any other documents.

☐ This change does affect other documents.

Document(s) affected: OP 3511, OP 3513

Section(s) affected:_____

10 CFR 50.54(q) Evaluation Checklist (Continued)

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search: No impact on the USFAR

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 10/10/03
(Print/Sign)

Reviewed By: Lori A. Tkaczyk Lori A. Tkaczyk Date: 10/16/03
(Emergency Plan Coordinator) (Print/Sign)

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3525, Rev. 11
Reviewer/Date (Print) Audra Williams 4/29/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		X
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.	X	
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3525

REVISION 11

RADIOLOGICAL COORDINATION

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/29/03

TABLE OF CONTENTS

PURPOSE

To direct VY Off-Site and Site Boundary Monitoring Teams and Environmental Radiation Sampling Teams, evaluate results obtained by these teams, and coordinate and verify teams' results with off-site agencies' monitoring data.

DISCUSSION

OFF-SITE AND SITE BOUNDARY MONITORING TEAMS

The task of each monitoring team is to collect radiological data and air samples downwind of the plant in order to determine the extent and magnitude of any release of radioactive material. Prior to the EOF becoming operational, the OSC assigns personnel to the monitoring teams. When radio communication is established with the TSC, the TSC will assume responsibility for and direct the teams as needed until the EOF becomes operational. When the EOF becomes operational and radio contact has been established with the teams, the Radiological Coordinator assumes responsibility for the overall direction of the monitoring teams.

Teams transmit initial data to the Radiological Coordinator to facilitate rapid dose assessment of accident conditions. Samples taken are provided to the Radiological Coordinator for further radionuclide verification. Results obtained from the VY teams are immediately analyzed and the results reported to the Radiological Coordinator.

The Radiation Protection Superintendent or the Supervisor, Radiation Control determines and arranges for additional counting equipment if needed.

VY ENVIRONMENTAL RADIATION SAMPLING TEAMS

As personnel availability and emergency conditions permit, the Radiological Coordinator, located at the EOF/RC, directs the collection of air filters and TLDs from the Off-Site Environmental Monitoring Program in downwind locations. At the discretion of the Radiological Coordinator, other environmental samples such as milk, ground water, and vegetation are collected according to methods prescribed in OP 4605, Environmental Radiation Sampling and Analysis.

OFF-SITE AGENCIES' TEAMS

VY off-site teams' results are compared to off-site agencies' results for consistency and accuracy. If discrepancies are noted, the Radiological Assistant is notified by the Radiological Coordinator. To ensure consistency of information released to the public, the Radiological Coordinator attempts to resolve the inconsistent data with the off-site agencies.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the scope of the procedure or program is not revised to include a different type of activity. The basis for this conclusion is that this document is an Emergency Implementing Procedure and is subject to 10CFR50.54(q) to determine if the changes decrease the effectiveness of the Emergency Plan and if they have the potential to affect our ability to meet the standards of 10CFR50.47(b) and the requirements of 10CFR50 Appendix E.

ATTACHMENTS

1. Appendix A — Off Site Field Team Deployment Strategy
2. VYOPF 3525.01 — Radiological Coordinator's Log

QA REQUIREMENTS CROSS REFERENCE

1. None

REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents
   a. None
2. Codes, Standards, and Regulations
   a. None
3. Commitments
   a. ER2003-0481_01
4. Supplemental References
   a. OP 3509, Environmental Sample Collection During an Emergency
   b. OP 3510, Off-Site and Site Boundary Monitoring
   c. OP 3513, Evaluation of Off-Site Radiological Conditions
   d. OP 4605, Environmental Radiation Sampling and Analysis

PROCEDURE

A. GENERAL

1. Obtain equipment from the Radiological Coordinator's Emergency Equipment Cabinets located in the EOF/RC.

NOTES

- Implement an overall field team deployment strategy addressing downwind, upwind, close in and far out locations and plume traversal.
- In the case of stability classes E, F and G, the plume trajectory can be different than the prevailing downwind direction.
- In the case of stability classes E, F and G and variable wind direction from the NE or SW the plume trajectory can reverse direction going either up or down river.

B. OFF-SITE AND SITE BOUNDARY MONITORING TEAMS

1. When the EOF becomes operational and radio communications have been established with the teams, inform the Radiological Assistant, teams, and TSC Radio Operator, that you are assuming responsibility for the direction and coordination of the teams, consistent with OP 3510.

2. If conditions warrant, activate a third (black) off-site monitoring team.

3. Ensure that the appropriate field monitoring data reported to the EOF, are recorded on VYOPF 3513.03 and VYOPF 3513.04.

4. Ensure that monitoring teams are informed of pertinent information (e.g., escalations, when to don respirators, or take KI, if necessary).

5. Implement an overall strategy for the deployment of the field teams using the suggested guidance in Appendix A. Obtain from the Radiological Assistant/METPAC Operator a "what if" prediction of the 10-mile plume trajectory for the actual meteorology. Consider this prediction in the overall strategy for field team deployment. The field team deployment strategy must include the verification of the plume trajectory as predicted by METPAC as total reliance on METPAC predictions may not be prudent. Review the strategy with the field team radio operator.

6. Coordinate the dispatching and location of off-site monitoring teams with appropriate State representatives located at the EOF. Exchange field team data with the MA and NH State lead dose assessment personnel in the EOF and via the phone to VT lead dose assessment personnel at the VT State EIC.

C. ENVIRONMENTAL RADIATION SAMPLING TEAMS

1. Coordinate the implementation of OP 3509, and prioritize the assignment of desired environmental samples to be collected and analyzed.

2. Direct and coordinate the activities of the VY sampling teams in the collection of the desired environmental samples.

3. Record the appropriate information of all incoming environmental samples on VYOPF 3525.01 (e.g., TLDs, water, silage, grass, etc.).

4. Report sample results to the Radiological Assistant.

5. Compare the results of environmental samples with the results obtained by off-site agencies (if available and on similar samples).

6. Ensure that calculations are reviewed and that the results obtained are representative and accurate.

7. Keep the Radiological Assistant informed of other significant results obtained by off-site agencies.

FINAL CONDITIONS

1. Return equipment to the appropriate emergency equipment cabinets.

2. Submit completed copy of log sheets and calculations to the Radiological Assistant.

3. Close out with off-site agencies.

APPENDIX A

OFF SITE FIELD TEAM DEPLOYMENT STRATEGY

Objective: Find the plume centerline and edges. Verify the METPAC predictions.

Method: Use the deployment strategy described in the table to help meet the objective. Initially obtain a 10-mile "what if" prediction of the plume trajectory from METPAC based on current meteorology. As meteorology changes get an update of this projection. Select the appropriate plume trajectory and implement the deployment strategies (routes) for three teams. Based on the observed radiation readings, the deployment strategy can be narrowed in focus. Share the strategy with the field teams and the State field team coordinator.

NOTE

Usually for meteorology stability classes A, B, C and D the METPAC prediction of plume trajectory is in the prevailing wind direction. For stability classes E, F and G METPAC predicts the plume will follow the river valley. It will go down river for westerly, northerly wind directions between 227 and 47.9 degrees and up river for the rest of the wind directions.

#	PLUME TRAJECTORY	DEPLOYMENT STRATEGIES to 10 miles
1	South along the river valley	1. Deploy one team across the river in NH and traverse south on Route 63 from the Hinsdale Raceway to Northfield to about 2 miles south of the Route 10 intersection. Make periodic eastward runs for about a mile on Route 119 and again on Staddle Hill Road towards Winchester. 2. Deploy a second team to traverse south on Route 142 from Broad Brook Road to Northfield and across the Route 10 bridge. Make periodic runs westward for about a mile on Newton Road and also on Pond Road. 3. Deploy a third team, if available, to traverse on Route 10 between Route 63 and Route 142 intersections. Go south on Main Road to Gill to the intersection of Center Road.
2	North along the river valley	1. Deploy one team to traverse Route 63 northward from the Country Store to Route 119 and then to the bridge into Brattleboro. Cross the bridge taking readings. 2. Deploy a second team to traverse north on Route 142 from the plant into Brattleboro. Make runs westward for about a mile on Tyler Hill Road and again on Broad Brook Road. 3. Deploy a third team, if available, to travel north through downtown Brattleboro on Route 5 to Dummerston. Go east for about a mile on Route 9 across the bridge and again on Rope Ferry Road.

#	PLUME TRAJECTORY	DEPLOYMENT STRATEGIES to 10 miles
3	Eastward across the river	1. Deploy one team to traverse the plume on Route 63 from Route 10 intersection north to Route 119 to the Brattleboro bridge. 2. Deploy a second team to travel about 3 miles north on Route 63 from the intersection of Route 119. Also travel west on Route 119 from the intersection of Route 63 about 3 miles to Ashuelot. 3. Deploy a third team, if available, to traverse Route 142 from Tyler Hill Road south to Newton Road.
4	Westward	1. Deploy one team to travel Route 142 north from the intersection of Route 10 to Broad Brook Road. Travel west about one mile on Newton Road and again on Tyler Hill Road. 2. Deploy a second team to travel on Route 5 from the intersection of Guilford Center Road south to Route 10 in Bernardston. 3. Deploy a third team, if available, to travel south from the intersection of Route 5 and Guilford Center Road, on Guilford Center Road to Green River.

RADIOLOGICAL COORDINATOR'S LOG

DATE_____

SMPL #	TYPE	TIME	SAMPLE LOCATION	ANALYST	TIME	RESULTS	REVIEWER(S)	TIME REPORTED	P OR O *

* - Preliminary, or O - Official

REVISED PROCEDURE CONTROL FORM

PART 1 - Initiation

A. Procedure No. OP 3546	New Revision No. 4	Title Operation of the EOF/RC
B. Review Criteria: ☐ Partial ☐ Editorial ☒ Complete		C. Deleted

D. List DIs & LPCs: n/a

E. Description and Reasons for Procedure/Changes:

- EPEX-2003-GEN_01 – added fax machine to ESG (App. H)
- ER-2003-0481_02: Appendix F:
  - Added to note and 1.0 - not to use dispersion wheel for stability classes E, F, G as METPAC is different.
  - Added to review Appendix N with Rad Coordinator
  - Added 5.0 – ensure exchange of field team data with State lead dose assessment personnel
  - Added 9.0 – ensure all three states are provided METPAC data and discuss differences.
- ER-2003-0481_02: Appendix N
  - Obtain METPAC "What If" projections
  - Do not use dispersion wheel for stability classes E, F, G as METPAC is different.
- EPEX-2003-EOF_02: Appendix D – change step 2.0 from App. J to App. R.
  - Appendix M – add Cabinet #1 to step #4. Add log book.
  - VYOPF 3546.05 has been revised to reflect the current positions in OP 3541, OP 3543, OP 3545.
- UND-2003-370_08: Appendix B – change contacting the Security Manager to contacting the SSS for FFD personnel.
- EPEX-2003-EOF_01: App. F- added reference to OP 3507 for habitability considerations and procedure
  - Appendix T – added step to attend briefings in TSC.
  - Appendix A – added more procedural guidance on what White Plains will need
  - Discussion section – added guidance for log book usage.
- Removed Communications Assistant position. Removed EOF Coordinator's Assistant position.
- Appendix C – removed requirement to keep log book for EOF Coordinator
- Appendix I – changed step 1.0 to give instruction on establishing PARD
- Revised Appendices I-Q to include sign offs and match A-H.
- Appendix L – changed note to use JNC Guidelines.
- Appendices P & Q – added steps from JNC Guidelines.
- Table 2 – updated phone numbers.

F. Originator Name: (App. A was used as references to create this revision, App. C is completed and attached unless Part 1.B above is "Editorial".) **Telephone Extension:** 4177

(Print/sign/date) Audra Williams Audra Williams 9/23/03

PART 2 - Reviews

A. Walk-Through Validation: ☐ Required ☒ N/A ☐ Field Walk-Through ☐ Table-Top ☐ Simulator Validation	B. Technical Verification Reviewer ☐ N/A (App. B used as a reference) (Print/Sign/Date) MICHAEL F. EMPEY / 10/1/03

C. Cross-Discipline Reviews: ☐ N/A

Department	Name	Signature	Date
Rad Protection	Mike Morgan		9/29/03

D. 50.59 Review Per AP 6002, Preparing 50.59 Evaluations ☐ N/A

☒ 50.59 AD previously performed and documented in the text of this procedure and is still applicable.
☐ 50.59 Applicability Determination completed and attached; 50.59 Screening NOT required.
☐ 50.59 Review Screening completed and attached, 50.59 Evaluation NOT required.
☐ 50.59 Evaluation completed and attached.

E. QUALIFIED REVIEWER: Use App. D as a reference (May perform 50.59 Applicability Determination) (Part 2.D)
(Print/Sign/Date) Audra Williams Audra Williams 9/23/03

NOTE

During the revision of an existing procedure, any return to DCC for additional processing beyond 3 iterations requires approval by the Superintendent Technical Support.

F. ORIGINATOR: ☑ Comments Resolved ☑ Re-verify All DIs & LPCs Considered
☑ Sent for Final Type (CDS or STC (SPs only)) Initial/Date DWR 10/15/03
☑ Proofread after Final Type
(Print/Sign/Date) Audra Williams Audra Williams 10.22.03

PART 3 - Training/Notification Requirements

A. **Indicate training or notifications required to implement procedure:** (Required for Administrative Procedures)

☐ **Include in formal training (TCR submitted):**

☒ **E-Mail notification:**

☐ **Crew Briefings:**

☐ **Other:** ☐ N/A

PART 4 - PORC

Plant Operation Review Committee: ☐ Required ☒ N/A

Meeting No: **PORC Secretary:** **Date:** **Plant Manager:**

PART 5 - Approval

A. **Responsible Procedure Owner:** (Print/Signature/Date)
Brian Finn Brian M. Finn 10/24/03

B. **Plant Manager** (Print/Sign/Date) (For SPs Only)
N/A

C. Special Instructions: ☐ N/A

☐ Approved for Training

☒ Issue on DATE: 10·29·03

☐ Submit Surveillance Database Change per AP 4000

☐ Other:

PART 6 - Issuance

Procedure Change No.: 221

Date procedure issued: 10/29/03

Notes:

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3546, Rev. 4, Operation of the EOF/RC

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities	X	
(2)	Assignment of on-shift Emergency Response Organization personnel		X
(3)	Arrangements for Emergency Response Support and Resources		X
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		X
(5)	Notification Methods and Procedures		X
(6)	Emergency Communications among principal response organizations and the public		X
(7)	Public Education and Information		X
(8)	Adequacy of Emergency Facilities and Equipment	X	
(9)	Adequacy of Accident Assessment methods, systems and equipment	X	
(10)	Plume exposure pathway EPZ protective actions		X
(11)	Emergency Worker Radiological Exposure Control		X
(12)	Medical Services for contaminated injured individuals		X
(13)	Recovery and Reentry Plans		X
(14)	Emergency response periodic drills and exercises		X
(15)	Radiological Emergency Response Training		X
(16)	Plan development, review and distribution		X

10 CFR 50.54(q) Evaluation Checklist (Continued)

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization	X	
(2) Section IV. B - Assessment Actions	X	
(3) Section IV. C - Activation of Emergency Organizations		X
(4) Section IV. D - Notification Procedures		X
(5) Section IV. E - Emergency Facilities and Equipment	X	
(6) Section IV. F - Training		X
(7) Section IV. G - Maintaining Emergency Preparedness		X
(8) Section IV. H - Recovery		X

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50.47(b)(8),(9)&(10) and Appendix E, Section IV. A, B & E of Section A above, this change

☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

Most of the changes were to enhance the procedure and add formality.

OP 3511 was changed due to inconsistencies with Table 4 and METPAC for downwind towns beyond 5 miles. The reason is for certain wind directions, because of the valley topography, METPAC will turn the plume significantly to follow the valley irrespective of prevailing wind direction. The tables have been revalidated and the procedure changed. The change affects this procedure and added notes to not use the dispersion wheel for stability classes E, F, and G as METPAC is different. It also requires the Rad Coordinator to do "what if" projections and provide the three states with METPAC data and to discuss the differences.

The Communications Assistant position was removed as the responsibilities are being performed by other members of the ERO. OP 3545 will have a figure depicting phones to be tested and it will be the responsibility of the EOF to complete this at the time of the room setup. Three part message forms can be picked up by the few individuals who still use them. All phones and radios that need to be manned are assigned per other appendices of this procedure. Establishment of radio communications is the responsibility of the Rad Coordinator and the radio operator. Recording the date, time, parties involved for each incoming/outgoing message is the responsibility of each of the other positions as defined in the other

appendices.

The EOF Coordinator's Assistant position was removed and the responsibilities became part of the EOF Coordinator position. This position was established prior to the E-Plan Duty Teams. The initial intent of the position was to be filled by whoever arrived first. They were to start setup and then inform the EOF Coordinator of any pertinent information upon his/her arrival. Because the EOF Coordinator is part of an E-Plan Duty Team, the expectation is that he/she would arrive within an hour which would now be prior to the Assistant. The couple of tasks that the Assistant had to perform were assumed by the EOF Coordinator.

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search:_____

☐ This change does not affect any other documents.

☒ This change does affect other documents.

Document(s) affected: OP 3513, OP 3525, OP 3511, OP 3506, E-Plan

Section(s) affected:_____

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search:_____

10 CFR 50.54(q) Evaluation Checklist (Continued)

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 9/23/03
(Print/Sign)

Reviewed By: Lori A. Tkaczyk Lori A. Tkaczyk Date: 10/01/03
(Emergency Plan Coordinator) (Print/Sign)

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3546, Rev. 3, 4 Mod

Reviewer/Date (Print) Audra Williams 9/23/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		X
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.	X	
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3546

REVISION 4

OPERATION OF THE EMERGENCY OPERATIONS FACILITY/RECOVERY CENTER (EOF/RC)

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages

Implementation Statement: N/A

Issue Date: 10/29/03

TABLE OF CONTENTS

PURPOSE

To outline the operation of the Emergency Operations Facility/Recovery Center (EOF/RC).

DISCUSSION

There are four emergency classifications, Unusual Event, Alert, Site Area Emergency, and General Emergency. The decision to make an immediate initial declaration rests with the Shift Manager/Plant Emergency Director, who, in turn, instructs Control Room personnel to activate the notification system. Notification of State authorities must be initiated within 15 minutes after the event has been classified. The NRC must be notified immediately after the States' notification, but not later than one (1) hour after the event has been classified.

An Unusual Event is defined as any plant-related event which indicates a potential degradation of plant safety margins which is not likely to affect personnel on-site or the public off-site or result in radioactive releases requiring off-site monitoring. Unusual Event conditions will not have caused serious damage to the plant and may not require a change in operation status.

The basic shift complement is able to deal with Unusual Event conditions. On-duty personnel are assigned to functions as required. Additional members of the plant organization, including top management, are notified by Plant Security, and augment on-duty personnel as necessary. The Duty On Call Officer who is available on an on-call basis must report to the site and will assume the role of the TSC Coordinator. Dissemination of public information and closure or escalation to a more severe classification will occur as conditions warrant

An Alert event is defined as an indication of a substantial degradation of plant safety margins which could affect on-site personnel safety, could require off-site impact assessment, but is not likely to require off-site protective action.

An Alert event requires action beyond the normal capability of the basic shift complement. Plant response and off-site notification associated with this event classification ensure that sufficient emergency response personnel are mobilized to activate the Technical Support Center and the Operations Support Center. The Emergency Operations Facility/Recovery Center is activated with the Site Recovery Manager, the EOF Coordinator and other EOF/RC staff members. Sufficient emergency assistance personnel to assess off-site radiological impact are assigned if the Alert event is producing releases off-site. Actual releases of radioactivity which substantially exceed Technical Specification limits may be involved and thus radiation monitoring and dose projection may be an integral portion of the emergency response required. Prompt notification is made to State authorities and follow-up information is provided as needed to off-site emergency organizations.

A Site Area Emergency indicates an event which involves likely or actual major failures of plant functions needed for the protection of the public. The possibility does exist for some releases of radioactive material and response to this event emphasizes the ability to monitor the releases and to provide action recommendations to State authorities and follow-up information as needed to off-site emergency organizations.

Plant resources are anticipated to be sufficient to cope with a Site Area Emergency. Outside resources, however, are mobilized and selected members are dispatched to the site. All emergency centers are activated following declaration of a Site Area Emergency. All non-essential personnel are evacuated from the site. Representatives from adjoining States are dispatched to the Emergency Operations Facility. Assessment of plant conditions and off-site radiological parameters determine the type of protective measures necessary for protection of the public sector. The public is notified of the event by local media facilities and periodic updates of information are released to ensure uniform, adequate response to real conditions.

A General Emergency is declared when substantial core degradation or melting has occurred, with a potential for loss of containment integrity. The possibility does exist for releases of radioactive material and response to this event emphasizes the ability to monitor the releases and to provide for protective action recommendations to State authorities.

Contracted service organizations, sponsor utilities, and other industry resources are alerted and requested to render assistance as appropriate. In addition, Federal resources are called upon for assistance. Assessment of plant conditions and off-site radiological parameters determine the type of protective action recommendations.

Plant representatives closeout or escalate the emergency classification, or move to recovery as conditions warrant. Written summaries of the event are provided to off-site authorities and other affected agencies.

Emergency Classification and PAR Notification/Upgrade Form (VYOPF 3546.02) specifies the contents and formal States notifications of emergency classifications and protective action recommendations (PARs) by Vermont Yankee, and is used by the Control Room or SRM in the authorization and transmittal of these notifications. Prior to the SRM assuming responsibility for the emergency response, the TSC Coordinator can authorize escalations and PARs, but the Control Room retains transmittal responsibilities to off-site agencies.

Logbooks are maintained by key individuals throughout the EOF/RC to log, at a minimum, classifications and times, key events, communications, decision making, etc. All logbooks will be reviewed by the EOF Coordinator for accuracy and completeness at the conclusion of the event.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the procedure scope is not changed. The basis for this conclusion is that this document is an Emergency Implementing Procedure and is subject to 10CFR50.54(q) to determine if the changes decrease the effectiveness of the Emergency Plan and if they have the potential to affect our ability to meet the standards of 10CFR50.47(b) and the requirements of 10CFR50 Appendix E.

ATTACHMENTS

1.	Appendix A	Site Recovery Manager (SRM)
2.	Appendix B	Emergency Operations Facility Coordinator (EOFC)
3.	Appendix C	Deleted
4.	Appendix D	Personnel & Equipment Monitoring Team
5.	Appendix E	Deleted
6.	Appendix F	Radiological Assistant
7.	Appendix G	Manpower and Planning Assistant
8.	Appendix H	Engineering Support Group Assistant
9.	Appendix I	Ops Advisor Responsibilities
10.	Appendix J	State Advisor Responsibilities
11.	Appendix K	Compliance Advisor Responsibilities
12.	Appendix L	JNC Technical Representative Responsibilities
13.	Appendix M	Media Advisor and Media Advisor Assistant Responsibilities
14.	Appendix N	Radiological Coordinator Responsibilities
15.	Appendix O	State Liaison Responsibilities
16.	Appendix P	Facilities Coordinator Responsibilities
17.	Appendix Q	Telecommunications Coordinator Responsibilities
18.	Appendix R	Response Check of RM-14/Frisker Probe
19.	Appendix S	Technical Representative Escalation Checklist/Script
20.	Appendix T	Manpower and Planning Liaison Responsibilities
21.	VYOPF 3546.01	Plant Status Briefing Form
22.	VYOPF 3546.02	Emergency Classification and PAR Notification/Upgrade Form
23.	VYOPF 3546.03	Instructions to Personnel Prior to Being Released from the Assembly Area
24.	VYOPF 3546.04	Deleted
25.	VYOPF 3546.05	Shift and Relief Planning Worksheet
26.	Table 1	Radiological Assistant's Organization
27.	Table 2	White Plains Recovery Support Group Corporate Call List

QA REQUIREMENTS CROSS REFERENCE

1. None

REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents

   a. Vermont Yankee Nuclear Power Station Emergency Plan

2. Codes, Standards and Regulations

   a. None

3. Commitments

   a. INS8722-01
   b. E_Drill-98EOF3
   c. LAI-801
   d. EPEX97TSC-2

4. Supplemental References

   a. AP 0009, Event Reports
   b. AP 0010, Situational Reporting Requirements
   c. AP 0021, Work Orders
   d. AP 0156, Notification of Significant Events
   e. AP 0864, Fitness for Duty
   f. AP 3125, Emergency Plan Classification and Action Level Scheme
   g. OP 3504, Emergency Communications
   h. OP 3507, Emergency Radiation Exposure Control
   i. OP 3508, On-Site Medical Emergency Procedure
   j. OP 3509, Environmental Sample Collection During an Emergency
   k. OP 3510, Off-Site and Site Boundary Monitoring
   l. OP 3511, Off-Site Protective Action Recommendations
   m. OP 3513, Evaluation of Off-Site Radiological Conditions
   n. OP 3531, Emergency Call-In Method
   o. OP 3540, Control Room Actions During an Emergency
   p. OP 3541, Activation of the Technical Support Center (TSC)
   q. OP 3542, Operation of the Technical Support Center (TSC)
   r. OP 3544, Operation of the Operations Support Center (OSC)
   s. OP 3545, Activation of the Emergency Operations Facility/Recovery Center (EOF/RC)
   t. OP 3547, Security Actions During an Emergency
   u. AP 6807, Collection, Temporary Storage and Retrieval of QA Records
   v. PP 7019, Severe Accident Management Program
   w. Emergency Assistance Personnel List (EAPL)

PRECAUTIONS/LIMITATIONS

1. Refer to OP 3504 for alternate methods of communication in the event that primary methods fail.

NOTES

- With the exception of authorizing Protective Action Recommendations and classifications, actions required in each appendix may be assigned by the responsible individual to other personnel as appropriate. The designated individual, however, has the overall responsibility for the execution of the appendix.
- Personnel assigned to fill positions in procedure steps must be qualified per the Emergency Assistance Personnel List (EAPL).

1. Select the appropriate appendix:

   a. Appendix A, Site Recovery Manager (SRM)
   b. Appendix B, Emergency Operations Facility Coordinator (EOFC)
   c. Appendix D, Personnel & Equipment Monitoring Team
   d. Appendix F, Radiological Assistant
   e. Appendix G, Manpower and Planning Assistant
   f. Appendix H, Engineering Support Group Assistant
   g. Appendix I, Ops Advisor Responsibilities
   h. Appendix J, State Advisor Responsibilities
   i. Appendix K, Compliance Advisor Responsibilities
   j. Appendix L, JNC Technical Representative Responsibilities
   k. Appendix M, Media Advisor and Media Advisor Assistant Responsibilities
   l. Appendix N, Radiological Coordinator Responsibilities
   m. Appendix O, State Liaison Responsibilities
   n. Appendix P, Facilities Coordinator Responsibilities
   o. Appendix Q, Telecommunications Coordinator Responsibilities
   p. Appendix R, Response Check of RM-14/Frisker Probe
   q. Appendix S, Technical Representative Escalation Checklist/Script
   r. Appendix T, Manpower and Planning Liaison Responsibilities

NOTES

- Some spaces have multiple signature lines, based on event level. The step should be initialed for each event level it is completed for. If an event escalates, each step with that designator should be rechecked to ensure no further action is required.
- Steps may be performed concurrently or out of sequence.

2. Complete the appropriate appendix and record time and initials as required.

3. Alternate Assembly and Staging Area

a. If a Code Red Security Event occurs during off-hours, the Emergency Operations Facility will be used as an alternate assembly and staging area for personnel who would normally report to emergency response facilities at the plant site. A pager code of "777" and a Community Alert Message notifies personnel to report to the EOF in an off-hours Code Red Security Event.

b. The warehouse (Joint News Center) will be used for the alternate assembly and staging area. The Joint News Center may be relocated in a Code Red Security Event occurring after hours.

c. EOF staff will activate the EOF per procedure. TSC/OSC personnel arriving at the EOF will be directed to the alternate assembly and staging area. Personnel will sign in at the assembly area to provide an available manpower list.

d. The TSC Coordinator and OSC Coordinator will organize response teams based on the nature of the emergency and release second shift personnel.

FINAL CONDITIONS

1. Return all completed Appendices and forms to the Emergency Plan Coordinator for filing per AP 6807.

APPENDIX A

SITE RECOVERY MANAGER (SRM)

SRM Name (print):_____ Date:_____

		Time/Date	Initials
1.0	Obtain overall status of emergency situation. Ensure that VYOPF 3546.01, "Plant Status Briefing Form" is filled out and is current. (INS8722-01)	(circle one) A S G _____/_____	_____

NOTES

- SM/PED retains responsibility for off-site States' notification (NAS-Orange Phone) until Site Recovery Manager assumes responsibility for implementation of VY Emergency Plan.
- TSC Coordinator or SM/PED (if applicable) retains responsibility for off-site NRC authorities' notification (FTS ENS Phone) unless Site Recovery Manager indicates otherwise.
- In a Code Red Security Event, when the Control Room and TSC is not able, the Site Recovery Manager will assume responsibility for the off-site NRC notification (FTS ENS phone).

2.0 Contact the TSC Coordinator or SM/PED (if applicable) when ready to assume overall responsibility for the implementation of the VY Emergency Plan. This includes the following primary responsibilities:

2.1.	Escalation or de-escalation of the emergency.	(circle one) A S G _____/_____	_____
2.2.	Notification of off-site States' authorities. (NAS-Orange Phone)	(circle one) A S G _____/_____	_____
2.3.	Authorization and transmittal of off-site protective action recommendations.	(circle one) A S G _____/_____	_____

		Time/Date	Initials
3.0	Assign EOF Coordinator: Name:_____	____/____	

NOTE

Minimum Staffing for activation (see white board in SRM office area):

- Site Recovery Manager
- EOF Coordinator
- Radiological Assistant
- Compliance Advisor
- Ops Advisor #1

4.0	Inform the EOF Coordinator, the SM/PED, TSC Coordinator, and the States representatives that the EOF/RC is activated.	____/____	
5.0	IF a GENERAL EMERGENCY, THEN implement OP 3511, Off-Site Protective Action Recommendations.	G____/____	
6.0	If a release is in progress or expected, ensure that OP 3513, Evaluation of Off-Site Radiological Conditions, is implemented by the Radiological Assistant.	(circle one) A S G ____/____	
7.0	Act as the principal plant emergency response organization spokesperson in all interfacing with off-site authorities.		
8.0	Act, or designate an individual, as the official point of contact for communications and information to the States. (SRM State Advisor) Name:_____	(circle one) A S G ____/____	
9.0	Contact the PED to ensure that the States have called back to affirm receipt of initial notification, if not re-contact the States. (SRM State Advisor)	(circle one) A S G ____/____	
10.0	Ensure that the State representatives at the EOF are updated on the status of the emergency periodically. (SRM State Advisor)		

		Time/Date	Initials
11.0	Assess plant conditions as reported by the response organization and direct that all needed response efforts are addressed.		
12.0	Ensure PED makes a single (initial) ISO notification. (Ops Advisor #1)	(circle one) A S G /	
13.0	Depending upon the duration of the emergency, instruct the Purchasing Coordinator to make arrangements for food and potable water delivery to all emergency response centers, including off-site teams. (Purchasing Coordinator)	/	
14.0	Ensure that manpower planning is being conducted to provide for response efforts over an extended period. (Manpower & Planning Asst.)	/	
15.0	Review and approve, or have designated alternate review and approve, periodic news releases prepared by the Nuclear Information Director or designated alternate prior to release.	/	
16.0	IF conditions warrant escalation to a more severe emergency class, THEN the Site Recovery Manager should, following discussion and concurrence with the TSC Coordinator and SM/PED, complete the following actions in the order identified below:		
16.1.	IF there is an escalation to a GENERAL EMERGENCY, implement OP 3511, Off-Site Protective Action Recommendations.	G /	
16.2.	Direct the SM/PED to make the appropriate plant announcement.	A / S / G /	

		Time/Date	Initials

NOTE

States' notification must be initiated within 15 minutes of emergency classification declaration.

16.3.	Ensure that the notification of the VT/NH/MA State EOCs is being implemented per VYOPF 3546.02, Emergency Classification and PAR Notification/Upgrade Form. (Compliance Advisor)	S____/____ G____/____	
16.4.	If any State EOC is not manned, and the EOF/RC State representative is not present, notify the appropriate State Police agency per VYOPF 3546.02. (Compliance Advisor)	S____/____ G____/____	
16.5.	Inform each EOF/RC State representative of the transition on the emergency class and the condition producing the change. (SRM State Advisor)	A____/____ S____/____ G____/____	
16.6.	After completion of the State's notification, SRM acknowledges that the States' notification has been completed.	A____/____ S____/____ G____/____	
16.7.	Notify White Plains Recovery Support Group Managers, per Table 2, of all declarations and information as contained on VYOPF 3546.02.	A____/____ S____/____ G____/____	
17.0	IF the State of Vermont issues an evacuation order for Brattleboro, THEN contact the Nuclear Information Director and discuss impact on the Joint News Center (JNC).	(circle one) S G ____/____	
18.0	IF a decision is made to evacuate the JNC, THEN announce that, as a precautionary measure, all declared pregnant staff should evacuate the EOF. (E_Drill-98EOF3)	(circle one) S G ____/____	
19.0	Ensure VYOPF 3546.01 is faxed to the TSC to update the TSC Coordinator of any protective actions the States may be implementing. (Media Advisor Assistant)		

	Time/Date	Initials

FINAL CONDITIONS

1. IF the following criteria are satisfied, THEN De-escalation from an emergency phase to a recovery phase is warranted:

a.	Criticality controls are in effect.	____/____	____
b.	The core is being adequately cooled.	____/____	____
c.	The fission product release has been controlled.	____/____	____
d.	Control has been established over containment pressure and temperature.	____/____	____
e.	An adequate heat transfer path to an ultimate heat sink has been established.	____/____	____
f.	Reactor coolant system pressure is under control.	____/____	____
g.	The States of Vermont, New Hampshire, and Massachusetts reach agreement with the Site Recovery Manager or designated alternate that there is no longer a need for consideration of further public protective action.	____/____	____

		Time/Date	Initials
2.	IF conditions warrant de-escalation to a recovery phase, THEN the Site Recovery Manager completes the following actions in the order identified below:		
	a. Review plant conditions with each State official stationed at the EOF/RC and recommend de-escalation.	/	
	b. Contact the respective State EOC via the Nuclear Alert System (NAS - Orange Phone) or land line. IF any State EOC is not manned, THEN notify the respective State Police Dispatcher via the NAS Orange Phone or land line and request a State Emergency Management official call the Site Recovery Manager via the NAS Orange Phone or land line as soon as possible.	/	
	c. After an agreement has been reached with the States, direct the SM/PED to make the appropriate plant announcement.	/	
3.	Notify the Nuclear Information Director, or designated alternate, de-escalation or termination of the event has occurred.	/	
4.	Devise a recovery plan applicable to the plant condition(s) following the termination of the emergency phase.	/	
5.	Provide a verbal close-out of the event with off-site authorities and agencies as follows:		
	a. NRC	/	
	b. State of Vermont	/	
	c. State of New Hampshire	/	
	d. Commonwealth of Massachusetts	/	
6.	Site Recovery Manager will notify White Plains Recovery Managers of de-escalation to a recovery phase per Table 2.	/	

		Time/Date	Initials
7.	Initiate an Event Report per AP 0009 for the event that resulted in the declaration of the emergency.	/	

NOTE

Emergency Planning will sign off step 8.

8.	When a written report is generated, ensure a copy is forwarded to the Emergency Plan Coordinator for the following off-site authorities:		
a.	Director of Vermont Emergency Management, State of VT	/	
b.	Director of Massachusetts Emergency Management, Commonwealth of MA	/	
c.	Director of New Hampshire Emergency Management, State of NH	/	

APPENDIX B

EMERGENCY OPERATIONS FACILITY COORDINATOR (EOFC)

EOF Coordinator Name (print):_____ Date:_____

		Time/Date	Initials

NOTE

The EOF Coordinator's Clipboard, located in cabinet #2, contains the latest EAPL, call-in list, org chart and phone list.

1.0	Direct the activation and staffing of the EOF, per OP 3545 (SSCA No. 0422).			
2.0	Contact the Shift Manager/Plant Emergency Director (SM/PED), or TSC if staffed, and obtain specific information concerning the event.	(circle one) A S G	_____/_____	_____
2.1	Summary evaluation of plant conditions (take notes).		_____/_____	_____
2.2	Type of release, if release is in progress or expected.		_____/_____	_____
2.3	Directional variability of the wind (i.e., any indication of trending toward a new direction?).		_____/_____	_____
2.4	Whether or not the PED needs assistance in notifying plant management personnel, or other on-site assistance.		_____/_____	_____
3.0	Contact the Security Shift Supervisor (if outside of normal hours), to ensure that arrangements are made to perform Fitness-For-Duty testing at the EOF.		_____/_____	_____
4.0	Assess on-site and off-site radiological conditions associated with any accidental releases. (Reference OP 3509, 3510 and 3513)		S_____/_____ G_____/_____	_____ _____
5.0	Act as liaison with the States' representatives until relieved by the SRM.		S_____/_____ G_____/_____	_____ _____

		Time/Date	Initials
6.0	Document and coordinate offsite monitoring team activities.	S____/____ G____/____	
7.0	Direct the call-in of off-duty personnel as required. Personnel are requested and assigned as per OP 3546 Appendices.	(circle one) S G ____/____	
8.0	Ensure that radiological assessment (refer to OP 3544, Appendix A) is being performed as deemed appropriate by the Radiological Assistant.	A____/____ S____/____ G____/____	
9.0	Obtain information concerning protective action recommendations from the Radiological Assistant.	G____/____	
10.0	Be alert for any possible changes in meteorological conditions, especially wind direction and wind speed. If necessary, contact the TSC for meteorological conditions.		
11.0	Provide information to the Site Recovery Manager concerning dose assessment results and protective action recommendations.		
12.0	Coordinate with the Radiological Assistant, the radiological assessment of off-site conditions.		
13.0	Coordinate with the Radiological Assistant to determine if monitoring of incoming personnel is required at the control point at the entrance to the EOF.	____/____	
14.0	Coordinate with the Radiological Assistant to determine if a control point needs to be established at the Joint News Center entrance and if monitoring of incoming personnel is required.	____/____	
15.0	Ensure the EOF staff is periodically briefed on plant status conditions and changes (i.e., plant radiological conditions, meteorological information, emergency class changes, protective action recommendations, and state/local agencies protective measure decisions). (Ops Advisor #2)		
16.0	Ensure that the status forms are being utilized to transmit emergency information.		

	Time/Date	Initials

17.0 Periodically check with the Manpower and Planning Assistant to evaluate and discuss future manpower and logistics needs.

18.0 Depending upon the duration of the emergency, arrangements will be made by the Purchasing Coordinator to have food/water delivered. Coordinate the distribution with Manpower & Planning when notified of food delivery.

19.0 Assist the Recovery Staff (CA, SA, OAs) in collecting information and resources to provide for long term operation of the site recovery function (e.g., manpower, food, reference materials, other logistical concerns).

FINAL CONDITIONS

1.	Direct the responsible personnel to restore all emergency equipment to its normal readiness state.	____/____	_____
2.	Review and initial the following Emergency Operations Facility logs to ensure completeness and accuracy:		
a.	Site Recovery Manager (maintained by Ops Advisor #1 and Compliance Advisor)	____/____	_____
b.	Procurement	____/____	_____
c.	Personnel and Equipment Monitoring	____/____	_____
d.	Manpower & Planning	____/____	_____

APPENDIX D

PERSONNEL & EQUIPMENT MONITORING TEAM

Personnel & Equipment Monitoring Team

(1) Name (print):_____ Date:_____

(2) Name (print):_____ Date:_____

		Time/Date	Initials
	NOTE All monitoring should be done in a low background area. (<2000 cpm)		
1.0	Obtain two portable friskers (RM 14 with HP-210 Probe) and the Personnel Monitoring clipboard and logbook from the charging shelf in the sprinkler room in Room 118.	____/____	_____
2.0	Perform response check of the RM 14 probes using Appendix R.	____/____	_____
3.0	Establish a control point at the EQF entrance.	____/____	_____
4.0	Determine if a release is in progress. If a release is in progress, monitor yourself first then all personnel on duty inside the EOF.	____/____	_____
5.0	At the discretion of the EOF Coordinator and Radiological Assistant, monitor all incoming personnel at the EOF control point.	____/____	_____
6.0	At the discretion of the EOF Coordinator and Radiological Assistant, establish a control point at the entrance to the Joint News Center (JNC) to monitor all personnel entering the JNC.	____/____	_____

	Time/Date	Initials

7.0 Record names of all personnel monitored in the Personnel and Equipment Monitoring Logbook. Include time and results of readings.

8.0 Immediately segregate all personnel arriving in protective clothing (PCs) and identify their vehicles, if applicable.

8.1 Survey PC-attired personnel and their vehicles with priority.

8.2 Note in the Personnel and Equipment Monitoring Logbook the name(s) and vehicle(s) exceeding 2x background or 2000 net cpm, whichever is less.

8.3 Hold for decontamination and release.

9.0 Perform facial survey with a frisker (DO NOT attempt nasal smear or tissue "blow" samples) in order to identify potential for internal dose of individual.

10.0 Report all significant or positive results to the EOF Coordinator and the Radiological Assistant.

11.0 Log all personnel monitoring results in the Personnel and Equipment Monitoring Logbook.

APPENDIX F

RADIOLOGICAL ASSISTANT

Radiological Assistant

Name (print):_____ Date:_____

	Time/Date	Initials

NOTES

- Table 1 may be utilized as a manpower organizational guideline to the extent deemed practicable.
- Do not use the dispersion wheel for stability classes E, F and G as METPAC predicts a different plume trajectory than the prevailing downwind direction.
- The following action items may be implemented in any order.

1.0	On the dispersion map, select the appropriate plume stability angle in accordance with reported meteorological conditions. (Do not use the dispersion wheel for stability classes E, F and G as METPAC predicts a different plume trajectory than the prevailing downwind direction.)	_____ / _____	_____
2.0	IF the NRC requests an open, continuous Health Physics Network (HPN) communications channel, THEN ensure a technically competent individual is available to continuously maintain the HPN phone (LAI-801). Refer to OP 3504 to establish HPN channel.		
	Name:_____	_____ / _____	_____
3.0	Assign personnel from Manpower and Planning to provide assistance in communications, dose assessment and board updates as required.		
	Name:_____	_____ / _____	_____

		Time/Date	Initials
4.0	Assign the Radiological Coordinator and direct the individual to perform the procedure outlined in OP 3525, Radiological Coordination. Review Appendix N with individual. (Ensure individual is qualified per EAPL.)		
	Name:_____	____/____	_____
5.0	Ensure that there is an exchange of field team data with the three State's lead dose assessment personnel.	____/____	_____
6.0	Coordinate with the EOF Coordinator to determine if monitoring of incoming personnel is required at the control point at the entrance to the EOF.	____/____	_____
7.0	Coordinate with the EOF Coordinator to determine if a control point needs to be established at the Joint News Center entrance and if monitoring of incoming personnel is required.	____/____	_____

NOTE

All communications to the plant should go through the TSC, or, if the TSC is not staffed, through the Control Room.

8.0	Direct and evaluate the performance of dose projections as per the procedure outlined in OP 3513, Evaluation of Off-Site Radiological Conditions.	____/____	_____
9.0	Ensure that the three States are provided with METPAC input parameters (VYOPF 3513.01) and discuss differences in METPAC results with the three State lead dose assessment personnel.	____/____	_____
10.0	Perform required steps in OP 3511, Off-Site Protective Action Recommendations.	____/____	_____
11.0	Assemble all available information relating to the radiological situation both on and off-site.	____/____	_____
12.0	Provide support to the Radiation Protection Coordinator or designated alternate at the TSC to ensure that on-site protective actions are being considered and carried out.	____/____	_____

		Time/Date	Initials
13.0	Review exposure control measures and maintain and review exposure records with the Radiation Protection Coordinator or designated alternate at the TSC as appropriate.	/	
14.0	Determine whether radiological assessment of the EOF/RC is required to be performed periodically per OP 3507.	/	
15.0	If warranted, assign an individual to align the HVAC system per OP 3507.	/	
16.0	Organize the information and concisely state the latest radiological conditions on the status and mapboards.		
17.0	As new or additional information becomes available, update the boards.		
18.0	Keep the EOF Coordinator informed of pertinent changes, especially updates regarding protective action recommendations.		
19.0	Assist the EOF Coordinator as requested.		

APPENDIX G

MANPOWER AND PLANNING ASSISTANT

Manpower and Planning Assistant

Name (print):_____ Date:_____

	Time/Date	Initials

NOTES

- The Manpower & Planning Clipboard contains the latest EAPL, E-Plan Team assignments, organizational chart, phone list and staffing worksheets, as well as Fire Brigade and Medical Team lists.
- Supplies are located in the sprinkler room in Room 118.

1.0	Assign personnel to assist with manpower duties (1 or 2 people as necessary): Name(s): _____ _____	/	
2.0	Obtain a briefing of the nature of the emergency and extent of damage to the plant and equipment.	/	
3.0	Establish contact with Manpower & Planning Liaison in TSC. Record name, phone and fax numbers: Name: _____ Phone #: _____ Fax #: _____	/	
4.0	Utilizing the manpower whiteboards, determine initial staff by obtaining rosters from the EOF and TSC/OSC.	/	

NOTE

- As personnel arrive at the EOF, they must either key in access code, show identification or be positively identified by EOF Staff member to enter the building. All unidentified personnel should be denied access and, if necessary, request Security assistance.
- Do Not block open EOF entrance doors.

		Time/Date	Initials
5.0	As personnel arrive, they will report to their assigned positions. Personnel not otherwise assigned to a position should assemble in the training building cafeteria. Maintain an awareness of extra personnel in the EOF not otherwise assigned to emergency duties to determine available manpower.	/	
6.0	Attend briefings in EOF and brief personnel in lobby including Security.		
7.0	Ensure that the general assembly area does not become overcrowded. If an overflow of spare personnel occurs, send them to an alternate assembly area in the EOF.		
8.0	Assemble specialized assistance teams as requested by the TSC Coordinator.		
9.0	In coordination with the Purchasing Coordinator, arrange lodging for Vermont Yankee emergency workers if their homes are in evacuated areas.		
10.0	Depending upon the duration of the emergency, arrangements will be made to have food delivered. Immediately notify EOF Coordinator when food arrives. Coordinate with him/her the distribution of the food.	/	
11.0	Assist the EOF Coordinator by attempting to anticipate and provide for future manpower and logistics needs.		

		Time/Date	Initials

NOTE

A person may be listed in more than one assignment group in the EAPL. When filling positions, individuals must be qualified per the EAPL.

12.0	Depending upon the anticipated duration of the emergency, prepare relief schedules.	/	
13.0	Fax prepared relief schedules to the Manpower & Planning Liaison for TSC Coordinator approval.	/	
14.0	Once the TSC approves the relief schedule, coordinate implementation with the SRM. Excuse those personnel not presently needed. Use VYOPF 3546.03 to provide those personnel being released with instructions on reporting responsibilities. (EPEX97TSC-2)	/	

APPENDIX H

ENGINEERING SUPPORT GROUP ASSISTANT

Engineering Support Group Assistant

Name (print):_____ Date:_____

		Time/Date	Initials

NOTES

- The ESG Clipboard contains the latest EAPL, organizational chart and phone list.
- Supplies are located in E-Plan Cabinet #2, located outside of Room 126, and in sprinkler room in Room 118.

1.0	Obtain items from Cabinet #2 and set up area.	____/____	_____
2.0	Retrieve fax machine from sprinkler room and connect phone cord to jack #10 in room 128 (per OP 3504, Figure 6).	____/____	_____
3.0	Place Action Item List magnetic tags on white board for use as status board.	____/____	_____
4.0	Establish the following positions: (Place magnetic tags on white board)		
	Senior Management:_____		
	Phone Communicator:_____		
	Action Item List Scribe:_____		
	Briefing Representative:_____		
	Critique Scribe (optional):_____		
5.0	Establish communication with the General Manager's Office (TSC x5200).	____/____	_____
6.0	Route sign-in sheet for compilation of personnel available for assignments.	____/____	_____

		Time/Date	Initials
7.0	Monitor and update status of action items and communicate results.		
8.0	Depending upon the anticipated duration of the emergency, work with Manpower and Planning to prepare relief schedules and excuse those personnel not presently needed. Use VYOPF 3546.03 to provide those personnel being released with instructions on reporting responsibilities.	____/____	
9.0	Maintain communication with the plant.		
10.0	Compile a list of critique items.	____/____	

FINAL CONDITIONS

1. When directed by the SRM, or designated alternate, assist with developing a recommended recovery plan.

2. Direct the responsible personnel to restore all emergency equipment to its normal readiness state.

APPENDIX I

OPS ADVISOR RESPONSIBILITIES

Ops Advisor #1

Name (print):_____ Date:_____

		Time/Date	Initials
1.0	Establish the Primary Auto Ring Down Circuit (#3) by dialing x4400 and when prompted enter password: 1 2 3 4 5 6. If the Primary Auto Ring Down Circuit cannot be established, implement the Alternate Auto Ring Down Circuit.	____/____	_____

NOTE

The following action items may be implemented in any order.

2.0	Continuously monitor the Primary Auto Ring Down Circuit and advise SRM of major events.		
3.0	Evaluate the need for escalation, protective action recommendations and de-escalation.		
4.0	During escalations and de-escalations, advise the PED to sound the proper emergency alarm at the same time the State Advisor makes his declaration.		
5.0	Maintain the SRM log book by recording events and SRM decisions.		

NOTE

Be particularly careful not to direct or instruct control room personnel in the performance of their duties.

		(circle one) A S G	
6.0	Advise the PED to make a single (initial) ISO notification at the Alert, Site Area, or General Emergency level.	____/____	_____

Ops Advisor #2

Name (print):_____ Date:_____

	Time/Date	Initials

NOTE

The following action items may be implemented in any order.

1.0 Complete Plant Status Briefing Form (VYOPF 3546.01). Serialize each new form and obtain SRM approval. Give copy of VYOPF 3546.01 to the Media Advisor Assistant for distribution to the TSC, Technical Representative in the Press Release Writer's Area, etc.

2.0 Identify plant parameters which are of substantial concern or which have significant trends.

NOTE

Alternates should be prepared to step in immediately and without direction if the primary individual becomes tied up.

3.0 Brief all SRM Staff in the SRM Communications Area (e.g., State Advisor, Media Advisor, Radiological Advisor, etc.) of each significant plant parameter change, escalation, or PAG recommendation.

4.0 Establish a rhythm of regular SRM staff briefings.

APPENDIX J

STATE ADVISOR RESPONSIBILITIES

State Advisor

Name (print):_____ Date:_____

		Time/Date	Initials
	NOTE The following action items may be implemented in any order.		
1.0	Set up State Area, including set-up of status information and removal of training materials.	____/____	_____
2.0	Identify spokesman for each State and complete status information in the SRM's office.	____/____	_____
3.0	Make Compliance Advisor aware of States that have not responded to ensure proper orange phone notification.	____/____	_____
4.0	For those States whose representatives have not yet arrived, provide informational updates to their State EOCs until their arrival at Vermont Yankee.	____/____	_____
5.0	Provide initial briefings as State Representatives arrive and ensure States representatives are aware of and invited to the Ops Advisor #2 briefings. Advise/provide additional information on each significant change in plant parameters, escalations or de-escalations, PAG recommendations, and METPAC calculations.		
6.0	Maintain any VY Status Boards in the State Area and ensure status boards are consistent with SRM area status boards.		
7.0	Provide copies of appropriate status forms to State and NRC representatives.		
7.1	Respond to State questions, and update Media Advisor.		
7.2	Provide feedback to the SRM directly or via the Ops. Advisor #2 regarding State questions and concerns.		

APPENDIX K

COMPLIANCE ADVISOR RESPONSIBILITIES

Compliance Advisor

Name (print):_____ Date:_____

	Time/Date	Initials

NOTE

The following action items may be implemented in any order.

1.0 Review E-Plan Implementation Procedures to ensure SRM completion of required steps. _____/_____ _____

2.0 Prompt SRM/State Advisor to maintain regular briefings.

3.0 Function as SRM office area gatekeeper.

4.0 Prepare VYOPF 3546.02, Emergency Classification and PAR Notification/Upgrade Form for applicable emergency classification. Use the following criteria for Step B.2, notification of a radioactive release in progress:

4.1 If no radiation release is expected, then check the first box, "no radiation release related to this event."

4.2 Check release BELOW federally approved operating limits if:

4.2.1 An elevated release as indicated by an increase in radiation levels on Stack Gas Radiation monitors RM-17-156 or 157 or confirmed by stack gas sample less than ODCM limits, due to this event.

OR

4.2.2 A ground release of radiation less than the ODCM limits by sample or field monitoring as confirmed by the Chemistry Department.

		Time/Date	Initials
4.3	Check release ABOVE federally approved operating limits if:		
4.3.1	An elevated release of radiation as indicated by a **HIGH Alarm** on RM-17-156 or 157 or confirmed by stack gas sample greater than ODCM limits due to this event.		
	OR		
4.3.2	A ground release of radiation greater than the ODCM limits by sample or field monitoring as confirmed by the Chemistry Department.		
4.4	Make Orange Phone Notifications when required by procedure and with SRM concurrence. Log and inform the Media Advisor of such notifications.		
4.5	Prompt SRM to personally notify Governor on escalations/protective action recommendations. Log such notifications.		
4.6	Maintain status boards in SRM area.		
4.7	Log significant incoming calls.		

APPENDIX L

JNC TECHNICAL REPRESENTATIVE RESPONSIBILITIES

NOTE

The following steps are general guidelines. Use the Joint News Center Implementation Guideline for specific steps.

JNC TECHNICAL BRIEFING REPRESENTATIVE

1. Report to Press Release Writing Area and begin preparations for periodic news conferences by participating in plant-related discussions.

2. Assist the Nuclear Information Director in preparing for regular media briefings.

3. Accompany NID in short briefings for the state and/or NRC in the state conference rooms using small version of reactor/drywell graphic.

4. Participate in regular media briefings and respond to technical questions.

5. Assist Technical Representative and Press Release Writer with their duties.

JNC TECHNICAL REPRESENTATIVE

1. Report to Press Release Writing Area and assist the Press Release Writer and Technical Briefing Representative by communicating (via speakerphone) with the Media Advisor located in the EOF.

2. Review draft press releases to ensure accuracy.

3. Participate in plant-related discussions in the Press Release Writing Area to ensure general understanding of plant conditions.

4. Be available to fill in for Technical Briefing Representative in a news conference, if necessary.

APPENDIX M

MEDIA ADVISOR AND MEDIA ADVISOR ASSISTANT RESPONSIBILITIES

Media Advisor

Name (print):_____ Date:_____

		Time/Date	Initials

NOTES

- Synchronize clocks with ERFIS.
- Dial x4699 to access the paging system for all areas.

1.0	Ensure the PA speaker volume is turned up (position 10) in the EOF/RC room.	____/____	_____
2.0	When the EOF has been activated, make announcement over PA system along with the current time (from ERFIS) for facility synchronization, i.e., "The EOF was activated at _____hrs. The time is now _____hrs, please synchronize clocks in your area.."	____/____	_____
3.0	Instruct the switchboard operator not to make public address announcements after the EOF has been activated (except for the activation of the Joint News Center).	____/____	_____

NOTE

The following action items may be implemented in any order.

4.0	Obtain Media Advisor Clipboard (from cabinet #1) with Technical Representative Escalation Checklists (Appendix S) on it and provide the JNC Technical Representative at the Joint News Center a completed checklist for each escalation.		
5.0	Assist in the preparation of press releases by keeping press writing area personnel updated on the event, and obtain SRM signature (or designated individual) on final press releases.		

	Time/Date	Initials

NOTE

Begin announcements with the current time.

6.0 Make PA announcements for EOF activation, escalations and de-escalations of emergency status. In addition to announcements for escalations, periodically (e.g., every 30 minutes) make PA announcements of the current emergency status. A suitable announcement may be: "Attention, attention, attention. The time is ____hrs. Plant conditions remain at the Alert level."

Media Advisor Assistant(s)

Name (print):_____

Name (print):_____ Date:_____

	Time/Date	Initials

1.0 Set up fax machine (per OP 3545, Figure 1) in Recovery Planning area and test by faxing a test sheet to TSC (x5440) and call x5157 to confirm receipt of fax. ____/____ _____

2.0 Plug speakerphone, for communication with Press Release Writer's Area, into jack #8 in Room 125. Ensure it is properly working by calling x4878. (Phone and extra batteries are in Cabinet #2.) ____/____ _____

NOTE

In the event the computer is not available, use the whiteboard or a flipchart to maintain a handwritten status board. Graphics are available as transparencies and are located in Cabinet #1 (room 124).

3.0 Power up the computer and the multimedia projector in room 126 and, if directed to do so, the one in room 125. Go to the Emergency Planning Department's intranet web site for templates and graphics. ____/____ _____

	Time/Date	Initials

NOTE

The following action items may be implemented in any order.

4.0 Press Release staff will deliver two copies of Press Releases, ensure that one is delivered to the Media Advisor and the other one is posted on whiteboard in room 126.

5.0 Fax one copy of completed Plant Status Briefing Form (VYOPF 3546.01) to the TSC (x5440) and hand carry one copy to the Technical Representative in the Press Release Writer's Area (upstairs in room 201) after each briefing.

6.0 Use the "Status Board" template from the Emergency Planning intranet web site to create and maintain the electronic status board. Information includes Time of Event and Description of Event. Ensure status boards (electronic or hand written) are consistent throughout the EOF/RC.

7.0 If media is requested for briefings, locate the appropriate graphic from the Emergency Planning intranet web site and project on screen.

8.0 Use the form on the Media Advisor's clipboard to log all phone calls and PA announcements made by the Media Advisor. Include time, type, and description.

FINAL CONDITIONS

1. Restore all emergency equipment to its normal readiness state.

APPENDIX N

RADIOLOGICAL COORDINATOR RESPONSIBILITIES

Radiological Coordinator

Name (print):_____ Date:_____

		Time/Date	Initials
	NOTE The following action items may be implemented in any order.		
1.0	As directed by the Radiological Assistant, perform the procedure outlined in OP 3525, Radiological Coordination.	____/____	_____
2.0	Assign an individual to operate radio and maintain communication with Site Boundary and Off-Site Teams. (Radio usage is contained in OP 3504.)		
	Name:_____	____/____	_____
3.0	When the EOF becomes operational and radio contact has been established with the Site Boundary and Off-Site Teams, assume responsibility for the overall direction of the monitoring teams.	____/____	_____
4.0	Obtain a METPAC "What If" projected plume trajectory out to 10 miles and utilize it to implement a field team deployment strategy as described in OP 3525.		
5.0	Watch carefully for the first and all subsequent METPAC data and graphics.		
6.0	Project future concerns based on existing radiological and meteorological conditions and notify Rad Assistant of significant potential events or non-conservatism.		
7.0	Evaluate radiological conditions, and advise the Rad Assistant.		

		Time/Date	Initials
8.0	Maintain plume dispersion map wheel. Ensure that the Rad Assistant and State map wheels are properly maintained. Do not use the dispersion wheel for stability classes E, F and G as METPAC predicts a plume trajectory that is different than the prevailing downwind direction.		
9.0	Investigate other radiological concerns as requested by the Rad Assistant.		

APPENDIX O

STATE LIAISON RESPONSIBILITIES

State Liaison

Name (print):_____ Date:_____

		Time/Date	Initials
	NOTE The following action items may be implemented in any order.		
1.0	Ensure you have large copies of AP 3125, Electrical Distribution overview, PCIS overview and the EOP/SAG RPV and Containment action levels drawings and a wallet card with important contact phone numbers to bring to the State.	____/____	_____
2.0	Contact the Emergency Director and advise that you are traveling to their headquarters. (If using cell phone, maintain an open line if requested to do so.)	____/____	_____
3.0	Once at State, use State guidelines or checklists to perform required duties.		
4.0	Provide clarification/information (not direction) to questions about information they are receiving from their representatives at VY.		
5.0	Assist State personnel by interpreting information/data, if necessary, for use with NRC-ERDs, METPAC, Rascal and any other computer systems used for rad assessment.		
6.0	Assist State personnel in performing their duties by helping to analyze information in engineering, operations, and rad assessment areas.		
7.0	Communicate with Media Advisor or EOF Coordinator.		

APPENDIX P

FACILITIES COORDINATOR RESPONSIBILITIES

Facilities Coordinator

Name (print):_____ Date:_____

		Time/Date	Initials

NOTES

- The following action items may be implemented in any order.
- The Joint News Center Guidelines may be used for guidance and floor layouts.

1.0	Notify the following vendors of the emergency declaration and direct them to respond to Vermont Yankee Training Center.		
	• Hunter North Corporation (Request a relief shift roster) Expected arrival time:___:__	___/___	
	• Ikon Office Solutions Expected arrival time:_____	___/___	
2.0	Obtain a badge from the cabinet beside the stage.	___/___	
3.0	Notify Vermont Yankee personnel, located in the offices on the second floor of training building across from Room 201, of the event and direct them to evacuate the building.	___/___	
4.0	If requested, assist in equipment setup throughout EOF and JNC.	___/___	
5.0	Ensure the stage and floor area in front of the stage is clear of materials. Set up news conference equipment in the following order:		
	5.1 Set up tables and chairs for Credentialing Area at the Receiving area entry.	___/___	
	5.2 Set up tables and chairs in the open floor area in front of the stage.	___/___	
	5.3 Put up status boards.	___/___	

		Time/Date	Initials
5.4	Distribute the supplies located in the filing cabinet beside the stage in the news conference area.	/	

NOTE

The PA system microphones may be stored in the wall-mounted sound system cabinet. The microphones are voice activated and the system adjustments are preset. A wireless microphone is available for audience questions inside the lectern.

5.5	Assist the Floor Liaisons with turning on the wall-mounted sound system to the left of the stage by moving the power switch on the right side of the cabinet to the ON position and ensuring that each of the microphones are turned on.	/	
6.0	The Media Advisor will announce current time during EOF activation announcement. Although individual areas are responsible for synchronizing their own clocks, ensure remaining clocks are synchronized throughout the EOF and JNC.	/	
7.0	Assign security contractor personnel to the following locations to control the access to the JNC:		
7.1	Main entrance to the Joint News Center (warehouse side entrance).	/	
7.2	Double doors leading to EOF (Simulator hallway).	/	
7.3	Door by rest rooms on the first floor of the corporate office building.	/	
7.4	Main entrance in the corporate office building.	/	
7.5	Training Center/EOF Entryway.	/	
7.6	Roving position between guard posts to assist in security functions where necessary.	/	

	Time/Date	Initials
8.0 Maintain communication with the Joint News Center Coordinator to allow quick response to equipment or facility issues.		
9.0 In the event of an order to relocate the Joint News Center to its alternate location, assist the JNC staff with loading of equipment and supplies into vehicles.		

FINAL CONDITIONS

1. Restore all emergency equipment to its normal readiness state.

APPENDIX Q

TELECOMMUNICATIONS COORDINATOR RESPONSIBILITIES

Telecommunications Coordinator

Name (print):_____ Date:_____

		Time/Date	Initials
	NOTE The following action items may be implemented in any order.		
1.0	Ensure Switchboard is operable and coordinate the deactivation of auto-attendant feature of VY's phone system when Switchboard Operator is ready to receive calls.	____/____	_____
2.0	Notify the following vendors of the emergency declaration and direct them to respond to the Vermont Yankee Training Center.		
	• Northeast Mountain Radio Communications (NMR) Expected arrival time:_____	____/____	_____
	• Consult/Techs Expected arrival time:_____	____/____	_____
3.0	Obtain a badge from the cabinet beside the stage.	____/____	_____
4.0	Ensure the operability of phone communications link between the Press Release Writer Area on second floor and the Media Advisor in the EOF on first floor.	____/____	_____
5.0	Ensure the intercom volumes are turned to full volume (10) throughout building.	____/____	_____
6.0	Plug in News Media telephones in the designated section of the warehouse, by the entrance to the EOF, and verify operability by checking for dial tones.	____/____	_____
7.0	Maintain coordination with the Joint News Center Coordinator and Facilities Coordinator to allow quick response to equipment or facility issues.		

FINAL CONDITIONS

1. Restore all emergency equipment to its normal readiness state.

APPENDIX R

RESPONSE CHECK OF RM-14/FRISKER PROBE

1. Perform a visual inspection of the instrument. If any conditions are found which could affect operability, do not use the instrument.

   a. Frayed cables or cords

   b. Broken meter face

   c. Missing lights, switches

2. Check the calibration due date. If the instrument is out of calibration, do not use the instrument

   a. Calibration due date is listed as follows:
   (month – year, 6-02) This means that the calibration is due the last day of June 2002.

3. Check the battery.

   a. Plug the instrument into a 110-120 VAC outlet.

   b. Turn the selector switch to the battery position.

   c. The needle should move to the BATT OK region of the meter face, if it does not, do not use the instrument.

4. Source Check:

   a. Obtain source EKit Response Check Source (CS-137 button source) from the E-Plan Cabinet.

   b. Position the selector switch to the x100 position.

   c. Place the source in contact with the frisker probe.

   d. The meter should indicate greater than 10,000 cpm (100 on the meter face). If it does not, do not use the instrument.

5. If steps 1-4 above have been completed satisfactorily:

   a. Initial and date the calendar on the RM-14.

   b. Turn the selector switch to the lowest scale (x1) to prepare for frisking personnel.

APPENDIX S

TECHNICAL REPRESENTATIVE ESCALATION CHECKLIST/SCRIPT

Escalation *(EAL code_____)* Introduction. Due to the present conditions at the Vermont Yankee nuclear power plant, as of _____:_____ we have escalated our classification to:

☐ Unusual Event. This emergency classification is the lowest of four NRC-defined levels.
☐ Alert: This emergency classification is the second lowest of four NRC-defined levels.
☐ Site Area: This emergency classification is the second highest of four NRC-defined levels.
☐ General: This emergency classification is the highest of four NRC-defined levels.

Our decision to escalate the emergency classification is due to:

☐ Increasing radiation levels _____
☐ Damaged reactor fuel cladding/or fission prod barriers _____
☐ Leakage of reactor coolant water _____
☐ A fire at the plant _____
☐ Natural phenomena:
  ☐ River level _____
  ☐ Wind velocity/Tornado _____
  ☐ Earthquake _____
☐ Loss of electrical power on the plant site _____
☐ Loss of safety equipment _____
☐ Other
  ☐ Explosion _____
  ☐ Crash _____
  ☐ Main turbine failure _____
  ☐ Release of hazardous materials or toxic substance _____
  ☐ Evacuation of control room _____
☐ Security event _____
☐ General criteria as established by our emergency plans _____

☐ There has been no radioactivity released as a result of this incident.
☐ There has been a minute release of radioactivity at the plant as a result of this event, but no increase was measurable at the site boundary and thus there were no public health or safety implications.
☐ There has been a radiation release from the plant that is measurable at the site boundary. The radiation dose per hour at the plant boundary is about _____ millirem which is equivalent to what people receive from natural sources in about_____ days. Normal background is about 1 mr/day from sun and earth.

(If appropriate) Our technical representative is here to provide a brief description of the plant condition at this point...
This classification of:

☐ Unusual Event: augments our on-shift technical resources at the plant and implements a formal notification process for offsite emergency organizations.

☐ Alert: partially mobilizes emergency response and technical personnel at the plant, activates Vermont Yankee's emergency response facilities including our emergency operations facility and this news media center, assigns responsibility for Vermont Yankee's overall response to a site recovery manager, and provides formal notification and follow-up information to offsite emergency response organizations. We also evacuate unassigned people from the plant site as a precaution.

☐ SAE: mobilizes all Vermont Yankee emergency response personnel, activates state and local emergency response facilities, provides for closer interaction with Vermont Yankee and state emergency response officials here in Brattleboro.

☐ GE: activates all available local, state and federal radiological emergency response resources and appropriate protective measures are determined based on weather conditions and actual or projected radiological conditions.

As we focus the additional technical resources on addressing the plant conditions we will be providing state emergency officials with continuous updates to support their response and will continue to hold joint press conferences to inform the news media. Area residents should stay tuned to the Emergency Alert System radio stations for further information from state public safety organizations. We will return here as soon as possible with additional information.

APPENDIX T

MANPOWER AND PLANNING LIAISON RESPONSIBILITIES

Manpower and Planning Liaison (located at the TSC)

Name (print):_____ Date: _____

	Time/Date	Initials

NOTE

The Manpower & Planning Clipboard contains the latest EAPL, organizational chart, phone list and staffing worksheets, as well as Fire Brigade and Medical Team lists. The Clipboard is located in the E-Plan cabinets in the kitchen across from TSC.

1. Obtain clipboard from supply cabinet in TSC kitchen. Contact Manpower & Planning at the EOF and establish phone and fax numbers. _____/_____ _____

2. Using VYOPF 3546.05, list individuals filling initial staff positions for the TSC and OSC. Fax completed worksheet to Manpower & Planning at the EOF.

3. EOF Manpower & Planning will prepare the relief staff using VYOPF 3546.05 and fax to the Liaison. Obtain approval from TSC Coordinator and then notify Manpower & Planning.

4. Act as the contact person for all personnel requests from the TSC and OSC. Relay requests to the Manpower & Planning Assistant at the EOF.

5. Notify individual requesting personnel of who is being sent and when they are expected to arrive.

6. Use VYOPF 3546.03 to provide information to all relief shift personnel prior to sending them home. If necessary, provide plume path, hotel arrangements, etc. as developed by EOF Manpower & Planning.

7. Attend regular briefings in TSC for current information on plant conditions and event details.

PLANT STATUS BRIEFING FORM

Vermont Yankee Nuclear Power Station, Vernon, Vermont

DATE:_____ ISSUE NO.:_____ TIME :_____

EVENT CLASSIFICATION: ☐ ALERT ☐ SITE AREA ☐ GENERAL Declared at:_____

REASON:

REACTOR STATUS: ☐ Operating
☐ Reducing Power Power Level:_____%
☐ Shutdown at _____
Rx Pressure:_____psig Drywell Press:_____psig

PLANT SITUATION: ☐ Stable ☐ Improving ☐ Degrading

RADIOACTIVE RELEASE: ☐ None ☐ Anticipated
☐ In Progress Time stack release started _____
Time ground release started _____

OPERATIONAL PRIORITIES:

INJURIES/FATALITIES:

VY PROTECTIVE ACTION RECOMMENDATION:
☐ NONE ☐ SHELTER ☐ EVACUATE (Attach & read from VYOPF 3511.01 for any PARs)

METEOROLOGICAL:

Wind Speed	Upper _____mph	Lower _____mph
Wind Direction (FROM)	Upper _____deg	Lower _____deg
Delta T	Upper _____degF	Lower _____degF
Stability Class	Upper _____	Lower _____

PROTECTIVE ACTIONS TAKEN BY THE STATES:

VT	Shelter	Evac	NH	Shelter	Evac	MA	Shelter	Evac
Brattleboro	☐	☐	Chesterfield	☐	☐	Bernardston	☐	☐
Dummerston	☐	☐	Hinsdale	☐	☐	Colrain	☐	☐
Guilford	☐	☐	Richmond	☐	☐	Gill	☐	☐
Halifax	☐	☐	Swanzey	☐	☐	Greenfield	☐	☐
Vernon	☐	☐	Winchester	☐	☐	Leyden	☐	☐
						Northfield	☐	☐
						Warwick	☐	☐

OTHER:

SRM Approval_____ Time Presented_____ Briefer Initials_____

EMERGENCY CLASSIFICATION AND PAR NOTIFICATION/UPGRADE FORM

VYOPF 3546.02 INSTRUCTIONS

STATES NOTIFICATION MUST BE INITIATED WITHIN 15 MINUTES OF DECLARATION.

1. Prepare message (Section I). Check A.1. IF an event is being declared and fill in appropriate information. Check A.2. IF the Protective Action Recommendation is being up-graded. Complete section B using criteria in Appendix K, Step 4. Complete section C. If a PAR is part of the message, use VYOPF 3511.01 for affected towns. Read Section E only at initial General Emergency declaration to recommend implementation of State KI plan.
2. Obtain signatures (Section II). Individual filling out form must sign. Prior to notifications, get approval of contents of message by getting appropriate signature.
3. Contact States by using appropriate contact number(s) listed below.
4. Record initial State contact times and name of individual contacted (Section III).
5. Fax States by using appropriate fax number(s) listed below.
6. Record time notification was faxed to States (Section IV).
7. After all States notifications are completed, inform authorizing individual.

CONTACT NUMBERS				
	CONTROL ROOM		EOF/RC	
NAS - ORANGE PHONE GROUP CALL	**VT/NH/MA STATE POLICE 111**		**VT/NH/MA STATE EOCs 333**	
NAS INDIVIDUAL STATION CALL	VT STATE POLICE	213	VT STATE EOC	314
	NH STATE POLICE	212	NH STATE EOC	311
	MA STATE POLICE	210	MA STATE EOC	313

NOTE

If NAS - Orange Phone is non-functional, utilize commercial back-up capability.

COMMERCIAL TELEPHONE BACKUP	VT STATE POLICE Primary - [redacted] Backup - [redacted]	VT STATE EOC Switchboard - [redacted] Direct Line - [redacted]
	NH STATE POLICE [redacted]	NH STATE EOC Switchboard [redacted] Direct Line - [redacted]
	MA STATE POLICE [redacted]	MA STATE EOC Switchboard - [redacted] Direct Line - [redacted]
FAX NOTIFICATIONS	VT - [redacted] NH - [redacted] MA - [redacted] OR [redacted]	VT - [redacted] NH - [redacted] MA - [redacted]

EMERGENCY CLASSIFICATION AND PAR NOTIFICATION/UPGRADE FORM (Continued)

I. MESSAGE

This is (Name:_____), (Title:_____) from the Vermont Yankee Nuclear Power Station in Vernon, Vermont. Please do not interrupt until the entire message is completed.

A. We have: (complete either 1 or 2)

☐ 1. **Declared a** (check one):

- ☐ Unusual Event
  - ☐ Unusual Event Terminated
- ☐ Alert
- ☐ Site Area Emergency
- ☐ General Emergency

at _____ hours due to AP 3125 EAL alpha-numeric designator _____

☐ 2. **Upgraded the Protective Actions for the General Emergency which was declared at _____ hours.**

B. Plant Conditions:

1. The Plant is: (Check one)
   - ☐ continuing normal operation
   - ☐ reducing power levels
   - ☐ shut down
2. There is: (Check one)
   - ☐ no radiation release related to this event
   - ☐ a release of radiation BELOW federally approved operating limits in progress, related to this event
   - ☐ a release of radiation ABOVE federally approved operating limits in progress, related to this event
3. Present Meteorological conditions:
   Wind speed_____ mph
   Wind direction from _____ degrees.

C. At the present time, we recommend the following protective actions:

☐ None ☐ As Follows

State	Town	Shelter	Evac
VT	Brattleboro	☐	☐
	Dummerston	☐	☐
	Guilford	☐	☐
	Halifax	☐	☐
	Vernon	☐	☐
NH	Chesterfield	☐	☐
	Hinsdale	☐	☐
	Richmond	☐	☐
	Swanzey	☐	☐
	Winchester	☐	☐
MA	Bernardston	☐	☐
	Colrain	☐	☐
	Gill	☐	☐
	Greenfield	☐	☐
	Leyden	☐	☐
	Northfield	☐	☐
	Warwick	☐	☐

D. Follow your State procedures for the designated Classification

E. (At the initial General Emergency declaration, state the following:)

We recommend you implement your State KI plan.

II. PREPARER/APPROVAL SIGNATURES

Form filled out by (print and sign):_____

Authorized by (print and sign):_____ _____/_____

(PED / TSCC / SRM) Time/Date

III. NOTIFICATION TIME AND ACKNOWLEDGEMENT: (NOTE: INITIAL CONTACT WITH STATES MUST BE MADE WITHIN 15 MINUTES OF DECLARATION OR UPGRADE)

Time notification initiated:	VT_____	NH_____	MA_____
Acknowledgement of message:	VT_____	NH_____	MA_____
	Name	Name	Name

IV. FAX NOTIFICATION FORM TO THE STATES (NOTE: THIS IS TO SUPPLEMENT THE CALL)

Time notification initiated: VT_____ NH_____ MA_____

Remarks:

INSTRUCTIONS TO PERSONNEL
PRIOR TO BEING RELEASED FROM THE ASSEMBLY AREA

Provide the following information to all ERO members prior to their release from the assembly area:

CAUTION

Call Manpower and Planning at (802) 257-5271 PRIOR to reporting to your facility to receive updated information.

1. Shift Assignment Information:

   Name: _____ Shift: _____

   Assignment: _____

   Report to the following facility at _____ hours:

   ☐ Control Room ☐ Technical Support Center

   ☐ Operations Support Center ☐ Emergency Operations Facility

   ☐ Joint News Center

2. Go home and await further instructions.

3. Call Manpower and Planning at [redacted] if:

   - you must be away from your telephone for any length of time.
   - you need information on shift status.
   - you live in the EPZ and are told to evacuate.
   - you are going to some place other than instructed (identify how you can be reached).

4. If you live in the EPZ and are evacuated, accommodations will be provided to you for the duration of the emergency.

5. Follow any further instructions if called by the Manpower and Planning Assistant.

SHIFT AND RELIEF PLANNING WORKSHEET

EOF & OFF-SITE

Date: _____

POSITION	INITIAL SHIFT	RELIEF SHIFT	POSITION	INITIAL SHIFT	RELIEF SHIFT
Site Recovery Mgr*			Personnel & Equipment Monitoring (2)		
EOF Coordinator*					
Radiological Asst*			Facilities Coordinator		
			Telecommunications Coord.		
Compliance Advisor*			Switchboard Operator		
Ops Advisor #1*			Communicators (2) - HPN		
Ops Advisor #2			- NRC		
			Radiological Staff		
Purchasing Coordinator					
Radiological Coordinator					
Nuclear Info Director					
State Advisor			Off-Site Team-Green(2)		
State Liaison (3)					
			Off-Site Team-Blue (2)		
Technical Representative			Off-Site Team-Black (2)		
Tech Briefing Rep					
Media Advisor			Site boundary Team (2)		
Media Advisor Assistant					
Radiological Advisor					
ERFIS Operator					
METPAC Operator			Security		
Manpower/Planning Assistant					
Manpower/Planning (2)					

*Required per Emergency Plan

SHIFT AND RELIEF PLANNING WORKSHEET (Continued)

IN-PLANT

Date: _____

POSITION	INITIAL SHIFT	RELIEF SHIFT	POSITION	INITIAL SHIFT	RELIEF SHIFT
Shift Manager (PED)*			OSC Coordinator*		
STA*			OSC Coordinator's Asst.		
CRS*			Switching & Tagging/Ops Work Coord.		
CROs (2)*			OSC Dispatcher		
			Log Keeper		
AOs (2)*			Manpower Status Board Keeper		
			Rad Habitability Assess.		
Chemistry Technician*			OSC Clerical Support (1)		
RP Technician*			Work Coordinators (3)		
Communicator*			Maintenance		
TSC Coordinator*			Electrical		
Engineering Coordinator*			I&C		
Maintenance Coord.*			Auxiliary Operators		
Security Coordinator*					
Operations Coordinator*					
Reactor Eng. Coord.*			Repair Teams		
RP Coordinator*					
Chemistry Coordinator*					
Manpower/Planning Liaison					

* Required per Emergency Plan

TABLE 1

RADIOLOGICAL ASSISTANT'S ORGANIZATION

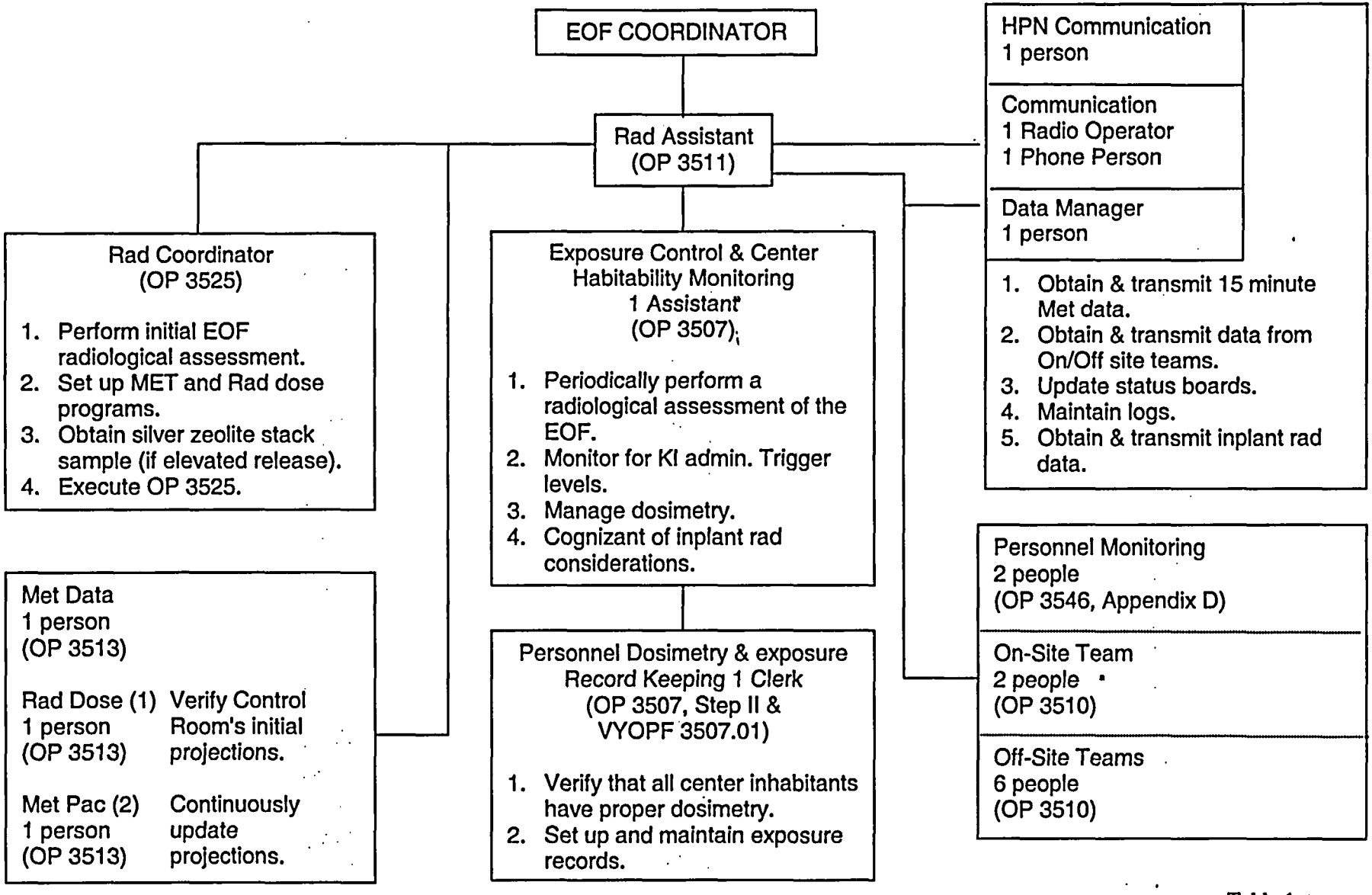


TABLE 2

WHITE PLAINS RECOVERY SUPPORT GROUP CORPORATE CALL LIST

RECOVERY SUPPORT GROUP MANAGERS (For notification of escalation)

NAME	HOME PHONE	WORK PHONE	PAGER #
G. Wilverding	[redacted]	[redacted]	[redacted]
M. Karasulu	[redacted]	[redacted]	[redacted]
G. Canavan	[redacted]	[redacted]	[redacted]
G. Rorke	[redacted]	[redacted]	[redacted]

RECOVERY MANAGERS (For notification of de-escalation to a recovery phase)

NAME	HOME PHONE	WORK PHONE	PAGER #
D. Robson	[redacted]	[redacted]	[redacted]
T. Dougherty	[redacted]	[redacted]	[redacted]
J. Kelly	[redacted]	[redacted]	[redacted]

[redacted]

PREAPPROVED LPC FORM

PART 1 – Initiation ☐ Converted to Admin. Revision # **LPC No:** 1

A. Procedure No.: OP 3510	Current Revision #: 27	Title: **Off-Site and Site Boundary Monitoring**

B. Description of Change:

EPEX-2003-OSC_01 – Added note to allow obtaining equipment, respirators and checking KI be performed in any order for each team.

ER-2003-1734_01 – Added reference to AP 0505.

C. Reason for Change:
- ☐ Result of Design Change, Minor Mod, EDCR_____
- ☐ Related ER No._____ - _____
- ☒ Other: EPEX-2003-OSC_01 and ER-2003-1734_01
- ☐ Editorial

D. Duration: ☒ Permanent ☐ One Time Only

E. Surveillance Database Change? ☐ Yes, change submitted ☒ No

F. Procedure Type: ☒ Technical ☐ Admin. (AP,PP)

G. AP 0091, Risk Assessment ☐ Yes ☒ No

H. Page(s) affected: pg 6 of 7, App. A pgs 1 and 4 of 8, App. B pgs 1 and 4 of 9, App. C pgs 1 and 4 of 10 and App. D pgs 1 and 4 of 10

I. Originator (Print/Sign/Date) (Use AP 0096, App. A as a reference) (Complete & attach AP 0096 App. C, unless editorial)

Audra Williams **10/20/03**

Audra Williams

PART 2 - Review/Approval (Refer to LPC Criteria of Appendix A)

A. Technical Verification Review (Print/Sign/Date) (Use AP 0096, Appendix B as a reference) ☐ N/A

A.J. Flaherty 10/21/03

(May perform Qualified Review) (N/A if editorial change)

B. Cross-Discipline Review(s) (Print/Sign/Date) ☐ N/A

Audra Williams 10/20/03

Audra Williams

C. Qualified Review (Print/Sign/Date) (Use AP 0096, Appendix D, as a reference) ☐ N/A

Audra Williams 10/20/03

Audra Williams

(N/A if editorial change)

D. 50.59 review completed type:

☐ AD/Screen ☐ Evaluation ☒ N/A (N/A if editorial change)

☒ 50.54(q) (EPIP only)

E. RPO Approval (Print/Sign/Date)

Brian M. Finn 10/23/03

Brian M. Finn

F. IF 50.59 Evaluation: ☒ N/A

PORC Mtg. Date:

G. Plant Manager (Print/Sign/Date) (SPs only)

N/A

H. Training: (Required for Admin Procedures, unless editorial) ☒ N/A

I. Effective Date:

10/29/03

CDS Initials MCL

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3510, Rev. 27, LPC#1
Reviewer/Date (Print) Audra Williams 10/20/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		X
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

Quality Assurance: • Compliance with QA Program requirements cannot be readily determined by the Qualified Reviewer.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.		X
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X
MOV Program Coordinator: • Potentially affects system parameters for which MOV operation has been evaluated.		X
AOV Program Coordinator: • Potentially affects system parameters for which AOV operation has been evaluated.		X

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3510, Rev. 27, LPC #1, Off-Site and Site Boundary Monitoring

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities		X
(2)	Assignment of on-shift Emergency Response Organization personnel		X
(3)	Arrangements for Emergency Response Support and Resources		X
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		X
(5)	Notification Methods and Procedures		X
(6)	Emergency Communications among principal response organizations and the public		X
(7)	Public Education and Information		X
(8)	Adequacy of Emergency Facilities and Equipment		X
(9)	Adequacy of Accident Assessment methods, systems and equipment		X
(10)	Plume exposure pathway EPZ protective actions		X
(11)	Emergency Worker Radiological Exposure Control		X
(12)	Medical Services for contaminated injured individuals		X
(13)	Recovery and Reentry Plans		X
(14)	Emergency response periodic drills and exercises		X
(15)	Radiological Emergency Response Training		X
(16)	Plan development, review and distribution		X

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization		X
(2) Section IV. B - Assessment Actions		X
(3) Section IV. C - Activation of Emergency Organizations		X
(4) Section IV. D - Notification Procedures		X
(5) Section IV. E - Emergency Facilities and Equipment		X
(6) Section IV. F - Training		X
(7) Section IV. G - Maintaining Emergency Preparedness		X
(8) Section IV. H - Recovery		X

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50. N/A of Section A above, this change
☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

Changes address the correct procedure – AP 0505 instead of AP 3525 for issuance of and guidance on respirators. Adding the note prior to specific steps allows the teams to retrieve their equipment in any order prior to leaving the site. This should alleviate the bottleneck in the OSC and at checkpoint.

10 CFR 50.54(q) Evaluation Checklist (Continued)

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search: _____

☒ This change does not affect any other documents.

☐ This change does affect other documents.

Document(s) affected: _____

Section(s) affected: _____

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search: N/A

Additional Comments:

Prepared By: Audra Williams Audra Williams Date: 10/20/03
(Print/Sign)

Reviewed By: Lori A. Thaczyk Lori A. Thaczyk Date: 10/22/03
(Emergency Plan Coordinator) (Print/Sign)

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3510

REVISION 27

OFF-SITE AND SITE BOUNDARY MONITORING

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages
1	10/29/03	6 of 7, App A Pgs 1 & 4 of 8, App B Pgs 1 & 4 of 9, App C Pgs 1 & 4 of 10 & App D Pgs 1 & 4 of 10

Implementation Statement: N/A

Issue Date: 02/25/2003

NOTES

- Site Boundary and Off-Site Teams are comprised of qualified individuals from the Emergency Assistance Personnel List (EAPL) OSC Team Listing designated by the OSC.
- The deployment of Site Boundary and Off-Site Teams will be deployed at the discretion of the Plant Emergency Director (PED) or Technical Support Center (TSC), if operational. Once the EOF becomes operational, the Radiological Coordinator will assume the responsibility and direction of these teams.
- The base radio units will be designated and referred to as:

  1. TSC
  2. EOF
  3. Control Room

PREREQUISITES

1. If any equipment malfunctions or is missing, notify the facility in charge of Radiological Coordination.
2. Qualified Radiation Protection personnel will ensure Site Boundary and Off-Site team members have current respirator qualifications (per AP 0505) prior to teams leaving Gate 2.
3. Off-Site teams will perform respirator fit checks (per AP 0505) prior to leaving Gate 2.

PROCEDURE

1. Select the appropriate appendix:
   a. Appendix A, Site Boundary Team
   b. Appendix B, Off-Site Green Team
   c. Appendix C, Off-Site Blue Team
   d. Appendix D, Off-Site Black Team
2. Complete the appropriate appendix and record information as required.

APPENDIX A

SITE BOUNDARY TEAM

Team Members:

_____ Date: _____

_____ Time: _____

NOTE
Use Table 2 for equipment locations.

Initial

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

LPC 1

NOTE
Steps 2-4 can be performed in any order.

2. Perform the following checks:

NOTE
Steps a, b, c, and d 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. _____

d. Re-zero high range dosimeter if necessary and log initial reading of each on VYOPF 3510.01, Exposure Log.

1) Team members should read their dosimeter at least once every thirty minutes, unless otherwise directed, and log readings on VYOPF 3510.01. _____

NOTE

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

2) If a high range dosimeter exceeds 1 R, then team members will read their high range dosimeter at least once every fifteen minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

3. Ensure potassium iodine (KI) is in Off-Site Kit. _____

4. Obtain respirators from OSC. The RP Tech will issue and provide guidance on usage of respirators per AP 0505. _____

LPC 1

5. Obtain one portable radio 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 call the facility currently in charge of deployment "(Control Room, TSC or EOF) this is the Site Boundary Team requesting a radio check. How do you read?" Release microphone button. (The facility base radio should respond to your call).

APPENDIX B

OFF-SITE GREEN TEAM

Team Name: _____

Team Members: _____ Date: _____

_____ Time: _____

NOTE
Use Table 2 for equipment locations.

Initial

1. Obtain Off-Site Monitoring Kit, air sampler, Eberline RM-14, and dose rate meter (PIC-6). _____

LPC 1

NOTE
Steps 2-4 can be performed in any order.

2. Perform the following checks:

NOTE
Steps a, b, c and d 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. _____

1) Team members should read their dosimeter at least once every thirty minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

NOTE

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

2) If a high range dosimeter exceeds 1 R, then team members will read their high range dosimeter at least once every fifteen minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

3. Ensure potassium iodide (KI) is in Off-Site Kit. _____

4. Obtain respirators from OSC. The RP Tech will issue and provide guidance on use of respirators per AP 0505. _____

5. Obtain TLDs for off-site use from the OSC Dosimetry Kit at checkpoint. Upon exit of Gate 2, return assigned TLD to rack and keep emergency TLD for off-site assignment. _____

6. Obtain a company vehicle from Gate 2. _____

7. Obtain a bag radio 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 call the facility currently in charge of Radiological Coordination "(TSC or EOF), this is Green Team requesting a radio check. How do you read?" Release microphone button. (The facility base radio should respond to your call.)

APPENDIX C

OFF-SITE BLUE TEAM

Team Name: _____

Team Members: _____ Date: _____

_____ Time: _____

NOTE
Use Table 2 for equipment locations.

Initial

1. Obtain Off-Site Monitoring Kit, air sampler, Eberline RM-14, and dose rate meter (PIC-6). _____

LPC 1

NOTE
Steps 2-4 can be performed in any order.

2. Perform the following checks:

   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. _____

d. Re-zero high range dosimeters, if necessary, and log initial reading of each on VYOPF 3510.01, Exposure Log.

1) Team members should read their dosimeter at least once every thirty minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

NOTE

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

2) If a high range dosimeter exceeds 1 R, then team members will read their high range dosimeter at least once every fifteen minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

3. Ensure potassium iodide (KI) is in Off-Site Kit. _____

4. Obtain respirators from OSC. The RP Tech will issue and provide guidance on use of respirators per AP 0505. _____

5. Obtain TLDs for off-site use from the OSC Dosimetry Kit at checkpoint. Upon exit of Gate 2, return assigned TLD to rack and keep emergency TLD for off-site assignment. _____

6. Obtain a company vehicle from Gate 2. _____

7. Obtain a bag radio 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.

APPENDIX D

OFF-SITE BLACK TEAM

NOTE

IF conditions warrant, THEN activate the "Black" off-site monitoring team.

Team Name: _____

Team Members: _____ Date: _____

_____ Time: _____

NOTE

Use Table 2 for equipment locations.

Initial

1. Obtain Off-Site Monitoring Kit, air sampler, Eberline RM-14, and dose rate meter (PIC-6). _____

NOTE

Steps 2-4 can be performed in any order.

2. Perform the following checks:

NOTE

Steps a, b, c and d 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. _____

d. Re-zero high range dosimeters, if necessary, and log initial reading of each on VYOPF 3510.01, Exposure Log.

1) Team members should read their dosimeter at least once every thirty minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

NOTE

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

2) If a high range dosimeter exceeds 1 R, then team members will read their high range dosimeter at least once every fifteen minutes, unless otherwise directed, and log readings on VYOPF 3510.01.

3. Ensure potassium iodide (KI) is in Off-Site Kit. _____

4. Obtain respirators from OSC. The RP Tech will issue and provide guidance on use of respirators per AP 0505. _____

5. Obtain TLDs for off-site use from the OSC Dosimetry Kit at checkpoint. Upon exit of Gate 2, return assigned TLD to rack and keep emergency TLD for off-site assignment. _____

6. Obtain a company vehicle from Gate 2. _____

7. Obtain a bag radio 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.

PREAPPROVED LPC FORM

PART 1 – Initiation ☐ Converted to Admin. Revision # **LPC No:** 2

A. Procedure No.: OP 3533	Current Revision #: 6	Title: POST ACCIDENT SAMPLING OF REACTOR COOLANT

B. Description of Change: REMOVED REFERENCES TO AND STEPS DEVELOPED FOR COMPLIANCE WITH NUREG-0737, SECTION II.B.3 DUE TO THE NRC's ELIMINATION OF PASS REQUIREMENTS.

C. Reason for Change:
- ☐ Result of Design Change, Minor Mod, EDCR_____
- ☐ Related ER No._____-_____
- ☒ Other: FEDERAL REGISTER: DECEMBER 27, 2001 (VOLUME 66, NUM. 248)
- ☐ Editorial

D. Duration: ☒ Permanent ☐ One Time Only

E. Surveillance Database Change? ☐ Yes, change submitted ☐ No

F. Procedure Type: ☒ Technical ☐ Admin. (AP,PP)

G. AP 0091, Risk Assessment ☐ Yes ☒ No

H. Page(s) affected: 3, 4

I. Originator (Print/Sign/Date) (Use AP 0096, App. A as a reference) (Complete & attach AP 0096 App. C, unless editorial)
BRENT NIELSEN
Brent Nielsen 01/17/03

PART 2 - Review/Approval (Refer to LPC Criteria of Appendix A)

A. Technical Verification Review (Print/Sign/Date) (Use AP 0096, Appendix B as a reference) ☐ N/A
J. M. Ayer
J M Ayer 2/24/03
(May perform Qualified Review) (N/A if editorial change)

B. Cross-Discipline Review(s) (Print/Sign/Date) ☐ N/A
BRENT NIELSEN
Brent Nielsen 2/1/03

C. Qualified Review (Print/Sign/Date) (Use AP 0096, Appendix D, as a reference) ☐ N/A
Don Farquharson
(N/A if editorial change) 2/19/03

D. 50.59 review completed type:
☒ AD/Screen ☐ Evaluation ☐ N/A (N/A if editorial change)
☒ 50.54(q) (EPIP only)

E. RPO Approval (Print/Sign/Date) 9/22/03
Sam Wender 9/22/03

F. If 50.59 Evaluation: ☑ N/A
PORC Mtg. Date:

G. Plant Manager (Print/Sign/Date) (SPs only)

H. Training: (Required for Admin Procedures, unless editorial) ☑ N/A

I. Effective Date: 10.29.03

CDS Initials MES

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3533

REVISION 6

POST ACCIDENT SAMPLING OF REACTOR COOLANT

USE CLASSIFICATION: **CONTINUOUS**

LPC No.	Effective Date	Affected Pages
1	04/02/03	VYOPF 3533.01 Pg 1 of 4
2	10/29/03	3 & 4 of 7

Implementation Statement: N/A

Issue Date: 09/27/02

PURPOSE

To outline the special procedures necessary to collect and handle samples, perform analyses and interpret results during post accident conditions.

Primary containment integrity issues are addressed in Technical Specifications section 3.7.

DISCUSSION

Post accident sampling and analysis of reactor coolant is performed to provide information on the nature and extent of fuel damage, boron concentration following SLC injection and damage information on other in-core components such as control rods.

During post accident conditions, samples of reactor coolant may be highly radioactive. Because of the high radiation levels, these samples require special handling. This procedure outlines the special handling required. The Chemistry Manager is assigned responsibility for implementation of this procedure.

In addition to the above concerns, conductivity readings of the reactor coolant may be useful during an accident. Readings can be obtained in the Control Room up to 10 μmho/cm; if exceeded, conductivity readings may be taken at a later date at the discretion of the Chemistry Manager.

During certain postulated accidents, the availability of on-site counting equipment may be compromised. In these instances, post accident samples may be counted at alternative laboratories. A determination will be made by the Operations Support Center Coordinator's Assistant, in conjunction with the Radiological Assistant at the Emergency Operations Facility/Recovery Center, as to the most appropriate alternative laboratory facility to be used, based on existing conditions.

Tables 1, 2, 3 and 4 are provided for use by the OSC Coordinator's Assistant and the sampling and analysis teams in their evaluation of sampling conditions prior to obtaining the isotopic results after analysis. The information contained in these tables is generated from design basis accident assumptions and this fact should be taken into account in the use of these tables.

VYOPF 3533.02, Sample Accountability Log shall be utilized to track the location of emergency samples collected in accordance with this procedure.

In accordance with AP 6002, Preparing 50.59 Evaluations, the results of an Applicability Determination (AD) has determined that an AD is not required for future changes provided the procedure scope is not changed. The basis for this conclusion is that this document is an Emergency Implementing Procedure and is subject to 10CFR50.54(q) to determine if the changes decrease the effectiveness of the Emergency Plan and if they have the potential to affect our ability to meet the standards of 10CFR50.47(b) and the requirements of 10CFR50 Appendix E.

ATTACHMENTS

1.	Figure 1	Post Accident Sampler
2.	Figure 2	Post Accident Sampling System
3.	VYOPF 3533.01	Reactor Coolant PASS Data/Analysis
4.	VYOPF 3533.02	RV PASS Sample Accountability Log
5.	Appendix A	Reactor Coolant Sampling and Analysis - RB 303' Sample Sink
6.	Appendix B	Operation of the PASS to Sample Reactor Coolant
7.	Appendix C	Flushing and Restoring the PASS Following Use
8.	Appendix D	PASS Sample Analysis
9.	Appendix E	Deleted
10.	Table 1	VY Radioactivity Concentration (μCi/g) in Reactor Coolant Based on Design Basis Source Term (100/50/1)
11.	Table 2	VY Dose Rates (R/hr) at Different Sampling Stations at Different Times After Shutdown
12.	Table 3	VY Reactor Coolant and Containment Air Samples Dose Rates (R/hr) at Different Times After Shutdown
13.	Table 4	VY Reactor Coolant and Containment Air Samples Dose Rates (R/hr) at Different Times after Shutdown

REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents

   a. TS 3.7
   b. UFSAR, Section 10.20

2. Codes, Standards, and Regulations

   a. None

3. Commitments

   a. None

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3533 REVISION 6 LPC 2
Reviewer/Date (Print) BRENT NIELSEN 01/17/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on *changes* made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.	✓	
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		✓
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.		✓
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		✓

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Quality Assurance: • Changes to procedures that implement the requirements of the VOQAM. (see PP 7802, Appendix B) • New procedures that have a potential for reduction of VOQAM commitments. • Obtain and attach a 10CFR50.54(a)(3) evaluation.		✓
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.		✓
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	✓	
Software Quality Assurance Administrator • Procedures that define how software is developed.		✓
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		✓
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		✓
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		✓
Appendix R Coordinator: • Appendix R implementing procedures.		✓
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		✓
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		✓
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		✓
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		✓

APPENDIX C (Continued)

	APPLICABLE	
	YES	NO
Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		✓
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		✓
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		✓

APPLICABILITY DETERMINATION

Activity/Document Number: EPC of 083533 Revision Number: 6 EPC 2

Title: Post Accident Sampling of Reactor Coolant.

Provide or attach a brief description of activities (section 6.3 of RM):

Remove references to and the steps developed for compliance with NUREG-0737, Section II.B.3, - due to the NRC's elimination of the PASS requirements.

Address the questions below for all aspects of the activity. If the answer is "YES" for any portion of the activity, apply the identified process to that portion of the activity. It is not unusual to have more than one process apply to a given activity. For example, a change to a door that is a fire door, a security door and a secondary containment door would require an evaluation to the Fire Protection license condition, 10CFR50.54 (p) and a 50.59 screen. See Section 4 of the "50.59 Resource Manual" (RM) for additional guidance.

I. Does the proposed activity involve a change to the:		Section 4.2.1 of the RM
1. Technical Specifications or Operating License (10CFR50.90)? Note that stand-alone changes to the TS Bases are evaluated in accordance with 10CFR50.59 per AP 0063.	☒ NO ☐ YES	(If YES process per AP 0063)
2. Quality Assurance Plan, related implementing procedures identified in PP 7802 or facility changes (10CFR50.54(a))?	☒ NO ☐ YES	(If YES contact QA for 10CFR50.54(a)(3) assessment)
3. Security Plan, related implementing procedures or facility changes (10CFR50.54(p))?	☒ NO ☐ YES	(If YES contact Security for 10CFR50.54(p) assessment)
4. Emergency Plan, related implementing procedures or facility changes (10CFR50.54(q))?	☐ NO ☒ YES	(If YES contact E-Plan for 10CFR50.54(q) assessment per AP 3532)
5. IST Program Plan, related implementing procedures or facility changes (10CFR50.55a(f))?	☒ NO ☐ YES	(If YES, and a deviation from the code requirement is required, contact Licensing to ensure applicable NRC approval is obtained per AP 0058)
6. ISI Program Plan, related implementing procedures or facility changes (10CFR50.55a(g))?	☒ NO ☐ YES	(If YES, and a deviation from the code requirement is required, contact Licensing to ensure applicable NRC approval is obtained per AP 0053)
7. Fire protection program, related implementing procedures or facility changes (License Condition 3.F)?	☒ NO ☐ YES	(If YES provide an evaluation that satisfies License Condition 3.F)

APPLICABILITY DETERMINATION (Continued)

II. Does the proposed activity involve:		Section 4.2.2 of the RM
1. Maintenance which restores SSCs to their original condition.	☒ NO ☐ YES	(If YES perform maintenance in accordance with plant procedures (e.g. AP 0021, AP 0049, AP 0050)
2. A temporary alteration supporting maintenance that will be in effect during at-power operations for 90 days or less that has been (or will be) evaluated under 10CFR50.65(a)(4) prior to implementation?	☒ NO ☐ YES	(If YES process in accordance with AP 0091.)
III. Does the proposed activity involve a change to the UFSAR (including documents *incorporated by reference*) excluded from the requirement to perform a 50.59 Review (NEI 96-07 or NEI 98-03)? Change to UFSAR 10.20 are being processed via AP 6036	☐ NO ☒ YES	Section 4.2.3 of the RM (If YES, process FSAR change per AP 6036 "FSAR Revision Process". Include basis for excluding 10CFR50.59 evaluation below.)
IV. Does the proposed activity involve a change to the:		Section 4.2.4 of the RM
1. Managerial or administrative procedures governing the conduct of Facility operations, maintenance and training (subject to the control of 10CFR50, Appendix B) (RM section 4.2.4). Some procedures may be VOQAM implementing procedures requiring evaluation per 10CFR50.54(a)(3) (prompted above). Also, Maintenance procedure changes that include changes to Design Information, not evaluated under a design change process, shall be evaluated in accordance with 10CFR50.59	☐ NO ☒ YES	(If YES process per procedure change process (e.g. AP 0095, AP 0096, AP 0097))
2. Regulatory commitment where changing commitment is not covered by another regulation based change process (NEI 99-04)?	☒ NO ☐ YES	(If YES process per AP 0055 "Regulatory Commitment Management".)
V. Does the activity impact other plant specific programs (e.g., The ODCM and PCLRTP controlled per TS 6.7 and the PCP controlled per TRM Section 6.1 which are controlled by regulations, the Operating License, the Technical Specifications or TRM)?	☒ NO ☐ YES	(If YES process per the procedure(s) for the appropriate activity.)
VI. Is the activity covered by any other specific regulatory change process not discussed above that would preclude the need to evaluate under 10CFR50.59 ? (e.g., 10CFR50.46 for changes to ECCS models and PCT changes, 10CFR50.12 for Exemption Requests, etc)	☒ NO ☐ YES	(If YES document below and process per applicable regulatory requirements.)
VII Does the activity require a 50.59 Screen based on the following Generic NRC correspondence? GL 95-02 for performing Analog-to-Digital upgrades, IEB 80-10 for Contamination of non-radioactive systems, IEC 80-18 for changes to radioactive waste systems and GL 91-18 for compensatory actions including using manual actions in-lieu of automatic actions or use-as-is dispositions affecting the FSAR. GL 95-02 assessments need to look at both system and component level failures (ER20000558_01)	☒ NO ☐ YES	(If YES complete 50.59 Screen for the subject activity.)

APPLICABILITY DETERMINATION (Continued)

☒ All aspects of the activity are controlled by one or more of the processes above, therefore a 50.59 Screen is not required. If checked, provide any additional comments below and sign and date below.

☐ Any portion of the activity is not controlled by one or more of the processes above, therefore a 50.59 Screen or 50.59 Evaluation is required. If, checked, provide any additional comments below, sign and date below and complete 50.59 Screen for identified activities.

Additional Applicability Considerations:

Applicability Signoffs: Preparer: Don Faneuf (Print name) (Sign) Date: 2/24/03

Reviewer: L. McAvoy (Print name) (Sign) Date: 2/24/03

OP 3533 Rev 6 LPC 2

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3533, Rev. 6, Post Accident Sampling of Reactor Coolant

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

1. Could the proposed change affect our ability to meet the following standards of 10 CFR 50.47(b):

(1) Assignment of Emergency Response Organization responsibilities — YES (NO)

(2) Assignment of on-shift Emergency Response Organization personnel — YES (NO)

(3) Arrangements for Emergency Response Support and Resources — YES (NO)

(4) Emergency Classification and Action levels, including facility system and effluent parameters — YES (NO)

(5) Notification Methods and Procedures — YES (NO)

(6) Emergency Communications among principal response organizations and the public — YES (NO)

(7) Public Education and Information — YES (NO)

(8) Adequacy of Emergency Facilities and Equipment — YES (NO)

(9) Adequacy of Accident Assessment methods, systems and equipment — (YES) NO

(10) Plume exposure pathway EPZ protective actions — YES (NO)

(11) Emergency Worker Radiological Exposure Control — YES (NO)

(12) Medical Services for contaminated injured individuals — YES (NO)

(13) Recovery and Reentry Plans — YES (NO)

(14) Emergency response periodic drills and exercises — YES (NO)

(15) Radiological Emergency Response Training — YES (NO)

(16) Plan development, review and distribution — YES (NO)

2. Could the change affect our ability to meet the following requirements of Appendix E to 10 CFR 50.

(1) Section IV. A - Organization	YES (NO)
(2) Section IV. B - Assessment Actions	(YES) NO
(3) Section IV. C - Activation of Emergency Organizations	YES (NO)
(4) Section IV. D - Notification Procedures	YES (NO)
(5) Section IV. E - Emergency Facilities and Equipment	YES (NO)
(6) Section IV. F - Training	YES (NO)
(7) Section IV. G - Maintaining Emergency Preparedness	YES (NO)
(8) Section IV. H - Recovery	YES (NO)

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10 CFR 50.47(b) and Appendix E to 10 CFR 50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10 CFR 50.47(b)(9) & Appendix E, Section IV. B of Section A above, this change (DOES/DOES NOT) decrease the effectiveness of the Emergency Plan and (DOES/DOES NOT) continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

Deleted UFSAR Section 10.20.4. Notice given by the NRC in Federal Register: December 27, 2001 (Volume 66, Number 248). Eliminates the requirements on Power Accident Sampling imposed on licensees through orders, licenses conditions, or Technical Specifications. The staff [NRC] agrees, therefore, with the Owner's Group [BWR] that licensees can remove TS requirements for PASS, revise (as necessary) other elements of the licensing bases, and pursue possible design changes to alter or remove existing PASS equipment. The desired capabilities of the PASS were described in NUREG-0737.

This change does not decrease the effectiveness of the Plan and continues to meet all requirements.

10 CFR 50.54(q) Evaluation Checklist (Continued)

C. Conclusion (Fill out appropriate information)

☑ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10 CFR 50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search: Post Accident Sampling, Post-Accident Sampling & PASS

☐ This change does not affect any other documents.

☑ This change does affect other documents.

Document(s) affected: UFSAR

Section(s) affected: 10.20.4

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search: Post Accident Sampling, Post-Accident Sampling & PASS

Additional Comments:

PASS system remains in place and operational - removed the 5-hour restriction on analysis time.

Prepared By: Audra Williams Audra Williams Date: 2/27/03
(Print/Sign)

Reviewed By: Lori A. Tkaczyk Lori A. Tkaczyk Date: 2/28/03
(Emergency Plan Coordinator) (Print/Sign)

PREAPPROVED LPC FORM

PART 1 – Initiation ☐ Converted to Admin. Revision # LPC No: 1

A. Procedure No.: OP 3544	Current Revision #: 3	Title: Operation of the Operations Support Center (OSC)

B. Description of Change:

EPEX-2003-OSC_04 - added note regarding the process for double clearing tags.
and incorporated ENN-OP-102

C. Reason for Change:
- ☐ Result of Design Change, Minor Mod, EDCR_____
- ☐ Related ER No._____ - _____
- ☒ Other: **EPEX-2003-OSC_04**
- ☐ Editorial

D. Duration: ☒ Permanent ☐ One Time Only

E. Surveillance Database Change? ☐ Yes, change submitted ☒ No

F. Procedure Type: ☒ Technical ☐ Admin. (AP,PP)

G. AP 0091, Risk Assessment ☐ Yes ☒ No

H. Page(s) affected: Appendix C, page 1 of 1, Page 5 of 11

I. Originator (Print/Sign/Date)
(Use AP 0096, App. A as a reference)
(Complete & attach AP 0096 App. C, unless editorial)

Audra Williams 9/24/03
Audra Williams

PART 2 - Review/Approval (Refer to LPC Criteria of Appendix A)

A. Technical Verification Review (Print/Sign/Date) (Use AP 0096, Appendix B as a reference) ☐ N/A

Neal Jennison
10/16/03
(May perform Qualified Review) (N/A if editorial change)

B. Cross-Discipline Review(s) (Print/Sign/Date) ☐ N/A

Audra Williams 9/24/03
Audra Williams

C. Qualified Review (Print/Sign/Date) (Use AP 0096, Appendix D, as a reference) ☐ N/A

Lori A. Tkaczyk Lori A. Tkaczyk
9/24/03
(N/A if editorial change)

D. 50.59 review completed type:
☐ AD/Screen ☐ Evaluation ☐ N/A (N/A if editorial change)
☒ 50.54(q) (EPIP only)

E. RPO Approval (Print/Sign/Date)
Brian Finn 10/24/03

F. IF 50.59 Evaluation: ☒ N/A
PORC Mtg. Date:

G. Plant Manager (Print/Sign/Date) (SPs only)
N/A

H. Training: (Required for Admin Procedures, unless editorial) ☐ N/A
E-Mail notification to OSC Staff

I. Effective Date:
10/29/03

CDS Initials MSL

VERMONT YANKEE NUCLEAR POWER STATION

OPERATING PROCEDURE

OP 3544

REVISION 3

OPERATION OF THE OPERATIONS SUPPORT CENTER (OSC)

USE CLASSIFICATION: **REFERENCE**

LPC No.	Effective Date	Affected Pages
1	10/29/03	5 of 11 & App C Pg 1 of 1

Implementation Statement: N/A

Issue Date: 04/02/03

REFERENCES AND COMMITMENTS

1. Technical Specifications and Site Documents

   a. Vermont Yankee Nuclear Power Station Emergency Plan

2. Codes, Standards and Regulations

   a. None

3. Commitments

   a. EPEX86RP1
   b. EPEX8803CPE1
   c. INS9007CPE3

4. Supplemental References

   a. Emergency Assistance Personnel List (EAPL)
   b. AP 0009, Event Reports
   c. AP 0010, Situational Reporting Requirements
   d. AP 0021, Work Orders
   e. AP 0140, Vermont Yankee Local Control Switching Rules
   f. AP 0156, Notification of Significant Events
   g. ENN-OP-102, Protective and Caution Tagging
   h. AP 3125, Emergency Plan Classification and Action Level Scheme
   i. OP 3504, Emergency Communications
   j. OP 3507, Emergency Radiation Exposure Control
   k. OP 3508, On-Site Medical Emergency Procedure
   l. OP 3510, Off-Site and Site Boundary Monitoring
   m. OP 3531, Emergency Call-In Method
   n. OP 3540, Control Room Actions During an Emergency
   o. OP 3541, Activation of the Technical Support Center (TSC)
   p. OP 3542, Operation of the Technical Support Center (TSC)
   q. OP 3545, Activation of the Emergency Operations Facility/Recovery Center (EOF/RC)
   r. OP 3546, Operation of the Emergency Operations Facility/Recovery Center (EOF/RC)
   s. OP 3547, Security Actions During an Emergency
   t. AP 6807, Collection, Temporary Storage and Retrieval of QA Records

PRECAUTIONS/LIMITATIONS

1. Refer to OP 3504 for alternate methods of communication in the event that primary methods fail.

2. Refer to Emergency Assistance Personnel List (EAPL) when assigning individuals to positions.

APPENDIX C

OSC STAFF RESPONSIBILITIES

SWITCHING & TAGGING/OPS WORK COORDINATOR:

1. As Ops Work Coordinator, assign work and brief operations personnel.

2. Perform Switching and Tagging, as requested, per AP 0140 and ENN-OP-102.

LPC 1

NOTES

- The Control Authority will perform the following Tagging evolutions from the OSC using a manual process or by computer from the Tagging Desk if assigned by the OSC Coordinator.
- If Alternate Release of Tags per ENN-OP-102 is required and a Tagout Holder Supervisor is not available, the steps normally completed by the T.O. Supervisor may be performed by an individual designated by the OSC Coordinator.

- Use current revision of AP 0140 for all Switching & Tagging requests.
- Maintain Equipment Status Index using VYAPF 0140.05.

LPC 1

- Use VYAPF 0140.03 to write tagging orders on which will be used by Tagger.
- Handwrite information on tags for Tagger and fill out VYAPF 0140.03 for Tagging Order.
- Issue Tagging Order to Tagger; have tags second verified by assigned Tagger.
- Once tags are hung, update Equipment Status Index, VYAPF 0140.05, and notify Tagout Holder that tags are hung.
- Sign Tagout Holder onto Tagging Order per telecom or in person per Operations Supervisor discretion.
- Authorize Tagout Holder to commence work.
- Tagout Holder notifies Operations Supervisor that work is complete by telecom or in person.
- Operations Supervisor uses VYAPF 0140.03 to issue tags off restoration to Switchman.
- Operations Supervisor has second Tagger perform verification of Tagging restoration.
- Operations Supervisor updates Equipment Status Index, VYAPF 0140.05.

APPENDIX C
CROSS-DISCIPLINE REVIEW CHECKLIST

Required to be completed for new procedures, procedure revisions, and LPCs unless they are designated as Editorial.

Procedure Number/Revision OP 3544, Rev. 3, LPC #1
Reviewer/Date (Print) Audra Williams 9/24/03

GENERAL REVIEW GUIDELINES/SPECIAL REVIEW REQUIREMENTS

- The Cross-Discipline Review Guidelines below constitute minimum review requirements; other reviews may apply.
- Determination of reviews should focus on ***changes*** made to a procedure and the potential impact of those changes on the affected group. Changes that are minimally or nonimpacting do not need review by the potentially affected group. If change impact is unclear, the procedure should be routed to the potentially affected group for review.
- New or revised Administrative or Program Procedures that significantly impact other departments, shall be reviewed by the appropriate Superintendent or Senior Manager. The PAA maintains a list of these Administrative and Program Procedures.
- ALL noneditorial changes to Special Process procedures (WP, NE, heat treating, etc.), including Vendor Procedures that address Special Processes, shall be reviewed by: a Welding Engineer (welding procedures) or a NDE Level III certified in the method addressed by the procedure (nondestructive examination procedures), AND the Quality Assurance Manager, AND submitted to the Authorized Nuclear Inservice Inspector (ANII) prior to use.
- A "YES" indicates that a Cross Discipline Review shall be done by the indicated Department. Document the review on VYAPF 0096.01, VYAPF 0097.01, or VYAPF 0097.02, as applicable.

	APPLICABLE	
	YES	NO
Chemistry: • Potentially affects condensate, feedwater, or reactor water chemistry, or chemistry instruments. • Procedures that implement the requirements of the VY Environmental Program. (see PP 7603, Appendix A) • Produces/affects effluents or effluent monitoring (VY/QA 01-015). • Affects NPDES limits or method of compliance.		X
Maintenance (Mech, Elec, I&C): • Requires Maintenance personnel to perform activities, such as performance of maintenance procedures, installation of M&TE, lifting and landing of leads and connectors.		X
Operations: • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Requires Operations alignment/restoration of systems or components. • Specifies surveillance or post maintenance testing by Operations.	X	
EOP/SAG Coordinator: • Procedures that have the potential to affect the EOPs/SAGs.		X

Quality Assurance: • Compliance with QA Program requirements cannot be readily determined by the Qualified Reviewer.		X
Radiation Protection: • Involves work in contaminated areas and high radiation areas. • Involves work that breaches contaminated systems or components. • Changes in radwaste or hazardous waste generation.		X
Emergency Plan Coordinator: • Emergency Plan Implementing Procedures. • Obtain and attach a 10CFR50.54(q) Evaluation. • Affects Emergency Plan personnel, facilities or equipment.	X	X
Software Quality Assurance Administrator • Procedures that define how software is developed.		X
Reactor Engineering: • Could affect core reactivity, thermal power, reactor heat balance, or fuel integrity. • Involves refueling operations.		X
Systems/Project/Design Engineering: • Maintenance Rule in-scope systems unavailability time. • Involves infrequently performed test or evolution. • Changed requirements for entry into a Limiting Condition for Operation (LCO) or significantly changes duration of LCO. • Significant changes in system test or operation methodology.		X
Appendix J Coordinator: • Changes that affect App. J leakrates or containment boundaries, or boundary valve manipulation.		X
Appendix R Coordinator: • Appendix R implementing procedures.		X
Environmental Qualification (EQ) Coordinator: • Change in EQ test methodology or component lifetime. • Potentially affects area EQ component environment.		X
Fire Protection Coordinator (FPC): • Fire Protection procedures. • Affects fire loading • Affects fire barrier integrity. • Affects fire protection systems or component functionality.		X
IST Program Coordinator: • Inservice Testing Program implementing procedures. • All surveillance procedures.		X
ISI Program Coordinator: • Inservice Inspection Program implementing procedures.		X

Setpoint Coordinator: • Changes that impact setpoints, as-found/as-left tolerances, M&TE or testing methodology.		X
Nuclear & PRA • Potentially affects IPEEE or ORAM Sentinel Risk Models. • Potentially affects plant SSCs reliability. • Potentially affects Nuclear or Radiological Safety Analysis.		X
Security: • Proceures that implement the requirements of the VY Physical Security and Training and Qualification Plans. • Changes that have a potential for reduction of the VY Physical Security and Training and Qualification Plan commitments. • Obtain and attach a 10CFR50.54(P) Evaluation.		X
MOV Program Coordinator: • Potentially affects system parameters for which MOV operation has been evaluated.		X
AOV Program Coordinator: • Potentially affects system parameters for which AOV operation has been evaluated.		X

10 CFR 50.54(q) Evaluation Checklist

List of Emergency Plan Section(s)/Emergency Plan Implementing Procedure(s) or any other document to be evaluated. (Include Title and Revision No.):

OP 3544, Rev. 3, LPC#1 – Operation of the Operations Support Center (OSC)

A. Screening Evaluation

Based on a review of the following questions, determine if the change has the potential to affect our ability to meet the standards of 10 CFR 50.47(b) and the requirements of Appendix E to 10 CFR 50.

A "YES" answer to any part of the questions requires that a written evaluation be done to determine whether the effectiveness of the Emergency Plan was decreased as specified in Section B of this checklist.

A "NO" answer to all questions requires no written evaluation as specified in Section B of this checklist.

		YES	NO
1.	Could the proposed change affect our ability to meet the following standards of 10CFR50.47(b):		
(1)	Assignment of Emergency Response Organization responsibilities		x
(2)	Assignment of on-shift Emergency Response Organization personnel		x
(3)	Arrangements for Emergency Response Support and Resources		x
(4)	Emergency Classification and Action levels, including facility system and effluent parameters		x
(5)	Notification Methods and Procedures		x
(6)	Emergency Communications among principal response organizations and the public		x
(7)	Public Education and Information		x
(8)	Adequacy of Emergency Facilities and Equipment		x
(9)	Adequacy of Accident Assessment methods, systems and equipment		x
(10)	Plume exposure pathway EPZ protective actions		x
(11)	Emergency Worker Radiological Exposure Control		x
(12)	Medical Services for contaminated injured individuals		x
(13)	Recovery and Reentry Plans		x
(14)	Emergency response periodic drills and exercises		x
(15)	Radiological Emergency Response Training		x
(16)	Plan development, review and distribution		x

	YES	NO
2. Could the change affect our ability to meet the following requirements of Appendix E to 10CFR50		
(1) Section IV. A - Organization		x
(2) Section IV. B - Assessment Actions		x
(3) Section IV. C - Activation of Emergency Organizations		x
(4) Section IV. D - Notification Procedures		x
(5) Section IV. E - Emergency Facilities and Equipment		x
(6) Section IV. F - Training		x
(7) Section IV. G - Maintaining Emergency Preparedness		x
(8) Section IV. H - Recovery		x

B. Effectiveness Determination

For each applicable (i.e., a "yes" answer specified) standard to 10CFR50.47(b) and Appendix E to 10CFR50 identified from Section A above, complete the evaluation form below to determine whether the change decreases the effectiveness of the Emergency Plan and whether it continues to meet the stated applicable standard or requirement.

A facsimile of the evaluation form may be used as needed and attached to this checklist.

For applicable item 10CFR50. n/a of Section A above, this change
☐ DOES ☒ DOES NOT decrease the effectiveness of the Emergency Plan and
☒ DOES ☐ DOES NOT continue to meet the stated applicable standard or requirement.

BASIS FOR ANSWER:

Adding the note regarding double clearing of tags does not change the intent of the procedure. It quotes what is already proceduralized in OP 0140 and adds formality to this procedure.

10 CFR 50.54(q) Evaluation Checklist (Continued)

C. Conclusion (Fill out appropriate information)

☒ The changes made do not decrease the effectiveness of the Emergency Plan and continue to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50.

☐ The changes made do decrease the effectiveness of the Emergency Plan and decrease our ability to meet the standards of 10CFR50.47(b) and the requirements of Appendix E to 10CFR50. The following course of action is recommended:

- ☐ Revise proposed changes to meet applicable standards and requirements.
- ☐ Cancel the proposed changes.
- ☐ Process proposed changes for NRC approval prior to implementation in accordance with 10CFR50.54(q).

D. Impact on Other Documents (TRM, Tech Specs)

Keywords used in search:_____

☒ This change does not affect any other documents.

☐ This change does affect other documents.

Document(s) affected:_____

Section(s) affected:_____

E. Impact on the Updated FSAR

Use AP 6036 to determine if the proposed E-Plan change modifies existing UFSAR information or requires the addition of new UFSAR information and initiate UFSAR change(s) as required.

Keywords used in UFSAR search:_____

Additional Comments:

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(Print/Sign)

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