Vermont Yankee Exercise
May 24-26, 2005

Report - Radiological Emergency Preparedness Program

September 9, 2005

FEMA

FEMA Region I

FEMA

Exercise Report

Vermont Yankee Power Station

Licensee:	Entergy Northeast Nuclear Vermont Yankee
Exercise Date:	May 24-26, 2005
Report Date:	September 9, 2005

U.S. DEPARTMENT OF HOMELAND SECURITY
FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION I

U.S. DHS/ FEMA
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Boston, MA 02110-2320

TABLE OF CONTENTS

List of Appendices

Page

List of Tables

I. EXECUTIVE SUMMARY

On May 24, 2005, the Federal Emergency Management Agency (FEMA), Region I, conducted an exercise in the plume exposure pathway emergency planning zone (EPZ) around the Vermont Yankee Nuclear Power Station. This was followed on May 25-26, 2005, by an exercise conducted in the ingestion exposure pathway emergency planning zone. The purpose of the exercise was to assess the level of State and local preparedness in responding to a radiological emergency. This exercise was held in accordance with FEMA's policies and guidance concerning the exercise of State and local radiological emergency response plans (RERP) and procedures.

The most recent exercise at this site was conducted on, April 8, 2003. The qualifying emergency preparedness exercise was conducted on February 18, 1982.

FEMA wishes to acknowledge the efforts of the many individuals who participated in this exercise. The various agencies, organizations, and units of government from the State and local jurisdictions within the States of Vermont, New Hampshire, and the Commonwealth of Massachusetts, who participated in the exercise, are listed in Section III.B of this report.

Protecting the public health and safety is the full-time job of some of the exercise participants and an additional assigned responsibility for others. Still others have willingly sought this responsibility by volunteering to provide vital emergency services to their communities. Cooperation and teamwork of all the participants were evident during this exercise.

This report contains the final evaluation of the biennial exercise and the evaluation of the following out-of-sequence activities:

- Vermont Schools, Child Care Centers, Nursing Homes;
- New Hampshire Schools, Day Care Centers, Reception Center and State Transportation Staging Area;
- Massachusetts Host Schools, Day Care Centers, Mass Highway Department (MHD) District 2 Site, Reception Center, Emergency Worker Monitoring and Decontamination Station, Massachusetts Environmental Police (MEP), Department of Conservation and Recreation (DCR) District 9, Massachusetts State Police (MSP) Troop B and Shelburne Control, KI Dispensing Site and the Mass Care Shelters.

The State and local organizations, except where noted in this report, demonstrated knowledge of their emergency response plans and procedures and adequately implemented them. There were seven Deficiencies and 25 Areas Requiring Corrective Action (ARCA) identified as a result of this exercise.

II. INTRODUCTION

On December 7, 1979, the President directed FEMA to assume the lead responsibility for all offsite nuclear planning and response. FEMA's activities are conducted pursuant to 44 Code of Federal Regulations (CFR) Parts 350, 351 and 352. These regulations are a key element in the Radiological Emergency Preparedness (REP) Program that was established following the Three Mile Island Nuclear Station accident in March 1979.

FEMA Rule 44 CFR 350 establishes the policies and procedures for FEMA's initial and continued approval of State and local governments' radiological emergency planning and preparedness for commercial nuclear power plants. This approval is contingent, in part, on State and local government participation in joint exercises with licensees.

FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in offsite emergency planning and in the review and evaluation of RERPs and procedures developed by State and local governments;

- Determining whether such plans and procedures can be implemented on the basis of observation and evaluation of exercises of the plans and procedures conducted by State and local governments;

- Responding to requests by the U.S. Nuclear Regulatory Commission (NRC) pursuant to the Memorandum of Understanding between the NRC and FEMA dated June 17, 1993 (Federal Register, Vol. 58, No. 176, September 14, 1993); and

- Coordinating the activities of Federal agencies with responsibilities in the radiological emergency planning process:

    - U.S. Department of Commerce,
    - U.S. Nuclear Regulatory Commission,
    - U.S. Environmental Protection Agency,
    - U.S. Department of Energy,
    - U.S. Department of Health and Human Services,
    - U.S. Department of Transportation,
    - U.S. Department of Agriculture,
    - U.S. Department of the Interior, and
    - U.S. Food and Drug Administration.

Representatives of these agencies serve on the FEMA Region I Regional Assistance Committee (RAC), which is chaired by FEMA.

Formal submission of the RERPs for the Vermont Yankee Nuclear Power Station to FEMA Region I, by the State of Vermont and involved local jurisdictions occurred in April 1980, by

the State of New Hampshire in October 1981, and by the Commonwealth of Massachusetts in December 1979.

A REP plume exposure pathway exercise was conducted on May 24, 2005, by FEMA Region I, to assess the capabilities of State and local emergency preparedness organizations in implementing their RERPs and procedures to protect the public health and safety during a radiological emergency involving the Vermont Yankee Nuclear Power Station. This was followed on May 25-26, 2005, by an exercise conducted in the ingestion exposure pathway emergency planning zone. The purpose of this exercise report is to present the exercise results and findings on the performance of the offsite response organizations (ORO) during a simulated radiological emergency.

The findings presented in this report are based on the evaluations of the Federal evaluator team, with final determinations made by the FEMA Region I, RAC Chairperson, and approved by the Acting Regional Director.

The criteria utilized in the FEMA evaluation process are contained in:

- NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980;

- FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991; and

- "Radiological Emergency Preparedness: Exercise Evaluation Methodology," published in the Federal Register on September 12, 2001, and amended April 25, 2002.

Section III of this report, entitled "Exercise Overview," presents basic information and data relevant to the exercise. This section of the report contains a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities that were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

Section IV of this report, entitled "Exercise Evaluation and Results," presents detailed information on the demonstration of applicable exercise Criterion at each jurisdiction or functional entity evaluated in a jurisdiction-based, issues-only format. This section also contains: (1) descriptions of all Deficiencies and ARCAs assessed during this exercise, recommended corrective actions, and the State and local governments' schedule of corrective actions for each identified exercise issue and (2) descriptions of unresolved ARCAs assessed during previous exercises and the status of the OROs' efforts to resolve them.

III. EXERCISE OVERVIEW

Contained in this section are data and basic information relevant to the May 24-26, 2005, exercise to test the offsite emergency response capabilities in the area surrounding the Vermont Yankee Nuclear Power Station. This section of the exercise report includes a description of the plume pathway EPZ, a listing of all participating jurisdictions and functional entities, which were evaluated, and a tabular presentation of the time of actual occurrence of key exercise events and activities.

A. Plume Emergency Planning Zone Description

The Vermont Yankee Nuclear Power Station is located in the State of Vermont in southeast Windham County on the west bank of the Connecticut River immediately upstream of the Vernon Hydroelectric Station. The topography of the 10-mile EPZ is gently rolling terrain and low hills along the Connecticut River valley.

The 10-mile EPZ contains a total population of 34,405 within three counties and three states: Windham County, Vermont — 16,352; Cheshire County, New Hampshire — 10,474; and Franklin County, Massachusetts — 7,579. The land use is a mixture of industrial and diversified agricultural production.

The area is served by limited access highways such as Interstate 91, and secondary traffic roads such as Route 5, Route 9, Route 10, Route 30, Route 63, Route 78, and Route 119. There is non-commercial boat traffic within the Connecticut River. The New England Central Railroad has access through the 10-mile EPZ.

Major parks and recreational areas located within the EPZ include (for all three states): Vermont —Ft. Dummer (Summer), Brattleboro; Camp Waubanoug (Summer 8am-5pm), Brattleboro; Living Memorial Park (Annual), Brattleboro; KEO Camp Ground (Summer), Dummerston; Green Mountain Camp (summer0 Dummerston; Massachusetts - Camp Northfield (Summer), Northfield; Camp Keewanee (July-Early August 9am-3pm), Greenfield; Camp Lion Knoll (July, August 9am-3:45pm), Greenfield; Purple Meadow Campground (May-October), Bernardston; Traveler's Woods Camping Area (May-October), Bernardston; Mt. Grace Recreational Area, Warwick State Park (May-Labor Day), Warwick; Barton Cove (Memorial Day-Labor Day), Gill; Franklin County Boat Club (April 15-October 30), Gill; New Hampshire — Spofford Lake Area (Summer), Chesterfield; Pisgah State Park (Year Round), Winchester, Hinsdale and Chesterfield; Wantastiquet Natural Area (Year Round) Chesterfield; Shir-Roy (Summer), Richmond; Camp Takodah (Summer), Richmond; and Camp Wiyaka (Summer), Richmond.

The EPZ is divided into three States and 17 towns (Emergency Response Planning Areas): 5 in Vermont, 5 in New Hampshire, and 7 in Massachusetts.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the Vermont Yankee Nuclear Power Station exercise.

STATE OF VERMONT

STATE EMERGENCY OPERATIONS CENTER

Governor's Office
Vermont Department of Public Safety
Vermont Emergency Management Division
Vermont State Police Division
Vermont Crime Information Center (VCIC) State Warning Point
American Red Cross
Civil Air Patrol (CAP)
Radio Amateur Civil Emergency Services (RACES)
Vermont National Guard
Vermont State Guard
E-911 (Public Inquiry call-takers)
Vermont Department of Health
Vermont Agency of Agriculture, Foods & Market
Vermont Agency of Natural Resources
Vermont Department of Environmental Conservation
Vermont Department of Fish and Wildlife
Vermont Department of Labor
Vermont Department of Information & Innovation
Vermont Department of Buildings and General Services
Vermont Department of Taxes Mapping Office
Vermont Commission on National and Community Service
Vermont Center for Geographic Information
Vermont Agency of Human Resources
Vermont Agency of Transportation

EMERGENCY OPERATIONS FACILITY

Department of Public Safety

JOINT INFORMATION CENTER

Massachusetts Emergency Management Agency
New Hampshire Bureau of Emergency Management
Vermont Emergency Management Agency
Entergy

RADIOLOGICAL FIELD MONITORING TEAMS

Vermont State HAZMAT Team - Volunteer
Vermont Department of Health
Vermont Department of Environmental Conservation
Vermont Department of Agriculture

INCIDENT FIELD OFFICE

Vermont State Police
Windham County Sheriff's Department
National Guard
Vermont Department of Fish and Wildlife
American Red Cross Green Mt. Chapter
Radio Amateur Civil Emergency Services (RACES)
Vermont Agency of Transportation
State HAZMAT Team
Rescue Inc.
Vermont State Guard
Vermont Health Department

ALTERNATE WARNING POINT

Vermont State Police Dispatch Unit – Rockingham, VT

VT STATE LABORATORY

Vermont Department of Health

VT LIAISON TEAM TO THE FRMAC

Vermont Emergency Management Division
Vermont Department of Health
Vermont Agency of Agriculture, Food & Markets
Vermont Agency of Natural Resources
Vermont Department of Labor

RISK JURISDICTIONS (VERMONT)

BRATTLEBORO

Selectman
Town Manager and Administrative Department
Fire Department
Police Department

Human Services Department
Finance Department
Windham South East Supervisory Union School District

DUMMERSTON

Office of the Select Board
Emergency Management Director
Highway Department
West Dummerston Volunteer Fire Department
Putney Volunteer Fire Department
Windham County Sheriff's Office
Public Information Officer
Health Officer
Volunteers

HALIFAX

Emergency Management Director
Office of the Select Board
Volunteer Fire Department
Constable
Highway Department
Radio Amateur Civil Emergency Services (RACES)
Volunteers

GUILFORD

Chairman of Select Board
Emergency Management Director
Volunteer Fire Department
Highway Department
Radio Amateur Civil Emergency Services (RACES)
Volunteers

VERNON

Select Board
Police Department
Volunteer Fire Department
Radio Amateur Civil Emergency Services (RACES)
Volunteers

SCHOOLS, DAYCARES, AND NURSING HOMES

Kim's Day Care
Carol Wood's Day Care
Holton Home
Eden Park Nursing Home
Pitter Patter Child Care
Judy's Family Child Care
Vernon Play Group
Happy Hands
Lisa's Child Care
St. Michael's Day Care
SE VT Child Care Facility
Sandra Pitman's Child Care
West Bee Nursery School

STATE OF NEW HAMPSHIRE

STATE EMERGENCY OPERATIONS CENTER

Office of the Governor
New Hampshire Bureau of Emergency Management
New Hampshire State Police
New Hampshire Department of Transportation
New Hampshire Department of Resources and Economic
New Hampshire Development Parks Division of Fish and Game
New Hampshire Environmental Services
New Hampshire Department of Agriculture
New Hampshire Department of Education
New Hampshire Department of Education-Pupil Transportation
New Hampshire Division of Public Health Services
New Hampshire Department of Health and Human Services
American Red Cross
National Guard
Civil Air Patrol (CAP)
Public Utilities Commission
Emergency Medical Services
Radio Amateur Civil Emergency Service (RACES)
911
Entergy

EMERGENCY OPERATIONS FACILITY

Division of Fire Safety and Emergency Management (DFSEM)
Division of Public Health Services (DPHS)

JOINT INFORMATION CENTER

New Hampshire Bureau of Emergency Management
Vermont Emergency Management Agency
Massachusetts Emergency Management Agency
U.S. Nuclear Regulatory Commission
Entergy Northeast Nuclear Vermont Yankee

STATE POLICE TROOP C

State Patrol Troop C

RADIOLOGICAL FIELD MONITORING TEAMS

Volunteers to the New Hampshire Division of Public Health Services

STATE WARNING POINT

New Hampshire State Police

RISK JURISDICTIONS (NEW HAMPSHIRE)

CHESTERFIELD

Selectman
Police Department
Fire Department
Spofford Fire Department
Amateur Radio (ARES)
Public Works
Schools

HINSDALE

Police Department
Highway Department
Health Officer
Fire Department (Volunteer)
Selectmen (Volunteer)
Radio Amateur Civil Emergency Service (RACES)
Volunteers

RICHMOND

Fire Department

Police Department
Rescue Squad
Board of Selectmen

SWANZEY

Board of Selectman
Emergency Management Director
Police Department
Fire Department
Public Works
RAD EF Officer (Volunteer)
Communications Center

WINCHESTER

Radio Amateur Civil Emergency Service (RACES) CCDX Radio Club Keene, NH
Fire, Rescue, and Ambulance Group
Police Department
Board of Selectmen
Emergency Management
Department of Transportation

KEENE

Fire Department
Police Department
City Hall Employees
Public Works Department
Health Department
Parks and Recreation Department
American Red Cross
Keene State College
Radio Amateur Civil Emergency Service (RACES)

SCHOOLS

Chesterfield Elementary School
Winchester School
Hinsdale Elementary School
Hinsdale High School

LOCAL WARNING POINT (SWNHFDMA)

Southwest New Hampshire District Fire Mutual Aid

WKNE RADIO (KEENE, NH)

WKNE Radio

CHESHIRE COUNTY DISPATCH (KEENE, NH)

County Communications Specialist
County Communications Supervisor
County Sheriff Staff

KEENE RECEPTION CENTER (Keene State College, Keene, NH)

Fire Department
Police Department
Keene State College
Volunteers

COMMONWEALTH OF MASSACHUSETTS

STATE EMERGENCY OPERATIONS CENTER

Massachusetts Emergency Management Agency
Massachusetts State Police
Massachusetts Highway Department
Massachusetts Department of Public Health
Massachusetts Department of Mental Health
Massachusetts National Guard
Massachusetts Department of Agricultural Resources – Bureau of Animal Health
Massachusetts Secretary of State's Office
American Red Cross
FEMA Region I
Vermont Yankee Utility Representative

EMERGENCY OPERATIONS FACILITY

Massachusetts Emergency Management Agency (MEMA)
Massachusetts Department of Public Health- Radiation Control Program (MDPH)

JOINT INFORMATION CENTER

Massachusetts Emergency Management Agency

Vermont Emergency Management Agency
New Hampshire Bureau of Emergency Management
Entergy Northeast Nuclear Vermont Yankee

MASSACHUETTS STATE POLICE

State Police Troop B
Shelburne Control

RADIOLOGICAL FIELD MONITORING TEAMS

Massachusetts Department of Public Health/Radiation Control Program

REGION III EMERGENCY OPERATIONS CENTER

Massachusetts Emergency Management Agency Region III
Massachusetts State Police Troop B
Massachusetts Highway Department District 2
Massachusetts Department of Conservation & Recreation, District 9 Fire Warden
Massachusetts Environmental Police
American Red Cross
Radio Amateur Civilian Emergency Services (RACES) Operators

DEPARTMENT OF CONSERVATION AND RECREATION DISTRICT 9

DCR District 9 Fire Personnel

MASSACHUSETTS ENVIRONMENTAL POLICE (MEP)

MEP Staff

RISK JURISDICTIONS (MASSACHUSETTS)

BERNARDSTON

Emergency Management
Fire Department
Police Department
Highway Department
Board of Health
Selectwoman

COLRAIN

Emergency Management Agency
Police Department
Fire Department
Emergency Medical Services
Shelburne Falls Emergency Management
Shelburne Falls Fire Department

GILL

Select Board
Fire Department
Police Department
Emergency Management Agency
Highway Department
Board of Health

GREENFIELD

Emergency Management Agency
Fire Department
Police Department
Board of Health
Public Works
Animal Control
Radio Amateur Civil Emergency Services (RACES)

LEYDEN

Police Department
Selectman
Volunteer Fire Department
Highway Department
Emergency Management Agency

NORTHFIELD

Emergency Management Agency
Fire Department
Police Department
Highway Department
Board of Health
Board of Selectman

WARWICK

Select Board
Fire Department
Police Department
Board of Health
Highway Department

GREENFIELD RECEPTION CENTER (GREENFIELD, MA)

Greenfield Fire Department
Community Emergency Response Training (CERT) members
Volunteers
Greenfield Community College

KI DISPENSING SITE

Massachusetts Department of Public Health
Massachusetts Highway Department

SCHOOLS AND CAMPS

Mohawk Trail Superintendent's Office
Colrain Central School
Pioneer Valley Superintendent's Office
Pioneer Valley Regional High School
Bernardston Elementary School
Pearl Rhodes Elementary School
Northfield Elementary School
Warwick Community School
Gill Elementary School
Gill-Montague Superintendent's Office
Camp Lion Knoll
Camp Northfield
Camp Keewanee
Otter Pond Preschool
Giving Tree Preschool
Full Circle School
Linden Hill School
Northfield Mt. Hermon School

SUPPORT JURISTICTIONS (MASSACHUSETTS)

MASS CARE SHELTER

Greenfield Middle School

HOST FACILITY

Turner's Falls High School

C. Exercise Timeline

Table 1, on the following pages, presents the time at which key events and activities occurred during the Vermont Yankee Nuclear Power Station plume exposure pathway exercise on May 24, 2005. Also included are times notifications were made to the participating jurisdictions/functional entities.

Vermont
Table 1. Exercise Timeline

DATE AND SITE: May 24, 2005, Vermont Yankee Nuclear Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken					
		VT SEOC	BRATTLEBORO	DUMMERSTON	HALIFAX	GUILFORD	
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	
Alert	0810	0821	0832	0831	0837	0831	
Site Area Emergency	1022	1029	1039	1038	1039	1037	
General Emergency	1226	1239	1246	1242	1243	1243	
Simulated Rad. Release Started	1229	1239	1246	1242	1243	1243	
Simulated Rad. Release Terminated	-	-	-	-	-	-	
Facility Declared Operational		0955	0855	0900	0903	0855	
Declaration of State of Emergency		1000	1200	1016	1012	1013	
Exercise Terminated		1446	1445	1440	1440	1440	
Early Precautionary Action Decision **Precautionary transfer of students, shelter livestock** **Close parks and recreation areas, water and transients leave area**		1042	1010	-	-	-	
1st Siren Activation		1052	1052	1052	1052	1052	
1st EAS Message		1055	-	-	-	-	

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken					
		VT SEOC	BRATTLEBORO	DUMMERSTON	HALIFAX	GUILFORD	
First Protective Action Decision **Evacuate Guilford and Vernon, Shelter remaining towns, farm shelter livestock water, visitors recreation areas, nursing homes, hospital, close childcare, parks, open reception centers**		1259	-	-	-	-	
2nd Siren Activation		1323	1325	1325	1325	1325	
2nd EAS Message		1312	-	-	-	-	
2nd Protective Action Decision		1422	-	-	-	-	
3rd Siren Activation		1432	1432	1432	1432	EVAC	
3rd EAS Message		1435	-	-	-	-	
KI Administration Decision							
Emergency Workers		1215	1223			1230	
General Public		1316		1242	1231		

NOTES ON VT TIMELINE:
* Actual siren sounding in Vernon.

Massachusetts
Table 1. Exercise Timeline

DATE AND SITE: May 24, 2005, Vermont Yankee Nuclear Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken									
		MA SEOC	REGION III EOC	MA EOF	BERNARDSTON	COLRAIN	GILL	LEYDEN	NORTHFIELD		
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Alert	0810	0820	0830	N/A	0825	0829	0835	0834	0827		
Site Area Emergency	1022	1030	1050	1025	1040	1044	1045	1040	1040		
General Emergency	1226	1235	1250	1228	1250	1245	1254	1245	1244		
Simulated Rad. Release Started	1229	1235		1230	1250	1245	1245	1248	1244		
Simulated Rad. Release Terminated	-	-	-	-	-	-	-	-	-		
Facility Declared Operational		0909	0850	0940	0910	0846	0857	0917	0922		
Declaration of State of Emergency		1015	1015	-	1022 (state) 1030 (local)	1022	1015	1047	1022		
Exercise Terminated		1410	1407	1440	1407	1407	1407	1403	1412		
Early Precautionary Action School Transfer-Precautionary measures taken, closed outdoor recreation areas, closed water ways, and put animals on stored feed		1029	1036	1029	1035	1034	1030	1033	1031		
1st Siren Activation		1052	-	-	1052	1052	1052	1052	1052		

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken									
		MA SEOC	REGION III EOC	MA EOF	BERNARDSTON	COLRAIN	GILL	LEYDEN	NORTHFIELD		
1st EAS Message		1055	-	-	-	-	-	-	-		
First Protective Action Decision Evacuate Bernardston, Northfield, Warwick, Greenfield		1259	1309	1257	1305				1302		
Shelter-in-Place, Colrain, Gill, Leyden						1302	1303	1304			
2nd Siren Activation		1309	1309	1309	1309	1310	1309	1309	1309		
2nd EAS Message		1312	-	-	-	-	-	-	-		
KI Administration Decision: Emergency Workers		1259	1309	1228	1305	1302	1303	1304	1302		

New Hampshire
Table 1. Exercise Timeline

DATE AND SITE: May 24, 2005, Vermont Yankee Nuclear Power Station

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received Or Action Was Taken								
		NH SEOC	SWNHDFMA	CHESTERFIELD	HINSDALE	RICHMOND	SWANZEY	WINCHESTE		
Unusual Event	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Alert	0810	0830	0827	0830	0829	0831	0833	0832		
Site Area Emergency	1022	1030	1045	1045	1039	1037	1040	1048		
General Emergency	1226	1234	1305	1304	1245	1241	1252	1246		
Simulated Rad. Release Started	1230	1234	1239	1255	1253	1241	1240	1250		
Simulated Rad. Release Terminated	-	-	-	-	-	-	-	-		
Facility Declared Operational		0920	0827 (24hr)	0918	0902	0900	0920	0856		
Declaration of State of Emergency		1038	-	1158	1155	-	-	1157		
Exercise Terminated		1400	1405	1400	1323	1400	1400	1408		
Early Precautionary Action **Store Feed, ACP/TCP, Transfer students Hinsdale and Winchester**		1042	-	-	-	-	-	1056		
1st Siren Activation		1052	1052	-	-	-	-	-		
1st EAS Message		1055	-	-	-	-	-	-		
Protective Action Decision **Evacuate Hinsdale, Winchester, Richmond** **KI for Emergency Workers**		1259	-	-	-	-	-	-		
2nd Siren Activation		1309	1309	-	-	-	-	-		

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received Or Action Was Taken								
		NH SEOC	SWNHDFMA	CHESTERFIELD	HINSDALE	RICHMOND	SWANZEY	WINCHESTE		
2nd EAS Message		1312	-	-	-	-	-	-		
KI Administration Decision		1259	1304	1300	1300	1300	1304	1322		

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IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities that participated in the May 24-26, 2005, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ and 50-mile Ingestion Planning Zone surrounding the Vermont Yankee Nuclear Power Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in "Radiological Emergency Preparedness: Exercise Evaluation Methodology," published in the Federal Register on September 12, 2001, and amended April 25, 2002.

Detailed information on the exercise evaluation areas and the extent-of-play agreement used in this exercise are found in Appendix 3 of this report.

A. Summary Results of Exercise Evaluation - Table 2

The matrix presented in Table 2, on the following page(s), presents the status of all "Radiological Emergency Preparedness: Exercise Evaluation Areas that were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Evaluation areas are listed by number and the demonstration status of those areas is indicated by the use of the following letters:

M - Met (No Deficiency or ARCAs assessed and no unresolved ARCAs from prior exercises)

D - Deficiency assessed

A - ARCA(s) assessed or unresolved ARCA(s) from prior exercise(s)

N - Not Demonstrated (Reason explained in Subsection B)

Table 2. Summary Results of Exercise Evaluation

DATE AND SITE: May 24-26, 2005, Vermont Yankee Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1.a.1	1.b.1	1.c.1	1.d.1	1.e.1	2.a.1	2.b.1	2.b.2	2.c.1	2.d.1	2.e.1	3.a.1	3.b.1	3.c.1	3.c.2	3.d.1	3.d.2	3.e.1	3.e.2	3.f.1	4.a.1	4.a.2	4.a.3
STATE OF VERMONT																							
State Emergency Operations Center	M		D	M	M	M	M	M	M	M	M	A	M	M	M	M	M	A	M				
Emergency Operations Facility	M		M	A	M		M					A	M								M		
Joint Information Center	M		M	M	M							M	M										
Field Monitoring Teams				A	M							M											
Incident Field Office																							
State Warning Point			M	M	M																		
Alternate State Warning Point			M	M	M																		
Department of Health Laboratory		M	M	M	M																		
RISK JURISDICTIONS (VERMONT)																							
Brattleboro	M		M	M	M	M						M	M	M	M	M	M						
Dummerston	M		M	M	M	M						M	M	M	M	M	M						
Halifax	M		A	M	M	M						A	A	M	M	M	M						
Guilford	M		M	M	M	M						M	M	M	M	M	M						
Vernon	A		A	M	M	M						M	M	M	M	M	M						
Schools and Day Care Centers													M	M									

LEGEND:

M = Met (No Deficiency or ARCAs assessed and no unresolved prior ARCAs)

A = ARCA(s) assessed and/or unresolved prior ARCAs

N = Not Demon

D = Deficiency(ies) assessed

Blank = Not scheduled for demonstration

Table 2. Summary Results of Exercise Evaluation

DATE AND SITE: May 24, 2005, Vermont Yankee Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1.a.1	1.b.1	1c.1	1d.1	1.e.1	2a.1	2b.1	2b.2	2c.1	2d.1	2e.1	3a.1	3b.1	3c.1	3c.2	3d.1	3d.2	3e.1	3e.2	3f.1	4a.1	4a.2	4a.3									
STATE OF NEW HAMPSHIRE																																
State Emergency Operations Center	M		A	M	M	M	A	M	M							M	M															
Emergency Operations Facility	M		M	M	M	M	M					M	M									M										
Joint Information Center	M		M	M	M							M	M																			
State Police Troop C			M	M	A							M	M			M	M															
Field Monitoring Teams	M		M	A								A	M								A	M	A									
State Warning Point	M		M	M																												
RISK JURISDICTIONS (NEW HAMPSHIRE)																																
Chesterfield	M		M	M	M			M	M			M	M	M	M	M	M															
Hinsdale	M		M	M	M			M	M			M	M	M	M	M	M															
Richmond	M		M	M	M			M	M			M	M	M	A	M	M															
Swanzey	M		M	M	M			M	M			M	M	M	M	M	M															
Winchester	M		M	M	M			M	M			M	M	M	M	M	M															
Schools, Day Cares and Transportation													M	M																		
SUPPORT JURISDICTIONS (NEW HAMPSHIRE)																																
Keene Emergency Operations Center	M		M	M	M			M	M			M	M	M	M	M	M															
Local Warning Point-SWNHDFMA			M	M	M																											
State Transportation Staging Area	M		M	M	M								M	M	M																	

LEGEND:

M = Met (No Deficiency or ARCAs assessed and no unresolved prior ARCAs)

A = ARCA(s) assessed and/or unresolved prior ARCAs

N = Not Demon

D = Deficiency(ies) assessed

Blank = Not scheduled for demonstration

Table 2. Summary Results of Exercise Evaluation

DATE AND SITE: May 24, 2005, Vermont Yankee Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1.a.1	1.b.1	1c.1	1d.1	1.e.1	2a.1	2b.1	2b.2	2c.1	2d.1	2e.1	3a.1	3b.1	3c.1	3c.2	3d.1	3d.2	3e.1	3e.2	3f.1	4a.1	4a.2	4a.3									
COMMONWEALTH OF MASSACHUSETTS																																
State Emergency Operations Center	M		M	M	M	M	M	M	M	M						M	M															
Emergency Operations Facility	M		M	M	M	M	M	M																								
Joint Information Center	M		M	M	M							M	M																			
State Police Troop B			M	M	M							M	M			M	M															
Field Monitoring Teams			M	M	M								M								M	M	M									
Region III Emergency Operations Center	M		M	M	M							M	M			M	M															
DEM Fire District												M	M																			
DFWDLE												M	M																			
State Police, Shelburne Control			M	M	M							M	M			M	M															
RISK JURISDICTIONS (MASSACHUSETTS)																																
Bernardston	M		M	M	M			M	M			M	M	M	M	M	M															
Colrain	M		M	M	M			M	M			A	M	M	M	M	M															
Gill	M		M	M	M			M	M			M	M	M	M	M	M															
Greenfield	M		M	M	M			M	M			M	M	M	M	M	M															
Leyden	M		M	M	M			M	M			A	A	M	M	M	M															
Northfield	M		M	M	M			M	M			M	M	M	M	M	M															
Warwick	M		M	M	M			M	M			A	M	M	M	M	M															
Schools, Day Cares, Day Camps													M	M																		

LEGEND:

M = Met (No Deficiency or ARCAs assessed and no unresolved prior ARCAs)
D = Deficiency(ies) assessed
A = ARCA(s) assessed and/or unresolved prior ARCAs
Blank = Not scheduled for demonstration
N =

B. Status of Jurisdictions Evaluated

This subsection provides information on the evaluation of each participating jurisdiction and functional entity, in a jurisdiction based, issues only format. Presented below is a definition of the terms used in this subsection relative to Criterion demonstration status.

- **Met** - Listing of the demonstrated exercise criterion under which no Deficiencies or ARCAs were assessed during this exercise and under which no ARCAs assessed during prior exercises remain unresolved.

- **Deficiency** - Listing of the demonstrated exercise criterion under which one or more Deficiencies was assessed during this exercise. Included is a description of each Deficiency and recommended corrective actions.

- **Area Requiring Corrective Actions** - Listing of the demonstrated exercise criterion under which one or more ARCAs were assessed during the current exercise or ARCAs assessed during prior exercises remain unresolved. Included is a description of the ARCAs assessed during this exercise and the recommended corrective action to be demonstrated before or during the next biennial exercise.

- **Not Demonstrated** - Listing of the exercise criterion which were not demonstrated as scheduled during this exercise and the reason they were not demonstrated.

- **Prior ARCAs - Resolved** - Descriptions of ARCAs assessed during previous exercises that were resolved in this exercise and the corrective actions demonstrated.

- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises that were not resolved in this exercise. Included is the reason the ARCA remains unresolved and recommended corrective actions to be demonstrated before or during the next biennial exercise.

The following are definitions of the two types of exercise issues that are discussed in this report.

- A **Deficiency** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that could cause a finding that offsite emergency preparedness is not adequate to provide reasonable assurance that appropriate protective measures can be taken in the event of a radiological emergency to protect the health and safety of the public living in the vicinity of a nuclear power plant."

- An **ARCA** is defined in FEMA-REP-14 as "...an observed or identified inadequacy of organizational performance in an exercise that is not considered, by itself, to adversely impact public health and safety."

FEMA has developed a standardized system for numbering exercise issues (Deficiencies and ARCAs). This system is used to achieve consistency in numbering exercise issues among FEMA Regions and site-specific exercise reports within each Region. It is also used to expedite tracking of exercise issues on a nationwide basis.

The identifying number for Deficiencies and ARCAs includes the following elements, with each element separated by a hyphen (-).

- **Plant Site Identifier** - A two-digit number corresponding to the Utility Billable Plant Site Codes.

- **Exercise Year** - The last two digits of the year the exercise was conducted.

- **Evaluation Area** - A three character, alpha-numeric corresponding to the Evaluation Areas in "Radiological Emergency Preparedness: Exercise Evaluation Methodology," published in the Federal Register on September 12, 2001, and amended April 25, 2002.

- **Issue Classification Identifier** - (D = Deficiency, A = ARCA). Only Deficiencies and ARCAs are included in exercise reports.

- **Exercise Issue Identification Number** - A separate two (or three) digit indexing number assigned to each issue identified in the exercise.

1. STATE OF VERMONT

1.1 State Emergency Operations Center

The team at the Vermont Emergency Operations Center worked well together. Information was continuously updated on the various status boards. All staff had appropriate plans and procedures available. The Dose Assessment staff did a good job providing decision makers with new information as it became available.

a. **MET:** 1.a.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.d.1

b. **DEFICIENCY:** 1.c.1, 5.a.1, 5.b.1

ISSUE: 67-05-1.c.1-D-01

CONDITION: Due to the numerous issues related to the public alert and notification system, a deficiency is assessed against the State under direction and control. The State of Vermont failed to provide adequate direction and control over the public alert and notification system.

At 1259 a protective action decision was made. The sirens should have sounded at 1309 and an EAS message to follow at 1312. The message to activate the sirens was not provided to the Towns until 1322. Additionally, at 1259 a protective action decision was made to evacuate the Towns of Vernon and Guilford, shelter Dummerston, Brattleboro and Halifax and directed farmers (living in Vernon and Guilford) to milk their cows prior to evacuation, thus delaying their evacuation.

POSSIBLE CAUSE: The Director may have been preoccupied with other response efforts and not able to confirm that the towns were directed to sound the sirens at 1309 and not able to realize the impact of holding those farmers behind.

REFERENCE: NUREG-0654 J.9.11

EFFECT: The directive to sound sirens and alert the public is critical to providing adequate protection of the health and safety of the public. The directive to the farmers would have delayed in their evacuation thus not providing adequate protection of the public.

RECOMMENDATION: The Director should oversee and carefully consider all protective action decisions prior to directing the public.

SCHEDULE OF CORRECTIVE ACTIONS: Communications Unit, Operations Section Chief, and Information Officer Procedures will be reviewed to determine if information of less urgency is being confused with information of high urgency. Information of higher urgency will be clearly identified. Procedures will be revised on how to handle information of different levels of urgency in a way that ensures that all

issues are dealt with in a timely manner but in order of urgency. Additional personnel will be assigned to the Communication Unit and the Information Officer to provide quality control in times of high work load. The Deputy Director position will be utilized to provide additional oversight and problem solving. Additional training will be provided on a regular basis to ensure that personnel are cross trained and unexpected absences can be covered adequately.

REMEDIAL ACTION DEMONSTRATED: This was successfully re-demonstrated on August 18, 2005 during a remedial exercise. Upon each Public Alert and Notification sequence, the Deputy Incident Director confirmed with staff that siren activation had occurred. Both the Incident Director and Deputy Incident Director ensured constant communication with the EPZ towns (simulated for all except Vernon) occurred throughout the exercise. Successful demonstration of this criterion corrects deficiency 67-05-1.c.1-D-01.

ISSUE #: 67-05-5.a.1-D-02

CONDITION: At 1302 a decision was made by the Incident Director at the Vermont State Emergency Operations Center (SEOC), in coordination with New Hampshire and Massachusetts, to activate for the second time the primary alert and notification system to apprise the public of the deteriorating conditions at the Vermont Yankee Nuclear Plant, and to evacuate Guilford and Vernon, and to shelter in Brattleboro, Dummerston, and Halifax. Sirens were to be sounded (simulated) at 1309 followed by an EAS message at 1312. This did not happen. Notification to the Brattleboro and Vernon Emergency Operations Centers (EOCs) to sound sirens (simulated) was not transmitted in time via radio by the SEOC. Consequently, the EAS message was transmitted without the benefit of siren alerting. The alert and notification sequence was not followed.

POSSIBLE CAUSE: Due to a breakdown in execution procedures in the Operation Section of the SEOC, instructions were not sent to Brattleboro and Vernon on time for them to sound sirens at 1309. The original copy of the Vermont Emergency Management (VEM) 2 Form required to execute the radio transmission of the urgent message was given to the Communications Unit Leader, in accordance with established procedures. However, after being given the form, she was asked to do something else and the message was not transmitted in time for siren activation to occur.

REFERENCE: 10 CFR Part 50, Appendix E.IV.D and NUREG-0654, E.5, 6, 7

EFFECT: The public was not alerted, in accordance with established plans and procedures, to tune into their local EAS broadcast stations to attain emergency information concerning the deteriorating situation at the Vermont Yankee Nuclear Plant, and to take the protective actions of evacuating and sheltering. The consequences could impact upon their health and well being.

RECOMMENDATION: Additional training emphasis for the staff on the importance of immediately transmitting information on VEM 2 Urgent Message Forms. Evaluation of

staffing requirements to insure that communication personnel are properly staffed with trained, dedicated personnel in sufficient numbers to respond to the changing exigencies of emergency situations. The proper EAS sequence procedures were correctly re-demonstrated in proper sequence at 1428. However, there was no corrected information to the farmers.

SCHEDULE OF CORRECTIVE ACTIONS: Operations Section procedure will be revised to use either a VEM-6 or -7 form for the information contained on VY Thirty Minute Update forms as appropriate. VEM-1 Forms will not be used for thirty minute updates. Communications Unit procedure will be revised to cover the order of urgency for the various VEM forms. VEM-1 and -2 Forms will have the highest urgency. Communications Unit procedure will be revised to describe when and how to terminate a lower urgency message and shift to a higher urgency message. EPZ facility Communications Officer Procedures will be amended to describe this "bumping" of messages and how to handle "bumped" messages. Communications Unit and EPZ facility Communications Officers will be trained on these revisions. Additional staff for the Communication Unit will be recruited and trained. Particularly a unit staff member will be trained to assist the Communications Unit Leader in sorting through the messages coming into the unit when the workload gets high and ensuring that the high urgency messages go out in an expedited manner. The Deputy Director position will be used to double check on high urgency messages. That procedure already provides for this. Additional training will be provided.

REMEDIAL ACTION DEMONSTRATED: This was successfully re-demonstrated on August 18, 2005 during a remedial exercise. The Operation Section Chief completed VEM 2 Form and provided a copy to the communications section. The communications staff quickly provided the information on VEM 2 Form to the EPZ towns. At 1206 Vernon called the VT STATE EOC radio operator to confirm siren activation.

As per procedures, the Deputy Incident Director confirmed with staff that the siren notifications had been successfully made to the EPZ towns. The successful demonstration of this criterion corrects deficiency 67-05-5.a.1-D-02.

ISSUE: 67-05-5.b.1-D-03

CONDITION: Due to the extensive number of issues related to the area of news advisories and information to the public, they have risen to the level of a deficiency. The following issues were identified during the exercise:

The State Emergency Operations Center (SEOC) Public Information Office (PIO) released news advisories with critical inaccurate information. News Advisory #3 at 1015 stated that a Site Area Emergency (SAE), Emergency Classification Level (ECL) had been declared at 1000 at the Vermont Yankee Nuclear Power Plant. That was incorrect information. A SAE had not been declared, only an Alert. News Advisory #5 at 1030 corrected this error. News Advisory #8 stated that a SAE had been declared at 1000. That was inaccurate. The SAE had been declared at 1022, and News Advisory #13

corrected that inaccuracy.

The state used template advisories without checking to see what information was actually included in the release and whether the release was appropriate at the time. They even held some releases and slipped them in at a later time without changing the advisory number, which led to confusion as to instructions regarding the day's chain of events. For example, EAS message #2 was released as advisory #12 at 1312, which was eventually released after advisories 13 (1115), 14 (1236), 15 (1241), and 16 (1310). Also news advisory 17 was sent out 14 minutes AFTER news advisory 18 and news advisory 22 was sent out four minutes BEFORE advisories 17, 19, 20, and 21.

News Advisory number 15, which was distributed at 1241, contained the headline "GENERAL EMERGENCY AND EVACUATION ORDER DECLARED". The first sentence of the news advisory said that this was a special news bulletin for residents of Brattleboro, Dummerston, Guilford, Halifax, and Vernon, Vermont. The news advisory contained no other information about the evacuation order. It wasn't for another 30 minutes, 1312 to be exact, until the state issued an Emergency Alert System (EAS) message indicating that the evacuation order was for residents of Guilford and Vernon only, and that residents of Brattleboro, Dummerston, and Halifax were to shelter in place. News Advisory numbers 3, 8 and 9 had to be retracted after they were distributed containing incorrect information. Two news advisories were generated to correct the three advisories that contained incorrect information. News Advisories were continually released out of order causing confusion regarding the ongoing chain of events.

Four news advisories and one Emergency Alert System (EAS) message containing information on evacuations were released PRIOR to the news advisory indicating evacuation routes and where people needed to go. News advisory #15 at 1241, #12 at 1312 (which was also EAS#2), #17 at 1330, and #22 at 1326 were all issued mentioning evacuations before advisory #19 at 1330 which indicated the evacuation routes. And advisory #19 which gave the evacuation routes DID NOT indicate it was only for residents of Guilford and Vernon but stated it was for ALL residents north and south of Vernon and Guilford. It took 49 minutes from the time the first advisory announcing an evacuation was released to the time the advisory announcing the evacuation routes was released.

Emergency Alert System (EAS) message #2, released at 1312, and advisory # 21, released at 1330 instructed farmers in Guilford and Vernon to milk their cows BEFORE evacuating even though an evacuation order was in place. During the 1125 briefing, the Vermont PIO stated that more than 3,000 milking cows resided in Vermont's 10 mile Emergency Planning Zone (EPZ), and later indicated that 700 resided in Guilford alone. When prompted as to why farmers should not evacuate first, the response was that cows needed to be milked.

News Advisory #26 discussing the closing of I-91 was released at 1413, nearly an hour after it was announced in the 1315 news briefing. Its release also occurred well after evacuation orders were released in previous news advisories and it failed to give any

alternate routes the drivers could take to get around the roadblock

The SEOC Public Information Office (PIO) released news advisories with a sense of urgency and without undue delay, but some of the news releases were not numbered in a logical sequential order. The last News Advisory #28 was at 1440 hours. News advisories #6 and #27 did not exist. These numbers were not used.

Vermont issued 24 news advisories and two Emergency Alert System (EAS) messages compared to four news advisories and two EAS messages for the states of Massachusetts, and New Hampshire. The volume of releases led to the release of incorrect information, improper sequencing of releases and lack of attention to detail as to what was being released and at times general confusion.

POSSIBLE CAUSE: News advisories were dispatched without being proofread. The Public Information Officer (PIO) was often out of the office performing his primary responsibilities in support of the Incident Director inside of the SEOC or conference room participating in "decision making" meetings. He operated in an overload mode and did not spend time needed to insure accuracy of the new releases. The releasing authority for new advisories is the PIO. In addition, the state used a template release for a General Emergency and added to it the headline of an Evacuation Order Declared without checking to see what information was actually included in the release. The state used template releases with pre-assigned numbers and tried to force them into play even if they did not fit the scenario at the time. There was no oversight as to what was being distributed and when and whether the information was important or not.

Lack of knowledge by the state Emergency Operations Center (EOC) as to the number of milking cows in the affected area and the time it would take to milk those cows may have been a factor in the determination to milk cows prior to leaving the area. Not knowing that it could take hours to milk the number of cows that are in the area might have led them to make that evacuation recommendation.

There was a lack of attention to detail and the lack of knowledge to the importance of certain information that the public needs to know. The news releases were poorly written with a lack of attention to the quality of information instead of the quantity of information.

The lack of staff supervision in the PIO (at the State EOC) was the primary cause of the errors in the information released to the public. The Public Information Officer was often out of the office performing his primary responsibilities in support of the Incident Commander inside of the SEOC or conference room participating in "decision making" meetings. This left the routine administrative operations of the PIO without a supervisor.

REFERENCE: NUREG E.5, 7; G.3.a.; G.4.c.

EFFECT: Inconsistent information provided to the public created confusion when the information was disseminated. Recipients spent valuable time trying to verify the accuracy of State information due to apparent contradictions of information disseminated.

Numerous calls and inquiries came into the PIO attempting to get an explanation. This added to the stress inside the PIO as people, who were furiously trying to keep up with current events, had to answer phones trying to explain past events. Additionally, valuable time and energy, which was needed to deal with the current exigencies of the exercise, was spent correcting previous information released.

In addition, the issuance of this news advisory with conflicting headlines and text could have resulted in the evacuation of the towns of Brattleboro, Dummerston and Halifax unnecessarily. And since there were no evacuation instructions provided, massive mobilization of people and cars could have resulted affecting the orderly evacuation of Guilford and Vernon residents. In addition, it could have led people into the path of the plume since there was no instruction as to where to evacuate and since I-91 was closed at various locations at the time.

This could have caused mass confusion among the evacuating public as to where to evacuate and in what direction and what were the best routes to take. Considering that portions of I-91 were closed, not having evacuation routes for the specific evacuation orders could have led people into the path of the plume instead of away from it.

Ordering farmers to milk their cows prior to evacuating could have caused dairy farmers to remain in a dangerous situation for hours, exposing them to increased radiation because of the evacuation order to stay and milk their cows.

Not providing evacuation information could have caused mass confusion on the roadways for people trying to evacuate the area, and travelers driving into the area who are unfamiliar with the side roads around the roadblocks.

Additionally, since news advisory number 3 contained incorrect information regarding the ECL, this could have prompted emergency workers to take actions that weren't required. Also, the issuance of two advisories to correct three advisories can start to create confusion amongst the public and media and create a sense of a loss of confidence in the state information.

Since there were 26 news advisories released by the state, any member of the media who was trying to keep track of the information and putting them in sequence to develop a timeline of emergency information would have been completely confused. This also could lead to a loss of confidence by the media and the public in regards to the states information.

The lack of attention to quality results in incorrect information being distributed, confusion as to the information being distributed and a complete lack of trust and confidence in the state and their ability to understand and handle the emergency. It also makes the media the ones to decide which information is important and which they should broadcast instead of the state because they typically would not have the ability to broadcast the information contained in 26 advisories, particularly when four are released at the same time as was the case with advisories 17, 19, 20, and 21 which were all issued at

1330.

The numbering sequence of the news releases created confusion when the information was disseminated. Recipients had to spend valuable time trying to track down missing messages they could not find, but later found out they did not exist. Numerous calls and inquiries came into the PIO attempting to get an explanation. This added to the stress inside the PIO as people, who were furiously trying to keep up with current events, had to answer phones trying to explain past events.

RECOMMENDATION: The PIO needs an office supervisor with the authority and responsibilities to insure the accuracy of all documents prior to their release. The PIO himself is too busy in a crisis directly supporting the Incident Commander inside the SEOC to administratively supervise all aspects of the PIO office. In addition, Do not write headlines for template releases without checking what information is contained in that message. And do not assume that template releases work in all cases. Additionally, do not use template releases and release them without checking what information is contained in that message. Do not use template releases with pre-assigned numbers and release them without checking what information is contained in them and whether it is relevant at the time. As soon as an evacuation order is given, proper routes and the direction of the evacuation should immediately follow. Advise farmers to milk cows well before an anticipated evacuation order might be declared. Provide the information in a timely manner and give alternate routes around the roadblock so that drivers may proceed in an orderly fashion. Write fewer releases but make them more informative with critical information that the public needs to know.

SCHEDULE OF CORRECTIVE ACTIONS: The PIO office requested a staff assistance visit slated for July 25, 2005 with FEMA Region 1 public information staff. That has occurred with considerable success. The PIO staffing will reflect an office supervisor with the authority and responsibility to insure the accuracy of all documents prior to their release. The number of press release templates is currently under review and will be reduced in both number as well as content. Press releases will only be issued with a number at time of issuance. The Agency of Agriculture protocol indicating that farmers should milk their cows prior to evacuating will be deleted. Rationale: in no other case does the State advise farmers on steps to take prior to evacuation.

REMEDIAL ACTION DEMONSTRATED: This was successfully re-demonstrated during a remedial exercise on August 18, 2005. The Vermont Emergency Management Agency provided accurate emergency information and instructions to the public and the news media in a timely manner. All news advisories were issued in sequential order. There were a total of nine press releases issued. Additional information was released in the form of talking points which were dispensed to the media at the JNC. All pertinent information was released to the public in an accurate manner. The number of news releases was reduced dramatically. This considerably reduced the number of mistakes previously made during the May exercise. The successful re-demonstration of this criterion corrects the deficiency 67-05-5.b.1-D-03.

c. AREAS REQUIRING CORRECTIVE ACTION: 1.c.1, 3.b.1, 3.e.2

ISSUE: 67-05-1.c.1-A-01

CONDITION: Due to the last minute non-participation by the Vernon Emergency Director, one of the Town's Selectmen had to assume the position of the Emergency Director. According to this Selectman, he had never performed this function before. Although he did the best he could under the situation, the Direction and Control of exercise activities at the EOC suffered. For example, although he followed his own implementing procedure throughout the exercise, he often had to ask other EOC staff members for clarification on who had to perform certain actions. This lack of experience and knowledge on the Town's response actions may have resulted in the late activation of the sirens.

POSSIBLE CAUSE: The last minute non-participation in the exercise by the Vernon Emergency Director, and the inexperience in the position by the Selectman.

REFERENCE: NUREG-0654, A.1.d, A.2.a, A.2.b.

EFFECT: Direction and control in the EOC suffered since the acting Emergency Director often had to ask other EOC staff members for clarification on who had to perform certain actions. This also may have resulted in the late activation of the sirens.

RECOMMENDATION: Provide additional training to Vernon officials who may have to assume the position of Emergency Director on short notice

SCHEDULE OF CORRECTIVE ACTIONS: Additional "cross training" of persons in the Vernon EOC (all other facilities as well) will be conducted as requested. Additional table top exercises with different people playing different roles will be conducted in FY 06. Additional recruitment of EOC workers will be conducted in FY 06 to provide additional personnel. Procedures will be reviewed to ensure that all functions such as assigning a person to activate the sirens is placed in the appropriate procedure in the event that less experienced personnel are assigned. This issue will be put on the Vernon Select Board Agenda for discussion and action.

ISSUE: 67-05-1.c.1-A-02

CONDITION*:* During the Ingestion Phase portion of the exercise on Day 3, The Incident Field Office only had the Exclusion Area Map. They were unaware of other maps showing the food control zones as established at the State Emergency Operations Center. Traffic and access control points were only established for restricting access into the Exclusion Zone (restricted area). It was the IFO's understanding that the Exclusion Zone was the same area as the food control and that the access control point for the exclusion area was also for the food control zone.

POSSIBLE CAUSE: Accurate information and maps showing the food control zone were not received from the State Emergency Operation Center. There was a lack of communication from the State Emergency Operations Center to the IFO.

REFERENCE: NUREG-0654 J.9.11

EFFECT: The IFO did not provide access and control of the correct food control zone and underestimated the number of access control points and manpower needed to control the food control zone.

RECOMMENDATION: Ensure that the State Emergency Operations Center establishes a communications link with the IFO to relay accurate and timely information, and to include the IFO in decision making conferences. Ensure that the IFO has all the correct maps when discussing resources obtained from the IFO.

SCHEDULE OF CORRECTIVE ACTIONS: This criterion is under review and the response expected at the IFO will be described better in the extent of play for the 2011 exercise. Methods of providing detailed maps to EPZ facilities from either the State EOC or the FRMAC will be improved.

ISSUE: 67-05-3.b.1-A-03

CONDITION: The potassium iodide (KI) tablets available at the following child day care centers had an expiration date of January 2005: Lisa's Child Care in Guilford, Vermont, Pitter Patter Child Care in Halifax, Vermont; Kim's Day Care in Brattleboro, Vermont; and Carol Wood's Day Care in Dummerston, Vermont. No letter extending the lifetime of the KI was available at any of the three above mentioned locations.

POSSIBLE CAUSE: The State of Vermont Department of Safety either did not provide KI tablets to the day care centers to replace the expired KI tablets or did not provide documentation to the day care centers that the KI expiration date had been extended.

REFERENCE: NUREG J.10.e

EFFECT: While the pills may still be effective and safe, the date indicating the tablets had expired might cause the day care providers to delay administering them to the children in their care or not to administer them at all, believing the tablets are unsafe and/or ineffective. Pills that are no longer effective would fail to protect the children from the uptake of radioiodine during an incident.

RECOMMENDATION: If the expiration date has been extended, documentation should be included indicating the new expiration date. If the expiration date has not been extended, the State of Vermont Department of Safety should replace the expired KI tablets.

SCHEDULE OF CORRECTIVE ACTIONS: Subsequent to the exercise a letter from the Manufacturer (RECIP) listing the lot numbers of the KI being extended was requested and received from the manufacturer. A copy of that letter was sent to FEMA Region 1. A copy of that letter has also been sent to the VEM Brattleboro office. Distribution to child cares centers will occur during the plan review process or as staff meet with child care center staff to ensure that it (or an easy to understand notice referencing the FDA letter and the RECIP notice) is placed with the KI as soon as practical.

ISSUE: 67-05-3.e.2-A-04

CONDITION: The briefing notes for the precautionary actions for the ingestion pathway did not include specific information about the location the actions should be taken. During the news briefing at the Joint News Center (JNC) on the afternoon of May 25, 2005, the location where precautionary actions were to be performed was limited to the towns of Vernon, Guilford, and Halifax. It should have included those three towns as well as the towns of Whitingham, Readsboro, Stamford, Bennington, Woodford, Searsburg, Willington, Marlboro, Brattleboro, and Pownal.

POSSIBLE CAUSE: The briefing notes were not reviewed by Agency of Agriculture (AG) or Agency of Natural Resources (ANR) personnel prior to being sent to the JNC. Vermont (VT) Department of Health (VDH) only had the opportunity to perform a cursory review. JNC staff did not contact the VT Emergency Operations Center (EOC) staff with any questions prior to the briefing at the JNC. AG, ANR, and VDH staffs at the JNC were not contacted by their counterparts at the VT EOC prior to the briefing to discuss the notes because of miscommunications about the timing of the briefing.

REFERENCE: NUREG-0654, E.7

EFFECT: Precautionary actions for the ingestion pathway were not immediately implemented. A very small fraction of internal dose may have been received because of consumption of contaminated foodstuffs outside of the towns of Vernon, Guilford, and Halifax.

RECOMMENDATION: Develop a standardized form for ingestion pathway protective actions that include specific descriptions of where the actions are to be implemented. Ensure that all agencies that provide input for news advisories or briefings have the opportunity to review the information prior to distribution.

CORRECTIVE ACTION DEMONSTRATED: On the morning of May 26, 2005, the AG, ANR, and VDH staffs were informed that the briefing notes were not specific enough. A roundtable discussion ensued and it was realized that the areas that actions were to be taken were not specified. A final news advisory was developed and issued at approximately 1400 on May 26, 2005. In this news advisory, the specific areas where actions were to be taken were detailed ("exclusionary zone" was changed to "restricted zone," and the area in the deposition zone and one town north was identified as the

"buffer zone"). Since the areas for the ingestion protective actions that had been misidentified the day earlier were for long term ingestion of products, the actual risk to members of the public that had not taken the actions would be minimal.

ISSUE: 67-05-5.b.1-A-05

CONDITION: Press release number seven indicated that the information was for the residents of Brattleboro, Dummerston, Guilford, Halifax, and Vernon, VT. The primary subject matter of the release was the Governor's "ordered" evacuation for Guilford, Halifax, and Vernon residents. The release mixed the terms "ordered" with "should" leaving open the possibility that residents might have thought they still had an option regarding evacuation. In addition, nowhere else in the release did it indicate what residents of Brattleboro and Dummerston should do, even though the initial sentence in the release indicates that the news releases was for the residents in those communities. The press release should've stated that no further actions were necessary for the residents living in Brattleboro and Dummerston.

The release indicated the level of emergency as a General Emergency and also stated that the Governor had ordered an evacuation, but later in the release it stated that there was no immediate danger. These statements are confusing and could lead to uncertainty as to the magnitude of the situation.

POSSIBLE CAUSE: In reducing the number of press releases produced, the releases that were created contained more information in each and when templates are used, this can create some problems if the releases are not proofread very closely to avoid confusing language.

REFERENCE: NUREG-0654, E. 5., 7., G.3.a., G.4,a.,b.,c.

EFFECT: What resulted was a lack of attention to detail and some possibly confusing wording. The mixing of terms like "ordered" and "should" to describe evacuations has the potential to confuse some listeners. This is particularly troublesome when they are used in back-back sentences as in press release #7. This could have created some confusion to listeners that they still had an option to stay at their location and not evacuate as was ordered by the Governor.

RECOMMENDATION: In balancing the need to get accurate information out in a timely manner, spending some extra time reviewing information to ensure accuracy while reducing confusion is important. It might be necessary to designate the deputy to be responsible for the overall content of a press release as they are in a better position to understand and monitor the flow of information. Working closely with the writer, the deputy can scrutinize the release at a much more detailed level then the Lead or other Sr. staff. Having an outside reviewer who only reads the releases but isn't involved in the information processing may not catch confusing statements as was the situation in this case.

SCHEDULE OF CORRECTIVE ACTIONS: The addition of a "Deputy" PIO Position will be considered. This position will direct the PIO staff when the PIO is attending briefings and decision maker meetings and will be responsible for ensuring the accuracy and quality of outgoing EAS messages, talking points, and news releases.

Vermont will request that the FEMA PIO review and comment on procedures, templates, fact sheets, etc. as well as observe training and drills and provide other PIO related assistance.

Staff from Vermont will observe exercises, drills, and practical training of other organizations outside of Vermont to obtain additional insight into how to improve the Information Office. The Chief of the Vermont Radiological Emergency Response Planning Program observed the Millstone Unit 2 off-year drill on September 1, 2005 at the State EOC in Hartford, Connecticut. Staff will be sent to other drills and exercises as well as assisting at actual non-radiological incidents.

Additional training will be provided to PIO staff to include substantial "cross training" to address the likelihood that all of the needed staff may not be immediately available. Included in the training will be periodic practical exercises for the PIO staff designed to improve team work and the quality of communications with the public. Selected members of the PIO staff will be provided advanced training.

The PIO templates will also be reviewed to reduce the likelihood of creating confusion. The PIO staff positions will be analyzed to determine if any positions should be combined or realigned.

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: 1.a.1, 5.b.1

ISSUE: 67-03-1.a.1-A-01

CONDITION: The exercise of an administrative paging to all Emergency Management and State Agencies staffs at approximately 0615 hours, to advise them of the evaluated exercise and time to report to their emergency position location did not permit an adequate evaluation on the ability of the Emergency Management and State Staff to mobilize for an emergency. This created a pre-positioning condition of players that would not normally be employed at the Emergency Management EOC. The VT RERP calls for alerting Emergency Management staff at the Alert ECL and the State Staff members to respond at the Site Area Emergency (SAE). Emergency Management and State staff. Members were arriving and reporting for duty during the first Unusual Event (UE). These actions of reporting for duty so early was beyond the intent of the agreed upon extent of play. Pre-positioning staff prior to time specified in the plans and procedures for the appropriate Emergency Classification Level. This early arrival of staff made it extremely difficult to evaluate the ability of Emergency Management to actually mobilize the required staff for emergencies. This could have caused an aggravation on the part of

various staff members who received multiple pagings for the same issue and would not respond to every page because the response lines were to busy and or the message attendant was also busy to wait for the appropriate emergency message.

RECOMMENDATION: Do not conduct administrative paging prior to scheduled exercises with the possibility to confuse staff members when it is known that they will be paged for subsequent events, during exercise play. Establish stringent controls not to allow staff access to the EOC unless they have specific authority to do so.

SCHEDULE OF CORRECTIVE ACTION: The State of Vermont will work with FEMA to develop a way to practice notification and mobilization separate from the evaluated exercises and will develop more stringent and better enforced access control to the State EOC.

CORRECTIVE ACTION DEMONSTRATED: On May 24, 2005, demonstration of mobilization of emergency personnel for the State Emergency Operations Center (EOC) was completed according to current plans and procedures. There was no pre-positioning of response personnel. The exercise began at 0821 when the State Warning Point (SWP) received a call on the Nuclear Alert System (NAS) from the Vermont Yankee Control Room Communicator indicating that an Alert Emergency Classification Level (ECL) had been declared. After verifying that the call was accurate, the SWP Dispatcher began the systematic paging of the State Agencies required to respond to the Alert Notification. At 0955 the SEOC was fully staffed and operational. This action corrects the previous ARCA # 67-03-1.a.1.-A-01.

ISSUE # 67-03-5.b.1-A-3

CONDITION: Trends developed by the public inquiry office were submitted to public information but were never incorporated into news releases. Seventy-eight concerns were identified resulting in thirteen trends. Public concerns were not being addressed. Many people expressed concerns yet they were not answered by using news advisories.

RECOMMENDATION: Instruct public information personnel to be watchful for trend information as the public inquiry office provides it. Provide additional training to public information personnel.

SCHEDULE OF CORRECTIVE ACTION: Vermont will review procedures and revise training to ensure that the Information Officer staff is more watchful for trend information.

CORRECTIVE ACTION DEMONSTRATED: During the Plume Phase of the exercise, 126 calls were received by Vermont 911 Operators staffing the Public Inquiry Office. Twelve trends were identified, quickly and properly processed, and eight news advisories were dispatched to address the public concerns related to the identified trends.
ISSUE # 67-01-11-A-03 (5.b.1)

CONDITION: The first EAS message included actions taken for special populations such as schools, hospitals, nursing homes, and reception areas in addition to the evacuation of Vernon. Subsequent EAS messages did not contain complete information for special populations due to time limitations. Follow on news briefings and news releases did not contain this information either. (NUREG-0654, e.7). Public schools could have been misinformed or received wrong and conflicting information.

REASON ARCA UNRESOLVED: This ARCA remains not corrected. EAS messages and news advisories did not contain clear emergency information, relative to nursing homes and hospitals that were evacuated and where were the clients/patients going. Also instructions for transients and non-residents were asked to evacuate and were given only compass directions rather than specific route numbers.

SCHEDULE OF CORRECTIVE ACTION: Vermont will thoroughly review and revise the Information Officer procedures and require persons filling the information officer staff positions to attend training. Vermont will also develop additional staff that can fill in when members of the Information Officer staff are unable to respond.

CORRECTIVE ACTION DEMONSTRATED: The first Emergency Alert System (EAS) message contained information for special populations to include nursing homes, hospitals, childcare centers, schools, boaters, non-residents and visitors to State Parks and recreational areas. Subsequent news advisories provided sufficient expanded details to implement protective actions for special populations.

f. PRIOR ARCAs - UNRESOLVED: None

1.2 Emergency Operations Facility

The nuclear engineer who carried out the function of liaison from the utility Recovery Management and the Commissioner of Public Safety (stationed at the EOC) performed in an outstanding manner in his numerous and timely packets of information to help the decision maker in the State EOC. Even the utility engineers obtained this data, the Public Safety Engineer adroitly used the ERDS to obtain plant parameters and forward these data onward to the EOC. He performed in a professional and enthusiastic manner.

a. MET: Criterion 1.a.1, 1.e.1, 2.b.1, 3.a.1, 3.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: 1.d.1, 3.a.1

ISSUE: 67-05-1.d.1-A-06

CONDITION: Contrary to the Extent of Play, the Vermont station at the Emergency Operations Facility (EOF) was not able to demonstrated two means of communications between the Field Team Coordinator's (FTC) position and either the Vermont Field Teams or the State EOC. The only device available at the Field Team Coordinator's

position was the phone.

POSSIBLE CAUSE: Lack of equipment.

REFERENCE: F.1.2

EFFECT: Should the usable phone connection be lost, there would not be a means to communicate with the field teams or with the SEOC.

RECOMMENDATION: Purchase or place additional communications equipment at the FTC position, or incorporate RACES personnel into the field teams with an operator assisting the FTC as necessary.

SCHEDULE OF CORRECTIVE ACTIONS: A statewide communications study is now being conducted that will make recommendations for better emergency communications for all towns and State Agencies. This is being funded by the Homeland Security Unit with Department of Homeland Security funds. There may also be an opportunity to work with the States of New Hampshire and Massachusetts and ENTERGY because it appears to be a common problem in the area around Vermont Yankee. There may be opportunities to utilize existing systems or to pool resources with other organizations to make costs more reasonable. A second means of communication will be implemented. Part of the assignment will be to differentiate primary and secondary means.

ISSUE: 67-05-3.a.1-A-07

CONDITION: Personnel who reported to the Vermont Emergency Operations Facility (EOF) first reported to the Incident Field Office (IFO) for dosimetry and potassium iodide (KI) as per Vermont's Radiological plan. State Liaison and Radio Amateur Civil Emergency Service (RACES) personnel were issued dosimetry and KI. The Field Team Coordinator (FTC) arrived at the EOF without any of the required equipment or simulated KI.

POSSIBLE CAUSE: Discussions with other response personnel indicate that the FTC arrived at the IFO, but left that location without taking his dosimetry packet.

REFERENCE: K.3.a, K.3.b.

EFFECT: The consequence of not having the proper dosimetry is dependent on whether this person had to evacuate the EOF. Since almost all the personnel in the EOF had dosimetry/KI, the FTC conceivably could have been logged onto someone else's exposure record card so long as the workers stayed in the same general area of the EOF. That would also hold true if EOF personnel were to evacuate the EOF to another location. However, if the FTC were to leave the EOF without dosimetry/KI unaccompanied, then his/ her exposure could not be determined

RECOMMENDATION: Prior to leaving the IFO, personnel should be checked to ensure that required equipment is in their possession. In addition, additional training/familiarization with emergency worker procedures should rectify this omission.

SCHEDULE OF CORRECTIVE ACTIONS: Provide additional training to all field team members including the Coordinator. Include in the coordinator's procedure a reminder to either take dosimetry and KI from the team kits or obtain it at the IFO. Create a special kit for the Coordinator and have it with the field team kits containing dosimetry and KI.

d. NOT DEMONSTRATED: None.

e. PRIOR ARCAs - RESOLVED: 1.b.1, 1.c.1

ISSUE: 67-03-1.b.1-A-4

CONDITION: The State Assembly Room at the EOF is the designated working area for Massachusetts, Vermont and New Hampshire responders to the facility. The room is too small and crowded when considering the functions to be conducted at that location. Both New Hampshire and Massachusetts direct their respective field teams from that room. Massachusetts also performs dose assessment from that location. All three states perform their liaison functions to their respective State EOCs from that room. This results in cramped working areas and excessive noise levels. Briefings and public address announcements were difficult to hear and added to the difficulties in communicating via telephone or radio to field teams.

The impact of the small, loud working conditions is increased stress for the responders, the potential for missing important information being transmitted, and that of having communications from the EOF being misunderstood.

RECOMMENDATION: The working area for the states needs to be larger, with consideration of means of muffling noise levels from radios. Having all three states in the same room has some advantages for interstate communications at the EOF, but this is not an absolute requirement. Adjoining rooms could be a workable solution.

SCHEDULE OF CORRECTIVE ACTION: Vermont Yankee is considering a number of options to resolve the over crowding in the State's Room at the EOF. One of these involves a move from room 117 to rooms 121 and 122. Vermont Yankee will consult with the three states to resolve this issue.

CORRECTIVE ACTION DEMONSTRATED: The re-assignment of workspace from State Assembly Room (Room 117) to the Rad Assessment Area (Room 121) rendered both rooms well utilized without being cramped and crowded. In addition, it helped to reduce the noise level of both rooms.

ISSUE: 67-03-1.c.1-A-2

CONDITION: The Vermont Field Team Coordinator failed to deploy state Field Teams to a location in time to locate, identify and accurately project the plume. As a result, they caught the tail end of the plume and did not measure the iodine and did not make any reports to the dose assessment team at the SEOC about the plume, especially that it contained iodine. Meanwhile, the SEOC made a decision at 1210 to issue a complete evacuation of the Town of Vernon and of special needs populations in all Vermont EPZ towns. The decision was broadcast at 1223 and implementation began soon after.

RECOMMENDATION: Update State Plan and Implementing Procedures to direct field teams to inventory and check equipment at an earlier time, e.g., Site Area Emergency, or prior to departing assembly area.

SCHEDULE OF CORRECTIVE ACTION: The State Plan and Health Department procedures and SOPs will be reviewed and revised as required to clearly direct the Team as to what procedures it may fulfill earlier in the mobilization process and thereby expedite their deployment.

CORRECTIVE ACTION DEMONSTRATED: Both field teams were able to get data from the western edge of the simulated plume.

f. PRIOR ARCAs - UNRESOLVED: None.

1.3 Joint Information Center

The three participating groups were faced with the difficult task of coordinating the messages developed throughout the course of the exercise, but they made a concerted effort to make sure that the task was carried out in a successful manner. Dealing with three states, the Public Information officers (PIO) made sure that prior to any briefings that they would go over each others message, and coordinate the overall purpose and message of each briefing. The three PIO's would meet and discuss the times of each briefing. Just prior to conducting the briefing, the three PIO's would gather and do a final run through of the main topic, the order of the speakers, and confirm that everyone's requested graphics were present and ready for display. Following the briefings the group would meet to discuss the strengths and weaknesses of the briefing, and set the stage for additional briefings. The coordination between the three groups was a positive aspect of the Media Center.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1

b. DEFICIENCY: None.

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: 1.a.1

ISSUE: 67-03-1.a.1-A-5

CONDITION: Vermont Joint News Center (JNC) staff mobilized to the JNC earlier than agreed to in the extent of play agreement. Vermont Joint News Center (JNC) staff was paged to mobilized to the JNC prior to the Notification of Unusual Event (UE) Emergency Classification Level (ECL). This Administrative page-out was in accordance with the extent of play. However, the extent of play allowed only for staff to preposition in a nearby location for mobilization at the time prescribed by the plan. The first Vermont PIO staff person arrived at the JNC at 0910, at the Alert ECL. The two additional staff arrived 0945, again at the Alert ECL. JNC procedures state that at the UE there is no notification; at the Alert they receive notification and are put on standby to await further information; and, at the Site Area Emergency they are to report to the JNC. This created an inability to adequately evaluate the State's ability to mobilize staff in a timely manner.

RECOMMENDATION: Mobilizations should be "real time" or, if pre-positioning is allowed in the extent of play agreement it should be demonstrated as agreed. If the State wishes to activate the NMC/JIC prior to the Site Area Emergency ECL they should modify their plans accordingly.

SCHEDULE OF CORRECTIVE ACTION: The Implementation Plan for the Joint Information Center (JIC) liaison personnel will be revised to direct personnel to report at Alert. If personnel report and the situation does not require their participation, they may be released. In future exercises the extent of play will provide a specific pre-assembly location.

CORRECTIVE ACTION DEMONSTRATED: The Vermont Joint News Center staff demonstrated the corrective action adequately. The state modified their plan stating that the JNC staff could arrive during the Unusual Event ECL following proper notification. The JNC staff demonstrated this by reporting to the JNC at 0930, approximately one hour after notification and during the Alert ECL. This action allowed for demonstration of staff mobilization in a timely manner.

f. PRIOR ARCAs - UNRESOLVED: None

1.4 Radiological Field Monitoring Teams

Day 1 Plume Phase Field Team #1 was comprised of two members of the Vermont State Hazardous Materials Team. Team members were intent on performing the task properly. The Team demonstrated an exemplary desire to comply with procedures. Whenever procedures were unclear team members sought guidance from the Plume Tracking Team Director. During Day 2 Ingestion Phase, there was excellent cooperation between team members. Team members were knowledgeable and professional.

a. MET: 1.a.1, 1.c.1, 3.b.1, 4.a.1, 4.a.2, 4.a.3

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: 1.d.1

ISSUE: 67-05-1.d.1-A-08

CONDITION: Available communication systems could not provide continuous communications coverage (as required by NUREG-0654, F.1, 2) to or from the remote locations of the plume tracking team.

POSSIBLE CAUSE: Communications systems have not been fully tested for continuous operations throughout the 10-mile Emergency Planning Zone (EPZ).

REFERENCE: NUREG-0654, F.1, 2

EFFECT: In some areas, important radiological data cannot be provided to the Vermont Yankee Power Plant Emergency Operations Facility (EOF) in a timely manner, therefore, characterization of the release and control of radiation exposure to emergency workers and the public cannot be assured.

RECOMMENDATION: Procure and test a communications system that will provide continuous coverage throughout the 10-mile EPZ.

SCHEDULE OF CORRECTIVE ACTIONS: Additional testing of communications systems throughout the 10 mile EPZ as well as the 50 mile EPZ will be conducted. This issue will be added to the assignment of the communications work group mentioned above.

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

1.4 Incident Field Office

Throughout the exercise the IFO Coordinator demonstrated good command and control of the facility. There was excellent communication between the various agencies that were represented. This was the first exercise that the VT RACES was used at this location. They were a major factor of the excellent communication at the IFO. RACES were pro-active and played a key role in the IFO getting information. The Operation Coordination kept an excellent "log" of all the events. The American Red Cross and Rescue Inc. were integrated into the organization and provided valuable input in discussions and services provided.

a. MET: 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2, 3.f.1

b. DEFICIENCY: None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

1.5 Alternate State Warning Point (Rockingham)

The dispatcher that received the initial alert from Vermont Yankee handled the call expeditiously and expediently. The procedures that the team of four dispatchers followed for the alert were impressive. In the interim, actual emergency calls were coming in and they still were able to do the exercise procedures without interruption. The team handled everything that was going on, for both actual emergencies and the exercise. The dispatch team was professional and knowledgeable. Staff knew their procedures for an emergency at the Vermont Yankee Nuclear Power Plant.

a. **MET:** 1.c.1, 1.d.1, 1.e.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

1.6 State of Vermont Department of Public Health Laboratory

The laboratory functioned as a well trained and highly experienced team. Each individual displayed an in depth knowledge and expertise in executing his/her responsibilities and duties. Their high level of competency and their great attitude was impressive.

a. **MET:** 1.b.1, 1.c.1, 1.d.1, 1.e.1, 4.c.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

2. RISK JURISDICTIONS (VERMONT)

2.1 Brattleboro

The Brattleboro Town Manager served as the Emergency Management Director (EMD) for this exercise. He provided overall direction of his Police, Fire, Human Services, Transportation, Public Works, Radiological, Supply and Administrative staffs located in the command and control area of the Town Emergency Operations Center (EOC). He provided frequent briefings (at least twenty during the exercise) for his staff and ensured information was shared as needed to respond to the emergency. He encouraged direct communications between members of his staff and between their subordinates to ensure all responders were kept current of relevant information needed to carry out their assigned responsibilities. He ensured all staff members completed their position "checklists" and kept good message logs so that nothing would be inadvertently forgotten or missed. Where information contained on incoming messages was confusing or conflicting, he ensured follow up was made to clarify the information so that proper response activities could be made. He also encouraged his staff to be proactive and think ahead enabling a more timely response as conditions deteriorated (simulated) at the Vermont Yankee Nuclear Station. The command and control demonstrated in the Town EOC was excellent.

a. **MET:** Criterion1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** 5.a.1

ISSUE: 67-03-5.a.1-A-06

CONDITION: The Brattleboro Emergency Operations Center (EOC) did not receive the test message sent by the National Weather Service (NWS). If this were an actual event, the Brattleboro EOC would not have received an important Emergency Alert System (EAS) message.

RECOMMENDATION: Determine why the message was not received. Verification at the next regularly scheduled test is necessary.

SCHEDULE OF CORRECTIVE ACTION: Although the tone alert radio at the EOC in Brattleboro did not receive the signal it was received one floor above them in central dispatch. Four things will be done to resolve the issue:

1. Attach an antenna to the radio in the EOC.
2. Revise the Communications Officer procedures to include calling central dispatch to see if they received the signal.
3. Revise the central dispatch procedure to inform the EOC any time they receive a tone alert signal and message.
4. Replace the existing radio in the EOC if needed.

CORRECTIVE ACTION DEMONSTRATED: The Emergency Alert System (EAS) Test message was received at 1055 in the Emergency Operations Center (EOC) Communication room. Procedures had been changed for the Communications Officer and Central Dispatch (each with a National Weather Service Radio) to verify with each other that EAS messages are being received. All proposed corrective actions were taken.

f. PRIOR ARCAs - UNRESOLVED: None

2.2 Dummerston

The staff was professional, knew their assigned duties and worked well together as a team. The radiological officer provided an excellent briefing to the Emergency Operations Center (EOC) Staff. The Radiological Officer reminded the staff to check their dosimeters at the required time intervals.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

2.3 Halifax

The Emergency Management Director at the Town of Halifax Emergency Operations Center (EOC) demonstrated strong leadership and communication skills. For example, the Emergency Management Director openly and constructively discussed necessary protective active decisions with the Select Board members, arriving at consensus decisions quickly. The Emergency Management Director and the Communications Officer also kept excellent communication logs and records. The Communications Officer was engaged, asking questions and seeking clarifications from the State Emergency Operations Center. All staff at the EOC demonstrated a sincere concern for the welfare of the residents of Halifax.

a. MET: Criterion 1.a.1, 1.d.1, 1.e.1, 2.a.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.b.1

b. DEFICIENCY: 5.a.3

ISSUE: 67-05-5.a.3-D-04

CONDITION: When the sirens failed (according to controller inject), the Emergency Management Director instructed two teams of emergency workers to initiate back-up route alerting for the two routes in Halifax. Halifax has two teams and two routes. For demonstration purposes, only one team was actually sent out. The team sent out consisted of two members of the Halifax Highway Department. They commenced their out-of-sequence route alerting at 1513. The team used the methodology set out in the Halifax Radiological Emergency Response Implementing Procedures, IP-3, for performing the route alerting, but did not complete the route until 1627, well beyond 45 minutes from the observed failure of the primary alert and notification system.

POSSIBLE CAUSE: The route alerting team alerted residents residing in a section of Halifax that was not included on the route map contained in the procedures. The route included large stretches of narrow, unpaved road, minimizing the chances that this additional travel could have been accommodated in addition to the route listed in the procedures.

REFERENCE: NUREG-0654, E. 6, Appendix 3.B.2.c.

EFFECT: Some members of the public would not have received timely notification of a protective action decision and been subject to unnecessary radiation exposure.

RECOMMENDATION: The procedures should be amended to recognize new residences in the City of Halifax and the EOC should develop an additional route to cover this territory.

SCHEDULE OF CORRECTIVE ACTIONS: In order to meet the 45 minute time requirement, the State will work with the town to make appropriate changes to divide the route into two separate routes. A re-demonstration of the route will be completed on July 26, 2005.

REMEDIAL ACTION DEMONSTRATED: On July 26, 2005, the Halifax route was re-demonstrated. The route was divided into two separate routes. FEMA evaluators evaluated both routes. The routes were divided and labeled “route one” and “route two.” Each team, consisting of two town employees used a “Galls Street Thunder” loudspeaker to alert residents to tune to their local EAS station. Per the Town plans, the route alerting teams were pre-positioned at the beginning of each of the routes. The teams were deployed to stage at the beginning of the route at approximately 1706. The teams had radio contact with the local EOC to notify them to begin the route and for the team to notify the EOC at the conclusion of the route. The team notified the EOC when they arrived at the beginning of the route. At 1714, teams were directed to begin the route alerting demonstration. The route alerting vehicles drove slowly along the route to ensure

residents would be able to hear clearly the emergency message broadcast on the loudspeaker. "Route one" was completed in 27 minutes and "route two" was completed in 38 minutes. The successful completion of the route alerting demonstration, under 45 minutes, corrects the deficiency.

c. AREAS REQUIRING CORRECTIVE ACTION: 1.c.1, 3.a.1, 3.b.1

ISSUE: 67-05-1.c.1-A-09

CONDITION: Staff in the Halifax Emergency Operations Center (EOC) did not usually refer to their procedures and did not always follow their procedures exactly. For example, the procedure for shelter-in-place instructs the Emergency Director to dispatch an Emergency Worker to quickly tour the town to ensure residents are off the roads and then notifies the Incident Field Operations (IFO), when the residents are in their homes. Although, the Director and a member of the Select Board discussed sending someone to perform route alerting, they decided that this was not necessary since residents had already been advised to tune to their radios. Route alerting had been simulated during the initial alert and notification sequence.

POSSIBLE CAUSE: Lack of training on importance of following procedures

REFERENCE: Halifax Plans and Procedures

EFFECT: Plans and procedures were not followed accordingly.

RECOMMENDATION: Train staff on the importance of following plans and procedures.

SCHEDULE OF CORRECTIVE ACTIONS: During plan review Halifax officials will be queried on this item in the procedures to ensure that they feel that this task is necessary. If they do not or feel that there might be extenuating circumstances, the procedures will be revised. EOC staff and other emergency workers will be trained on the procedures as revised. EOC staff and other emergency workers will be trained on the need to use and follow plans and procedures.

ISSUE: 67-05-3.a.1-3.b.1-A-10

CONDITION: The Radiological Officer (RO) was unprepared to brief emergency workers after the Site Area Emergency Classification Level was declared. The RO did not understand use of dosimetry, radiation reporting levels, and emergency worker limits. The emergency workers were unprepared to use dosimetry, and report and respond to dosimetry readings.

POSSIBLE CAUSE: The RO was a last minute substitute for the scheduled, experienced RO and was not adequately trained in the responsibilities of a radiological officer. He was also not trained adequately to use the materials at hand to educate himself

to perform the required tasks.

REFERENCE: NUREG-0654, K.3.a, b

EFFECT: Emergency workers with responsibilities in the Emergency Planning Zone would have been unprepared to protect themselves from radiation exposure.

RECOMMENDATION: Develop a detailed script or checklist in case a substitute for the scheduled RO is called in during an actual radiological emergency.

CORRECTIVE ACTION DEMONSTRATED: This was re-demonstrate out-of-sequence at the conclusion of the exercise. The RO was adequately trained to provide a bare-boned, but adequate, briefing for emergency workers during the re-demonstration. The emergency workers who were briefed demonstrated that they had received adequate information on dosimetry and dose limits. The emergency workers who were briefed demonstrated that they had received adequate information on the purpose for taking KI, dose patterns, and avoiding KI if allergic to iodine or shellfish.

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: 1.e.1

ISSUE: 67-03-1.e.1-A-07

CONDITION: No KI was available at the Halifax EOC for emergency workers. This could affect the town's ability to ensure the health and safety of its emergency workers.

RECOMMENDATION: Ensure KI is available at the Halifax EOC for emergency workers.

SCHEDULE OF CORRECTIVE ACTION:

1. The KI has been replaced in Halifax.
2. It is in a locked file cabinet in the EOC.
3. A list of the drawer contents will be affixed to the outside of the drawer.
4. The new town emergency management director has been made aware of the problem and will inventory the drawer more often.

CORRECTIVE ACTION DEMONSTRATED: The Emergency Management Director maintained adequate supplies of KI at the EOC and produced the KI for distribution to emergency workers during the exercise.

f. PRIOR ARCAs - UNRESOLVED: None

2.4 Guilford

The facility was rapidly activated and staffed, and functioned well during the exercise.

The Emergency Management Director demonstrated excellent command and control as well as providing frequent briefings and updates. There was a shift change of the Communications Officer position and both individuals maintained excellent communications and related logs.

a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** 3.a.1

ISSUE: 67-03-3.a.1-A-08

CONDITION: The RADEF officer was not available for this exercise; the EMD assigned two staff personnel who only handed out the 0-20R direct reading dosimeter and a TLD. However, although this is not in accordance with their plan, the distribution of the dosimetry included a briefing on its use.

RECOMMENDATION: Train additional EOC staff in the RADEF position.

SCHEDULE OF CORRECTIVE ACTION: The title "RADEF" Officer is no longer valid. The procedures now uniformly in all towns call it "Radiological" Officer. Additional personnel will be recruited to be Radiological Officers and larger group of the Guilford EOC staff will be cross-trained to fill that position in the event that the primary persons can not respond.

CORRECTIVE ACTION DEMONSTRATED: The Emergency Director, acting as the Radiological Officer conducted a thorough radiological briefing which included the use of direct reading dosimeters, TLDs and potassium iodide. A member of the Emergency Operations Center Staff (an emergency worker) was questioned concerning his understanding of call in and call back values as well as frequency of reporting requirements. He was thoroughly familiar with these requirements as well as the need for, and authorization for, the use of potassium iodide.

f. **PRIOR ARCAs - UNRESOLVED:** None

2.5 Vernon

Because of the last minute non-participation by The Vernon Emergency Management Director, one of the selectmen had to assume the duties of the director on the morning of the exercise. Although never having served in the role of EMD, he did a commendable job. He was eager to perform well and did an outstanding job in spite of not having

performed in this capacity prior to the exercise. He is an example of the true dedication of the towns' volunteer ability to serve the community. Both the Acting Director and the other EOC staff members maintained a positive attitude in performing their activities and supporting each other during a difficult situation.

a. **MET:** Criterion 1.e.1, 2.a.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.3, 5.b.1

b. **DEFICIENCY:** 5.a.1

ISSUE: 67-05-5.a.1-D-05

CONDITION: During the first alert and notification sequence, the State of Vermont requested that sirens be sounded at 1052. However, Vernon officials did not activate the sirens until 1100. In addition, the sirens were actually sounded, whereas the exercise extent-of-play stipulated that the sounding of sirens be simulated.

At 1322 a radio message from the State of Vermont requested that the second alert and notification sequence sirens be activated at 1309 and an Emergency Alert System (EAS) message be aired at 1312. Although the requested siren activation time clearly was 13 minutes prior to the actual receipt of the request, Vernon officials made no attempt to request clarification from the State, and did not perform or simulate siren activation.

POSSIBLE CAUSE: It is not clear in the plan and procedures who activates the sirens. Also, because of the inexperience of the acting Emergency Director, who was assuming the Director's responsibilities at the last minute, he did not immediately assign someone to activate the sirens at the appropriate time, and to only simulate the activation. Vernon officials may not have realized that they were still required to activate the sirens, and may have thought that sirens would be activated by Brattleboro.

REFERENCE: NUREG-0654, E.5, E.6, E.7

EFFECT: Since the Emergency Alert System (EAS) message was aired at 1055, and the sirens were not sounded until 1100, the public in Vernon would not have been alerted to listen to their radios for the EAS message due to the late sounding of the sirens. In addition, the actual sounding of the sirens during the exercise, rather than simulated, may have unnecessarily alarmed the public.

RECOMMENDATION: Provide additional training to key officials who may have to assume the responsibilities of the Emergency Director. Training should include the importance of activating the public alerting sirens precisely at the time requested by the State, identifying an individual to perform the activation, and noting that during drills and exercises activation of sirens need only be simulated, not actually sounded. Training should also emphasize the need to seek clarification from the State if the requested timing of siren activation is inconsistent.

SCHEDULE OF CORRECTIVE ACTIONS: Training was conducted on 7/20/05 at

7:00 pm at the Vernon EOC for the Select Board Chair. Included in the training was a review of this deficiency, the importance of activating the public alerting sirens precisely at the time requested by the State, identifying an individual to perform the activation, and noting that during drills and exercises activation of sirens need only be simulated, not actually sounded. Training will also emphasize the need to seek clarification from the State if the requested timing of siren activation is inconsistent.

REMEDIAL ACTION DEMONSTRATED: This was successfully re-demonstrated on August 18, 2005. Additional training of the EOC staff was conducted several times since the May 24, 2005 exercise to include the activation and simulated activation of the town siren system. A Deputy EMD has been appointed, trained and provided effective assistance to the EOC staff and EMD during this demonstration. This assistance allowed the EMD to effectively activate the sirens (simulated) on the August 18, 2005 exercise. A change in the EMD's procedures was made to allow him to sound the sirens himself. During the re-demonstration on August 18, 2005, the EMD demonstrated the simulation of activating the Vernon sirens at the appropriate times, 1145 and 1246. This action corrects the Deficiency.

c. AREAS REQUIRING CORRECTIVE ACTION: 1.a.1, 1.c.1

ISSUE: 67-05-1.a.1-A-11

CONDITION: Key staff such as the Director, Assistant Director, Public Information Officer and the Highway Department representative did not participate in the exercise.

POSSIBLE CAUSE: Because of the heavy reliance on volunteers at the local level, the staffing shortfall could have been caused by personal priorities by missing members.

REFERENCE: NUREG-0654, A.4, D.3, D.4, E.1, E.2, H.4.

EFFECT: Some key activities, such as preparing Town of Vernon news releases, checking roadways for possible evacuation problems, and providing equipment for traffic and access control points, were not performed.

RECOMMENDATION: Stress to existing staff the need to be present for exercises. Alternatively, recruit additional staff members, or advise the State on unmet needs.

SCHEDULE OF CORRECTIVE ACTIONS: Training was conducted on 7/20/05 at 7:00 pm at the Vernon EOC. Included in the training was a review of this ARCA stressing the need to existing staff the importance of being present for drills and exercises. Recruiting additional staff members is on-going. In June 2005 a new member was added to replace a pager holder that resigned. EOC staffing was evaluated. We are working to find an Alternate Public Information Officer that does not work in the town office, however for the present this is an unmet need.

ISSUE: 67-05-1.c.1-A-12

CONDITION: Several incorrect times were posted for some activities on one of the status boards in the Vernon Emergency Operations Center (EOC). A time of 1022 was posted for "Route Alerting", and a time of 1022 was also posted for "Shelter PAR". Neither of these activities occurred at this time.

POSSIBLE CAUSE: Possible lack of understanding of the terms "Route Alerting", and "Shelter PAR" by the staff posting times on the status board.

REFERENCE: NUREG-0654, A.1.d, A.2.a, A.2.b

EFFECT: Incorrect or inaccurate postings could potentially have caused confusion in the EOC.

RECOMMENDATION: Provide additional training to the EOC staff posting information on status boards on the meaning of specific terminology and the need to post accurate times related to these terms.

SCHEDULE OF CORRECTIVE ACTIONS: Training was conducted on 7/20/05 at 7:00 pm at the Vernon EOC. Included in the training was a review of this ARCA with a focus on status board updates specific terminology (Route Alerting and Shelter PAR) and the need to post accurate times related to these terms.

CORRECTIVE ACTION DEMONSTRATED: This ARCA was successfully re-demonstrated during a remedial exercise on August 18, 2005. Three Status Boards were used within the EOC. A Status Board Keeper was appointed, trained and maintained the boards. The status boards were updated continually and accurately when situations occurred or important actions were taken within or affecting the town.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

2.6 Schools and Day Cares

Child care providers showed a real interest in the understanding and following their plans and implementing their protective actions. They knew the basic general protective actions without needing to refer to the plan and explained the special needs of small children, especially as it related to the administration of potassium iodide. They each demonstrated genuine concern for the children in their care.

a. **MET:** Criterion 3.c.1, 3.c.2, questionnaire

b. **DEFICIENCY:** None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

3. SUPPORT JURISDICTIONS (Vermont):

Support jurisdictions were demonstrated in a previous exercise and not required to demonstrate this exercise.

4. STATE OF NEW HAMPSHIRE

4.1 State Emergency Operations Center

Participants exhibited excellent teamwork to ensure actions were completed. Participants were proactive in planning for future steps they would take if the event escalated. Emergency Operations Center (EOC) staff kept each other informed of events as they occurred. Public inquiry staff answered inquiries in a courteous and professional manner. Staff rosters were kept up-to-date.

a. MET: Criterion 1.a.1, 1d.1, 1e.1, 2a.1, 2b.2, 2c.1, 3d.1, 3d.2, 5.a.1, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAS-RESOLVED: 5.a.1, 5.b.1

ISSUE: 67-03-5.a.1-A-09

CONDITION: The second Alert and Notification was not performed at 1122 for Sirens and 1125 for an EAS message. The residents on the New Hampshire side of the river would have heard the sirens in Vermont and Massachusetts, and tone alert radios being sounded in New Hampshire and would begin to wonder what was happening at the Vermont Yankee Power Plant.

RECOMMENDATION: Although the New Hampshire EOC may not concur with the recommended action of the states of VT and MA, they should sound sirens and repeat the previous message or state that there was no change to the previous message.

SCHEDULE OF CORRECTIVE ACTION: New Hampshire accepts the FEMA recommendation to coordinate the sounding of sirens and issuance of an EAS message

when the other states in the EPZ do so, even if there is no new information to announce in New Hampshire. Discussion of this issue at ongoing training for media and decision-making personnel will be undertaken in order to enhance performance.

CORRECTIVE ACTION DEMONSTRATED: The New Hampshire State EOC demonstrated successful resolution of prior Issue 67-03-5.a.1-A-09 by successfully performing both alert and notification sequences in coordination with the Vermont and Massachusetts. During this exercise, the State EOC Operations Officer participated in conference calls with Vermont and Massachusetts during which the three parties agreed to coordinate siren activation and issuance of an EAS messages. During the first alert and notification sequence, the three states decided at 1042 to activate sirens at 1052 and issue an EAS message at 1055. At 1259, the three states decided to activate sirens at 1309 and issue the second EAS message at 1312. The New Hampshire State EOC successfully simulated the coordinated siren activation and issuance of the EAS at the designated times.

ISSUE: 67-03-5b.1-A-10

CONDITION: Inaccurate and confusing information could have been broadcast through EAS and EPI messages. Three of the messages refer to recommended actions or protective actions when there were no actions recommended. This could possibly create confusion for the public and increase calls to Rumor Control and the Media Center, as residents would need to contact authorities for clarification of the instructions they are being asked to follow. Several messages advised residents to tune in to their local radio stations or Emergency Alert System broadcasts, but did not identify the specific radio stations that carry broadcasts. In addition, the EPI message concerning evacuation and sheltering in place did not include information on evacuation routes, what to take or leave when evacuating, specific instructions regarding sheltering in place, transportation information for transportation-dependent individuals, or information for special populations.

RECOMMENDATION: Messages need to be carefully proofread before being issued. In addition, the template used could be improved or additional templates could be created.

SCHEDULE OF CORRECTIVE ACTION: There were certainly mistakes that should have been and likely would have been caught and repaired prior to their broadcast to the public. With respect to the lack of detailed information on sheltering and evacuation we would point out that Emergency Public Information Messages elaborating on the details of sheltering and evacuation were not used to due to extra-exercise considerations. A shorter less detailed message was used. We would point out that ample emphasis on the details of shelter and evacuation were provided at the media center. Discussion of these issues at ongoing training for media and decision-making personnel will be undertaken in order to enhance performance.

CORRECTIVE ACTION DEMONSTRATED: The NH State EOC issued two Emergency Alert System (EAS) messages and three Emergency Public Information (EPI) messages. The messages accurately conveyed information on the current event status and protective actions. The two EAS messages provided accurate instructions for people to review their emergency information calendars and to listen the WKNE 103.7 FM or WKBK 1290 AM for information. The EPI messages provided additional details to support the EAS message.

f. PRIOR ARCAs – UNRESOLVED: None

4.2 Emergency Operations Facility

Staff representing the State of New Hampshire at the Vermont Yankee Emergency Operations Facility (EOF) was very competent, knew their procedures well, and carried out their responsibilities in a professional manner throughout the exercise.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 3.a.1, 3.b.1, 4.a.2

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

4.3 Joint Information Center

The New Hampshire Media Representative provided accurate emergency information and instructions to the public and the news media in a timely manner. He effected coordination with the other two states and with the Utility to develop a consistent message. The Media Representative and his two assistants made effective use of plans, procedures, and checklists. There was frequent coordination with the State Emergency Operations Center (EOC), to obtain current information. The five media briefings were conducted in a professional manner. Upon notification of a release dosimeters were read and recorded every 15-minutes. The three individuals worked well as a team.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. **PRIOR ARCAs - UNRESOLVED:** None

4.4 State Police Troop "C"

Representatives from Troop C were knowledgeable of their emergency responsibilities. They have done extensive pre-planning for possible events and have given careful thought to any emergency response. The response to move an access control point further back due to simulated radiological field reading was immediate and is commended for teaching their staff in the field.

a. **MET:** Criterion 1.c.1, 1.d.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

4.5 Radiological Field Monitoring Teams

The Field Monitoring Team #1 was enthusiastic and professional in their actions. The team identified instrument problems and was resourceful in seeking solutions. Field Monitoring Team #2 members were enthusiastic and meticulous in following the procedures. They preformed their duties proficiently. They were well acquainted with the duties and responsibilities. They also demonstrated that they are a valuable asset to the state of New Hampshire. They should be commended for a job well done.

a. **MET:** Criterion 1.a.1, 1.c.1, 3.b.1, 4.a.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 1.d.1, 3.a.1, 4.a.3

ISSUE: 67-05-1.d.1-A-13

CONDITION: The radio system encountered intermittent and frequent loss of radio communication while in transit due to the local terrain. The procedure section on communications directs the team to contact the Monitoring Team Coordinator (MTC) at least hourly. This required the team to occasionally leave their assigned area and find an area where transmission via radio was possible. Additionally, pay phones are difficult to find especially with the advancement of cellular/digital technology.

Communications with the Monitoring Team Coordinator (MTC) were interrupted for

several periods during the exercise. This included one period of over one hour (1255 to 1440) when the Field Monitoring Team (FMT) #1 was unable to make contact with the MTC as required by their procedure.

POSSIBLE CAUSE: The Vertex radio system is older technology. Also, local terrain may have been a contributing cause. Pay telephones are not readily available in the areas.
REFERENCE: NUREG-0654, F.1, 2

EFFECT: The effect is that the team could miss critical communications such as the instruction to ingest potassium iodide (KI) that concerns the health and safety of the team members. The FMT#1 missed critical messages during the exercise (the instruction to ingest potassium iodide and the termination of the exercise). The MTC was unable to direct the team to take timely measurements to characterize the edge of the plume. Concern was raised as to the safety and the well-being of the team when communications were lost for the extended time. FMT #1 wasted time driving around in search of a pay phone or trying to find areas where radio communications were possible. (Note: The re-demonstration of the sampling which was conducted took approximately 10 minutes and did not impact the ability of the team to contact the MTC within the one hour limit.)

RECOMMENDATION: Investigate the upgrading of the field team communication equipment (i.e. satellite radio or telephone, pagers, etc.). It is recognized that communications in the area and terrain are challenging. Investigate satellite telephones or other more reliable forms of communication. Cellular telephones are said to experience problems also, but the evaluator was able to receive a call on her cellular phone when radio contact was not available. Therefore, the combination of cellular and radio may be better than radio alone.

Also, mark areas where radio communication is possible on the sample point map. This will allow the team to pick the closest point known to have radio communications and not have to drive around trying to find a place where communications can be established. This map should be available to the MTC so that he doesn't send teams to 'dead' areas to be staged waiting for the plume as was done in the exercise.

The radio dead spots problem can be challenging to resolve. Therefore, it is recommended that when teams are being positioned in the vicinity of the plant in anticipation of the beginning of the release these teams be positioned at locations with a higher potential for radio transmission. In this way the MTC can keep in closer contact to the teams until they have to be dispatched to a specified location for plume tracking.

It is also suggested that the requirement to move to an area where radio transmission is possible or otherwise make contact with the MTC every hour be shortened to 30-45 minutes. The lack of contact with FMT #1 from prevented them from receiving the message to ingest KI in a timely manner.

SCHEDULE OF CORRECTIVE ACTIONS: Difficulties with radio communications in the Cheshire County area have been well known for years. While it may be true that pay

phones in general are more difficult to find, due to advancements in cellular/digital technology, this is not necessarily applicable in this case, as there are telephones available at various businesses in the downtown Hinsdale area, and outside at the school. The Hinsdale Town Hall, which serves as the local EOC, also has phones.

Monitoring teams have been trained and understand that in areas of poor radio communication, they are to obtain their sample and move to a location where the team can communicate with the monitoring team coordinator. Under normal circumstances, this should be well within an hour's drive. The map that is provided to the team in the New Hampshire Field Team Procedures book indicates areas where under normal conditions, the teams can expect radio communications to be satisfactory, thus eliminating the need for teams to drive around in search of such an area.

Currently, the state of New Hampshire is in the process of installing a new statewide radio communications system. When this system is installed, it should provide for much improved communications between the monitoring teams and the Emergency Operations Facility.

ISSUE: 67-05-3.a.1-A-14

CONDITION: During the first reading of the Direct Reading Dosimeters (DRD) one team member noted that his 0-200 milliroentgen (mR) dosimeter no longer had the hairline visible and the condition could not be corrected. This condition was not reported to the Monitoring Team Coordinator (MTC) as required by procedure, but the reading of his coworker was used as his reading, constituting a group dosimeter.

On Day 1, the two-member FMT#1 arrived with dosimetry packets which had been issued to them prior to leaving their staging area. Each person had one 0-20 R Direct Reading Dosimeter (DRD) and one 0-200 mrem DRD and a TLD. During the first reading of the DRDs one member noted that his 0-200 mrem dosimeter no longer had the hairline visible and could not be corrected. This condition was not reported to the Monitoring Team Coordinator (MTC) but the reading of his coworker was used as his reading, constituting a group dosimeter. The team member stated that his dosimeter had read 0 mrem when it was issued at the staging area. The DRDs had been leak checked 4/05.

POSSIBLE CAUSE: The loss of the hairline could have been caused by improper zeroing of the dosimeter, mechanical shock or a faulty charger. The dosimeters had been leak checked 4/05. No spare dosimeters were immediately available to the team.

REFERENCE: NUREG-0654, K.3.a, b; Division of Public Health Services (DPHS) Field Team Manual, Section 5.1.

EFFECT: Group dosimeters are typically only used for groups with a low potential for exposure. The DPHS Field Team Manual does not provide instructions for group dosimetry for field team members. Also, had the one remaining 0-200 mR DRD also failed, the team would have had to cease their duties until new DRDs could be obtained.

Also, during the Day 2 courtesy evaluation of the post plume sampling, four of the 6 DRDs also did not have hairlines visible and could not be zeroed using the battery powered charger in the kit. These DRDs were eventually zeroed when the team member from the State of Massachusetts donated a gun type charger. Therefore, out of 10 DRDs, five failed. This constitutes a 50% failure rate. All of the failed DRDs were the 0-200 mR range.

The FMT did not have spare DRDs issued to them. Had the one remaining 0-200 mrem DRD also have failed, the team would have had to cease their duties until new DRDs could be obtained. Also, during the Day 2 courtesy evaluation of the post plume sampling, four of the 6 DRDs also did not have hairlines visible and could not be zeroed using the charger in the kit. These DRDs were eventually zeroed when the team member from the State of Massachusetts donated a charger.

RECOMMENDATION: Team members demonstrated that they were trained to identify the problem. However, plume sampling team members did not attempt to correct the off scale DRD or notify the MTC. Therefore, training in Section 5.1 is recommended. Add spare dosimeters to the equipment kits in the event that a dosimeter is lost or damaged. Modify the plans to specify at least one additional set of DRDs for each team member. Test the dosimeter charger unit prior to departing the staging area to insure that the unit is operational or obtain a more reliable style of charger

SCHEDULE OF CORRECTIVE ACTIONS: We concur in part. Note that dosimeters and chargers are tested at the state radiological health laboratory where extra chargers and dosimeters are available. If equipment fails to function, it is replaced at that location.

ISSUE: 67-05-4.a.3-A-15

CONDITION: New Hampshire Division of Public Health Services (DPHS) Field Monitoring Team (FMT) #1 did not monitor the RM-14 background count rate while approaching the sampling location as required by the DPHS Field Team Manual, Section 4.4 Air Sampling Procedure, Steps 1 and 2 and while collecting the air sample as required by, Step 8. Appropriate post-sampling contamination controls were not performed during the air sample handling and counting procedures.

POSSIBLE CAUSE: While approaching the sampling location and during the sample collection team members were monitoring the background changes using the CDV-718 dose rate meter. Although the team members had the procedure on their clipboard and were referring to the procedure for other steps, the team members had not noted the type of instrument to be used to monitor changes in the background. Also, team members did not fully understand the possibility of cross contamination of samples or other supplies if gloves were not changed out or surveyed frequently.

REFERENCE: NUREG-0654, I.9

EFFECT: By the time the RM-14 was turned on, the sample counting area was set up.

If the sample could not be counted in that location, because of the elevated background, all of the supplies and equipment would have had to be stowed and the vehicle relocated to a low background area. Repacking would have further delayed the counting of the sample. The RM-14 is additionally monitored to determine if the team is in the plume and if the plume shifts during sampling. Inadequate contamination control procedures may have resulted in contamination of sample storage bags, paperwork, tweezers, etc. and could have eventually resulted in contamination of subsequent samples.

CORRECTIVE ACTION DEMONSTRATED: FMT#1 team members referred to their procedures and successfully re-demonstrated the monitoring of the background of the RM-14 and successfully re-demonstrated contamination control techniques when handling air samples.

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: 3.a.1

ISSUE: 67-03-3.a.1-A-11

CONDITION: At 0900 hours, the Monitoring Team Coordinator (MTC) dispatched NH FMT1 from Concord, NH to the Chesterfield Fire Station assembly point, to begin conducting radiological monitoring. While on route to the assembly point, the NH FMT 1 received directions from the MTC to proceed to Highway 63 South and ½ mile north of the Massachusetts border and begin air sampling. After several failed attempts to receive guidance, from the MTC, NH FMT 1 (on their own) discussed the alternatives to either stop and reverse their route to a lower dose rate area or continue to proceed to the radiological monitoring location. NH FMT 1 decided to continue to proceed toward the plume until the background readings exceeded 500 mR/hr. At 1145 hours, the exercise controller provided the background reading, at which time the field monitoring team immediately called the readings in to the MTC. At 1157 hours, after three failed attempts to reach the MTC by radio, the field team decided to stop and reverse their route to a low dose rate area. At 1158 hours, the MTC finally instructed the team to stop, turnaround, and reverse direction and immediately proceed to a low dose rate area. NH FMT 1 was exposed to levels of 150mr/hr to 630 mR/hr for approximately 19-minutes (1140 hours to 1159 hours).

RECOMMENDATION: The NH FMT1 should each exercise demonstration as if it were a real event and follow their procedures accordingly:

New Hampshire Field Monitoring Team Procedures, Chapter 4, page 4.8.
"If the meter (not your dosimeter nor the accumulated dose) set up to monitor in your vehicle should exceed 500mR/hr you will immediately proceed to a lower dose rate area. <u>You do not need MTC authorization.</u> Contact MTC as soon as possible and provide data on location of reading and your status."

SCHEDULE OF CORRECTIVE ACTION: DOSOEM will review this issue with OCPH and, ongoing training of field team members will cover the issues raised

in this issue. Subsequent extent of play agreements will clearly identify monitoring team activities.

CORRECTIVE ACTION DEMONSTRATED: Field Monitoring Team (FMT) #1 did not encounter the plume during this exercise. Therefore a description of their actions in areas with elevated radiation exposure rates was done through interview. Both members were aware of the requirements to leave an area of 500 mR/hr immediately and notify the Field Team Coordinator (FTC) as soon as possible.

f. PRIOR ARCAs – UNRESOLVED: None

4.6 State Warning Point

The facility was well equipped with multiple communication systems including NAS, NAWAS, land-line phone and radio.

a. MET: Criterion 1.a.1, 1.d.1, 1.e.1.

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

5. RISK JURISDICTIONS (NEW HAMPSHIRE)

5.1 Chesterfield

Emergency Operations Staff (EOC) staff frequently discussed upcoming protective actions recommendations and the actions they should take prior to the state issuing Protective Action Decisions. The Emergency Management Director (EMD) conducted frequent briefings to keep the EOC staff updated. The security guard did an excellent job controlling access to the EOC.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: 1.c.1, 1.d.1

ISSUE: 67-03-1.c.1-A-12

CONDITION: During the exercise, record keeping by Chesterfield Emergency Operations Center (EOC) personnel was insufficient. Several key EOC members did not adequately document the actions they performed, as required by the Chesterfield plan and procedures. The Chesterfield Transportation Officer did not document who he spoke to at the New Hampshire Office of Emergency Management (NHOEM) EOC regarding transportation needs. This lack of documentation resulted in repeated requests for transportation information from the Local Liaison at the NHOEM EOC.

At 1022, 1056, and approximately 1225, the Local Liaison made three separate requests for information related to transportation needs for schools. The Transportation Officer promptly responded to all three requests, but in the first two instances provided the information requested to the NHOEM EOC, instead of to the Local Liaison at the NHOEM EOC as required by the Chesterfield Radiological Emergency Response Plan (RERP).

The Emergency Management Director (EMD) did not recognize a trend, of repeated requests for information, suggesting a communication breakdown between the Transportation Officer at the EOC and the Local Liaison at the NHOEM EOC. The Communications Officer informed the EMD that the Local Liaison did not receive a response to the first two requests. The EMD acknowledged the oversight and the Transportation Officer provided the information to the Communications Officer, who relayed it to the Local Liaison.

Lack of adequate record keeping weakens the ability of the Town of Chesterfield to complete and/or follow up on actions in a timely fashion. This is particularly relevant in the context of requests for additional resources made to other emergency response organizations, as well as in the event of a substitution of a key EOC member or a shift change.

RECOMMENDATION: Training on forms and message tracking.

SCHEDULE OF CORRECTIVE ACTION: DOSOEM will review this issue with Chesterfield Officials and provide training in the proper use of forms and appropriate record keeping at the Chesterfield EOC.

CORRECTIVE ACTION DEMONSTRATED: Record keeping by the Transportation Officer was excellent. The scenario did not require the Transportation Officer to communicate with the Local Liaison at the state EOC, but did require communications to the school Superintendent's office. The Transportation Officer logged two calls to the school superintendent's secretary. The first call was made to request the number of people (students and staff) that might need to be evacuated from the school. The second call was to alert the superintendent that the towns of Hinsdale and Winchester had been evacuated.

ISSUE: 67-03-1.d.1-A-13

CONDITION: The AM/FM radio used by the Chesterfield Emergency Operations Center (EOC) is inadequate for monitoring the broadcast of Emergency Alert System (EAS) messages. The Chesterfield EOC would have been unable to verify the reception of the EAS message in the Chesterfield area and such verification is critical for the EOC to be in a position to implement backup notification of the public in the event that the EAS message broadcast was not received in the Chesterfield area.

RECOMMENDATION: Ensure that the AM/FM radio unit used at the Chesterfield EOC has adequate reception of WKNE and other EAS stations.

SCHEDULE OF CORRECTIVE ACTION: The AM/FM receiver in the Chesterfield EOC has been replaced/repaired and is now operational.

CORRECTIVE ACTION DEMONSTRATED: The AM/FM radio was replaced and the new radio capable of receiving local EAS stations.

f. PRIOR ARCAs - UNRESOLVED: None

5.2 Hinsdale

The EOC staff, which is made up primarily of volunteers, demonstrated that they could effectively protect the health and safety of the citizens of Hinsdale. They were capably led, kept well informed and anticipated potential actions. They worked well together and overcame the limitations and constraints of the EOC facility. They were willing and able to make decisions on their own (prior to a State Declaration of Emergency) while at the same time interacting with others, particularly the State.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

5.3 Richmond

Demonstrated strengths for the staff of the Richmond Emergency Management Agency included excellent communications between personnel, support of each staff person by other staff, and a spirit of concern for the community displayed by all. The EOC was

staffed by a relatively small contingency of people but their sense of need and concern for the community was commendable. As an example of this concern, there is a small private school in the community and a number of calls (approximately four) were made to the school to make sure there needs were being met in case an evacuation was necessary.

a. **MET:** Criterion 1a.1, 1c.1, 1d.1, 1e.1, 2.b.2, 2.c.1, 3a.1, 3b.1, 3c.1, 3d.1, 3d.2, 5a.1, 5b.1

b. **DEFICIENCY:** 5.a.3

ISSUE: 67-05-5.a.3-D-06

CONDITION: The call down list for route alerting was too long for the two teams assigned to accomplish the task. There were 63 homes that had to be notified in the 45 minute time span. It took the two teams one hour and 30 minutes to complete the task. The teams were dispatched from the EOC at approximately 1135 and did not return until approximately 1309. The teams split the list in two and started the route alerting at opposite ends. The teams physically got out of their vehicle at each home and knocked on the door of each home. Teams consisted of four people in-groups of two in official community vehicles.

A second problem attached to this criterion is that the Director of the Richmond EOC stated it took an hour to call in the teams to do route alerting and give them their worker exposure control and message briefings. This action adds another hour to the process of route alerting and equates to a 2.5-hour activity as opposed to the requirement of 45 minutes.

POSSIBLE CAUSE: Too many homes to contact by too few people assigned to do the task.

REFERENCE: NUREG-0654, E.6, Appendix 3.B.2.C

EFFECT: The effect is that the people situated in the Route Alerting assignment were not notified in sufficient time to leave the area. This would result in a danger to the health and welfare of these people.

RECOMMENDATION: This situation may be corrected by dividing the list amongst 4 groups for route alerting instead of the two assigned, the addition of a new siren installed in the area, and the use of a public address system as opposed to knocking on each door.

The second problem may be corrected by calling in the Route Alerting Teams earlier in anticipation of the need to perform route alerting, i.e., call them in at the Alert Emergency Level Classification.

CORRECTIVE ACTION DEMONSTRATED: On June 10, 2005, back-up route alerting was satisfactorily demonstrated. The Back up route alert was completed in thirty-

five minutes. The town used the Richmond EOC map for back-up route alerting. The re-demonstration of the route was completed using two town vehicles. The two vehicles worked together to alert residents on the route. The route was split in half and each vehicle began the route at opposite ends and met in the middle to ensure coverage of the entire route was completed. An evaluator rode in each vehicle.

The back up route alerting began when the town became aware of a failure of the primary alert system. They drove the route at a slow speed and stopped along the road to ensure residents were notified (simulated) of the emergency at Vermont Yankee. The emergency worker (driver) simulated using the public address (PA) system to inform the residents that there had been an emergency at Vermont Yankee and to tune to their local EAS station. The emergency worker (driver) drove up several long driveways to ensure each resident was alerted.

The route was completed in thirty-five minutes, thus successfully re-demonstrating the criterion.

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: 3.a.1

ISSUE: 67-03-3.a.1-A-15

CONDITION: Radiological Officer (RAD) Officer did not advise the female emergency workers on all aspects of radiological exposure. A female worker could have been pregnant and not known the potential health risks.

RECOMMENDATION: Provide training to the RAD Officer on all aspects of radiological exposure.

SCHEDULE OF CORRECTIVE ACTION: DOSOEM will review and emphasize this aspect of radiation safety in ongoing training for RADEF Officers and will review this issue specifically with the Richmond RDO and other members of the Emergency Response Organization.

CORRECTIVE ACTION DEMONSTRATED: When the decision was made by the Richmond Emergency Management Director to send emergency workers in the field the Radiological Defense Officer (RDO) was instructed to give the workers a briefing on dosimetry and Potassium Iodide (KI). During the briefing the RDO discussed all aspects of using dosimetry, i.e., location of equipment, administrative limits, what to do when limits are reached, checking dosimeters periodically –every 15 minutes with a release and 30 minutes without a release, recording the readings on the proper forms, and where to return the dosimetry when the mission is complete. In addition, he talked about KI its use, when and how to take it and under who's orders to take it. He also discussed the effects

of KI if allergic to iodine. The RDO was particularly diligent on explaining all aspects of radiological exposure to personnel with particular attention to female workers who could be child bearing. During the exercise he made specific recommendations that a pregnant worker be removed from the plume area and sent to the reception area.

f. PRIOR ARCAs - UNRESOLVED: None

5.4 Swanzey

The Town of Swanzey demonstrated a well-trained, experienced and cohesive EOC staff. The RAD EF Officer is exceptionally well trained and knowledgeable of Radiological Emergency Response Procedures, equipment and biological aspects of radiation. Briefing of Emergency Workers was accurate and complete. The EOC staff had five licensed Amateur Radio Operators. All were present in the EOC and demonstrated exceptional back up communication capability.

a. MET: Criterion 1.a.1, 1.c1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

5.5 Winchester

The Winchester EOC demonstrated an ability to rapidly mobilize and begin executing their procedures. Following mobilization the EOC staff used their knowledge of the town (in conjunction with their procedures) to begin rapidly notifying the schools and special populations, and identifying day care centers that were starting up. The teamwork in the EOC was effective. The Emergency Management Director provided frequent briefings. When questions arose during briefings the staff did not hesitate to pose those questions to other organizations or their liaison in order to obtain the necessary information.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

5.6 Schools

The New Hampshire school participants were knowledgeable of their plans and procedures. They had a clear understanding of their role in the event of an emergency at Vermont Yankee.

a. **MET:** Criterion 3.b.1, 3.c.1, 3.c.2, questionnaire

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

6. SUPPORT JURISDICTIONS (NEW HAMPSHIRE)

6.1 Keene Emergency Operations Center

The ability of the EOC to respond quickly and to activate was commendable. Although forty percent of the EOC staff is new and the space for operations was small, they came together as the exercise progressed. They became a cohesive group and displayed enthusiasm.

a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

6.2 Local Warning Point - Southwest New Hampshire District Fire Mutual Aid

The three Southwestern NH District Fire Mutual Aid (SWNHDFMA) Communications Specialists worked together seamlessly.

a. **MET:** Criterion 1.c.1, 1.d.1, 1.e.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: 5.a.1

ISSUE: 67-05- 5.a.1-A-16

CONDITION: At 1226, The Emergency Classification Level (ECL) at Vermont Yankee Nuclear Power Station was increased to General Emergency (GE). The Southwestern New Hampshire District Fire Mutual Aid (SWNHDFMA) heard the GE announcement over New Hampshire Division of Fire Safety and Emergency Management (DFSEM) Emergency Operations Center Radio system at 1229. Sirens were to be sounded at 1309 and EAS message was to be broadcast at 1312. However, the 'OFFICIAL' GE ECL message was not received direct from DFSEM (over the telephone or dedicated Nuclear Alert System [NAS] dedicated telephone line) in accordance with the SWNHDFMA Emergency Response Procedures, Vol.4/Rev.13, Dated Dec.2004. At 1242, the SWNHDFMA Communications Supervisor contacted the OEM Radio Center and was told that there was no GE information available (from DFSEM) at that time. The DFSEM Operations Officer called SWNHDFMA at 1243 and gave a 'heads-up' that a GE was about to be declared. The SWNHDFMA Controller then received a state pager message regarding the GE ECL at 1245. Concerned that the designated time for sounding the Sirens was approaching, at 1301 the Communications Supervisor again called the DFSEM Radio Center and requested 'OFFICIAL' GE ECL notification. The DFSEM Communicator stated that the notification was sent to all parties at 1300 on the VY Status Report, FORM 301B. However, since the SWNHDFMA procedures do not use the FORM 301B, the SWNHDFMA Communications Supervisor again contacted the DFSEM Communicator at 1305 and at that time, the DFSEM Operations Officer confirmed the 'OFFICIAL' GE ECL. The sirens were successfully sounded on time as scheduled at 1309 (simulated).

POSSIBLE CAUSE: Lack of knowledge of new DFSEM Emergency Operations Center Radio Communications center staff.

REFERENCE: 10 CFR Part 50, Appendix E.IV.D and NUREG-0654, E.5, 6, 7

EFFECT: A late notification of ECL increase to GE would result in sounding of the Sirens late and creating confusion when EAS Broadcasts occur before the sounding of sirens.

RECOMMENDATION: Provide additional training of new staff in DFSEM Radio Communications Center.

SCHEDULE OF CORRECTIVE ACTIONS: New Hampshire will review this issue with EOC Communications staff as part of its ingoing training to assure a smooth and appropriate transfer of Emergency Classification information occurs.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

6.3 State Transportation Staging Area

State Transportation Staging Area staff was prepared and adequately fulfilled their emergency role during the exercise. All activities were performed in accordance with plans and procedures.

a. **MET:** 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.b.1, 3.c.1, 3.c.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

6.4 Cheshire County Dispatch

The Cheshire County Communications Specialist and Supervisor functioned as a well-trained seamless team. During the exercise the team consisted of a replacement Communications specialist, a trainee Communications Specialist, and the Supervisor. The Police Communications supervisor is to be commended for direction and control. It should be noted this was the first exercise for this facility.

a. **MET:** 1.b.1, 1.d.1, 1.e.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

6.5 WKNE Radio Station

The radio station engineer was aware of all operational aspects of the EAS system. The transmittals were handled promptly and efficiently.

a. **MET:** Criterion 5.a.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

6.6 Keene Reception Center

There was an adequate number of staff to properly process evacuees at the Keene Reception Center. The staff was eager to follow their plans and procedures. The Keene Reception Center facility is sizable enough to process expected evacuees.

a. **MET:** Criterion 1.b.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 6.a.1, 6.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 6.a.1, 6.b.1

ISSUE: 67-05-6.a.1-A-17

CONDITION: Dosimetry briefings provided to male and female emergency workers at the Keene reception Center did not provide additional information about female workers making a declaration if they were or not pregnant.

POSSIBLE CAUSE: Oversight on the requirements of NRC Regulation 8-13.

REFERENCE: NRC Regulation 8-13

EFFECT: If a female emergency worker was pregnant and didn't make that declaration there might have been a chance that that worker would come in contact with a level of contamination that could possibly damage the fetus.

RECOMMENDATION: Incorporate into the plan and procedures for dosimetry briefings a warning to female workers to make a declaration if they are or are not pregnant. There should also be a requirement to make that declaration in writing.

SCHEDULE OF CORRECTIVE ACTIONS: Training will highlight the need to include NRC Regulation 8-13 requirements for all emergency workers

ISSUE: 67-05-6.a.1-A-18

CONDITION: After many attempts to check all the sensors, the portal monitor was not working properly. The portal monitor, TSA model TPM 703, ID# 703012, was declared inoperable.

POSSIBLE CAUSE: The portal monitor had been calibrated the month prior to the demonstration and may have been damaged during transport to the facility.

REFERENCE: NUREG-9654, J.10.h, K.5.b

EFFECT: The improper operation of the monitor would cause potentially contaminated evacuees from being properly detected.

RECOMMENDATION: Repair or replace the defective portal monitor. (Note: during the previous reception center evaluation, there was a similar issue with the portal monitor.)

SCHEDULE OF CORRECTIVE ACTIONS: A new Portal Monitor has been procured to replace the equipment that failed

ISSUE: 67-05-6.a.1-A-19

CONDITION: A guide was stationed at the entrance doors handing each evacuee a public letter describing the process and that each person should shower within the next two or three days. This letter should have been a State form 102A. However, those forms were in short supply, so the guide issued State form 103A as well. State form 103A was to be distributed by the secondary monitoring team when an evacuee was determined to be contaminated above the 300 cpm level established by the plans.

POSSIBLE CAUSE: A lack of thorough training or confusion on the part of the team members on the proper use of the form.

REFERENCE: New Hampshire plan volume 8, section 5.8, figure 5.8.1 and paragraph

EFFECT: Evacuees received the incorrect public letter. A guide was stationed at the entrance doors handing each evacuee a public letter describing the process and that each person should shower within the next two or three days. This letter should have been a State form 102A. However, those forms were in short supply, so the guide issued State form 103A as well. State form 103A was to be distributed by the secondary monitoring team when an evacuee was determined to be contaminated above the 300 cpm level established by the plans. The secondary monitoring team didn't know that they were supposed to issue form 103A to any person determined to be contaminated by the portal monitoring team. This form explains that being identified as potentially contaminated the individuals vehicle interior may be contaminated as well and a request would be made to monitor the vehicles interior.

RECOMMENDATION: Review the plans and procedures and re-train the secondary

monitoring team about the importance of the public letters. Also insure a sufficient supply of the forms is available.

SCHEDULE OF CORRECTIVE ACTIONS: This was a first demonstration of a newly revised procedure. Ongoing training will assure that this issue is discussed and that in the future that proper forms are distributed

ISSUE: 67-05-6.b.1-A-20

CONDITION: Vehicles in which contaminated individuals traveled may not be checked for contamination or decontaminated if necessary.

POSSIBLE CAUSE: According to the plan, vehicle owners who have been found to be contaminated are to be encouraged to have their vehicles checked for contamination. This advisory does not fully explain the consequences to the vehicle owners. It asks the owners to volunteer for the vehicle monitoring, yet the owners face having the vehicle impounded unless it can be proved clean.

REFERENCE: NUREG-0654, K.5.b

EFFECT: Vehicle owners who would otherwise be cooperative with monitoring and decontamination processes may block the procedures.

RECOMMENDATION: The advisory should mention that vehicles that transported contaminated individuals will be impounded until they are verified clean or decontaminated if needed.

SCHEDULE OF CORRECTIVE ACTIONS: This was the first evaluation of a newly revised procedure. BEM will review this issue and assure that Reception Center personnel are aware of the appropriate manner in which to deal with potentially contaminated vehicles.

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

7. COMMONWEALTH OF MASSACHUSETTS

7.1 State Emergency Operations Center

The internal distribution of messages in the EOC made use of color-coded forms to distinguish the purpose of the forms. Staff briefings conducted by the Massachusetts Emergency Management Agency (MEMA) Director and other key officials were sharp, concise, timely and accurate. The computerized Geographical Information System (GIS) was kept up to date with all relevant information and provided a very good picture of the

situation as events changed.

The MEMA Director fostered an open forum at the staff briefings, which encouraged the staff to voice their assessments on events. The Director took these assessments into consideration when making decisions. Future wind shifts were anticipated and taken into consideration in deciding which communities would evacuate and which would shelter. Communications dispatchers worked well handling message traffic for a real life severe storm on top of the exercise traffic.

a. **MET:** Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2, 2.c.1, 2.d.1, 3.d.1, 3.d.2, 5.a.1, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED**: 5.a.1

ISSUE: 57-04-5.a.1-A-10

CONDITION: EAS messages number two was too lengthy (greater than 2 minutes) to be completely broadcast over the EAS system.

POSSIBLE CAUSE: There was an effort to put all information into the EAS message without consideration of the time restriction. The message contained information beyond the required EAS guidance for the affected site, authorizing official, Emergency Classification Level (ECL) and Potassium Iodide (KI) and stay tuned for further information.

REFERENCE: NUREG-0654 E.5., 6. 7.

EFFECT: Stations would not complete the EAS message and the general public would not have all of the information.

RECOMMENDATION: Put information required in EAS guidance in the EAS message and use follow-on news releases to provide essential detailed information to the public.

SCHEDULE OF CORRECTIVE ACTION: Massachusetts EAS Messages will be modified to include information required by the EAS guidance within the allotted timeframe. MEMA will use follow-on news releases to provide essential detailed information to the public. This will be demonstrated in the Vermont Yankee Exercise in 2005.

CORRECTIVE ACTION DEMONSTRATED: During the May 24, 2005, exercise at

Vermont Yankee Nuclear Power Station the Massachusetts Emergency Management Agency Public Affairs Officer prepared EAS messages that were modified to provide information required by FEMA Guidance within the two minute EAS allotted timeframe. MEMA prepared follow-on news releases which provided all the detailed information considered as essential information to the public.

f. PRIOR ARCAs - UNRESOLVED: None

7.2 Emergency Operations Facility

The Massachusetts Emergency Operation Facility Liaison team demonstrated excellent coordination in completion of their dose assessment, field team coordination and protective action recommendation responsibilities. All participants kept other team members informed of pertinent information. The team collaborated efforts to ensure appropriate protective action recommendations were made to the Commonwealth's Emergency Operations Center. The Massachusetts EOF Liaison team also worked with the other States and the utility, in a cooperative effort, to effectively utilize field teams and to compare calculated dose projections.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 2.a.1, 2.b.1, 2.b.2

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

7.3 Joint Information Center

The Massachusetts Public Information Officer at the JNMC demonstrated substantial experience and knowledge of the Commonwealth's emergency response, and poise and articulateness in briefings. He cleared spelled out the information needed by the public to respond effectively and calmly to the emergency, addressing them directly as though being broadcast live which likely would be the case in a real event. He made effective use of material in the EAS messages and press releases and made excellence reference to all the additional resource material available to the public including the emergency calendar, MEMA web site, public inquiry hotline, and EAS stations. He proactively coordinated with the MEMA EOC and with the other organizations represented at the JNMC to assure not only that all disseminated information was accurate and timely, but that all the states spoke with "one voice." It was an outstanding example of a highly professional response.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1

b. DEFICIENCY: None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

7.4 State Police Troop "B"

The State Police of Troop B did a fine job during the exercise. They overcame new construction challenges and maintained communication throughout the exercise. Their command and control was excellent. They were very professional throughout the exercise. Their teamwork and dedication to duty was commendable.

a. **MET:** Criterion 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

7.5 Radiological Field Monitoring Teams

Massachusetts Field Monitoring Team-1 worked together as an integrated team. They meticulously followed their procedures and utilized their checklist to insure the activities were completed in a timely and effective manner. The data was reported to the Field Team Coordinator in a timely and concise manner. They played the exercise as if it were a real event.

a. **MET:** Criterion 1.c.1, 1.d.1, 1.e.1, 3.b.1, 4.a.1, 4.a.2, 4.a.3

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED**: 4.a.2, 4.a.3

ISSUE: 67-03-4.a.2-A-16

CONDITION: At the time of the radio check-in with the Field Team Coordinator (FTC) the Field Monitoring Team (FMT) was instructed to take only an air sample when they arrived at their sampling location. The team requested clarification of the instructions, asking if they were to also take the ion chamber measurements at waist and 2 inches. The FTC responded that the FMT should only take the air sample immediately upon arrival. Section D.4, Field Monitoring Checklists states that the ion chamber measurements should be taken first, therefore, the FMT member continued to ask the question. This time the response was that a full sample protocol should be done but the air sample should be taken first. The FMT members were in an area at 500 mR/h for over 10 minutes. If the ion chamber readings had been taken immediately upon arrival, this data would have been discovered and the equipment would not have been unloaded, thus avoiding potential contamination and limiting the dose to the FMT members.

RECOMMENDATION: Retraining of both the FTC and the FMT. Clarification to the FMT that specific protocols are to be followed at every location regardless of the focus of the sample at that location.

SCHEDULE OF CORRECTIVE ACTION: The Department of Public Health disagrees with the assertions of the evaluator with regard to this item. The Field Team Coordinator (FTC) correctly assumed that the Field
Monitoring (FMT) had been following the instructions found in the Field Monitoring Checklists, particularly the section that requires the team to monitor continuously while en route to the monitoring site and to perform a survey upon arrival (Section D.4, item 4.2, paragraphs 12, 13, and 14 of the Field Monitoring Checklist). The FTC then instructed them to take the air sample in accordance with item 16 on the checklist. This was corroborated by the FMT leader who does not recall that the FTC instructed his team to take the air sample "only" or "first". In fact, his memory of the events include "nearly simultaneous efforts of one member setting up the air sampler and the other member beginning to obtain survey instrument readings". On this latter issue, his recollection is that the survey team spent as long in the area as it did because when the Controller was asked for "readings" he/she began "flipping pages, questioning the numbers and self-verifying" before supplying the survey readings to the FMT. The time taken to connect/disconnect the air sampler is short, and would not contribute in any significant way to personnel dose.

CORRECTIVE ACTION DEMONSTRATED: Each time the teams were given monitoring instructions by the Massachusetts Field Team Coordinator (via the radio communicator), they were told to perform radiation surveys first, and then take their air sample(s). Discussion with field monitoring team evaluators indicated that the field monitoring teams clearly understood that at all times they were to monitor radiation levels prior to performing other tasks (e.g. taking an air sample). This resolves prior issue number 67-03-4.a.2-A-16.

ISSUE: 67-03-4.A.3-A-17

CONDITION: Three separate re-demonstrations occurred per the Extent of Play

Agreement. These included attempting to transport the air sampler and attached head without bagging the sample head, placing potentially contaminated tweezers into the pocket of personal clothing, and not verifying the flow meter on the air sample at the start of the sample. Transport of the air sampler head while the head was still attached to the uncovered air sampler could have resulted in loss of sample on the particulate filter and/or contamination of the vehicle. Placing the tweezers used to handle the 285,000 cpm air filter into the team member's pocket would have resulted in contamination of clothing. Not noting that the flow meter was responding appropriately at the start of the air sample may have resulted in an improper calculation of the volume of the air sample if the air sampler had been malfunctioning. Transport of the air sampler head while the head was still attached to the uncovered air sampler could have resulted in loss of sample on the particulate filter and/or contamination of the vehicle. Placing the tweezers used to handle the 285,000 cpm air filter into the team member's pocket would have resulted in contamination of clothing. Not noting that the flow meter was responding appropriately at the start of the air sample may have resulted in an improper calculation of the volume of the air sample if the air sampler had been malfunctioning.

CORRECTIVE ACTIONS DEMONSTRATED: Field Monitoring Team (FMT) members simulated or demonstrated satisfactory response in each instance.

f. PRIOR ARCAs - UNRESOLVED: None

7.6 MEMA Region III Emergency Operations Center

The Massachusetts Emergency Management Agency (MEMA) Region III staff clearly demonstrated their knowledge of the Region III Radiological Emergency Response Plan (RERP). The staff communicated and coordinated with one another as well as with the local communities in the Massachusetts Emergency Planning Zone. The Region III Manager and the Operations Officer demonstrated strong leadership during the exercise. They both conducted several status briefings during the exercise to keep the staff abreast of the current situation and status of the Vermont Yankee power plant, as well as the decisions and actions of the MEMA Headquarters Staff.

a. MET: Criterion 1.a.1, 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.c.1, 3.d.1, 3.d.2

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

7.7 DEM Fire District

During a staff assistance visit on April 8, 2005, it was evident that the personnel were well trained and knowledgeable of their plans and procedures.

a. **MET:** Criterion 3.a.1, 3.b.1, 5.a.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

7.8 Department of Fish and Games

During a staff assistance visit on April 8, 2005 it was evident that the personnel were well trained and knowledgeable of their plans and procedures.

a. **MET:** Criterion 3.a.1, 3.b.1, 5.a.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs – RESOLVED:** None

f. **PRIOR ARCAs – UNRESOLVED:** None

7.9 State Police – Shelburne

The Massachusetts State Police of the Shelburne barracks (Initial Warning Point) did a great job. They exercised professionalism, good teamwork, and a dedicated effort to complete tasks. They demonstrated superior command and control, and trained a new officer during the exercise.

a. **MET:** Criterion 1.c.1, 1.d.1, 1.e.1, 3.a.1, 3.b.1, 3.d.1, 3.d.2

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

8. RISK JURISDICTIONS (MASSACHUSETTS)

8.1 Bernardston

Bernardston Emergency Management had good participation by volunteers and town personnel. The group worked well together and coordinated their resources and knowledge. The Director exhibited excellent direction and control. He kept participants updated on changes as he received them. All participants followed their procedures and noted changes that would enhance their ability to protect the citizens of Bernardston.

a. MET: Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: None

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: None

8.2 Colrain

At the beginning of the exercise each responder picked up his or her informational package. This package contained the necessary checklists and reference material for their particular responsibility. The packages were prepared by the Massachusetts Emergency Management Agency. The package for Police and Highway were not for the Town of Colrain but for the Town of Gill. The individuals responsible for these positions quickly identified the problem and corrected it.

a. MET: Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.b.1, 6.b.1

b. DEFICIENCY: 5.a.3

ISSUE: 67-05-5.a.3-D-07

CONDITION: The back-up route alerting demonstration took 53 minutes, 8 minutes too long.

POSSIBLE CAUSE: The route selected contains many narrow, winding, hilly, and dead end roads. The vehicle selected to do the demonstration was a large fire truck. Because of

its size many u-turns were impossible and those that could be done were very time consuming.

REFERENCE: NUREG-0654,E.6, Appendix 3.B.2.c and the Colrain EOP page 17.

EFFECT: Some citizens would have been denied the necessary information in a timely manner. The resulting delay in information could cause delays in implement ting a proper response to minimize contamination.

RECOMMENDATION: Use a smaller vehicle.

CORRECTIVE ACTION DEMONSTRATED: On June 2, 2005, the Town of Colrain successfully re-demonstrated back-up route alerting. The town used highlighted route maps for back-up route alerting. The "Route 1" was re-demonstrated using one vehicle to alert those residents on "Route 1." An evaluator rode in the vehicle. An additional evaluator and controller rode in a separate vehicle to observe the re-demonstration.

The back up route alerting began when the town became aware of a failure of the primary alert system. They drove the route at a slow speed and stopped several times along the road to ensure residents were notified (simulated) of the emergency at Vermont Yankee. The emergency worker (driver) simulated using the public address (PA) system to inform the residents that there had been an emergency at Vermont Yankee and to tune to their local EAS station. The route was completed in thirty-four minutes, thus successfully re-demonstrating the criterion.

c. AREAS REQUIRING CORRECTIVE ACTION: 3.a.1

ISSUE: 67-05-3.a.1-A-21

CONDITION: The Radiation Safety Officer's presentation was insufficient to provide adequate protection to the emergency workers. Interviews with emergency workers confirmed the need for a better presentation.

POSSIBLE CAUSE: The normal Radiation Safety Officer was unable to make the presentation due to scheduling conflicts. The replacement demonstrator needed additional training.

REFERENCE: NUREG –0654, K.3.a,b and the Colrain Extent of Play (dated 2/1/05) page 9 and 10.

EFFECT: Emergency workers could have become exposed to excessively high contamination.

RECOMMENDATION: Provide more training to staff to include the replacement Radiation Safety Officer.

CORRECTIVE ACTION DEMONSTRATED: In accordance with the Extent of Play, training was given to the Radiation Safety Officer. A re-demonstration of the briefing was adequately demonstrated.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

8.3 Gill

The EOC staff functioned as a well trained team. Under the direction of the EMD they operated under a unified command structure. During all briefings at 30 minute intervals the EMD encouraged a pro-active approach. Each department head utilized the local plan as a guide and checklist to plan and schedule activities.

a. **MET:** Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

8.4 Greenfield

The Town EOC had excellent plans and procedures, which were used very effectively, especially the checklists. The staff demonstrated excellent teamwork. The dosimetry supplies, which were stored in two large footlockers, were well organized and had recently been inspected and certified.

a. **MET:** Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. PRIOR ARCAs - UNRESOLVED: None

8.5 Leyden

The Leyden Emergency Operations Center (EOC) is staffed with an eager and willing group of individuals that work well together. The staff assessed changing situations and adapted to the needs of the EOC. The staff is comprised of fifty percent volunteers, that are crucial to the EOC's operation. The volunteers worked hand in hand with the professional staff members to meet the needs of the EOC. The combined efforts of all individuals created a successful EOC.

a. MET: Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 2.b.2, 2.c.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. DEFICIENCY: None

c. AREAS REQUIRING CORRECTIVE ACTION: 3.a.1

ISSUE: 67-05-3.a.1-A-22

CONDITION: The Dosimetry Officer failed to mention radiological exposure values for administrative reporting and limits for life saving missions during his briefing.

POSSIBLE CAUSE: A lack of familiarity with the Leyden Plans and Procedures: referring to responsibilities of the Dosimetry Officer.

REFERENCE: Protective Action Implementation 3, sub-element 3.a.1

EFFECT: Emergency workers could expose themselves to radiation levels in excess of the limits allowed in the Plans and Procedures. Emergency workers would not have known the danger level they were exposing themselves to if they volunteered for lifesaving missions.

RECOMMENDATION: Additional training of the Dosimetry Officer will prevent omissions when briefing emergency workers prior to entering the field.

CORRECTIVE ACTION DEMONSTRATED: A re-demonstration was performed on the spot and the omitted dosimetry values added to the briefing. The briefing was then completed successfully.

d. NOT DEMONSTRATED: None

e. PRIOR ARCAs - RESOLVED: None

f. PRIOR ARCAs - UNRESOLVED: 1.b.1

ISSUE: 67-03-1.b.1-A-18

CONDITION: The EOC lacks bathroom facilities. EOC staff must travel a considerable distance to the town hall to use its restrooms. This issue has sanitary and safety problems. The sanitary effects are obvious and do not require elaboration. Safety becomes a problem in the event of a radiological release at the plant and the plume zone transcend the Town of Leyden. EOC personnel would have to venture into the plume to gain access to restroom facilities. This not only poses a risk to them but also threatens the EOC staff if radioactive materials are carried back into the EOC.

RECOMMENDATION: Relocate the EOC to a facility with a restroom or provide funding assistance to the community for the construction of restroom facilities in their EOC.

SCHEDULE OF CORRECTIVE ACTION: The Commonwealth acknowledges this situation with the Leyden EOC and will work with the Town and the power plant to remedy and eliminate the sanitary and safety problem. We will explore the possibility of grant monies available to the Town in correcting the condition.

REASON ISSUE UNRESOLVED: Issue remains unresolved because no restroom facilities exist in the Leyden Emergency Operations Center (EOC). The issue is being addressed, and construction is currently on going. Completion of the restroom facilities is expected within the near future.

8.6 Northfield

Because of limited personnel in the rescue services area of Northfield, personnel are cross-trained to wear multiple hats. This is an excellent use of limited resources because it allows for people to cover different areas that may not be their primary assignment. For example, the transportation director is also trained to operate as the Emergency Management Director. Northfield government showed excellent participation with two officials making appearances to assist in the effort. This only added to the strong direction and control under the very knowledgeable leadership of the Emergency Management Agency (EMA) Director.

a. **MET:** Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 2.b.2, 2.c.1, 3.a.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 3.a.1

ISSUE: 67-05-3.a.1-A-23

CONDITION: The Dosimetry Coordinator or Emergency Workers (EWs) were not able to demonstrate the ability to read or zero Dosimetry.

POSSIBLE CAUSE: The Northfield Dosimetry Coordinator did not use actual dosimetry

because they had lost dosimetry units in past exercises. They used simulated dosimetry for the exercise.

REFERENCE: NUREG-0654, K.3.a, b

EFFECT: The use of simulated dosimetry was not in accordance with the Extent of Play. They were not able to demonstrate the ability to correctly use dosimetry. Not being able to read dosimetry could put EWs and other in serious danger if a release from Vermont Yankee occurred. EWs and others in the Emergency Planning Zone may not have an accurate reading on the amount of radiation they were exposed to, increasing the risk of health problems from the effects of radiation.

RECOMMENDATION: Use actual dosimetry during exercises to demonstrate their ability to correctly use it.

SCHEDULE OF CORRECTIVE ACTIONS: Actual dosimetry will be used during exercises to demonstrate the ability to use it correctly.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

8.7 Warwick

Members of the Warwick Emergency Response Organization exhibited a professional attitude towards mitigating the efforts of an emergency at Vermont Yankee NPP. They followed their Emergency Procedures and Response Plan, were knowledgeable in their roles and assignments, and demonstrated the ability to support each other during exercise play.

a. **MET:** Criterion 1.a.1, 1.c.1, 1d.1, 1.e.1, 3.b.1, 3.c.1, 3.c.2, 3.d.1, 3.d.2, 5.a.1, 5.a.3, 5.b.1, 6.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** 3.a.1

ISSUE: 67-05-3.a.1-A-24

CONDITION: The radiological briefing given to emergency workers, contained elements that were incorrect, and had some omissions. The correct position of the dosimeters, worn on the outside of clothing, was incorrectly stated as being allowed to be worn inside clothing in inclement weather. KI was continually referred to as K-One. The precaution restricting KI ingestion if you are allergic to iodine or shellfish was not included.

POSSIBLE CAUSE: The Dosimetry Coordinator conducting the briefing for emergency workers was not familiar with the briefing or with radiological instrumentation and monitoring. Additionally, the briefing notes he was reading from did not contain the KI allergic reaction precaution.

REFERENCE: NUREG-0654,K.3a,b

EFFECT: An emergency worker unfamiliar with KI restrictions could have ingested KI when in fact they might have been allergic, causing an allergic reaction. Additionally, the dosimeters could have been worn inside the outer clothing, compromising the veracity of dosimetry readings.

RECOMMENDATION: Conduct training of the Dosimetry Coordinator to familiarize him with radiological monitoring and KI usage. Rewrite the Exposure Control Form to include the allergic reaction precautions for KI.

CORRECTIVE ACTION DEMONSTRATED: Per the extent of play agreement, the Dosimetry Coordinator was retrained and allowed to give the radiological briefing again to emergency workers. All errors in the original briefing were corrected. The Exposure Control Form should be expanded to include the allergic restrictions for KI.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

8.8 Schools, Day Cares, Children's Day Camps

Interviews were conducted during the week of April 4-8, 2005, for the following schools: Mohawk Trail Superintendent's Office, Colrain Central School, The Pioneer Valley Superintendent's Office, The Pioneer Valley Regional High School, Bernardston Elementary School, Pearl Rhodes Elementary School, Northfield Elementary School, Warwick Community School, Gill Elementary School, Gill-Montague Superintendent's Office, Camp Lion Knoll, Camp Northfield, Camp Keewanee, Otter Pond Preschool, Giving Tree Preschool, Full Circle School, Linden Hill School, Northfield Mt. Hermon School. All locations were knowledgeable on their REP plans and procedures and were actively involved on the planning process. All tone alert radios were inspected and found to be operational. KI was available for those locations which KI is included in their REP Plan.

A follow up Site Assistance Visit was conducted on June 20, 2005, to inspect KI at the following locations: Giving Tree Preschool, Otter Pond Preschool, Camp Keewanee and Northfield Mt. Hermon School. All KI was found to be within the expiration date (3/2007).

a. **MET:** Criterion 3.b.1, 3.c.1, 3.c.2, questionnaire

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION:** None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

9.0 Support Jurisdictions (Massachusetts)

9.1 Greenfield Middle School (Mass Care Shelter)
During a Staff Assistance Visit the week of April 4, 2005, staff demonstrated knowledge of their roles and responsibilities as a Mass Care Shelter. The facility was well equipped to function as a Mass Care Shelter during an emergency.

a. **MET:** Criterion

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION**: None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

9.2 Turner's Falls High School (Host School)
During a Staff Assistance Visit during the week of April 4, 2005, staff demonstrated knowledge of their roles and responsibilities in the event of an emergency. The school was prepared to receive students from schools located within the EPZ.

a. **MET:** Criterion 1.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION**: None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

9.3 Greenfield Reception Center

The staff at the Greenfield Reception Center did an outstanding job following their plans and procedures. They worked together to ensure proper care of the simulated evacuees. The staff was enthusiastic and fully able to perform their required tasks.

a. **MET:** Criterion 1.c.1, 1.d.1.1.e.1, 3.d.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION**: 6.b.1

ISSUE: 67-05-6.b.1-A-25

CONDITION: Contaminated personnel traveling through the secondary monitoring room were potentially contaminating the floor. There was no provision for a masslinn mop for the staff in the secondary monitoring to use on the portion of the floor where the contaminated individuals walked.

POSSIBLE CAUSE: Lack of foresight and planning to provide a masslinn mop for that activity.

REFERENCE: NUREG-0654, J.10,h, K.5.b; Implementation Procedures in support of the radiological Emergency Response Plan – Town of Greenfield and Greenfield Community College Reception Center.

EFFECT: Not having a masslinn mop could have resulted in continued cross contamination from every contaminated person being monitored in that room as well as the survey monitors and the recorders working in the room.

RECOMMENDATION: Change the plan and procedures to include a masslinn mop for mopping the secondary floor when contaminated evacuees and emergency workers are monitored a second time.

SCHEDULE OF CORRECTIVE ACTIONS: Reception Center procedures will be revised to include use of a masslinn mop in the secondary monitoring area to prevent cross contamination.

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

9.4 KI dispensing site

Staff was well prepared to dispense KI and appropriate instructions to the public at the designated KI Dispensing Site during the June 11, 2005 exercise.

a. **MET:** 3.b.1

b. **DEFICIENCY:** None

c. **AREAS REQUIRING CORRECTIVE ACTION**: None

d. **NOT DEMONSTRATED:** None

e. **PRIOR ARCAs - RESOLVED:** None

f. **PRIOR ARCAs - UNRESOLVED:** None

APPENDICES

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

APPENDIX 1.
ACRONYMS AND ABBREVIATIONS

The following is a list of the acronyms and abbreviations that were used in this report.

A&N	Alert and Notification
AAT	Accident Assessment Team
ACP	Access Control Point
ARC	American Red Cross
ARCA	Area Requiring Corrective Action
ARES	Amateur Radio Emergency Services
CCC	Congregate Care Center
CDD	Civil Defense Director
CF	Cubic Feet
CFM	Cubic Feet per Minute
CFR	Code of Federal Regulations
CPM	Counts per Minute
DEM	Department of Environmental Management
DFG	Department of Fish and Games
DOT	U.S. Department of Transportation
DPHS	Division of Public Health Services
DPW	Department of Public Works
DRD	Direct Reading Dosimeter
EA	Evaluation Area
EAL	Emergency Action Level
EAS	Emergency Alert System
EBS	Emergency Broadcast System
ECL	Emergency Classification Level
EM	Emergency Management
EMA	Emergency Management Agency
EMD	Emergency Management Director
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
EOC	Emergency Operations Center
EOF	Emergency Operations Facility
EPA	U.S. Environmental Protection Agency
EPI	Emergency Public Information
EPZ	Emergency Planning Zone
ERO	Emergency Response Organization
ERP	Emergency Response Plan
EW	Emergency Worker

FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
FEMA HQ	Federal Emergency Management Agency Headquarters
FEMA RI	Federal Emergency Management Agency Region I
FMT	Field Monitoring Team
FR	Federal Register
FTC	Field Team Coordinator
GE	General Emergency
ICF	ICF Consulting
IFO	Incident Field Office
JIC	Joint Information Center
KI	Potassium Iodide
MA	Massachusetts
MARERP	Massachusetts Radiological Emergency Response Plan
MDPH	Massachusetts Department of Public Health
MEMA	Massachusetts Emergency Management Agency
METPAC	Meteorological Plume Assessment Computer
mR	milliroentgen
mR/h	milliroentgen per hour
MSP	Massachusetts State Police
MTC	Monitoring Team Coordinator
NAS	Nuclear Alert System
NH	New Hampshire
NHDOT	New Hampshire Department of Transportation
NHOCPH	New Hampshire Office of Community Public Health
NHDSFSEM	New Hampshire Department of Safety, Fire Safety and Emergency Management
NHOHM	New Hampshire Office of Health Management
NHRERP	New Hampshire Radiological Emergency Response Plan
NIAT	Nuclear Incident Advisory Team
NID	Nuclear Information Director
NMC	News Media Center
NOAA	National Oceanic and Atmospheric Administration
NOUE	Notification of Unusual Event
NPS	Nuclear Power Station
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, November 1980

OEM	Office of Emergency Management
ORO	Offsite Response Organization
OSC	On-Scene Coordinator
PAD	Protective Action Decision
PAR	Protective Action Recommendation
PHAAP	Public Health Accident Assessment Program
PIO	Public Information Officer
R	Roentgen
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RADEF	Radiological Defense
REM	Roentgen Equivalent Man
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RHTA	Radiological Health Technical Advisor
SAE	Site Area Emergency
SAV	Staff Assistance Visit
SEOC	State Emergency Operations Center
SRM	Site Recovery Manager
SWNHDFMA	Southwest New Hampshire District Fire Mutual Aid
TCP	Traffic Control Point
TDD	Telecommunications Device for the Deaf
TL	Team Leader
TLD	Thermoluminescent Dosimeter
TSC	Technical Support Center
TTY	Teletypewriter
UE	Unusual Event
UHF	Ultra High Frequency
USDA	U.S. Department of Agriculture
VEM	Vermont Emergency Management
VRERP	Vermont Radiological Emergency Response Plan
VSP	Vermont State Police
VT	Vermont
VY	Vermont Yankee
VYNPS	Vermont Yankee Nuclear Power Station

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APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

APPENDIX 2.
EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Vermont Yankee Nuclear Power Station exercise on May 24-26, 2005. Evaluator Team Leaders are indicated by the letters "(TL)" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

EPA	- Environmental Protection Agency
FDA	- Food and Drug Administration
FEMA	- Federal Emergency Management Agency
ICF	- ICF Consulting

EVALUATION SITE	EVALUATOR	ORGANIZATION
STATE OF VERMONT		
State Emergency Operations Center	L.DeMarco, TL	FEMA RI
	R. Poole	FEMA RI
	M. Geer	ICF
	D. Thome	ICF
Emergency Operations Facility	H. Harrisoon	ICF
	H. Boedecker	ICF
Joint Information Center	M. Bahamonde	FEMA RI
Radiological Field Teams	T. Blackmon	ICF
	M. Takacs	FEMA HQ
Incident Field Office	R. Grundstrom	ICF
	P. Malool	FEMA RII
Alternate State Warning Point (Rockingham)	H. LaForge	FEMA RI
RISK JURISDICTIONS (Vermont)		
Brattleboro	R. Black	ICF
	R. Barkley	NRC
Dummerston	D. Blunt	ICF
	B. Hasemann	FEMA RII

EVALUATION SITE EVALUATOR ORGANIZATION

Halifax	W. Gawlak	ICF
	D. Stuenkel	ICF
Guilford	D. Moffet	ICF
	J. Foster	ICF
Vernon	R. Rospenda	ICF
	M. Lake	ICF
Schools and Day Cares	R. Black	ICF
	R. Barkley	NRC
	D. Blunt	ICF
	B. Hasemann	FEMA RII
	W. Gawlak	ICF
	D. Stuenkel	ICF
	D. Moffet	ICF
	J. Foster	ICF
	R. Rospenda	ICF
	M. Lake	ICF
Public Health Lab	D. Thome	ICF

STATE OF NEW HAMPSHIRE

State Emergency Operations Center	Wanda Gaudet, TL	FEMA RI
	J. Keller	ICF
	T. Hollins	FEMA R I
	W. Vocke	ICF
Emergency Operations Facility	B. Edmonson	ICF
Joint Information Center	H. Christiansen	ICF
State Police Troop C	J. Young	FEMA RVII
Radiological Field Teams	R. Argall	ICF
	H. Berry	ICF
State Warning Point	W. Vocke	ICF
Radio Station - WKNE	R. Smith	ICF

RISK JURISDICTIONS (New Hampshire)

Chesterfield	J. Jackson	ICF
Hinsdale	N. Johnson	ICF
	D. Schweller	ICF
Richmond	B. Ianazzo	ICF
Swanzey	R. Duggleby	ICF
Winchester	E. Boaze	ICF
	R. Wood	ICF

NH Schools

Hinsdale Elementary School	D. Schweller	ICF
Hinsdale High School	D. Schweller	ICF
Chesterfield Elementary School	J. Staroba	ICF
Winchester Elementary	R. Wood	ICF
Thayer Middle School/HS	R. Wood	ICF
Chesterfield Center School	J. Staroba	ICF

NH Day Cares

Winchester Learning Center	R. Wood	ICF
Julie's Day Care (Hinsdale)	D. Schweller	ICF
Spofford Children's House (Chesterfield)	J. Staroba	ICF

Transportation Staging Area	R. Wood	ICF
	D. Schweller	ICF
	J. Staroba	ICF

SUPPORT JURISDICTIONS (New Hampshire)

Keene Emergency Operations Center	J. Austin	ICF
Local Warning Point Southwest NH District Fire Mutual Aid	R. Smith	ICF

COMMONWEALTH OF MASSACHUSETTS

State Emergency Operations Center	J. Gibbons, TL	FEMA RI
	J. McClanahan	ICF
	N. Costa	FEMA RI
	B. McRee	ICF
Emergency Operations Facility	M. Campbell	ICF
Joint Information Center	M. Mesenberg	ICF
State Police Troop B	C. Lynch	FEMA RI
Radiological Field Teams	F. Bold	ICF
	T. Honnellio	EPA
Area III Emergency Operations Center	B. Swartz	FEMA RI
State Police, Shelburne	C. Lynch	FEMA RI
RISK JURISDICTIONS (Massachusetts)		
Bernardston	R. Samsel	ICF
Colrain	J. Flynn	ICF
Gill	C. McCoy	ICF
Greenfield	J. Hickey	ICF
Leyden	G. Kinnear	ICF
Northfield	A. Lookabaugh	ICF
	C. Fransen	ICF
Warwick	G. Goldberg	ICF
Schools	L. DeMarco	FEMA RI

APPENDIX 3

EXERCISE CRITERION
AND
EXTENT-OF-PLAY AGREEMENT

APPENDIX 3.

EXERCISE CRITERION AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise Criterion that were scheduled for demonstration in the Vermont Yankee Nuclear Power Station exercise on May 24-26, 2005, and the extent-of-play agreement approved by FEMA Region I on March 1, 2003.

The Evaluation Areas contained in the Federal Register Notice; Federal Emergency Management Agency – Radiological Emergency Preparedness: Exercise Evaluation Methodology, published on September 12, 2001, and amended on April 25, 2002, represent a functional translation of the planning standards and evaluation criteria of NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for the Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980.

Because the exercise Criterion are intended for use at all nuclear power plant sites, and because of variations among offsite plans and procedures, an extent-of-play agreement is prepared by the State and approved by FEMA to provide evaluators with guidance on expected actual demonstration of the Criterion.

A. Exercise Criterion

Listed below are the specific radiological emergency preparedness Criterion scheduled for demonstration during this exercise.

CRITERION 1a.1: EVALUATION

Sub-Element 1.a – Mobilization
Criterion 1.a.1: Offsite Response Organizations (OROs) use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4; D.3, 4; E.1, 2; H.4)

Sub-Element 1.b – Facilities
Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H.3)

Sub-Element 1.c – Direction and Control
Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d; A.2.a, b)

Sub-Element 1.d – Communications Equipment

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1, 2)

Sub-Element 1.e – Equipment and Supplies to Support Operations

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H.7, 10; J.10.a, b, e; J.11; K.3.a)

EVALUATION AREA 2: PROTECTIVE ACTION DECISION-MAKING

Sub-Element 2.a – Emergency Worker Exposure Control

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to ensure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654, J.10.e, f; K.4)

Sub-Element 2.b – Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Criterion 2.b.1: Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of onsite and offsite environmental conditions. (NUREG-0654, I.8, 10 and Supplement 3)

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9; J.10.f, m)

Sub-element 2.c – Protective Action Decisions Consideration for the Protection of Special Populations

Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9; J.10.d, e)

EVALUATION AREA 3: PROTECTIVE ACTION IMPLEMENTATION

Sub-Element 3.a – Implementation of Emergency Worker Exposure Control

Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.a, b)

Sub-Element 3.b – Implementation of KI Decision

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals is maintained. (NUREG-0654, J.10.e)

Sub-Element 3.c – Implementation of Protective Actions for Special Populations

Criterion 3.c.1: Protective action decisions are implemented for special populations other than schools within areas subject to protective actions. (NUREG-0654, J.10.c, d, g)

Criterion 3.c.2: OROs/School officials decide upon and implement protective actions for schools. (NUREG-0654, J.10.c, d, g)

Sub-Element 3.d – Implementation of Traffic and Access Control

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g, j)

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10.k)

EVALUATION AREA 4: FIELD MEASUREMENT AND ANALYSIS

Sub-Element 4.a – Plume Phase Field Measurements and Analyses

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10; I.7, 8, 9)

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, H.12; I.8, 11; J.10.a)

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I.9)

EVALUATION AREA 5: EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

Sub-Element 5.a – Activation of the Prompt Alert and Notification System

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The initial instructional message to the public must include as a minimum the elements required by current FEMA REP guidance. (10 CFR Part 50, Appendix E.IV.D; NUREG-0654, E.5, 6, 7)

Sub-Element 5.b – Emergency Information and Instructions for the Public and the Media

Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E.5, 7; G.3.a, G.4.c)

EVALUATION AREA 6: SUPPORT OPERATION/FACILITIES

Sub-Element 6.a – Monitoring & Decontamination of Evacuees and Emergency Workers and Registration of Evacuees

Criterion 6.a.1: The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12; K.5.a)

B. Extent-of-Play Agreements

The extent-of-play agreements on the following pages were submitted by the States of Vermont, New Hampshire, and Massachusetts, and were approved by FEMA Region I on February 24, 2005 in preparation for the Vermont Yankee Nuclear Power Station exercise on May 24-26, 2005. The extent-of-play agreements include any significant modification or change in the level of demonstration of each exercise Criterion listed in Subsection A of this appendix.

VERMONT YANKEE NUCLEAR POWER STATION
EMERGENCY PREPAREDNESS EXERCISE
2005

EXTENT OF PLAY FOR THE STATES OF VERMONT & NEW HAMPSHIRE & THE COMMONWEALTH OF MASSACHUSETTS

STATES EVALUATION AREAS
AND
EXTENT OF PLAY
FOR
VERMONT YANKEE POWER STATION EXERCISE
MAY 23-27, 2005

Based on guidance from Section III.B-Evaluation Areas, "Interim Radiological Emergency Preparedness (REP) Program Manual", August 2002.

Intent

This sub-element is derived from NUREG-0654, which provides that Offsite Response Organizations (OROs) should have the capability to alert, notify, and mobilize emergency personnel and to activate and staff emergency facilities.

Criterion 1.a.1: OROs use effective procedures to alert, notify, and mobilize emergency personnel and activate facilities in a timely manner. (NUREG-0654, A.4, D.3, 4, E.1, 2, H.4)

Plume Pathway Extent of Play

Responsible OROs should demonstrate the capability to receive notification of an emergency situation from the licensee, verify the notification, and contact, alert, and mobilize key emergency personnel in a timely manner. Responsible OROs should demonstrate the activation of facilities for immediate use by mobilized personnel when they arrive to begin emergency operations. Activation of facilities should be completed in accordance with the plan and/or procedures. Pre-positioning of emergency personnel is appropriate, in accordance with the extent of play agreement, at those facilities located beyond a normal commuting distance from the individual's duty location or residence. Further, pre-positioning of staff for out-of-sequence demonstrations is appropriate in accordance with the extent of play agreement.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play-*NotApplicable*

Sub-element 1.a.1- Mobilization
Massachusetts Extent of Play

State EOC: SEOC emergency staff who normally work at other locations will arrive at the SEOC at the times they normally report for work, unless they are paged/called and directed to report for duty at an earlier time. MA Dept. of Public Health, Dept. of Highways, American Red Cross dept. of Mental Health, Dept. of Agricultural Resources, and the National Guard will be in the area awaiting notification. Once notified to report, they will report one hour later.

Operations/Communications staff will show call down or computerized lists to the FEMA evaluator.

EOF: MEMA and MDPH personnel will be in the area awaiting notification. Once notified to report, they will report one hour later.

Joint News Center: MEMA personnel will be in the area awaiting notification. Once notified to report, they will report one hour later.

Region III: Region III EOC staff will report at the times they normally report for work unless they are paged/called by the SEOC and directed to report for duty at an earlier time. Region III emergency volunteer staff will be in the area awaiting notification. Once notified to report, they will use a compressed time: 10 minutes/hour of normal travel.

Operations/communications staff will show call down lists to the FEMA evaluator.

EPZ EOCs: Traffic Control personnel will not be deployed to control points, but local police who would implement traffic and control will be called to the EOC for an interview with the FEMA Evaluator on procedures for activating and operating traffic control points.

NIAT Field Monitoring Team Personnel: Field Team personnel will be in the area awaiting notification. Once notified to report, they will report one hour later.

Shelburne Control/Tri-State Dispatch: Will notify MA towns.

School Superintendents' Office: Initial call will be made to schools within their jurisdictions. Interviews will be held out of sequence with a FEMA evaluator during the week of April 4, 2005 and will provide the information for demonstration of the applicable criterion.

Greenfield Community College Reception Center: Call down of staff to confirm their availability and ETAs will be conducted on June 11, 2005. No mobilization of GCC staff will occur. GCC Reception Center will demonstrate on June 11, 2005.

Greenfield Community College Reception Center staff will be prestaged on June 11, 2005 at the reception center at the time the demonstration is scheduled to begin.

Northampton KI Dispensing Site (MA Hwy. Dept. on I-91, exit 18): Call down of staff to confirm their availability and ETAs will be demonstrated through the MDPH Coordinator at the SEOC in sequence on June 11, 2005.

The following Northampton KI Dispensing Site staff will be prestaged on June 11, 2005 at the dispensing site at the time the demonstration is scheduled to begin:

MDPH Dispensing Site Manager (1)
Site staff (6)
Police Representatives (2)

Sub-element 1.a.1 - Mobilization
New Hampshire Extent of Play

Emergency facilities will be alerted in accordance with the NHRERP. Those facilities that are to participate in the exercise will mobilize accordingly. Rosters for relief shifts will be available in each participating facility. Those facilities that are not participating will acknowledge receipt of notification, but will take no further action. Controllers will simulate facilities not participating.

Sub-element 1.a.1 - Mobilization
Vermont Extent of Play

Real time notification of emergency response staff will be demonstrated during this exercise with the following exceptions:

The Nuclear Engineer will be in Brattleboro or Vernon in the normal course of his duties and will deploy to the EOF when he is paged out.

If there are any responders to other facilities that would have more than a 1 hour or more drive, it will be suggested that they go to a location within an hour's drive of that facility and await the page before deploying.

ARCAS:

ISSUE #: 67-03-1.a.1-A-01 (STATE EOC)

The exercise of an administrative paging to all Emergency Management and State Agencies staffs at approximately 0615 hours, to advise them of the evaluated exercise and time to report to their emergency position location did not permit an adequate evaluation on the ability of the Emergency Management and State Staff to mobilize for an emergency. This created a pre-positioning condition of players that would not normally be employed at the Emergency Management EOC. The VT RERP calls for alerting Emergency Management staff at the Alert ECL and the State Staff members to respond at the Site Area Emergency (SAE). Emergency Management and State staff members were arriving and reporting for duty during the first Unusual Event (UE). These actions of reporting for duty so early was beyond the intent of the agreed upon extent of play. Pre-positioning staff before the time specified in the plans and procedures for the appropriate Emergency Classification Level. This early arrival of staff made it extremely difficult to evaluate the ability of Emergency Management to actually mobilize the required staff for emergencies. This could have caused an aggravation on the part of various staff members who received multiple pagings for the same issue and would not respond to every page because the response lines were to busy and or the message attendant was also busy to wait for the appropriate emergency message.

ISSUE #: 67-03-1.a.1-A-5 (JNC)

Vermont Joint News Center (JNC) staff mobilized to the JNC earlier than agreed to in the extent of play agreement. Vermont Joint News Center (JNC) staff was paged to mobilized to the JNC prior to the Notification of Unusual Event (UE) Emergency Classification Level (ECL). This Administrative page-out was in accordance with the extent of play. However, the extent of play allowed only for staff to preposition in a nearby location for mobilization at the time prescribed by the plan. The first Vermont PIO staff person arrived at the JNC at 0910, at the Alert ECL. The two additional staff arrived 0945, again at the Alert ECL. JNC procedures state that at the UE there is no notification; at the Alert they receive notification and are put on standby to await further information; and, at the Site

Area Emergency they are to report to the JNC. This created an inability to adequately evaluate the State's ability to mobilize staff in a timely manner.

Sub-element 1.b —Facilities

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have facilities to support the emergency response.

Criterion 1.b.1: Facilities are sufficient to support the emergency response. (NUREG-0654, H.3)

Plume Pathway Extent of Play

Facilities will only be specifically evaluated for this criterion if they are new or have substantial changes in structure or mission. Responsible OROs should demonstrate the availability of facilities that support the accomplishment of emergency operations. Some of the areas to be considered are: adequate space, furnishings, lighting, restrooms, ventilation, backup power and/or alternate facility (if required to support operations).

Facilities must be set up based on the ORO's plans and procedures and as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

FRMAC will not be evaluated.

Only the Vermont lab facility will be evaluated.

Sub-element 1.b.1 - Facilities
Massachusetts Extent of Play

There are no new or substantially changed facilities to be evaluated under this criterion.

Only the Leyden EOC will be evaluated for this criterion during the plume pathway phase to address the existing ARCA.

The MDPH Jamaica Plain Laboratory will not be evaluated during the ingestion pathway phase.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

ARCAS:

ISSUE #: 67-03-1.b.1-A-18 (LEYDEN)

The EOC lacks bathroom facilities. EOC staff must travel a considerable distance to the town hall to use its restrooms. This issue has sanitary and safety problems. The sanitary effects are obvious and do not require elaboration. Safety becomes a problem in the event of a radiological release at the plant and the plume zone transcends the Town of Leyden. EOC personnel would have to venture into the plume to gain access to restroom facilities. This not only poses a risk to them but also threatens the EOC staff if radioactive materials are carried back into the EOC.

Sub-element 1.b.1 - Facilities
New Hampshire Extent of Play

There are no new or substantially changed facilities to be evaluated under this criterion.

The following facilities will be demonstrating their capabilities: STATE EOC, EOF, IFO, MEDIA CENTER, JOINT INFORMATION CENTER, MUNICIPAL EOCs: HINSDALE, WINCHESTER, CHESTERFIELD, RICHMOND, SWANZEY, and KEENE (host).

The following facilities will demonstrate their capabilities out-of-sequence: State Transportation Staging Area (STSANH), Schools, and Keene Reception Center.

The State Lab will not be evaluated during the ingestion pathway phase.

Sub-element 1.b.1 - Facilities

Vermont Extent of Play

There are no new or substantially changed facilities to be evaluated under this criterion.

The EOF working area for the States will be evaluated during the plume pathway phase to address the existing ARCA.

The Lab facility will be evaluated during the ingestion pathway phase.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

ARCAS:

ISSUE # 67-03-1.b.1-A-4

The State Assembly Room at the EOF is the designated working area for Massachusetts, Vermont and New Hampshire responders to the facility. The room is too small and crowded when considering the functions to be conducted at that location. Both New Hampshire and Massachusetts direct their respective field teams from that room. Massachusetts also performs dose assessment from that location. All three states perform their liaison functions to their respective State EOCs from that room. This results in cramped working areas and excessive noise levels. Briefings and public address announcements were difficult to hear and added to the difficulties in communicating via telephone or radio to field teams.

The impact of the small, loud working conditions is increased stress for the responders, the potential for missing important information being transmitted, and that of having communications from the EOF being misunderstood.

Sub-element 1.c—Direction and Control

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the capability to control their overall response to an emergency.

Criterion 1.c.1: Key personnel with leadership roles for the ORO provide direction and control to that part of the overall response effort for which they are responsible. (NUREG-0654, A.1.d, 2.a, b)

Plume and Ingestion Pathway Extent of Play

Leadership personnel should demonstrate the ability to carry out essential functions of the response effort, for example: keeping the staff informed through periodic briefings and/or other means, coordinating with other appropriate OROs, and ensuring completion of requirements and requests.

All activities associated with direction and control must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Sub-element 1.c.1 – Direction and Control
Massachusetts Extent of Play

EPZ EOCs: If any towns are directed to evacuate, EOC personnel will demonstrate continuity of government through a discussion of logistics. Closing of the local EOC and relocation to a facility outside the EPZ will be simulated through discussion.

Sub-element 1.c.1 – Direction and Control
New Hampshire Extent of Play

Participating state and local facilities will demonstrate their ability to direct and control emergency operations in accordance with the NHRERP.

ARCAS:

ISSUE #: 67-03-1.c.1-A-12 (CHESTERFIELD)

During the exercise, record keeping by Chesterfield Emergency Operations Center (EOC) personnel was insufficient. Several key EOC members did not adequately document the actions they performed, as required by the Chesterfield plan and procedures. The Chesterfield Transportation Officer did not document who he spoke to at the New Hampshire Office of Emergency Management (NHOEM) EOC regarding transportation needs. This lack of documentation resulted in repeated requests for transportation information from the Local Liaison at the NHOEM EOC.

At 1022, 1056, and approximately 1225, the Local Liaison made three separate requests for information related to transportation needs for schools. The Transportation Officer promptly responded to all three requests, but in the first two instances provided, the information requested to the NHOEM EOC, instead of the Local Liaison at the NHOEM EOC as required by the Chesterfield Radiological Emergency Response Plan (RERP).

The Emergency Management Director (EMD) did not recognize a trend, of repeated requests for information, suggesting a communication breakdown between the Transportation Officer at the EOC and the Local Liaison at the NHOEM EOC. The Communications Officer informed the EMD that the Local Liaison did not receive a response to the first two requests. The EMD acknowledged the oversight and the Transportation Officer provided the information to the Communications Officer, who relayed it to the Local Liaison.

Lack of adequate record keeping weakens the ability of the Town of Chesterfield to complete and/or follow up on actions in a timely fashion. This is particularly relevant in the context of requests for additional resources made to other emergency response organizations, as well as in the event of a substitution of a key EOC member or a shift change.

Sub-element 1.c.1 – Direction and Control
Vermont Extent of Play

State EOC- Communications with the Governor and his staff will be simulated where necessary.

EPZ Town EOCs- If any towns are directed to evacuate, EOC personnel will simulate closing and transfer of their operation to the Incident Field Office and demonstrate continuity of government through a discussion. All appropriate communications with the State EOC and the IFO will continue to be demonstrated at the town EOC.

ARCAS:

ISSUE # 67-03-1.c.1-A-2 (STATE EOC)

The Vermont Field Team Coordinator failed to deploy state Field Teams to a location in time to locate, identify and accurately project the plume. As a result, they caught the tail end of the plume, did not measure the iodine, and did not make any reports to the dose assessment team at the SEOC about the plume, especially that it contained iodine. Meanwhile, the SEOC made a decision at 1210 to issue a complete evacuation of the Town of Vernon and of special needs populations in all Vermont EPZ towns. The decision was broadcast at 1223 and implementation began soon after.

Sub-element 1.d—Communications Equipment

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should establish reliable primary and backup communication systems to ensure communications with key emergency personnel at locations such as the following: appropriate contiguous governments within the emergency planning zone (EPZ), Federal emergency response organizations, the licensee and its facilities, emergency operations centers (EOC), and field teams.

Criterion 1.d.1: At least two communication systems are available, at least one operates properly, and communication links are established and maintained with appropriate locations. Communications capabilities are managed in support of emergency operations. (NUREG-0654, F.1, 2)

Plume and Ingestion Pathway Extent of Play

OROs will demonstrate that a primary and at least one backup system are fully functional at the beginning of an exercise. If a communications system or systems are not functional, but exercise performance is not affected, no exercise issue will be assessed. Communications equipment and procedures for facilities and field units should be used as needed for the transmission and receipt of exercise messages. All facilities and field teams should have the capability to access at least one communication system that is independent of the commercial telephone system.

Responsible OROs should demonstrate the capability to manage the communication systems and ensure that all message traffic is handled without delays that might disrupt the conduct of emergency operations. OROs should ensure that a coordinated communication link for fixed and mobile medical support facilities exists. The specific communications capabilities of OROs should be commensurate with that specified in the response plan and/or procedures. Exercise scenarios could require the failure of a communications system and the use of an alternate system, as negotiated in the extent of play agreement.

All activities associated with the management of communications capabilities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

FRMAC communications will not be evaluated.

Sub-element 1.d.1 – Communications Equipment

Massachusetts Extent of Play

Region III: Pursuant to the MARERP, facilities participating in this exercise will demonstrate their primary and a back up communications systems. Other communications systems and capabilities may also be used.

Greenfield Community College Reception Center: Primary and backup communications with Greenfield EOC will be demonstrated out-of-sequence on June 11, 2005.

Northampton KI Dispensing Site: Primary and backup communications will be demonstrated w/SEOC out-of-sequence on June 11, 2005

The new NAS System will be demonstrated.

Contact with locations not playing will be simulated.

Sub-element 1.d.1 – Communications Equipment

New Hampshire Extent of Play

Pursuant to the NHRERP, facilities participating in this exercise will demonstrate their primary and a back up communications systems. Other communications systems and capabilities may also be used.

The new NAS system will be demonstrated.

ARCAS:

ISSUE #: 67-03-1.d.1-A-13 (CHESTERFIELD)

The AM/FM radio used by the Chesterfield Emergency Operations Center (EOC) is inadequate for monitoring the broadcast of Emergency Alert System (EAS) messages. The Chesterfield EOC would have been unable to verify the reception of the EAS message in the Chesterfield area and such verification is critical for the EOC to be in a position to implement backup notification of the public in the event that the EAS message broadcast was not received in the Chesterfield area.

Sub-element 1.d.1 – Communications Equipment

Vermont Extent of Play

All facilities (State EOC, SWPs, IFO, Town EOCs, EOF) will demonstrate that a primary and at least one backup system are fully functional at the beginning of the exercise. For all above facilities, contact with locations or organizations that are not participating in the 2005 exercise or are demonstrating out of sequence will be simulated by placing an entry in the log at the appropriate time(s) in the exercise unless otherwise noted. The new NAS system will be demonstrated.

The following chart represents the primary and secondary communications between the State EOC and the listed facility:

FACILITY	PRIMARY	BACK UP	ADDITIONAL
Incident Field Office	EPZ Radio 45.52. MHz	Commercial Phone	RACES Radio, FAX NAS phone
Joint Information Center	Commercial Phone	FAX	
Emergency Operations Facility(VT)	EPZ Radio 45.52. MHz & FAX	Commercial Phone	
Emergency Operations Facility(VY)	NAS phone	Commercial Phone	
Brattleboro	EPZ Radio 45.52. MHz	Commercial Phone	RACES Radio*, FAX
Dummerston	EPZ Radio 45.52. MHz	Commercial Phone	RACES Radio*, FAX
Guilford	EPZ Radio 45.52. MHz	Commercial Phone	RACES Radio*, FAX
Halifax	EPZ Radio 45.52. MHz	Commercial Phone	RACES Radio*, FAX
Vernon	EPZ Radio 45.52. MHz	Commercial Phone	RACES Radio*, FAX
BFUHS Reception Center	EPZ Radio 45.52. MHz	Commercial Phone	FAX

* = Subject to town approval.

Sub-element 1.e—Equipment and Supplies to Support Operations

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have emergency equipment and supplies adequate to support the emergency response.

Criterion 1.e.1: Equipment, maps, displays, dosimetry, potassium iodide (KI), and other supplies are sufficient to support emergency operations. (NUREG-0654, H.7,10; J.10.a, b, e; J.11; K.3.a)

Plume and Ingestion Pathway Extent of Play

Equipment within the facility (ies) should be sufficient and consistent with the role assigned to that facility in the ORO's plans and/or procedures in support of emergency operations. Use of maps and displays is encouraged. All instruments, including air sampling flow meters (field teams only), should be inspected, inventoried, and operationally checked before each use. They should be calibrated in accordance with the manufacturer's recommendations (or at least annually for the unmodified CDV-700 series or if there are no manufacturer's recommendations for a specific instrument; modified CDV-700 instruments should be calibrated in accordance with the recommendation of the modification manufacturer.). A label indicating such calibration should be on each instrument or verifiable by other means. Note: Field team equipment is evaluated under 4.a.1; radiological laboratory equipment under 4.c.1; reception center and emergency worker facilities' equipment is evaluated under 6.a.1; and ambulance and medical facilities' equipment is evaluated under 6.d.1.

Sufficient quantities of appropriate direct reading and permanent record dosimetry and dosimetry chargers should be available for issuance to all categories of emergency workers that could be deployed from that facility. Appropriate direct-reading dosimeter(s) should allow individual(s) to read the administrative reporting limits and maximum exposure limits contained in the ORO's plans and procedures.

Dosimeters should be inspected for electrical leakage at least annually and replaced, if necessary. CDV-138s, due to their documented history of electrical leakage problems, should be inspected for electrical leakage at least quarterly and replaced if necessary. This leakage testing will be verified during the exercise, through documentation submitted in the Annual Letter of Certification, or through a staff assistance visit.

Responsible OROs should demonstrate the capability to maintain inventories of KI sufficient for use by emergency workers, as indicated on rosters; institutionalized individuals, as indicated in capacity lists for facilities; and, where stipulated by the plan and/or procedures, members of the general public (including transients) *within the plume pathway EPZ.*

Quantities of dosimetry and KI available and storage locations(s) will be confirmed by physical inspection at storage location(s) or through documentation of current inventory submitted during the exercise or provided in the Annual Letter of Certification submission. Available supplies of KI should be within the expiration date indicated on KI bottles or blister packs. As an alternative, the ORO may produce a letter indicating that the KI supply remains potent, in accordance with Food and Drug Administration (FDA) guidance.

At locations where traffic and access control personnel are deployed, appropriate equipment (e.g., vehicles, barriers, traffic cones and signs, etc) should be available or their availability described.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Sub-element 1.e.1 - Equipment and Supplies to Support Operations

Massachusetts Extent of Play

FEMA will provide copies of the Annual Letter of Certification to evaluators, as appropriate.

Sub-element 1.e.1 – Equipment and Supplies to Support Operations
New Hampshire Extent of Play

FEMA will provide copies of the Annual Letter of Certification to evaluators, as appropriate.

Pursuant to the NHRERP, facilities participating in this exercise will demonstrate the equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies available to them.

Sub-element 1.e.1- Equipment and Supplies to Support Operations
Vermont Extent of Play

FEMA will provide copies of the Annual Letter of Certification to evaluators, as appropriate. Instrument data will be an attachment to the Annual Letter of Certification.

Pursuant to the VTRERP, facilities participating in this exercise will demonstrate the equipment, maps, displays, dosimetry, potassium iodide (KI) and other supplies available to them.

Web EOC may be used if available.

ARCAS:

ISSUE #: 67-03-1.e.1-A-7 (HALIFAX)

No KI was available at the Halifax EOC for emergency workers. This could affect the town's ability to ensure the health and safety of its emergency workers.

Intent

This sub-element is derived from NUREG-0654, which provides that an offsite response organization (ORO) have the capability to assess and control the radiation exposure received by emergency workers and have a decision chain in place as specified in the ORO's plans and procedures to authorize emergency worker exposure limits to be exceeded for specific missions.

Radiation exposure limits for emergency workers are the recommended accumulated dose limits or exposure rates that emergency workers may be permitted to incur during an emergency. These limits include any pre-established administrative reporting limits (that take into consideration Total Effective Dose Equivalent or organ-specific limits) identified in the ORO's plans and procedures.

Criterion 2.a.1: OROs use a decision-making process, considering relevant factors and appropriate coordination, to insure that an exposure control system, including the use of KI, is in place for emergency workers including provisions to authorize radiation exposure in excess of administrative limits or protective action guides. (NUREG-0654, K.4, J.10. e, f)

Plume Pathway Extent of Play

OROs authorized to send emergency workers into the plume exposure pathway EPZ should demonstrate a capability to meet the criterion based on their emergency plans and procedures.

Responsible OROs should demonstrate the capability to make decisions concerning the authorization of exposure levels in excess of pre-authorized levels and to the number of emergency workers receiving radiation dose above pre-authorized levels.

As appropriate, OROs should demonstrate the capability to make decisions on the distribution and administration of KI, as a protective measure, based on the ORO's plan and/or procedures or projected thyroid dose compared with the established protective action guides (PAGs) for KI administration.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont criterion for field teams only.

Sub-element 2.a.1 – Emergency Worker Exposure Control

Massachusetts Extent of Play

There will be no exceptions to this sub-element in the Massachusetts Extent of Play.

Sub-element 2.a.1– Emergency Worker Exposure Control
New Hampshire Extent of Play

This Evaluation Area will be demonstrated in accordance with the NHRERP by appropriate facilities that participate in the exercise.

Sub-element 2.a.1– Emergency Worker Exposure Control
Vermont Extent of Play

There will be no exceptions to this sub-element in the Vermont extent of play.

Sub-element 2.b. Radiological Assessment and Protective Action Recommendations and Decisions for the Plume Phase of the Emergency

Intent

This sub-element is derived from NUREG-0654, which indicates that OROs have the capability to independently project integrated dose from exposure rates or other information and compare the estimated dose savings with the protective action guides. OROs have the capability to choose, among a range of protective actions, those most appropriate in a given emergency situation and base these choices on protective action guides (PAGs) from the ORO's plans and procedures or EPA 400-R-92-001 and other criteria, such as, plant conditions, licensee protective action recommendations, coordination of protective action decisions with other political jurisdictions (e.g. other affected OROs), availability of appropriate in-place shelter, weather conditions, evacuation time estimates, and situations that create higher than normal risk from evacuation.

Criterion 2.b.1: Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions. (NUREG-0654, I.8, 10, & Supplement 3)

Plume Pathway Extent of Play

During the initial stage of the emergency response, following notification of plant conditions that may warrant offsite protective actions, the ORO should demonstrate the capability to use appropriate means, described in the plan and/or procedures, to develop protective action recommendations (PARs) for decision-makers based on available information and recommendations from the licensee and field monitoring data, if available.

When release and meteorological data are provided by the licensee, the ORO also considers these data. The ORO should demonstrate a reliable capability to independently validate dose projections. The types of calculations to be demonstrated depend on the data available and the need for assessments to support the PARs appropriate to the scenario. In all cases, calculation of projected dose should be demonstrated.

Projected doses should be related to quantities and units of the PAGs to which they will be compared. PARs should be promptly transmitted to decision-makers in a prearranged format.

Differences greater than a factor of 10 between projected doses by the licensee and the ORO should be discussed with the licensee with respect to the input data and assumptions used, the use of different models, or other possible reasons. Resolution of these differences should be incorporated into the PAR if timely and appropriate. The ORO should demonstrate the capability to use any additional data to refine projected doses and exposure rates and revise the associated PARs.

All activities must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 2.b.1 - Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions

Massachusetts Extent of Play

There will be no exceptions to this sub-element in the Massachusetts extent of play.

Sub-element 2.b.1- Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions

New Hampshire Extent of Play

This Evaluation Area will be demonstrated in accordance with the NHRERP at the State EOC in the context of the exercise scenario. Public Heath Accident Assessment Program and other accident assessment models will be used.

Protective action recommendations will be made in accordance with the NHRERP.

Monitoring teams and accident assessors will be provided field radiological data by controllers in an appropriate sequence according to the scenario time line and the limitations of exercise play.

This accommodation does not absolve the accident assessment team from making appropriate strategic decisions with respect to the deployment and coordination of field monitoring resources at their disposal.

Sub-element 2.b.1 - Appropriate protective action recommendations are based on available information on plant conditions, field monitoring data, and licensee and ORO dose projections, as well as knowledge of on-site and off-site environmental conditions
Vermont Extent of Play

There will be no exceptions to this sub-element in the Vermont extent of play.

Criterion 2.b.2: A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy). (NUREG-0654, J.9, 10.f, m)

Plume Pathway Extent of Play

OROs should have the capability to make both initial and subsequent PADs. They should demonstrate the capability to make initial PADs in a timely manner appropriate to the situation, based on notification from the licensee, assessment of plant status and releases, and PARs from the utility and ORO staff.

The dose assessment personnel may provide additional PARs based on the subsequent dose projections, field data, or information on plant conditions. The decision-makers should demonstrate the capability to change protective actions as appropriate bases on these projections.

If the ORO has determined that KI will be used as a protective measure for the general public under offsite plans, then the ORO should demonstrate the capability to make decisions on the distribution and administration of KI as a protective measure for the general public to supplement sheltering and evacuation. This decision should be based on the ORO's plan and/or procedures or projected thyroid dose compared with the established PAG for KI administration. The KI decision-making process should involve close coordination with appropriate assessment and decision-making staff.

If more than one ORO is involved in decision-making, OROs should communicate and coordinate PADs with affected OROs. OROs should demonstrate the capability to communicate the contents of decisions to the affected jurisdictions.

All decision-making activities by ORO personnel must be based on the ORO's plans and procedures and completed, as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

***Sub-element 2.b.2* - A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy)**
Massachusetts Extent of Play

There will be no exceptions to this sub-element in the Massachusetts extent of play.

Sub-element 2.b.2- A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy)

New Hampshire Extent of Play

There will be no exceptions to this sub-element in the New Hampshire extent of play.

Sub-element 2.b.2- A decision-making process involving consideration of appropriate factors and necessary coordination is used to make protective action decisions (PADs) for the general public (including the recommendation for the use of KI, if ORO policy)

Vermont Extent of Play

There will be no exceptions to this sub-element in the Vermont extent of play.

Sub-element 2.c—Protective Action Decisions Considerations or Protection of Special Populations

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to determine protective action recommendations, including evacuation, sheltering and use of potassium iodide (KI), if applicable, for special population groups (e.g., hospitals, nursing homes, correctional facilities, schools, licensed day care centers, mobility impaired individuals, and transportation dependent individuals). Focus is on those special population groups that are (or potentially will be) affected by a radiological release from a nuclear power plant.

Criterion 2.c.1: Protective action decisions are made, as appropriate, for special population groups. (NUREG-0654, J.9, J.10.d, e)

Plume Pathway Extent of Play

Usually, it is appropriate to implement evacuation in areas where doses are projected to exceed the lower end of the range of PAGs, except for situations where there is a high-risk environment or where high-risk groups (e.g., the immobile or infirm) are involved. In these cases, examples of factors that should be considered are: weather conditions, shelter availability, Evacuation Time Estimates, availability of transportation assets, risk of evacuation vs. risk from the avoided dose, and precautionary school evacuations. In situations where an institutionalized population cannot be evacuated, the administration of KI should be considered by the OROs.

Applicable OROs should demonstrate the capability to alert and notify all public school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Contacts with public school systems/districts must be actual.

In accordance with plans and/or procedures, OROs and/or officials of public school systems/districts should demonstrate the capability to make prompt decisions on protective actions for students. Officials should demonstrate that the decision making process for protective actions considers (that is, either accepts automatically or gives heavy weight to) protective action recommendations made by ORO personnel, the ECL at which these recommendations are received, preplanned strategies for protective actions for that ECL, and the location of students at the time (for example, whether the students are still at home, en route to the school, or at the school).

All decision-making activities associated with protective actions, including consideration of available resources, for special population groups, must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 2.c.1 - Protective action decisions are made, as appropriate, for special population groups
Massachusetts Extent of Play

There will be no exceptions to this sub-element in the Massachusetts extent of play.

Sub-element 2.c.1- Protective action decisions are made, as appropriate, for special population groups
New Hampshire Extent of Play

There will be no exceptions to this sub-element in the New Hampshire extent of play.

Sub-element 2.c.1- Protective action decisions are made, as appropriate, for special population groups
Vermont Extent of Play

There will be no exceptions to this sub-element in the Vermont extent of play.

Sub-element 2.d—Radiological Assessment and Decision-Making for the Ingestion Exposure Pathway

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the means to assess the radiological consequences for the ingestion exposure pathway, relate them to the appropriate protective action guides (PAG), and make timely, appropriate protective action decisions to mitigate exposure from the ingestion pathway.

During an accident at a nuclear power plant, a release of radioactive material may contaminate water supplies and agricultural products in the surrounding areas. Any such contamination would likely occur during the plume phase of the accident and, depending on the nature of the release, could impact the ingestion pathway for weeks or years.

Criterion 2.d.1: Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO planning criteria. (NUREG-0654, J.9,11)

Plume Pathway Extent of Play

It is expected that the ORO(s) will take precautionary actions to protect food and water supplies, or to minimize exposure to potentially contaminated water and food, in accordance with their respective plans and procedures. Often such precautionary actions are initiated by the OROs based on criteria related to the facility's emergency classification levels (ECL). Such actions may include recommendations to place milk animals on stored feed and to use protected water supplies.

The ORO should use its procedures (for example, development of a sampling plan)to assess the radiological consequences of a release on the food and water supplies. The ORO assessment should include the evaluation of the radiological analyses of representative samples of water, food, and other ingestible substances of local interest from potentially impacted areas, the characterization of the releases from the facility, and the extent of areas potentially impacted by the release. During this assessment, OROs should consider the use of agricultural and watershed data within the 50-mile EPZ. The radiological impacts on the food and water should then be compared to the appropriate ingestion PAGs contained in the ORO's plan and/or procedures. (The plan and/or procedures may contain PAGs based on specific dose commitment criteria or based on criteria as recommended by current Food and Drug Administration guidance.) Timely and appropriate recommendations should be provided to the ORO decision-makers for implementation decisions. As time permits, the ORO may also include a comparison of taking or not taking a given action on the resultant ingestion pathway dose commitments.

The ORO should demonstrate timely decisions to minimize radiological impacts from the ingestion pathway, based on the given assessments and other information available. Any such decisions should be communicated and to the extent practical, coordinated with neighboring and local OROs.

OROs should use Federal resources as identified in the Federal Radiological Emergency Response Plan (FRERP), and other resources (e.g., compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is primarily a State of Vermont criterion for decision making, sampling and analyzing results.

Sub-element 2.d.1 - Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO planning criteria
Massachusetts Extent of Play

This sub-element will not be evaluated in this exercise.

The States of MA, NH and NY will practice this criterion. Data similar to that being provided to the State of VT will be provided to them to aid in their training and to allow for a meaningful FRMAC and inter-State dialog and coordination.

Sub-element 2.d.1 - Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO planning criteria
New Hampshire Extent of Play

This sub-element will not be evaluated in this exercise.

The States of MA, NH and NY will practice this criterion. Data similar to that being provided to the State of VT will be provided to them to aid in their training and to allow for a meaningful FRMAC and inter-State dialog and coordination.

Sub-element 2.d.1 - Radiological consequences for the ingestion pathway are assessed and appropriate protective action decisions are made based on the ORO planning criteria
Vermont Extent of Play

Precautionary actions during the plume phase of the emergency (i.e., sheltering milk producing animals) will be recommended as appropriate.

For ingestion pathway calculations, two calculations per sample type will be evaluated. There will be two sample types of appropriate volume per sampling procedure provided: milk and water.

On May 25, 2005, using the FRMAC fly over maps of the plume footprint, the VT State Departments of Health, Agriculture and Agency of Natural Resources will develop a sampling strategy for milk, forage, and water. The Sampling teams will be briefed and dispatched to a predetermined location in the Brattleboro area.

On May 26, 2005, the VT State Department of Health (VDH) will follow its procedures for demonstrating the dose assessment of radioisotope levels in two samples each of milk and water. The data provided to the State VDH dose assessment team by the Controllers will reasonably represent that which would be provided by the Health Department laboratory. The results will be compared to the FDA Derived Intervention Levels (DIL) and EPA standards. The Controllers will then provide the State VDH with additional data / maps showing the locations where the DIL is exceeded. The VDH, Agency of Agriculture, Food and Markets, and Agency of Natural Resources will then provide the State EOC decision maker with a protective action recommendation for the different food pathways.

Sub-element 2.e—Radiological Assessment and Decision-Making Concerning Relocation, Re-entry, and Return

Intent

The sub-element is derived from NUREG-0654, which provides that OROs have the capability to make decisions on relocation, re-entry, and return of the general public. These decisions are essential for the protection of the public from the direct long-term exposure to deposited radioactive materials from a severe accident at a commercial nuclear power plant.

Criterion 2.e.1: Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures. (NUREG-0654, I.10; J.9; M.1)

Plume Pathway Extent of Play

Relocation: OROs should demonstrate the capability to estimate integrated dose in contaminated areas and to compare these estimates with PAGs, apply decision criteria for relocation of those individuals in the general public who have not been evacuated but where projected doses are in excess of relocation PAGs and control access to evacuated and restricted areas. Decisions are made for relocating members of the evacuated public who lived in areas that now have residual radiation levels in excess of the PAGs.

Determination of areas to be restricted should be based on factors such as the mix of radionuclides in deposited materials, calculated exposure rates vs. the PAGs, and field samples of vegetation and soil analyses.

Re-entry: Decisions should be made regarding the location of control points and policies regarding access and exposure control for emergency workers and members of the general public who need to temporarily enter the evacuated area to perform specific tasks or missions.

Examples of control procedures are: the assignment of, or checking for, direct-reading and non-direct-reading dosimetry for emergency workers; questions regarding the individual's objectives and locations expected to be visited and associated time frames; availability of maps and plots of radiation exposure rates; advice on areas to avoid; and procedures for exit including: monitoring of individuals, vehicles, and equipment; decision criteria regarding decontamination; and proper disposition of emergency worker dosimetry and maintenance of emergency worker radiation exposure records.

Responsible OROs should demonstrate the capability to develop a strategy for authorized re-entry of individuals into the restricted zone, based on established decision criteria. OROs should demonstrate the capability to modify those policies for security purposes (e.g., police patrols), for maintenance of essential services (e.g., fire protection and utilities), and for other critical functions. They should demonstrate the capability to use decision making criteria in allowing access to the restricted zone by the public for various reasons, such as to maintain property (e.g., to care for farm animals or secure machinery for storage), or to retrieve important possessions. Coordinated policies for access and exposure control should be developed among all agencies with roles to perform in the restricted zone. OROs should demonstrate the capability to establish policies for provision of dosimetry to all individuals allowed to re-enter the restricted zone. The extent that OROs need to develop policies on re-entry will be determined by scenario events.

Return: Decisions are to be based on environmental data and political boundaries or physical/geological features, which allow identification of the boundaries of areas to which members of the general public may return. Return is permitted to the boundary of the restricted area that is based on the relocation PAG.

Other factors that the ORO should consider are, for example: conditions that permit the cancellation of the Emergency Classification Level and the relaxation of associated restrictive measures; basing return recommendations (i.e., permitting populations that were previously evacuated to reoccupy their homes and businesses on an unrestricted basis) on measurements of radiation from ground deposition; and the capability to identify services and facilities that require restoration within a few days and to identify the procedures and resources for their restoration.

Examples of these services and facilities are: medical and social services, utilities, roads, schools, and intermediate term housing for relocated persons.

Ingestion Pathway Extent of Play
This is a State of Vermont only criterion.

Sub-element 2.e.1 - Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures
Massachusetts Extent of Play

This sub-element will not be evaluated in this exercise.

The States of MA, NH and NY will practice this criterion. Data similar to that being provided to the State of VT will be provided to them to aid in their training and to allow for a meaningful FRMAC and inter-State dialog and coordination.

Sub-element 2.e.1 - Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures
New Hampshire Extent of Play

This sub-element will not be evaluated in this exercise.

The States of MA, NH and NY will practice this criterion. Data similar to that being provided to the State of VT will be provided to them to aid in their training and to allow for a meaningful FRMAC and inter-State dialog and coordination.

Sub-element 2.e.1 - Timely relocation, re-entry, and return decisions are made and coordinated as appropriate, based on assessments of the radiological conditions and criteria in the ORO's plan and/or procedures
Vermont Extent of Play

All activities will be demonstrated in accordance with plans and procedures.

For relocation calculations, two calculations of soil will be evaluated.

On May 25, 2005, using the FRMAC fly over maps of the plume footprint, the VT State Department of Health and the EMA will develop a sampling strategy for surface soil and area dose rates. The Sampling teams will be briefed and dispatched to a predetermined location in the Brattleboro area.

On May 25, 2005, the VT State Department of Health (VDH) will follow its procedures for demonstrating the dose assessment of radioisotope levels in two samples of soil. The data provided to the State VDH dose assessment team by the Controllers will reasonably represent that which would be provided by the Health Department laboratory. The results will be compared to the EPA Relocation PAG and a Derived Response Level (DRL) for relocation will be determined. The Controllers will then provide the State VDH with additional data / maps showing the locations where the Relocation DRL is exceeded. This can be the FRMAC fly over data. The VDH, Agency of Agriculture, Food and Markets, and Agency of Natural Resources will then provide the State EOC decision maker with a protective action recommendation for the Restricted area. The State EOC will address the issues of Re-entry into the Restricted area and the Return of the public into non restricted areas.

Sub-element 3.a—Implementation of Emergency Worker Exposure Control

Intent

This sub-element is derived from NUREG-0654, which provides that offsite emergency response organizations (ORO) should have the capability to provide for the following: distribution, use, collection, and processing of direct-reading dosimeters and permanent record dosimeters; provide for direct-reading dosimeters to be read at appropriate frequencies by emergency workers; maintain a radiation dose record for each emergency worker; and provide for establishing a decision chain or authorization procedure for emergency workers to incur radiation exposures in excess of protective action guides, always applying the ALARA (As Low As is Reasonably Achievable) principle as appropriate.

Criterion 3.a.1: The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart. (NUREG-0654, K.3.a, b)

Plume Pathway Extent of Play

OROs should demonstrate the capability to provide appropriate direct and permanent record dosimetry, dosimetry chargers, and instructions on the use of dosimetry to emergency workers. For evaluation purposes, appropriate direct-reading dosimetry is defined as dosimetry that allows individual(s) to read the administrative reporting limits (that are pre-established at a level low enough to consider subsequent calculation of Total Effective Dose Equivalent) and maximum exposure limits (for those emergency workers involved in life saving activities) contained in the OROs plans and procedures.

Each emergency worker should have the basic knowledge of radiation exposure limits as specified in the ORO's plan and/or procedures. Procedures to monitor and record dosimeter readings and to manage radiological exposure control should be demonstrated.

During a plume phase exercise, emergency workers should demonstrate the procedures to be followed when administrative exposure limits and turn-back values are reached. The emergency worker should report accumulated exposures during the exercise as indicated in the plans and procedures. OROs should demonstrate the actions described in the plan and/or procedures by determining whether to replace the worker, to authorize the worker to incur additional exposures or to take other actions. If scenario events do not require emergency workers to seek authorizations for additional exposure, evaluators should interview at least two emergency workers, to determine their knowledge of whom to contact in the event authorization is needed and at what exposure levels. Emergency workers may use any available resources (e.g. written procedures and/or co-workers) in providing responses.

Although it is desirable for all emergency workers to each have a direct-reading dosimeter, there may be situations where team members will be in close proximity to each other during the entire mission and adequate control of exposure can be affected for all members of the team by one dosimeter worn by the team leader. Emergency workers who are assigned to low exposures rate areas, e.g. at reception centers, counting laboratories, emergency operations centers, and communications centers, may have individual direct-reading dosimeters or they may be monitored by dosimeters strategically placed in the work area. It should be noted that, even in these situations, each team member must still have their own permanent record dosimetry.

Individuals without specific radiological response missions, such as farmers for animal care, essential utility service personnel, or other members of the public who must re-enter an evacuated area following or during the plume passage, should be limited to the lowest radiological exposure commensurate with completing their mission.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont only criterion for sampling teams on day 2 of the exercise.

Sub-element 3.a.1 - The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart

Massachusetts Extent of Play

State Police Troop B Headquarters and Shelburne Barracks: Dosimetry packets will be issued to two State Police traffic control personnel, who will demonstrate knowledge of the use of dosimetry and Massachusetts policies on dosimetry through an interview with the FEMA Evaluator out of sequence on April 7, 2005.

EPZ EOCs: Dosimetry packets will be issued to field staff that will be working outdoors within the EPZ and to a minimum of two individuals who will be working inside each EPZ EOC. Knowledge of the use of dosimetry and Massachusetts policies on dosimetry will be demonstrated through an interview with the FEMA Evaluator.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Sub-element 3.a.1 - The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart
New Hampshire Extent of Play

The RADEF Officer in each facility will issue appropriate dosimetry in accordance with the NHRERP. The following facilities will demonstrate their ability to meet this criteria:

MUNICIPAL EOCs: HINSDALE, WINCHESTER, CHESTERFIELD, RICHMOND, SWANZEY, JNC, Field Teams and NHSP Troop C

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

ARCAS:

ISSUE #: 67-03-3.a.1-A-11 (FIELD MONITORING TEAMS)

At 0900 hours, the Monitoring Team Coordinator (MTC) dispatched NH FMT1 from Concord, NH to the Chesterfield Fire Station assembly point, to begin conducting radiological monitoring. While on route to the assembly point, the NH FMT 1 received directions from the MTC to proceed to Highway 63 South and ½ mile north of the Massachusetts border and begin air sampling. After several failed attempts to receive guidance, from the MTC, NH FMT 1 (on their own) discussed the alternatives to either stop and reverse their route to a lower dose rate area or continue to proceed to the radiological monitoring location. NH FMT 1 decided to continue to proceed toward the plume until the background readings exceeded 500 mR/hr. At 1145 hours, the exercise controller provided the background reading, at which time the field monitoring team immediately called the readings in to the MTC. At 1157 hours, after three failed attempts to reach the MTC by radio, the field team decided to stop and reverse their route to a low dose rate area. At 1158 hours, the MTC finally instructed the team to stop, turnaround, and reverse direction and immediately proceed to a low dose rate area. NH FMT 1 was exposed to levels of 150mr/hr to 630 mR/hr for approximately 19 minutes (1140 hours to 1159 hours).

ISSUE # 67-03-3.a.1-A-15 (RICHMOND)

Radiological Officer (RAD) Officer did not advise the female emergency workers on all aspects of radiological exposure. A female worker could have been pregnant and not known the potential health risks.

Sub-element 3.a.1 - The OROs issue appropriate dosimetry and procedures, and manage radiological exposure to emergency workers in accordance with the plans and procedures. Emergency workers periodically and at the end of each mission read their dosimeters and record the readings on the appropriate exposure record or chart
Vermont Extent of Play

Each of the following facilities will provide one emergency worker to discuss with the FEMA evaluator the turn back values according to their procedures.

Brattleboro EOC
Dummerston EOC
Guilford EOC
Halifax EOC
Vernon EOC
EOF
JNC
IFO

Staff at the above facilities will demonstrate actions described in their plans to determine whether to replace an exposed worker or get authorization for the worker to incur additional exposure.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

ARCAS:

ISSUE #: 67-03-3.a.1-A-8 (GUILFORD)

The RADEF officer was not available for this exercise; the EMD assigned two staff personnel who only handed out the 0-20R direct reading dosimeter and a TLD. However, although this is not in accordance with their plan, the distribution of the dosimetry included a briefing on its use.

Ingestion Pathway Extent of Play

Three (3) sampling teams will be demonstrated. The sampling teams will use a location in the Waterbury vicinity to demonstrate their activities.

Use of dosimetry and PCs will be in accordance with the VTRERP.

Sub-element 3.b—Implementation of KI Decision

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to provide radioprotective drugs for emergency workers, institutionalized individuals, and, if in the plan and/or procedures, to the general public for whom immediate evacuation may not be feasible, very difficult, or significantly delayed. While it is necessary for OROs to have the capability to provide KI to emergency workers and institutionalized individuals, the provision of KI to the general public is an ORO option, reflected in ORO's plans and procedures. Provisions should include the availability of adequate quantities, storage, and means of the distribution of radioprotective drugs.

Criterion 3.b.1: KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals is maintained. (NUREG-0654, J.10.e)

Plume Pathway Extent of Play

OROs should demonstrate the capability to make KI available to emergency workers, institutionalized individuals, and, where provided for in the ORO plan and/or procedures, to members of the general public. OROs should demonstrate the capability to accomplish distribution of KI consistent with decisions made. Organizations should have the capability to develop and maintain lists of emergency workers and institutionalized individuals who have ingested KI, including documentation of the date(s) and time(s) they were instructed to ingest KI. The ingestion of KI recommended by the designated ORO health official is voluntary. For evaluation purposes, the actual ingestion of KI is not necessary. OROs should demonstrate the capability to formulate and disseminate appropriate instructions on the use of KI for those advised to take it. If a recommendation is made for the general public to take KI, appropriate information should be provided to the public by the means of notification specified in the ORO's plan and/or procedures.

Emergency workers should demonstrate the basic knowledge of procedures for the ingestion of KI whether or not the scenario drives the use of KI. This can be accomplished by an interview with the evaluator.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 3.b.1 - KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals is maintained

Massachusetts Extent of Play

Actual distribution and ingestion of KI will not occur. Empty KI tablet containers (small zip-lock bags) will be included in the dosimetry packets for emergency workers. There are no institutionalized persons in the EPZ.

School staff, including the school nurse and/or teacher who administer KI, will be interviewed between April 4 and April 8 (See specific dates listed in the Overview) by a FEMA Evaluator.

The evaluator will check the availability of adequate quantities, storage, and means of KI distribution, to include forms and equipment to be used.

The Northampton KI Dispensing Site will be demonstrated out-of-sequence – June 11, 2005

***Sub-element 3.b.1* - KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals is maintained**

New Hampshire Extent of Play

The capability to issue KI to emergency workers will be demonstrated at appropriate state and local facilities. The RADEF officer at each facility (including, Troop C and Field Teams) will talk through the issuing process. No KI will be ingested. Quantities of KI are stored at local EOCs, EPZ nursing homes and hospitals and the IFO. Calls to institutions will be simulated.

The simulated ingestion of KI by emergency workers and the general public will be driven by scenario specifics.

***Sub-element 3.b.1* - KI and appropriate instructions are available should a decision to recommend use of KI be made. Appropriate record keeping of the administration of KI for emergency workers and institutionalized individuals is maintained**

Vermont Extent of Play

Actual distribution and ingestion of KI will not occur. Radiological Officers and Dosimeter Coordinators will simulate the placement of one foil wrapped pill in each Emergency Worker packet by showing the FEMA evaluator the supply of pills and explaining that they would place one in each packet. KI is pre-distributed to the members of the general public residing or working in the EPZ communities.

Sub-element 3.c—Implementation of Protective Actions for Special Populations

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to implement protective action decisions, including evacuation and/or sheltering, for all special population groups (hospitals, nursing homes, correctional facilities, schools, licensed day care centers, mobility impaired individuals, transportation dependent, etc). Focus is on those special population groups that are (or potentially will be) affected by a radiological release from a nuclear power plant.

Criterion 3.c.1: Protective action decisions are implemented for special population groups within areas subject to protective actions. (NUREG-0654, J.10.c, d, g)

Plume Pathway Extent of Play

Applicable OROs should demonstrate the capability to alert and notify (e.g., provide protective action decisions and emergency information and instructions) special populations (hospitals, nursing homes, correctional facilities, mobility impaired individuals, transportation dependent, etc.). OROs should demonstrate the capability to provide for the needs of special populations in accordance with the ORO's plans and procedures.

Contact with special populations and reception facilities may be actual or simulated, as agreed to in the Extent of Play. Some contacts with transportation providers should be actual, as negotiated in the extent of play. All actual and simulated contacts should be logged.

All implementing activities associated with protective actions for special populations must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent-of-play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 3.c.1 - Protective action decisions are implemented for special population groups within areas subject to protective actions
Massachusetts Extent of Play

Massachusetts Department of Conservation and Recreation (DCR): The District 9 Fire Warden will dispatch one alerting person/team to each of the following areas:

- Northfield State Forest
- Warwick State Forest in Northfield
- Mount Grace State Forest in Warwick
- Leyden State Forest

The actual alert and notification will be simulated by displaying appropriate equipment and pre-scripted messages to the Evaluator. Members of the public in the vicinity will not be affected.

A FEMA Evaluator will be present at the District 9 Fire Warden's Office to observe communications, dosimetry distribution, equipment, maps, and pre-scripted messages and to interview the DEM field personnel. The FEMA Evaluator will accompany one of the field personnel/teams dispatched. This will be demonstrated out of sequence on April 7, 2005.

Massachusetts Department of Fisheries, Wildlife, and Environmental Law Enforcement, Division of Law Enforcement: The FEMA Evaluator interview the personnel on their procedures. This will be demonstrated out of sequence on April 7, 2005.

Bernardston EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

The Fire Liaison will dispatch personnel to alert, notify, and clear persons from the Travelers Woods (KOA) Campground and the Purple Meadow Campground. Actual notification will be simulated; campers will not be affected.

Colrain EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

Gill EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

The Fire Liaison will notify the Franklin County Boat Club and the Oak Ridge Gold Club.

Greenfield EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

The capability to correctly operate a TTY will be demonstrated in Greenfield by sending and receiving a test message to/from a TTY at the Massachusetts Commission for the Deaf and Hard of Hearing, located in Springfield.

Leyden EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

Northfield EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

Warwick EOC: EOC staff will simulate contacting persons on their special needs lists by logging the calls at the appropriate time. The list of special needs individuals will be shown to the FEMA Evaluator; however, the information is confidential and copies will NOT be provided.

No vehicles for alerting persons with special needs or providing transportation to the transportation dependent will be mobilized.

Sub-element 3.c.1 - Protective action decisions are implemented for special population groups within areas subject to protective actions
New Hampshire Extent of Play

The response of transportation resources will be simulated. State EOC, IFO and local transportation resource personnel will demonstrate their capability to coordinate and dispatch appropriate transportation resources with the support of a control cell during the plume phase exercise. ***The State EOC will make the initial call to transportation providers as well as subsequent calls to a control cell.*** Calls to special facilities are already contained in the local EOCs' demonstration. A TDD/Relay Operator will be demonstrated at the EOC in Concord.

The ability and resources to implement protective actions for special populations will be demonstrated in accordance with the NHRERP at the state and municipal EOCs. Each municipal EOC will simulate calls to special needs populations per their special needs call lists and arrange for appropriate resources to meet the special needs. Controller messages will simulate requests for assistance from the general public beyond the special needs call list. The dispatch of resources and response to requests for assistance will be simulated.

An out-of-sequence demonstration of the New Hampshire State Transportation Staging Area will take place to demonstrate the ability to distribute transportation resources to support the risk municipalities in New Hampshire and the Vermont State Transportation Staging area with appropriate transportation resources. Transportation resources will not be dispatched.

Sub-element 3.c.1 - Protective action decisions are implemented for special population groups within areas subject to protective actions
Vermont Extent of Play

EPZ EOCs will discuss their special needs list with the FEMA evaluators. Contact with special needs individuals will be simulated by making an entry in the appropriate log. No vehicles will be dispatched as that has already been demonstrated. State parks and summer camps will be demonstrated in the Summer (TBD) in a site visit when they are open. The contact with the camps and parks will be simulated by making an entry in the appropriate log.

Transportation resources will not be dispatched.

Criterion 3.c.2: OROs/School officials decide upon and implement protective actions for schools. (NUREG-0654, J.10.c, d, g)

Plume Pathway Extent of Play

Applicable OROs should demonstrate the capability to alert and notify all public school systems/districts of emergency conditions that are expected to or may necessitate protective actions for students. Contacts with public school systems/districts must be actual.

In accordance with plans and/or procedures, OROs and/or officials of participating public and private schools should demonstrate the capability to make prompt decisions on protective actions for students. School officials should demonstrate that the decision making process for protective actions considers (e.g., either accepts automatically or gives heavy weight to) protective action recommendations made by ORO personnel, the ECL at which these recommendations are received, preplanned strategies for protective actions for that ECL, and the location of students at the time (e.g., whether the students are still at home, en route to the school, or at the school).

Public school systems/districts shall demonstrate the ability to implement protective action decisions for students. The demonstration shall be made as follows: At least one school in each affected school system or district, as appropriate, needs to demonstrate the implementation of protective actions. The implementation of canceling the school day, dismissing early or sheltering should be simulated by describing to evaluators the procedures that would be followed. If evacuation is the implemented protective action, all activities to complete the evacuation of students to reception centers, congregate care centers, or host schools may actually be demonstrated or accomplished through an interview process. If accomplished through an interview process, appropriate school personnel including decision making officials (e.g., superintendent/principal, transportation director/bus dispatcher), and at least one bus driver should be available to demonstrate knowledge of their role(s) in the evacuation of school children. Communications capabilities between school officials and the buses, if required by the plan and/or procedures, should be verified.

Officials of the school system(s) should demonstrate the capability to develop and provide timely information to OROs for use in messages to parents, the general public, and the media on the status of protective actions for schools.

The provisions of this criterion also apply to any private schools, private kindergartens and day care centers that participate in REP exercises pursuant to the ORO's plans and procedures as negotiated by the Extent of Play Agreement.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless specified above or indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 3.c.2 - OROs/School officials decide upon and implement protective actions for schools
Massachusetts Extent of Play

Region III EOC: Contact with the University of Massachusetts campus police will be demonstrated once, at the time of initial notification, but all other calls to the University of Massachusetts will be simulated by logging the calls(s) at the appropriate times(s). The UMass Host Facility will not be activated.

The University of Massachusetts will be visited on April 7, 2005.

EPZ EOCs: Initial notification will be made to all public school superintendent's offices and private schools.

No further calls will be made to other schools; instead, calls will be simulated and logged at the appropriate times during the exercise.

Participating schools will be interviewed regarding knowledge of their plan by a FEMA evaluator out of sequence between April 4 and April 8, 2005.

Sub-element 3.c.2 - OROs/School officials decide upon and implement protective actions for schools
New Hampshire Extent of Play

Notification of schools and special facilities will be demonstrated at the State EOC and IFO and at each municipal EOC.

Calls will be made to each School Administrative Unit (SAU) and each school to verify transportation resource requirements. Calls will be made to transportation providers to verify resource capabilities. Default values will be used in determining resource requirements. The dispatch of transportation resources to schools will be simulated.

Protective Action Decisions for schools are made at the State EOC. Schools and special facilities in Hinsdale, Winchester and Chesterfield will be interviewed out of sequence on May 26, 2005.

Sub-element 3.c.2 - OROs/School officials decide upon and implement protective actions for schools
Vermont Extent of Play

EPZ EOCs will contact schools, licensed childcare centers, nursing homes and hospitals according to their procedures. Students and patients/residents will not be involved. No vehicles will be dispatched for precautionary transfer or evacuation. Special facilities will be interviewed by FEMA out of sequence on May 25, 2005.

Sub-element 3.d—Implementation of Traffic and Access Control

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the capability to implement protective action plans, including relocation and restriction of access to evacuated areas. This sub-element focuses on selecting, establishing, and staffing of traffic and access control points and removal of impediments to the flow of evacuation traffic.

Criterion 3.d.1: Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel. (NUREG-0654, J.10.g, j)

Plume Pathway Extent of Play

OROs should demonstrate the capability to select, establish, and staff appropriate traffic and access control points consistent with protective action decisions (for example, evacuating, sheltering, and relocation), in a timely manner. OROs should demonstrate the capability to provide instructions to traffic and access control staff on actions to take when modifications in protective action strategies necessitate changes in evacuation patterns or in the area(s) where access is controlled.

Traffic and access control staff should demonstrate accurate knowledge of their roles and responsibilities. This capability may be demonstrated by actual deployment or by interview in accordance with the extent of play agreement.

In instances where OROs lack authority necessary to control access by certain types of traffic (rail, water, and air traffic), they should demonstrate the capability to contact the State or Federal agencies with authority to control access.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless specified above or indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not applicable

Sub-element 3.d.1 - Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel
Massachusetts Extent of Play

SEOC: Massachusetts State Police and Massachusetts Highway Department Liaisons will demonstrate coordination of traffic and access control, but no personnel or equipment will actually be deployed. The demonstration will include interstate coordination of traffic and access control, if appropriate.

Massachusetts State Police Troop B, Northampton: Two personnel who might be assigned traffic and access control duties will be interviewed by the FEMA evaluator out of sequence on April 7, 2005, on the procedures for operating an access control point. No deployment to TCP/ACP locations will occur.

Region III EOC: The Massachusetts State Police Liaison will demonstrate coordination of traffic and access control through discussion and communication, but no personnel or equipment will be deployed to field locations.

EPZ EOCs: EPZ EOCs will demonstrate the ability to direct and monitor traffic control operations within their jurisdictions through discussions and communications with the evaluator. The EOC local highway representative will participate in a discussion of procedures and resources available for traffic control. No personnel or equipment will be deployed to field locations.

Sub-element 3.d.1 - Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel
New Hampshire Extent of Play

Municipal police will be asked to describe their traffic control plan for their jurisdiction at the municipal EOC. Troop C New Hampshire State Police will describe the state access control plan at troop Headquarters in Keene.

These demonstrations will occur during plume exposure pathway phase of the exercise at times to be coordinated between the Keene EOC controllers and FEMA evaluators.

Sub-element 3.d.1 - Appropriate traffic and access control is established. Accurate instructions are provided to traffic and access control personnel
Vermont Extent of Play

EPZ EOCs and the IFO will discuss their traffic and access control procedures with their respective FEMA Evaluators. Coordination will be demonstrated through discussion and phone calls which will be logged but no personnel or equipment will be dispatched.

Criterion 3.d.2: Impediments to evacuation are identified and resolved. (NUREG-0654, J.10.k)

Plume Pathway Extent of Play

OROs should demonstrate the capability, as required by the scenario, to identify and take appropriate actions concerning impediments to evacuation. Actual dispatch of resources to deal with impediments, such as wreckers, need not be demonstrated; however, simulated contacts should be logged.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless specified above or indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 3.d.2 - Impediments to evacuation are identified and resolved
Massachusetts Extent of Play

There will be no exceptions to this sub-element in the Massachusetts extent of play.

Sub-element 3.d.2 - Impediments to evacuation are identified and resolved
New Hampshire Extent of Play

Municipal Police, NH Department of Transportation and State Police personnel will discuss the resources to remove impediments as part of the traffic and access control briefing at the municipal EOCs and at Troop C HQ.

Sub-element 3.d.2 - Impediments to evacuation are identified and resolved
Vermont Extent of Play

Each affected EOC staff (the five towns, the IFO and the state EOC) will demonstrate decision making regarding rerouting of traffic following a traffic impediment, in response to a controller inject. No personnel or equipment will be deployed to the simulated scene but the EOC staff will demonstrate decision making and coordination with appropriate agencies and other EOCs as needed.

Sub-element 3.e—Implementation of Ingestion Pathway Decisions

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to implement protective actions, based on criteria recommended by current Food and Drug Administration guidance, for the ingestion pathway emergency planning zone (IPZ), the area within an approximate 50-mile radius of the nuclear power plant. This sub-element focuses on those actions required for implementation of protective actions.

Criterion 3.e.1: The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions. NUREG-0654, J.9, 11)

Plume Pathway Extent of Play

Applicable OROs should demonstrate the capability to secure and utilize current information on the locations of dairy farms, meat and poultry producers, fisheries, fruit growers, vegetable growers, grain producers, food processing plants, and water supply intake points to implement protective actions within the ingestion pathway EPZ.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont only criterion.

***Sub-element 3.e.1* - The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions**

Massachusetts Extent of Play

Massachusetts will support Vermont in this sub-element but will not be evaluated on it in this exercise.

The States of MA, NH and NY will practice this criterion. Data similar to that being provided to the State of VT will be provided to them to aid in their training and to allow for a meaningful FRMAC and inter-State dialog and coordination.

***Sub-element 3.e.1* - The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions**

New Hampshire Extent of Play

New Hampshire will support Vermont in this sub-element but will not be evaluated on it in this exercise.

The States of MA, NH and NY will practice this criterion. Data similar to that being provided to the State of VT will be provided to them to aid in their training and to allow for a meaningful FRMAC and inter-State dialog and coordination.

***Sub-element 3.e.1* - The ORO demonstrates the availability and appropriate use of adequate information regarding water, food supplies, milk, and agricultural production within the ingestion exposure pathway emergency planning zone for implementation of protective actions**
Vermont Extent of Play

Activities will be demonstrated in accordance with plans and procedures.

The State of VT will demonstrate the implementation of food pathway decisions. There will be a table top discussion and the appropriate forms/orders to implement interdiction at identified locations will be prepared.

The establishing of checkpoints for food transportation control will be discussed at the EOC in coordination with the towns located at the IFO.

Criterion 3.e.2: Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production. (NUREG-0654, J.9, 11)

Plume Pathway Extent of Play

Development of measures and strategies for implementation of ingestion pathway zone (IPZ) protective actions should be demonstrated during exercise play by formulation of protective action information for the general public and food producers and processors. This includes the capability for the rapid reproduction and distribution of appropriate reproduction-ready information and instructions to pre-determined individuals and businesses. OROs should demonstrate the capability to control, restrict or prevent distribution of contaminated food by commercial sectors.

Exercise play should include demonstration of communications and coordination between organizations to implement protective actions. However, actual field play of implementation activities may be simulated. For example, communications and coordination with agencies responsible for enforcing food controls within the IPZ should be demonstrated, but actual communications with food producers and processors may be simulated.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont only criterion.

Sub-element 3.e.2 **- Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production**

Massachusetts Extent of Play

This sub-element will not be evaluated in this exercise.

Sub-element 3.e.2 **- Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production**

New Hampshire Extent of Play

This sub-element will not be evaluated in this exercise.

***Sub-element 3.e.2* - Appropriate measures, strategies, and pre-printed instructional material are developed for implementing protective action decisions for contaminated water, food products, milk, and agricultural production**

Vermont Extent of Play

Instructional or informational messages on ingestion pathway protective measures will be developed for news briefings although broadcasts of messages will be simulated.

Pre-printed material such as agricultural booklets will be available for review.

Communications with food producers and processors will be simulated.

Sub-element 3.f—Implementation of Relocation, Re-entry, and Return Decisions

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should demonstrate the capability to implement plans, procedures, and decisions for relocation, re-entry, and return. Implementation of these decisions is essential for the protection of the public from the direct long-term exposure to deposited radioactive materials from a severe accident at a commercial nuclear power plant.

Criterion 3.f.1: Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented. (NUREG-0654, M.1, 3)

Plume Pathway Extent of Play

Relocation: OROs should demonstrate the capability to coordinate and implement decisions concerning relocation of individuals, not previously evacuated, to an area where radiological contamination will not expose the general public to doses that exceed the relocation PAGs. OROs should also demonstrate the capability to provide for short-term or long-term relocation of evacuees who lived in areas that have residual radiation levels above the PAGs.

Areas of consideration should include the capability to communicate with OROs regarding timing of actions, notification of the population of the procedures for relocation, and the notification of, and advice for, evacuated individuals who will be converted to relocation status in situations where they will not be able to return to their homes due to high levels of contamination. OROs should also demonstrate the capability to communicate instructions to the public regarding relocation decisions.

Re-entry: OROs should demonstrate the capability to control re-entry and exit of individuals who need to temporarily reenter the evacuated area, to protect them from unnecessary radiation exposure and for exit of vehicles and other equipment to control the spread of contamination outside the restricted area. Monitoring and decontamination facilities will be established as appropriate.

Examples of control procedure subjects are: (1) the assignment of, or checking for, direct-reading and non-direct-reading dosimetry for emergency workers; (2) questions regarding the individuals' objectives and locations expected to be visited and associated timeframes; (3) maps and plots of radiation exposure rates; (4) advice on areas to avoid; and procedures for exit, including monitoring of individuals, vehicles, and equipment, decision criteria regarding contamination, proper disposition of emergency worker dosimetry, and maintenance of emergency worker radiation exposure records.

Return: OROs should demonstrate the capability to implement policies concerning return of members of the public to areas that were evacuated during the plume phase. OROs should demonstrate the capability to identify and prioritize services and facilities that require restoration within a few days, and to identify the procedures and resources for their restoration. Examples of these services and facilities are medical and social services, utilities, roads and schools , and intermediate term housing for relocated persons.

Communications among OROs may be simulated; however all simulated or actual contacts should be documented. These discussions may be accomplished in a group setting. OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures, and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont only criterion.

Sub-element 3.f.1 - Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented
Massachusetts Extent of Play

This sub-element will not be evaluated in this exercise.

Sub-element 3.f.1 - Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented
New Hampshire Extent of Play

This sub-element will not be evaluated in this exercise.

Sub-element 3.f.1 - Decisions regarding controlled re-entry of emergency workers and relocation and return of the public are coordinated with appropriate organizations and implemented
Vermont Extent of Play

This sub-element will be demonstrated via teleconference discussion with the IFO.

The State of VT will demonstrate the implementation of Relocation, Re-Entry and Return. There will be table top discussion in the State EOC and the towns will be included, as appropriate.

Sub-element 4.a—Plume Phase Field Measurements and Analyses

Intent

This sub-element is derived from NUREG-0654, which provides that offsite response organizations (ORO) should have the capability to deploy field teams with the equipment, methods, and expertise necessary to determine the location of airborne radiation and particulate deposition on the ground from an airborne plume. In addition, NUREG-0654 indicates that OROs should have the capability to use field teams within the plume emergency planning zone to measure airborne radioiodine in the presence of noble gases and to detect radioactive particulate material in the airborne plume.

In the event of an accident at a nuclear power plant, the possible release of radioactive material may pose a risk to the nearby population and environment. Although accident assessment methods are available to project the extent and magnitude of a release, these methods are subject to large uncertainties. During an accident, it is important to collect field radiological data in order to help characterize any radiological release. This does not imply that plume exposure projections should be made from the field data. Adequate equipment and procedures are essential to such field measurement efforts.

Criterion 4.a.1: The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates. (NUREG-0654, H.10; I.7, 8, 9)

Plume Pathway Extent of Play

Field teams should be equipped with all instrumentation and supplies necessary to accomplish their mission. This should include instruments capable of measuring gamma exposure rates and detecting the presence of beta radiation. These instruments should be capable of measuring a range of activity and exposure, including radiological protection/exposure control of team members and detection of activity on the air sample collection media, consistent with the intended use of the instrument and the ORO's plans and procedures. An appropriate radioactive check source should be used to verify proper operational response for each low range radiation measurement instrument (less than 1 R/hr) and for high range instruments when available. If a source is not available for a high range instrument, a procedure should exist to operationally test the instrument before entering an area where only a high range instrument can make useful readings.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 4.a.1 - The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates
Massachusetts Extent of Play

Two NIAT field teams consisting of two people will be playing. In accordance with the NIAT Handbook, the field teams will be dispatched from the Greenfield Fire Department, located on Main Street, Greenfield, MA. The NIAT Field Team Coordinator will be stationed at the Vermont Yankee EOF in Brattleboro VT.
The NIAT Field Teams will collect a minimum of two complete sample sets as specified by the procedures in the NIAT Handbook, Section D.4, and continue to collect additional samples at the request of the Field Team Coordinator.
Charcoal filter cartridges will simulate use of Silver Zeolite filter media. Simulated cartridges will be prepared for transportation to the Lab for analysis.
Field data may be provided by Controllers to the Accident Assessment Team to facilitate the accident assessment process during the plume phase.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Sub-element 4.a.1 - The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates
New Hampshire Extent of Play

For the purposes of this exercise, two NHOCPH radiological monitoring teams will be dispatched. Charcoal filter cartridges will simulate use of Silver Zeolite filter media. Simulated cartridges will be prepared for transportation to the Lab for analysis. Field data may be provided by Controllers to the Accident Assessment Team to facilitate the accident assessment process during the plume phase.

In accordance with the NHRERP, field monitoring teams pick up their equipment and are initially dispatched from the DPHS Laboratory in Concord. Field Teams should collect two complete samples and continue to pick up samples until the exercise terminates

Monitoring teams and accident assessors will be provided field radiological data by controllers in an appropriate sequence according to the scenario time line and the limitations of exercise play. This accommodation does not absolve the accident assessment team from making appropriate strategic decisions with respect to the deployment and coordination of field monitoring resources at their disposal.

Sub-element 4.a.1 - The field teams are equipped to perform field measurements of direct radiation exposure (cloud and ground shine) and to sample airborne radioiodine and particulates
Vermont Extent of Play

Two field teams will each pick up a minimum of two complete samples each consisting of an ambient radiation measurement and an air sample.

Charcoal filter cartridges may simulate use of Silver Zeolite filter media. Simulated cartridges will be prepared for transportation to the Lab for analysis.

Field data may be provided by Controllers to the Accident Assessment Team to facilitate the accident assessment process during the plume phase.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

Criterion 4.a.2: Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure. (NUREG-0654, H.12; I.8, 11; J.10.a)

Plume Pathway Extent of Play

Responsible Offsite Response Organizations (ORO) should demonstrate the capability to brief teams on predicted plume location and direction, travel speed, and exposure control procedures before deployment.

Field measurements are needed to help characterize the release and to support the adequacy of implemented protective actions or to be a factor in modifying protective actions. Teams should be directed to take measurements in such locations, at such times to provide information sufficient to characterize the plume and impacts.

If the responsibility to obtain peak measurements in the plume has been accepted by licensee field monitoring teams, with concurrence from OROs, there is no requirement for these measurements to be repeated by State and local monitoring teams. If the licensee teams do not obtain peak measurements in the plume, it is the ORO's decision as to whether peak measurements are necessary to sufficiently characterize the plume. The sharing and coordination of plume measurement information among all field teams (licensee, Federal, and ORO) is essential. Coordination concerning transfer of samples, including a chain-of-custody form, to a radiological laboratory should be demonstrated.

OROs should use Federal resources as identified in the Federal Radiological Emergency Response Plan (FRERP), and other resources (e.g., compacts, utility, etc.), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 4.a.2 - Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure
Massachusetts Extent of Play

Coordination concerning transfer of samples to a lab will be simulated and discussed in an interview with the FEMA evaluator.

ARCAS:

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At the time of the radio check-in with the Field Team Coordinator (FTC), the Field Monitoring Team (FMT) was instructed to take only an air sample when they arrived at their sampling location. The team requested clarification of the instructions, asking if they were to also take the ion chamber measurements at waist and 2 inches. The FTC responded that the FMT should only take the air sample immediately upon arrival. Section D.4, Field Monitoring Checklists states that the ion chamber measurements should be taken first, therefore, the FMT member continued to ask the question. This time the response was that a full sample protocol should be done but the air sample should be taken first. The FMT members were in an area at 500 mR/h for over 10 minutes. If the ion chamber readings had been taken immediately upon arrival, this data would have been discovered and the equipment would not have been unloaded, thus avoiding potential contamination and limiting the dose to the FMT members.

Sub-element 4.a.2 - Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure
New Hampshire Extent of Play

In accordance with the NHRERP, field monitoring teams pick up their equipment and are dispatched from DPHS Lab in Concord by the DPHS Lab Supervisor. Upon their arrival in the EPZ, or while en-route, monitoring teams may receive assignments from the Monitoring Team Coordinator, who is located in the EOF. The Monitoring Team Coordinator coordinates the activity of state monitoring teams. The DPHS EOF RHTA, in coordination with the Monitoring Team Coordinator, is responsible for coordinating the monitoring teams' strategy with other States and the Licensee. This coordination occurs at the EOF in Brattleboro.

Sub-element 4.a.2 - Field teams are managed to obtain sufficient information to help characterize the release and to control radiation exposure
Vermont Extent of Play

Coordination of the transfer of samples to a lab will be simulated and discussed in an interview with the FEMA Evaluator.

Criterion 4.a.3: Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media. (NUREG-0654, I. 9)

Plume Pathway Extent of Play

Field teams should demonstrate the capability to report measurements and field data pertaining to the measurement of airborne radioiodine and particulates and ambient radiation to the field team coordinator, dose assessment, or other appropriate authority. If samples have radioactivity significantly above background, the appropriate authority should consider the need for expedited laboratory analyses of these samples. OROs should share data in a timely manner with all appropriate OROs. All methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form for transfer to a laboratory, will be in accordance with the ORO's plan and/or procedures.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 4.a.3 **- Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media**

Massachusetts Extent of Play

There are no exceptions to this sub-element in the Massachusetts extent of play.

***Sub-element 4.a.3* - Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media**

New Hampshire Extent of Play

Each of the deployed monitoring teams will demonstrate the implementation of their procedures for taking measurements and collecting particulate samples at two locations selected by the Monitoring Team Coordinator.

For this demonstration, two (2) complete samples will be taken whether in-sequence or out-of-sequence with the scenario timeline.

***Sub-element 4.a.3* - Ambient radiation measurements are made and recorded at appropriate locations, and radioiodine and particulate samples are collected. Teams will move to an appropriate low background location to determine whether any significant (as specified in the plan and/or procedures) amount of radioactivity has been collected on the sampling media**

Vermont Extent of Play

There are no exceptions to this sub-element in the Vermont extent of play.

Sub-element 4.b—Post Plume Phase Field Measurements and Sampling

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to assess the actual or potential magnitude and locations of radiological hazards in the ingestion emergency planning zone (IPZ) and for relocation, re-entry and return measures. This sub-element focuses on the collection of environmental samples for laboratory analyses that are essential for decisions on protection of the public from contaminated food and water and direct radiation from deposited materials.

Criterion 4.b.1: The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making. (NUREG-0654, I.8, J.11)

Plume Pathway Extent of Play

The ORO field teams should demonstrate the capability to take measurements and samples, at such times and locations as directed, to enable an adequate assessment of the ingestion pathway and to support re-entry, relocation, and return decisions. When resources are available, the use of aerial surveys and in-situ gamma measurement is appropriate. All methodology, including contamination control, instrumentation, preparation of samples, and a chain-of-custody form for transfer to a laboratory, will be in accordance with the ORO's plan and/or procedures.

Ingestion pathway samples should be secured from agricultural products and water. Samples in support of relocation and return should be secured from soil, vegetation, and other surfaces in areas that received radioactive ground deposition.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g. compacts, nuclear insurers, etc), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont only criterion.

***Sub-element 4.b.1* - The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making**
Massachusetts Extent of Play

This sub-element will not be evaluated in this exercise.

The State of NH, MA and NY will practice the demonstration of this Criterion.

***Sub-element 4.b.1* - The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making**
New Hampshire Extent of Play

This sub-element will not be evaluated in this exercise.

The State of NH, MA and NY will practice the demonstration of this Criterion.

***Sub-element 4.b.1* - The field teams demonstrate the capability to make appropriate measurements and to collect appropriate samples (e.g., food crops, milk, water, vegetation, and soil) to support adequate assessments and protective action decision-making**
Vermont Extent of Play

Three (3) sampling teams will be demonstrated. The sampling teams will use a location in the Brattleboro vicinity to demonstrate their activities.

One sample of each of the following will be collected: milk, water, forage, and soil. The teams will demonstrate how the chain of custody will be established for each of the samples.

The samples (or a demonstration on how this will occur) will be delivered according to procedures to the VT State Lab for processing on day 2 of the exercise (May 25, 2005). Chain of custody will be demonstrated in this process. Only one (1) set of samples needs to be actually delivered to the Lab.

The teams will not be evaluated once they integrate activities with FRMAC.

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to perform laboratory analyses of radioactivity in air, liquid, and environmental samples to support protective action decision-making.

Criterion 4.c.1: The laboratory is capable of performing required radiological analyses to support protective action decisions. (NUREG-0654, C.3; J.11)

Plume Pathway Extent of Play

The laboratory staff should demonstrate the capability to follow appropriate procedures for receiving samples, including logging of information, preventing contamination of the laboratory, preventing buildup of background radiation due to stored samples, preventing cross contamination of samples, preserving samples that may spoil (e.g., milk), and keeping track of sample identity. In addition, the laboratory staff should demonstrate the capability to prepare samples for conducting measurements.

The laboratory should be appropriately equipped to provide analyses of media, as requested, on a timely basis, of sufficient quality and sensitivity to support assessments and decisions as anticipated by the ORO's plans and procedures. The laboratory (laboratories) instrument calibrations should be traceable to standards provided by the National Institute of Standards and Technology. Laboratory methods used to analyze typical radionuclides released in a reactor incident should be as described in the plans and procedures. New or revised methods may be used to analyze atypical radionuclide releases (e.g., transuranics or as a result of a terrorist event) or if warranted by circumstances of the event. Analysis may require resources beyond those of the ORO.

The laboratory staff should be qualified in radioanalytical techniques and contamination control procedures.

OROs should use Federal resources as identified in the FRERP, and other resources (e.g., compacts, utility, nuclear insurers, etc.), if available. Evaluation of this criterion will take into consideration the level of Federal and other resources participating in the exercise.

All activities must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is a State of Vermont only criterion.

Sub-element 4.c.1 - The laboratory is capable of performing required radiological analyses to support protective action decisions
Massachusetts Extent of Play

This sub-element will not be evaluated in this exercise.

Sub-element 4.c.1 - The laboratory is capable of performing required radiological analyses to support protective action decisions
New Hampshire Extent of Play

This sub-element will not be evaluated in this exercise.

Sub-element 4.c.1 - The laboratory is capable of performing required radiological analyses to support protective action decisions
Vermont Extent of Play

The laboratory will demonstrate sample radio-analysis using one set of samples collected in the field.

On May 26, 2005, the VT State Lab will demonstrate the receipt of one sample each of milk, water, forage and soil. The chain of custody will be demonstrated. The samples would have been dropped off on the previous day.

Through a process of discussion and demonstration on one of the samples, the Lab will demonstrate initial receipt, chain of custody determination and sample preparation for analysis. A discussion of how other sample types will be prepared for analysis and counted will be provided. The Lab will provide through discussion the method of calibration of counting instruments, the library of isotopes and detection sensitivity. The Lab will discuss their internal Quality Control process and participation in EPA etc. spiked sample programs. The actual counting of samples will not be demonstrated as this would take too long. There will be no spiking of samples with radio isotopes.

Sub-element 5.a—Activation of the Prompt Alert and Notification System

Intent

This sub-element is derived from NUREG-0654, which provides that offsite response organizations (ORO) should have the capability to provide prompt instructions to the public within the plume pathway EPZ. Specific provisions addressed in this sub-element are derived from the Nuclear Regulatory Commission (NRC) regulations (10 CFR Part 50, Appendix E.IV.D.), and FEMA-REP-10, "Guide for the Evaluation of Alert and Notification systems for Nuclear Power Plants."

Criterion 5.a.1: Activities associated with primary alerting and notification of the public are completed in a timely manner following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Effective October 1, 2001:The initial instructional message to the public must include as a minimum: 1) identification of the State or local government organization and the official with the authority for providing the alert signal and instructional message; 2) identification of the commercial nuclear power plant and a statement that an emergency situation exists at the plant; 3) reference to REP-specific emergency information (e.g., brochures and information in telephone books) for use by the general public during an emergency; and 4) a closing statement asking the affected and potentially affected population to stay tuned for additional information or that the population tune to another station for additional information. (10 CFR Part 50, Appendix E IV.D & NUREG-0654, E.5, 6, 7)

Plume Pathway Extent of Play

Responsible OROs should demonstrate the capability to sequentially provide an alert signal followed by an initial instructional message to populated areas (permanent resident and transient) throughout the 10-mile plume pathway EPZ. Following the decision to activate the alert and notification system, in accordance with the ORO's plan and/or procedures, completion of system activation should be accomplished in a timely manner (will not be subject to specific time requirements) for primary alerting/notification. The initial message should include the elements required by current FEMA REP guidance.

For exercise purposes, timely is defined as "the responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay." If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

Procedures to broadcast the message should be fully demonstrated as they would in an actual emergency up to the point of transmission. Broadcast of the message(s) or test messages is not required. The alert signal activation may be simulated. However, the procedures should be demonstrated up to the point of actual activation.

The capability of the primary notification system to broadcast an instructional message on a 24-hour basis should be verified during an interview with appropriate personnel from the primary notification system.
All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 5.a.1 - Activation of the Prompt Alert and Notification System
Massachusetts Extent of Play

State EOC: Actions to demonstrate performance of initial notification of the public will be performed up to the point of actual transmission of the Emergency Alert System (EAS) message. The EAS message will be prepared and radio stations WHYN and WHAI/WHMQ will be contacted. A standard test message will be faxed to the stations and broadcast once at the EAS stations' convenience. WRSI will pick up the message from WHYN over the EAS.

Following the initial alert and notification, subsequent contacts to the EAS stations will be simulated.

All States will coordinate activities for the activation of the NOAA tone-alert radios throughout the EPZ. Activation of the NOAA tone-alert radios by the State of Vermont will be demonstrated using a test message.

Bernardston, Colrain and Northfield EOCs: EOCs will demonstrate the actions necessary to perform siren activation up to the point of actual sounding of the sirens. Siren sounding will be simulated.

ARCA from Seabrook:

CONDITION: EAS messages number two was too lengthy (greater than 2 minutes) to be completely broadcast over the EAS system.

POSSIBLE CAUSE: There was an effort to put all information into the EAS message without consideration of the time restriction. The message contained information beyond the required EAS guidance for the affected site, authorizing official, Emergency Classification Level (ECL) and Potassium Iodide (KI) and stay tuned for further information.

REFERENCE: NUREG-0654 E.5., 6. 7.

EFFECT: Stations would not complete the EAS message and the general public would not have all of the information.

RECOMMENDATION: Put information required in EAS guidance in the EAS message and use follow-on news releases to provide essential detailed information to the public.

SCHEDULE OF CORRECTIVE ACTION: Massachusetts EAS Messages will be modified to include information required by the EAS guidance within the allotted timeframe. MEMA will use follow-on news releases to provide essential detailed information to the public. This will be demonstrated in the Vermont Yankee Exercise in 2005.

Sub-element 5.a.1 - Activation of the Prompt Alert and Notification System
New Hampshire Extent of Play

Emergency notification and public information will be disseminated to the public in accordance with the NHRERP.

The activation of NOAA tone alert radios, sounding of sirens and broadcast of EAS/EPI messages will be simulated. EAS/EPI messages will be formulated and distributed by the New Hampshire EOC. Activation of the EAS system will be coordinated with Vermont and Massachusetts officials. WKNE will receive EAS/EPI messages but will not broadcast them. **Broadcast will be simulated.** EPZ communities will demonstrate this objective through the receipt of siren and EAS activation times from their local liaisons in the IFO and will demonstrate their capability to monitor EAS stations and EPI outlets.

All States will coordinate activities for the activation of the NOAA tone-alert radios throughout the EPZ. Activation of the NOAA tone-alert radios by the State of Vermont will be demonstrated using a test message.

ARCAS:

ISSUE #: 67-03-5.a.1-A-9 (STATE EOC)

The second Alert and Notification was not performed at 1122 for Sirens and 1125 for an EAS message. The residents on the New Hampshire side of the river would have heard the sirens in Vermont and Massachusetts, and tone alert radios being sounded in New Hampshire and would begin to wonder what was happening at the Vermont Yankee Power Plant.

Sub-element 5.a.1 - Activation of the Prompt Alert and Notification System
Vermont Extent of Play

Actions to demonstrate performance of the notifications of the public will be performed up to the point of actual transmission of the EAS message. In the initial notification the national weather service will be contacted and a "Test" message will actually be transmitted. The IFO and the five town EOCs will report receipt (or non receipt) of the test message. The three states (VT, NH, & MA) will coordinate each public notification. Brattleboro and Vernon will demonstrate all actions necessary to sound the sirens but will not activate the sirens.

All States will coordinate activities for the activation of the NOAA tone-alert radios throughout the EPZ. Activation of the NOAA tone-alert radios by the State of Vermont will be demonstrated using a test message.

ARCAS

ISSUE #: 67-03-5.a.1-A-6 (BRATTLEBORO)

The Brattleboro EOC did not receive the test message sent by the National Weather Service (NWS). If this were an actual event, the Brattleboro EOC would not have received an important EAS message.

Criterion 5.a.2: [RESERVED}

Sub-elements 5.a.2
Massachusetts Extent of Play

Not applicable

Sub-element 5.a.2
New Hampshire Extent of Play

Not applicable

Sub-element 5.a.2
Vermont Extent of Play

Not applicable

Criterion 5.a.3: Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. (NUREG-0654, E. 6; Appendix 3, B.2.c)

Plume Pathway Extent of Play

OROs with FEMA-approved exception areas (identified in the approved Alert and Notification System Design Report) 5-10 miles from the nuclear power plant should demonstrate the capability to accomplish primary alerting and notification of the exception area(s) within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. The 45-minute clock will begin when the OROs make the decision to activate the alert and notification system for the first time for a specific emergency situation. The initial message should, at a minimum, include: a statement that an emergency exists at the plant and where to obtain additional information

.

For exception area alerting, at least one route needs to be demonstrated and evaluated. The selected routes should vary from exercise to exercise. However, the most difficult route should be demonstrated at least once every six years. All alert and notification activities along the route should be simulated (e.g., the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the mobile public address system will be conducted at some agreed upon location.

Backup alert and notification of the public should be completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system. Backup route alerting needs only be demonstrated and evaluated, in accordance with the ORO's plan and/or procedures and the extent of play agreement, if the exercise scenario calls for failure of any portion of the primary system(s), or if any portion of the primary system(s) actually fails to function. If demonstrated, only one route needs to be selected and demonstrated. All alert and notification activities along the route should be simulated (e.g., the message that would actually be used is read for the evaluator, but not actually broadcast) as agreed upon in the extent of play. Actual testing of the Public Address system will be conducted at some agreed upon location.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, except as noted above or otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 5.a.3 - Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system

Massachusetts Extent of Play

A selected back-up route alerting demonstration will occur out of sequence at the end of the plume exercise. One route will be demonstrated by each municipality. This route will be different than the route demonstrated in the last exercise if multiple routes exist for a municipality.

Sub-element 5.a.3 - Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system

New Hampshire Extent of Play

A selected back-up route alerting demonstration will occur out of sequence at the end of the plume exercise. One route will be demonstrated by each municipality. This route will be different than the route demonstrated in the last exercise if multiple routes exist for a municipality.

Sub-element 5.a.3 - Activities associated with FEMA approved exception areas (where applicable) are completed within 45 minutes following the initial decision by authorized offsite emergency officials to notify the public of an emergency situation. Backup alert and notification of the public is completed within 45 minutes following the detection by the ORO of a failure of the primary alert and notification system

Vermont Extent of Play

A selected back-up route alerting demonstration will occur out of sequence at the end of the plume exercise. One route will be demonstrated by each municipality. This route will be different than the route demonstrated in the last exercise if multiple routes exist for a municipality.

Sub-element 5.b—Emergency Information and Instructions for the Public and the Media

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to disseminate to the public appropriate emergency information and instructions including any recommended protective actions. In addition, NUREG-0654 provides that OROs should ensure the capability exists for providing information to the media. This includes the availability of a physical location for use by the media during an emergency. NUREG-0654 also provides that a system be available for dealing with rumors. This system will hereafter be known as the public inquiry hotline.

Criterion 5.b.1: OROs provide accurate emergency information and instructions to the public and the news media in a timely manner. (NUREG-0654, E. 5, 7; G.3.a, G.4.c)

Plume Pathway Extent of Play

Subsequent emergency information and instructions should be provided to the public and the media in a timely manner (will not be subject to specific time requirements). For exercise purposes, timely is defined as "the responsible ORO personnel/representatives demonstrate actions to disseminate the appropriate information/instructions with a sense of urgency and without undue delay." If message dissemination is to be identified as not having been accomplished in a timely manner, the evaluator(s) will document a specific delay or cause as to why a message was not considered timely.

The OROs should ensure that emergency information and instructions are consistent with protective action decisions made by appropriate officials. The emergency information should contain all necessary and applicable instructions to assist the public in carrying out protective action decisions provided to them (e.g., evacuation instructions, evacuation routes, reception center locations, what to take when evacuating, information concerning pets, shelter-in-place instructions, information concerning protective actions for schools and special populations, public inquiry telephone number, etc.) to assist the public in carrying out protective action decisions provided to them. The ORO should also be prepared to disclose and explain the Emergency Classification Level (ECL) of the incident. At a minimum, this information must be included in media briefings and/or media releases. OROs should demonstrate the capability to use language that is clear and understandable to the public within both the plume and ingestion pathway EPZs. This includes demonstration of the capability to use familiar landmarks and boundaries to describe protective action areas.

The emergency information should be all-inclusive by including previously identified protective action areas that are still valid as well as new areas. The OROs should demonstrate the capability to ensure that emergency information that is no longer valid is rescinded and not repeated by broadcast media. In addition, the OROs should demonstrate the capability to ensure that current emergency information is repeated at pre-established intervals in accordance with the plan and/or procedures.

OROs should demonstrate the capability to develop emergency information in a non-English language when required by the plan and/or procedures.

If ingestion pathway measures are exercised, OROs should demonstrate that a system exists for rapid dissemination of ingestion pathway information to pre-determined individuals and businesses in accordance with the ORO's plan and/or procedures.
OROs should demonstrate the capability to provide timely, accurate, concise, and coordinated information to the news media for subsequent dissemination to the public. This would include demonstration of the capability to conduct timely and pertinent media briefings and distribute press releases as the situation warrants. The OROs should demonstrate the capability to respond appropriately to inquiries from the news media. All information presented in media briefings and press releases should be consistent with protective action decisions and other emergency information provided to the public. Copies of pertinent emergency information (e.g., EAS messages and press releases) and media information kits should be available for dissemination to the media.

OROs should demonstrate that an effective system is in place for dealing with calls to the public inquiry hotline. Hotline staff should demonstrate the capability to provide or obtain accurate information for callers or refer them to an appropriate information source. Information from the hotline staff, including information that corrects false or inaccurate information when trends are noted, should be included, as appropriate, in emergency information provided to the public, media briefings, and/or press releases.

All activities for this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

This is primarily a State of Vermont criterion with support from New Hampshire and Massachusetts.

The issuance of press advisories to agencies outside exercise play will be simulated.

During the Ingestion Pathway portion of the exercise (Days 2 and 3), one briefing/news conference on Days 2 and 3 will be demonstrated. The day 2 briefing will cover relocation, re-entry, and restricted area decisions. The day 3 briefing will cover food pathway interdiction decisions.

Reproduction and distribution of protective action information materials to individuals and businesses will be simulated via discussion.

Instructional or informational messages on Ingestion Pathway protective measures will be developed for news briefings although broadcasts of those messages will be simulated.

Rumor Control/Public Inquiry will <u>not</u> be demonstrated during the Ingestion Pathway portion of the exercise.

Sub-element 5.b.1 - OROs provide accurate emergency information and instructions to the public and the news media in a timely manner
Massachusetts Extent of Play

Joint News Center: Information generated as a result of incoming calls to the SEOC Public Information Line phones will be included in news briefings. Rumor trends will be handled.

State EOC: Control cell personnel will make calls simulating members of the public and media personnel. The public information staff will demonstrate the ability to handle calls on the public information line. Handling rumor trends will be demonstrated. Two public information line operators each will respond to calls once the Public Alert and Notification System has been activated at Site Area Emergency or General Emergency.

EPZ Towns: Control cell personnel will make calls to the local EOCs simulating members of the public. Each local EOC will demonstrate the community's emergency response and to refer all other questions to the State Public Information Line.

Sub-element 5.b.1 - OROs provide accurate emergency information and instructions to the public and the news media in a timely manner
New Hampshire Extent of Play

The primary responsibility for briefing the media with respect to off site activities in New Hampshire lies with the state. The State EOC and Joint News Center (JNC) are the facilities where this process takes place. The JNC is jointly operated by the states, the licensee and federal response agencies. Controllers at these facilities will simulate media inquiries.

New Hampshire will coordinate media information with Vermont, Massachusetts and Vermont Yankee personnel at the Joint News Center.

New Hampshire EPZ municipalities do not have representatives at the JNC. EPZ municipal officials may respond to questions about local emergency response but are encouraged to refer press inquiries to the JNC. A controller message will be generated for each community to initiate a response and referral to media inquiries made to local officials.

A Public Inquiry line is established to provide members of the public with a supplemental source of accurate emergency information. A control cell will provide incoming calls. Calls to the public inquiry center will occur when a Site Area Emergency and/or General Emergency classification level (ECL) is reached during the course of the exercise.

Public Inquiry personnel will provide callers with accurate information and screen calls for trends. Rumor trends will be handled. Communities will refer calls that address issues beyond local jurisdiction to the Public Inquiry. A controller message will be generated for each community to initiate a response and referral to the public inquiry center. WKNE repeats New Hampshire Emergency Public Information Messages every fifteen minutes until they are changed by the state. **The repetition or broadcast of any exercise message will be simulated for the purposes of this exercise.**

ARCAS:

ISSUE #: 67-03-5b.1-A-10 (STATE EOC)

Inaccurate and confusing information could have been broadcast through EAS and EPI messages. Three of the messages refer to recommended actions or protective actions when there were no actions recommended. This could possibly create confusion for the public and increase calls to Rumor Control and the Media Center, as residents would need to contact authorities for clarification of the instructions they are being asked to follow. Several messages advised residents to tune in to their local radio stations or Emergency Alert System broadcasts, but did not identify the specific radio stations that carry broadcasts. In addition, the EPI message concerning evacuation and sheltering in place did not include information on evacuation routes, what to take or leave when evacuating, specific instructions regarding sheltering in place, transportation information for transportation-dependent individuals, or information for special populations.

Sub-element 5.b.1 - OROs provide accurate emergency information and instructions to the public and the news media in a timely manner
Vermont Extent of Play

State EOC- Control cell personnel will make calls simulating members of the public and media personnel. The public Information staff will demonstrate receiving calls on the public information line. They will demonstrate identifying and properly handling rumor trends.

Joint News Center- Controllers will act as media representatives. Information generated as a result of incoming calls to the Public Information staff at the state EOC will be included in a news briefing. At least one rumor trend will be included.

EPZ EOCs- Control cell personnel will make calls to each town EOC simulating members of the public. Each EOC will demonstrate determining which call(s) may be handled by the town EOC (inquiries about town response actions) and which call(s) must be referred to the Information Officer staff at the State EOC.

NOTE: If during the exercise, a participant demonstrates this sub-element unsatisfactorily, the FEMA Evaluator will inform the participant. After an "on the spot" re-training by the State, the FEMA Evaluator will provide the participant another opportunity to re-demonstrate the activity that same day.

ARCAS:

ISSUE # 67-03-5.b.1-A-3 (STATE EOC)

Trends developed by the public inquiry office were submitted to public information but were never incorporated into news releases. Seventy-eight concerns were identified resulting in thirteen trends. Public concerns were not being addressed. Many people expressed concerns yet they were not answered by using news advisories.

ARCAS - UNRESOLVED:

ISSUE # 67-01-11-A-03 (5.b.1) (State EOC)

The first EAS message included actions taken for special populations such as schools, hospitals, nursing homes, and reception areas in addition to the evacuation of Vernon. Subsequent EAS messages did not contain complete information for special populations due to time limitations. Follow on news briefings and news releases did not contain this information either. (NUREG-0654, e.7). Public schools could have been misinformed or received wrong and conflicting information.

EVALUATION AREA 6: Support Operation/Facilities

Sub-element 6.a—Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the capability to implement radiological monitoring and decontamination of evacuees and emergency workers, while minimizing contamination of the facility, and registration of evacuees at reception centers.

Criterion 6.a.1: The reception center/emergency worker facility has appropriate space, adequate resources, and trained personnel to provide monitoring, decontamination, and registration of evacuees and/or emergency workers. (NUREG-0654, J.10.h; J.12; K.5.a)

Plume Pathway Extent of Play

Radiological monitoring, decontamination, and registration facilities for evacuees/ emergency workers should be set up and demonstrated as they would be in an actual emergency or as indicated in the extent of play agreement. This would include adequate space for evacuees' vehicle. Expected demonstration should include 1/3 of the monitoring teams/portal monitors required to monitor 20% of the population allocated to the facility within 12 hours. Prior to using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation.

Staff responsible for the radiological monitoring of evacuees should demonstrate the capability to attain and sustain a monitoring productivity rate per hour needed to monitor the 20% emergency planning zone (EPZ) population planning base within about 12 hours. This monitoring productivity rate per hour is the number of evacuees that can be monitored per hour by the total complement of monitors using an appropriate monitoring procedure. A minimum of six individuals per monitoring station should be monitored, using equipment and procedures specified in the plan and/or procedures, to allow demonstration of monitoring, decontamination, and registration capabilities. The monitoring sequences for the first six simulated evacuees per monitoring team will be timed by the evaluators in order to determine whether the twelve-hour requirement can be meet. Monitoring of emergency workers does not have to meet the twelve-hour requirement. However, appropriate monitoring procedures should be demonstrated for a minimum of two emergency workers.

Decontamination of evacuees/emergency workers may be simulated and conducted by interview. The availability of provisions for separately showering should be demonstrated or explained. The staff should demonstrate provisions for limiting the spread of contamination. Provisions could include floor coverings, signs and appropriate means (e.g. partitions, roped-off areas) to separate clean from potentially contaminated areas. Provisions should also exist to separate contaminated and uncontaminated individuals, provide changes of clothing for individuals whose clothing is contaminated, and store contaminated clothing to prevent further contamination of evacuees or facilities. In addition, for any individual found to be contaminated, procedures should be discussed concerning the handling of potential vehicle contamination and personal belongings.

Monitoring personnel should explain the use of action levels for determining the need for decontamination. They should also explain the procedures for referring evacuees who cannot be adequately decontaminated for assessment and follow up in accordance with the ORO's plans and procedures. Contamination of the individual will be determined by controller inject and not simulated with any low-level radiation source.
The capability to register individuals upon completion of the monitoring and decontamination activities should be demonstrated. The registration activities demonstrated should include the establishment of a registration record for each individual, consisting of the individual's name, address, results of monitoring, and time of decontamination, if any, or as otherwise designated in the plan. Audio recorders, camcorders, or written records are all acceptable means for registration.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 6.a.1 - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees
Massachusetts Extent of Play

Greenfield Community College Reception Center will demonstrate out of sequence – June 11, 2005

Northampton KI Dispensing Site will demonstrate out of sequence – June 11, 2005.

Deleted: .

A separate Extent of Play document for the Greenfield Community College Reception Center and Northampton KI Dispensing Site will be provided to FEMA.

Sub-element 6.a.1 - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees
New Hampshire Extent of Play

The Keene Reception Center will be demonstrated out-of-sequence on June 10, 2005.

***Sub-element 6.a.1* - Monitoring and Decontamination of Evacuees and Emergency Workers, and Registration of Evacuees**
Vermont Extent of Play

There will be no demonstration of this sub-element for this exercise.

Sub-element 6.b—Monitoring and Decontamination of Emergency Worker Equipment

Intent

This sub-element is derived from NUREG-0654, which provides that OROs have the capability to implement radiological monitoring and decontamination of emergency worker equipment, including vehicles.

Criterion 6.b.1: The facility/ORO has adequate procedures and resources for the accomplishment of monitoring and decontamination of emergency worker *equipment, including vehicles. (NUREG-0654, K.5.b)*

Plume Pathway Extent of Play

The monitoring staff should demonstrate the capability to monitor equipment, including vehicles, for contamination in accordance with the ORO's plans and procedures. Specific attention should be given to equipment, including vehicles that were in contact with individuals found to be contaminated. The monitoring staff should demonstrate the capability to make decisions on the need for decontamination of equipment, including vehicles, based on guidance levels and procedures stated in the plan and/or procedures.

The area to be used for monitoring and decontamination should be set up as it would be in an actual emergency with all route markings, instrumentation, record keeping and contamination control measures in place. Monitoring procedures should be demonstrated for a minimum of one vehicle. . It is generally not necessary to monitor the entire surface of vehicles. However, the capability to monitor areas such as air intake systems, radiator grills, bumpers, wheel wells, tires, and door handles should be demonstrated. Interior surfaces of vehicles that were in contact with individuals found to be contaminated should also be checked.

Decontamination capabilities, and provisions for vehicles and equipment that cannot be decontaminated, may be simulated and conducted by interview.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 6.b.1 - Monitoring and Decontamination of Emergency Worker Equipment
Massachusetts Extent of Play

Gill EOC will demonstrate radiological, monitoring & decontamination procedures for emergency workers immediately following the plume phase of the exercise.

Sub-element 6.b.1 - Monitoring and Decontamination of Emergency Worker Equipment
New Hampshire Extent of Play

The Keene Reception Center will be demonstrated out-of-sequence on June 10, 2005.

Sub-element 6.b.1 - Monitoring and Decontamination of Emergency Worker Equipment
Vermont Extent of Play

The Emergency Worker Radiological Monitoring and Decontamination at the IFO was demonstrated in 2001. No demonstration required during this exercise.

Sub-element 6.c—Temporary Care of Evacuees

Intent

This sub-element is derived from NUREG-0654, which provides that OROs demonstrate the capability to establish relocation centers in host areas. Congregate care is normally provided in support of OROs by the American Red Cross under existing letters of agreement.

Criterion 6.c.1: Managers of congregate care facilities demonstrate that the centers have resources to provide services and accommodations consistent with American Red Cross planning guidelines (Found in MASS CARE - Preparedness Operations, ARC 3031). Managers demonstrate the procedures to assure that evacuees have been monitored for contamination and have been decontaminated as appropriate prior to entering congregate care facilities. (NUREG-0654, J.10.h, J.12)

Plume Pathway Extent of Play

Under this criterion, demonstration of congregate care centers may be conducted out of sequence with the exercise scenario. The evaluator should conduct a walk-through of the center to determine, through observation and inquiries, that the services and accommodations are consistent with ARC 3031. In this simulation, it is not necessary to set up operations as they would be in an actual emergency. Alternatively, capabilities may be demonstrated by setting up stations for various services and providing those services to simulated evacuees. Given the substantial differences between demonstration and simulation of this objective, exercise demonstration expectations should be clearly specified in extent-of-play agreements.

Congregate care staff should also demonstrate the capability to ensure that evacuees have been monitored for contamination, have been decontaminated as appropriate, and have been registered before entering the facility. This capability may be determined through an interview process.

If operations at the center are demonstrated, material that would be difficult or expensive to transport (e.g., cots, blankets, sundries, and large-scale food supplies) need not be physically available at the facility(ies). However, availability of such items should be verified by providing the evaluator a list of sources with locations and estimates of quantities.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless noted above or otherwise indicated in the extent of play agreement

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 6.c.1 - Temporary Care of Evacuees
Massachusetts Extent of Play

A shelter survey for Greenfield M.S. was provided to FEMA for review. Based on FEMA's survey review, a tour of the facility will be conducted if needed with a controller and an American Red Cross representative out of sequence on April 4, 2005.

Sub-element 6.c.1 - Temporary Care of Evacuees
New Hampshire Extent of Play

Congregate care centers will not be activated. Current shelter surveys will be provided to FEMA for review. Based on FEMA's survey review, a tour of selected (some, all, or none) congregate care facilities that support the Keene reception center, visits will be conducted if needed with a controller and an American Red Cross representative out of sequence.

Sub-element 6.c.1 - Temporary Care of Evacuees
Vermont Extent of Play

Congregate care centers will not be activated. Current shelter surveys will be provided to FEMA for review. Based on FEMA's survey review, a tour of selected (some, all, or none) congregate care facilities that support the Bellows Falls reception center, visits will be conducted if needed with a controller and an American Red Cross representative out of sequence (TBD).

Sub-element 6.d—Transportation and Treatment of Contaminated Injured Individuals

Intent

This sub-element is derived from NUREG-0654, which provides that OROs should have the capability to transport contaminated injured individuals to medical facilities with the capability to provide medical services.

Criterion 6.d.1: The facility/ORO has the appropriate space, adequate resources, and trained personnel to provide transport, monitoring, decontamination, and medical services to contaminated injured individuals. (NUREG-0654, F.2; H.10; K.5.a, b; L.1, 4)

Plume Pathway Extent of Play

Monitoring, decontamination, and contamination control efforts will not delay urgent medical care for the victim.

OROs should demonstrate the capability to transport contaminated injured individuals to medical facilities. An ambulance should be used for the response to the victim. Normal communications between the ambulance/dispatcher and the receiving medical facility should be demonstrated. If a substitute vehicle is used for transport to the medical facility, this communication must occur prior to releasing the ambulance from the drill. This communication would include reporting radiation monitoring results, if available. Additionally, the ambulance crew should demonstrate, by interview, knowledge of where the ambulance and crew would be monitored and decontaminated, if required, or whom to contact for such information.

Monitoring of the victim may be performed prior to transport, done en route, or deferred to the medical facility. Prior to using a monitoring instrument(s), the monitor(s) should demonstrate the process of checking the instrument(s) for proper operation. All monitoring activities should be completed as they would be in an actual emergency.

Appropriate contamination control measures should be demonstrated prior to and during transport and at the receiving medical facility.

The medical facility should demonstrate the capability to activate and set up a radiological emergency area for treatment. Equipment and supplies should be available for the treatment of contaminated injured individuals.

The medical facility should demonstrate the capability to make decisions on the need for decontamination of the individual, to follow appropriate decontamination procedures, and to maintain records of all survey measurements and samples taken. All procedures for the collection and analysis of samples and the decontamination of the individual should be demonstrated or described to the evaluator.

All activities associated with this criterion must be based on the ORO's plans and procedures and completed as they would be in an actual emergency, unless otherwise indicated in the extent of play agreement.

Ingestion Pathway Extent of Play

Not Applicable

Sub-element 6.d.1 - Transportation and Treatment of Contaminated Injured Individuals
Massachusetts Extent of Play

The Franklin Medical Center was demonstrated out-of-sequence on December 7, 2004.

Sub-element 6.d.1 - Transportation and Treatment of Contaminated Injured Individuals
New Hampshire Extent of Play

The Cheshire Medical Center was demonstrated out-of-sequence on October 21, 2004.

Sub-element 6.d.1 - Transportation and Treatment of Contaminated Injured Individuals
Vermont Extent of Play

The Brattleboro Memorial Hospital was demonstrated out-of-sequence on July 22, 2004.

APPENDIX 4

EXERCISE SCENARIO

VERMONT YANKEE NUCLEAR POWER STATION
EMERGENCY PREPAREDNESS EXERCISE
2005

Section 4.1 Scenario Timeline (All times are approximate)

Event #	Scenario Day	Scenario Time	EVENT DESCRIPTION
1 Plume Scenario	DAY 1	0800	**ALERT** declared.
		1000	**SITE AREA EMERENCY**
		1030	**Weather forecast** that a front is moving through in about 3 to 4 hours with wind direction shift from west (280 degrees) to from the east (90 degrees).
		12:00	**GENERAL EMERGENCY** Winds are from the west at 10 mph, stability Class D. **Initial PAR** is to evacuate towns of Vernon in VT, Hinsdale Richmond, Swanzey and Winchester in NH.
		12:15	**Stack Releases start** Wind is from the west at 10 mph and stability class is D
2 Ingestion Scenario	Day 1	12:30 till 16:00	For purposes of Ingestion Pathway scenario the assumption is that the **releases continued** for about four hours. The **wind direction shifted** from the west (280 degrees) to the east (90 degrees during the period of the release. The **Plume PAD** for this scenario was to evacuate the towns of Vernon, Halifax, Guilford in VT, Colrain, Leyden, Bernardston, Greenfield, Gill, Northfield, Warwick in MA, Hinsdale, Winchester, Richmond and Swanzey in NH.
	Day 1	12:30 till 16:00	**Precautionary Ingestion Pathway PAD during the Plume phase taken by the States is as follows: Milking animals on stored feed out to 10 miles in the downwind direction. River traffic, fishing etc stopped out to 10 miles.**
	Day 1	16: 00	Go to the Table in Drill Manual Section 4.2
	Days 2 thru 7		**Meteorology light winds from the North basically clear and seasonal. See next page.**

POST PLUME PATHWAY SCENARIO METEOROLOGY FOR May 24, 25, 26 2005

DATE	TIME	WIND DIR DEGREES	WIND SPEED MPH	STABILITY CLASS
May 24, 2005 and Scenario Day 1	12:00	280	10	D
	12:15	280	10	D
	12:30	280	10	D
	12:45	280	10	D
	13:00	310	10	D
	13:15	330	10	D
	13:30	360	10	D
	13:45	020	10	D
	14:00	040	10	D
	14:15	060	10	D
	14:30	080	10	D
	14:45	085	10	D
	15:00	085	10	D
	15:15	085	10	D
	15;30	085	10	D
	15:45	085	10	D
	16;00	080	10	D
	16:15	070	9	D
	16:30	060	9	D
	16:45 till 18:00	050	9	D
	18:00till 24:00	Winds at about 6 mph. Wind direction gradually changing to blowing from the North		
Scenario days 2, thru 7	Light winds from the North at about 4 mph. Clear and seasonal temperatures.			