



Exercise Report

INDIAN POINT 3 NUCLEAR POWER STATION

Licensee: NEW YORK POWER AUTHORITY

Exercise Date: April 10, 1996

Report Date: September 1, 1996

**FEDERAL EMERGENCY MANAGEMENT AGENCY
REGION II**

**26 Federal Plaza
New York, New York 10278**

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I. EXECUTIVE SUMMARY

On April 10, 1996, an exercise was conducted in the plume exposure pathway emergency planning zone (EPZ) around the Indian Point 3 by the Federal Emergency Management Agency (FEMA), Region II. 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 June 15, 1994. The qualifying emergency preparedness exercise was conducted on March 3, 1982.

FEMA wishes to acknowledge the efforts of the many individuals in New York State, Westchester, Rockland/Bergen, Orange, and Putnam Counties who participated in this exercise.

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: Westchester, Rockland, Orange and Putnam County Reception Centers; Westchester, Rockland/Bergen, Orange and Putnam County Congregate Care Centers; Westchester, Rockland, Orange and Putnam County Emergency Worker PMC; Westchester, Rockland, Orange and Putnam County General Population Bus Runs; Westchester, Rockland, Orange and Putnam County School Bus Runs; Westchester, Rockland, Orange and Putnam County EOC Equipment Inventory. School Interviews were held at the Highlands School in Orange County, Garrison, Putnam Valley and Haldane Schools in Putnam County; Nyack, Clarkstown, North Rockland, East Ramapo and Ramapo Schools in Rockland County; and Peekskill, Hendrick Hudson, BOCES, Briarcliff Manor, Croton Harmon, Lakeland, Ossining, Chappaqua and Yorktown Schools in Westchester County.

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 no Deficiencies and five Areas Requiring Corrective Action (ARCAs) 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 II Regional Assistance Committee (RAC) which is chaired by FEMA.

Formal submission of the RERPs for the Indian Point to FEMA Region II by the State(s) of New York and involved local jurisdictions occurred on October 10, 1991. Formal approval of the RERP was granted by FEMA on May 3, 1996, under 44 CFR 350.

A REP exercise was conducted on April 10, 1996 by FEMA Region II 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 Indian Point 3 Nuclear Power Station. 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 II RAC Chairperson, and approved by the 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
- FEMA-REP-15, "Radiological Emergency Preparedness Exercise Evaluation Methodology," September 1991.

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 which 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 objectives 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 April 10, 1996 exercise to test the offsite emergency response capabilities in the area surrounding the Indian Point 3. 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 Indian Point Nuclear Power Station's (IPNPS) ten mile plume pathway EPZ contains portions of four New York State Counties: Orange County, Putnam County, Rockland County and Westchester County.

The IPNPS is located on the east bank of the Hudson River about 24 miles north of the New York City boundary line at Indian Point, Village of Buchanan in upper Westchester County, New York State. The station is about 0.8 miles southwest of the city of Peekskill, 8.3 miles south of West Point, 1.5 miles northeast of the Lovett Generating Station site, 4.6 miles north of the Bowline Point Generating Station site and 2.3 miles north of Montrose Point.

The Indian Point Site is accessible by several roads in the village of Buchanan. Broadway, a two-lane paved road, borders the site to the east and is the primary access road to the site. The village roads of Bleakley Avenue and First Street enter Broadway across from the eastern site boundary. Additionally, a paved road links the eastern boundary of the site to the plants.

There are no residences within the site boundary. In addition, there are no public highways or railroads that traverse the site area.

The Indian Point Site is surrounded on almost all sides by high ground ranging from 600 to 1,000 feet above sea level. The site is on the east bank of the Hudson River which runs northeast to southwest at this point but turns sharply northwest approximately two miles northeast of the site. The west bank of the Hudson is flanked by the steep, heavily wooded slopes of the Dunderberg and West Mountains to the northwest (elevations 1,086 feet and 1,257 feet respectively) and Buckberg Mountain to the west-southwest (elevation 793 feet). These peaks extend to the west by other names and gradually rise to slightly higher peaks.

The general orientation of this mass of high ground is northeast to southwest. One mile northwest of the site, Dunderberg bulges to the east; north of Dunderberg and the site, high ground reaching 800 feet forms the east bank of the Hudson as the river makes a sharp turn to the northwest. To the east of the site, peaks are generally lower than those to the north and west. Spitzenberg and Blue Mountains average about 600 feet in height and there is a weak, poorly defined series of ridges which again run mainly in a north-northeast direction.

The river south of the site makes another sharp bend to the southeast and then widens as it flows past Croton and Haverstraw.

The IPNPS is approximately 239 acres in size and contains three pressurized water reactors. Unit 1 (615 MWt, 265 MWe, de-fueled), Unit 2 (2,758 MWt, 873 MWe) and Unit 3 (3,025 MWt, 965 MWe). Indian Point Unit 3 is adjacent to and south of Unit 1 and Unit 2 is adjacent to the north of Unit 1.

The two operating plants were designed by Westinghouse Electric Corporation.

The Indian Point pressurized water nuclear power plants each contain a nuclear reactor and closed loops of pressurized water which remove the heat energy from the reactor core and transfer the energy to a secondary water system which generates steam. The steam, in turn, drives a turbine generator set which produces electric power.

B. Exercise Participants

The following agencies, organizations, and units of government participated in the Indian Point 3 exercise on April 10, 1996.

State of New York

State Emergency Management Office	Montgomery County
New York Power Authority	New York Department of Transportation
New York State Department of Education	New York Department of Health
New York State Police	New York Agriculture & Markets
New York State Office of Mental Health	New York Youth Organization
New York Corrections	New York Social Services
New York State Department of Parks and Recreation	New York Transit Authority
New York State Department of Labor	State University at New York
New York State Department of General Services	New York Mental Retardation
New York State Division of Fire Prevention and Control	New York Department of Environmental Conservation
Information Services	Community College
Personnel Office	Environmental Facilities
New York State Office for the Aging	Medical Center
New York State Consumer Protection	New York Office of Public Affairs
New York State National Guard	Power Authority

Risk Jurisdictions

ORANGE COUNTY

Department of Health	Department of Social Services
Department of Public Works	Sheriff's Department
Fire Department	Division of Mental Health
Schools	U.S. Military Academy - West Point
Office of Aging	Department of Finance, Budget, Planning Departments
Department of Transportation	County Lawyer - Association
New York State Police	New York Power Authority
Orange-Ulster BOCES	
Emergency Management Office	

PUTNAM COUNTY

Office of Emergency Management
Probation
Emergency Management
Bureau of Fire and EMS
Office for the Aging
Department of Purchasing
New York State Police
Carmel School System
County Health Department

Mental Health
Health Department
Sheriff's Office
Social Services
Patient Services
Highway Department
New York Power Authority
Putnam Valley Police Department

ROCKLAND COUNTY

Consumer Protection
Executive Office
County Clerk
Department of General Services
Fire Department
Sheriff's Department
New York State Department of Health
Department of Mental Health
Emergency 911
Clarkstown Police Department
New York State Police
Health Department
Department of Aging
County Attorney
Department of Social Services
BOCES

Purchasing Department
Management Information Services
Director of Tourism and Commerce
Department of Mental Health
Office of Fire & Emergency Services
New York Power Authority
New York Guard
New York State Emergency Management
Office of Fire Prevention and Control
Sheriff's Communication
Fire Coordinator
Stony Point
Probation Department
U.S. Army
Highway Department
Pearl River School District

WESTCHESTER COUNTY

Westchester EOC Staff
Fire Coordinator
Department of General Services
County Department of Health
New York Power Authority
New York State Social Services
Westchester County Community College

EMS
Department of Public Works
County Police Department
New York State Police
New York State Mental Health
Westchester County Parks
Coast Guard

Support Jurisdictions

BERGEN COUNTY

Office of Emergency Management
Police Department
Rockland County Sheriff Department

Private/Volunteer Organizations

RACES
BOCES
Salvation Army
Red Cross
Civil Air Patrol
Radio Station WABC
NYNEX
Private Industry Council

C. Exercise Timeline

Table 1, on the following page(s), presents the time at which key events and activities occurred during the Indian Point Exercise on April 10, 1996. Also included are times notifications were made to the participating jurisdictions/functional entities.

Table 1. Exercise Timeline

INDIAN POINT 3 - April 10, 1996

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken						
		SEOC	JNC	OCEOC	PCEOC	RCEOC	WCEOC	BCEOC
Unusual Event	0755	0806	0801	0805	0805	0805	0805	-
Alert	0857	0904	0908	0904	0904	0904	0904	0918
Site Area Emergency	1009	1017	1021	1017	1017	1017	1017	1044
General Emergency	1135	1148	1142	1148	1148	1148	1148	1202
Simulated Rad. Release Started	1303	1317	1308	1317	1317	1317	1317	1326
Simulated Rad. Release Terminated	1438	1523	Not Received	1518	1518	1518	1518	1520
Facility Declared Operational		0920	0941	1004	0944	1020	0848	0953
Exercise Terminated		1523	1530	1518	1518	1518	1518	1520
Early Precautionary Actions: "Close Parks, Close Schools"		-	0930	0930	0930	0930	0930	-
1st Protective Action Decision: "Alert Public of Emergency at Indian Point Plant"		0941	0941	0941	0941	0941	0941	0941
1st Siren Activation		0953	0953	0953	0953	0953	0953	0953
1st EBS Message		0956	0956	0956	0956	0956	0956	0956

Table 1. Exercise Timeline

INDIAN POINT 3 - April 10, 1996

Emergency Classification Level or Event	Time Utility Declared	Time That Notification Was Received or Action Was Taken						
		SEOC	JNC	OCEOC	PCEOC	RCEOC	WCEOC	BCEOC
2nd Protective Action Decision: Shelter: W47 Evacuate: W1-W4, W7; R29, R38, R40 & R41; O39 & O40		1036	1036	1036	1036	1036	1036	1036
2nd Siren Activation		1048	1048	1048	1048	1048	1048	1048
2nd EBS Message		1051	1051	1051	1051	1051	1051	1051
3rd Protective Action Decision: Shelter: P16, P18; O25, O27 & O28; R32-R37 Evacuate: W5, W6, W8, W9, W47-W49; R30, R31; O24, O26		1206	1206	1206	1206	1206	1206	1206
3rd Siren Activation		1218	1218	1218	1218	1218	1218	1218
3rd EBS Message		1221	1221	1221	1221	1221	1221	1221
KI Administration Decision:		N/A	N/A	N/A	N/A	N/A	N/A	N/A

LEGEND: S - Support Jurisdiction D - Decision Making Jurisdiction A - Activating Jurisdiction N/A - Not Applicable

IV. EXERCISE EVALUATION AND RESULTS

Contained in this section are the results and findings of the evaluation of all jurisdictions and functional entities which participated in the April 10, 1996, exercise to test the offsite emergency response capabilities of State and local governments in the 10-mile EPZ surrounding the Indian Point 3 Nuclear Power Station.

Each jurisdiction and functional entity was evaluated on the basis of its demonstration of criteria delineated in exercise objectives contained in FEMA-REP-14, REP Exercise Manual, September 1991. Detailed information on the exercise objectives 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 exercise objectives from FEMA-REP-14 which were scheduled for demonstration during this exercise by all participating jurisdictions and functional entities. Exercise objectives are listed by number and the demonstration status of those objectives 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

April 10, 1996 – Indian Point 3 Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
NEW YORK STATE																																	
Emergency Operations Center	M	M	M	M	M				M	M	M			M																			
Dose Assessment					M		M							M																			
Emergency Operations Facility	M	M		M																													
Joint News Center	M	M		M						M	M	M	M																				
Emergency Broadcast System (WABC)				M						M																							
RISK JURISDICTIONS - COUNTIES																																	
ORANGE COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M	M	M	M																
Dose Assessment/Field Team Coordination				M	M	M	M							M																			
Field Monitoring Teams		M		M	M	M		M																									
Traffic Control Points				M	M												M																
Reception Center & Congregate Care Center				M	M													M	M														
Emergency Worker Personnel Monitoring Center		M		M	M																	M											
General Population Bus Run				M	M										M																		
School Bus Run				M												M																	
School Interviews				M												M																	
PUTNAM COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M	M	M	M																
Dose Assessment/Field Team Coordination				M	M	M	M							M																			
Field Monitoring Teams		M		M	M	M		M																									
Traffic Control Points				M	A													M															
Reception Center & Congregate Care Center				M	M														M	M													
Emergency Worker Personnel Monitoring Center		M		M	M																	M											
General Population Bus Run				M	M										M																		
School Bus Run				M												M																	

Table 2. Summary Results of Exercise Evaluation

April 10, 1996 – Indian Point 3 Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
PUTNAM COUNTY (continued)																																	
School Interviews																M																	
Medical Drill																				M	M												
ROCKLAND COUNTY																																	
Emergency Operations Center	M	M	A	M	A				M	M	M			M	M	M	M																
Dose Assessment/Field Team Coordination				M	M	M	M							M																			
Field Monitoring Teams		M	M	M	M	A		A																									
Traffic Control Points				M	M												M																
Reception Center & Congregate Care Center				M	M													M	M														
Emergency Worker Personnel Monitoring Center		M		M	M																	M											
General Population Bus Run				M											M																		
School Bus Run				M												M																	
School Interviews																M																	
WESTCHESTER COUNTY																																	
Emergency Operations Center	M	M	M	M					M	M	M			M	M	M	M																
Dose Assessment/Field Team Coordination				M	M	M	M							M																			
Field Monitoring Teams		M		M	M	M		M																									
Traffic Control Points				M	M												M																
Reception Center & Congregate Care Center				M	M													M	M														
Emergency Worker Personnel Monitoring Center		M		M	M																	M											
General Population Bus Run				M	M										M																		
School Bus Run				M												M																	
School Interviews																M																	
Medical Drill																				M	M												

Table 2. Summary Results of Exercise Evaluation

April 10, 1996 – Indian Point 3 Nuclear Power Station

JURISDICTION/FUNCTIONAL ENTITY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
BERGEN COUNTY																																	
Emergency Operations Center	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 Demonstrated

D = Deficiency(ies) assessed

Blank = Not scheduled for demonstration

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 objective demonstration status.

- **Met** - Listing of the demonstrated exercise objectives 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 objectives 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 objectives 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 objectives 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 which were resolved in this exercise and the corrective actions demonstrated.
- **Prior ARCAs - Unresolved** - Descriptions of ARCAs assessed during prior exercises which 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 which 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.
- **Objective Number** - A two-digit number corresponding to the objective numbers in FEMA-REP-14.
- **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. NEW YORK STATE

1.1 Emergency Operations Center

- a. MET: Objectives 1, 2, 3, 4, 5, 9, 10, 11, and 14**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: NONE.**
- f. PRIOR ARCAs - UNRESOLVED: NONE.**

1.2 Dose Assessment

- a. MET: Objectives 5, 7, and 14**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: NONE.**
- f. PRIOR ARCAs - UNRESOLVED: NONE.**

1.3 Emergency Operations Facility

- a. MET: Objectives 1, 2, and 4**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: NONE.**

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

1.4 Joint News Center

- a. **MET: Objectives 1, 2, 4, 10, 11, 12, and 13**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: Objective 2**

Issue No.: JNC-1

Description: The JNC had very little ventilation and air conditioning is limited to certain rooms. These factors, along with the extreme heat caused increasingly unhealthy working conditions. After a few reported incidents of illness, including a JNC staff being transported to the hospital via ambulance, the Westchester County Commissioner of Health declared an emergency and ordered that the building be closed.

Corrective Action Demonstrated: A total of eighteen new air conditioners have been installed in all the working rooms, conference rooms and briefing rooms. In addition, a powered roof vent has been installed in the main media briefing room. These actions eliminated ARCA JNC-1.

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

1.5 Emergency Broadcast System - Station WABC

- a. **MET: Objectives 4 and 10**
- 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 – COUNTIES

2.1 ORANGE COUNTY

2.1.1 Orange County - Emergency Operations Center

- a. MET: Objectives 1, 2, 3, 4, 9, 10, 11, 14, 15, 16, and 17**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: NONE.**
- f. PRIOR ARCAs - UNRESOLVED: NONE**

2.1.2 Orange County - Dose Assessment/Field Team Coordination

- a. MET: Objectives 4, 5, 6, 7, and 14**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: NONE.**
- f. PRIOR ARCAs - UNRESOLVED: NONE.**

2.1.3 Orange County - Field Monitoring Teams

- a. MET: Objectives 2, 4, 5, 6, and 8**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**

e. PRIOR ARCAs - RESOLVED: Objective 6

Issue No.: 1

Description: The radiological staff were capable and generally performed well, however, they demonstrated insufficient familiarity with the use of the instrumentation, by misinterpreting range settings and by using a calibration source without removing a shielding cover. Additional training may be needed for field team personnel.

Corrective Action Demonstrated: The radiological monitoring staff demonstrated a thorough understanding in the use of instrumentation in the performance of field activities related to field team monitoring operations. There were no misinterpretation of range settings nor were there other indications of any need for additional training. The Eberline Model R0-2A was calibrated or operationally checked with a Cesium-137 check source with the window shielding cover in the "open" position.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.1.4 Orange County - Traffic Control Points

- a. MET: Objectives 4, 5, and 17**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: NONE.**
- f. PRIOR ARCAs - UNRESOLVED: NONE.**

2.1.5 Orange County - Reception Center and Congregate Care Center (Out of Sequence)

- a. MET: Objectives 4, 5, 18 & 19**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**

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

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

2.1.6 Orange County - Emergency Worker Personnel Monitoring Center (Out of Sequence)

a. **MET: Objectives 2, 4, 5, and 22**

b. **DEFICIENCY: NONE.**

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

d. **NOT DEMONSTRATED: NONE.**

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

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

2.1.7 Orange County - General Population Bus Runs (Out of Sequence)

a. **MET: Objectives 4, 5, and 15**

b. **DEFICIENCY: NONE.**

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

d. **NOT DEMONSTRATED: NONE.**

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

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

2.1.8 Orange County - School Bus Run (Out of Sequence)

a. **MET: Objectives 4, and 16**

b. **DEFICIENCY: NONE.**

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

d. **NOT DEMONSTRATED: NONE.**

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

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

2.1.9 Orange County - School Interviews: Highland Falls Middle School, Highland School District (Out of Sequence)

a. **MET: Objectives 4 and 16**

b. **DEFICIENCY: NONE.**

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

d. **NOT DEMONSTRATED: NONE.**

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

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

2.2 PUTNAM COUNTY

2.2.1 Putnam County - Emergency Operations Center

a. **MET: Objectives 1, 2, 3, 4, 9, 10, 11, 14, 15, 16 and 17**

b. **DEFICIENCY: NONE.**

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

d. **NOT DEMONSTRATED: NONE.**

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

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

2.2.2 Putnam County - Dose Assessment/Field Team Coordination

a. **MET: Objectives 4, 5, 6, 7, and 14**

b. **DEFICIENCY: NONE.**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.2.3 Putnam County - Field Monitoring Teams

- a. **MET: Objectives 2, 4, 5, 6, and 8**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.2.4 Putnam County Traffic Control Points

- a. **MET: Objectives 4 and 17**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No.: 75-96-05-A-01

Description:The Putnam Valley Police Officer deployed to the TCP (intersection of Oscawana Lake Road and Church Road) stated that he would take one tablet of KI upon arriving at the TCP. He was unaware of the permission required from his supervisor before taking KI, even though he was supplied proper instructions on a card (NUREG-0654 J.10.e).

Recommendation:Putnam Valley Police Officers should be given additional training in KI procedures and "chain of command" for authorization of ingesting KI.

Schedule of Corrective Actions: This ARCA will be corrected during the next biennial exercise.

- d. NOT DEMONSTRATED: NONE.
- e. PRIOR ARCAs - RESOLVED: NONE.
- f. PRIOR ARCAs - UNRESOLVED: NONE.

2.2.5 Putnam County - Reception Center and Congregate Care Center (Out of Sequence)

- a. MET: Objectives 4, 5, 18 & 19
- b. DEFICIENCY: NONE.
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.
- d. NOT DEMONSTRATED: NONE.
- e. PRIOR ARCAs - RESOLVED: NONE.
- f. PRIOR ARCAs - UNRESOLVED: NONE.

2.2.6 Putnam County - Emergency Worker Personnel Monitoring Center (Out of Sequence)

- a. MET: Objectives 2, 4, 5, and 22
- b. DEFICIENCY: NONE.
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.
- d. NOT DEMONSTRATED: NONE.
- e. PRIOR ARCAs - RESOLVED: NONE.
- f. PRIOR ARCAs - UNRESOLVED: NONE.

2.2.7 Putnam County - General Population Bus Runs (Out of Sequence)

- a. MET: Objectives 4, 5, and 15
- b. DEFICIENCY: NONE.

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.2.8 Putnam County - School Bus Run (Out of Sequence)

- a. **MET: Objectives 4 and 16**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.2.9 Putnam County - School Interviews: St. Philip's Nursery, Garrison School District; Country Cousins Pre-School, Putnam Valley Central School District; Haldane Central School, Haldane Central School District (Out of Sequence)

- a. **MET: Objective 16**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.2.10 Putnam County - Medical Drill, Putnam Hospital Center (Out of Sequence)

- a. **MET:** Objectives 20 and 21
- 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 ROCKLAND COUNTY

2.3.1 Rockland County - Emergency Operations Center

- a. **MET:** Objectives 1, 2, 4, 9, 10, 11, 14, 15, 16, and 17
- b. **DEFICIENCY:** NONE.
- c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No.: 75-96-03-A-02

Description: Inaccurate monitoring location descriptions. Three of the four sites assigned for monitoring could not be identified by the monitoring team from the descriptions in the standard operating procedure provided to them. (NUREG 0654, A.1.d.,2.a.,b)

Recommendation: All procedures in the RERP which reference monitoring locations should be checked to ensure that the descriptions are accurate. Each monitoring location should be visited and the description verified.

Schedule of Corrective Actions: This ARCA will be corrected during the next biennial exercise.

Issue No.: 75-96-05-A-03

Description: Area personnel dosimeter monitors at the Rockland EOC were not read in accordance to the plan. There were five stations containing two direct reading dosimeters and a TLD located at the perimeters of the facility. As the EOC is within the 10 mile EPZ, it may be subjected to radiation exposure from the plume.

Therefore, the plan requires these area personnel dosimeter monitors to be read on a prescribed schedule.

Outside air ventilation was not closed off as required for a facility within the ten mile radius of the facility. Radionuclides from the plume could enter the facility. Therefore, the plan requires air handling equipment that isolates the facility from possible contamination due to radionuclides in the outside air. (NUREG 0654, K.3.b, N.1.a).

Recommendation: Additional training is required to insure that area personnel dosimeter monitors are read per the prescribed schedules and that building air ventilation systems are isolated from sources of outside air when there is potential for exposure to radionuclides from the plume.

Schedule of Corrective Actions: This ARCA will be corrected during the next biennial exercise.

- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: Objective 3**

Issue No.: 1

Description: The Bergen County EOC (BCEOC) was not given information on the decision to terminate the exercise. A Rockland County staff person performed the role as liaison to Bergen County in the BCEOC. This Bergen County Liaison was released from the BCEOC at 1415 and was not replaced. Messages were sent to the BCEOC and upon receiving no response, Rockland County EOC (RCEOC) assumed Bergen terminated play.

Corrective Action Demonstrated: The Rockland County staff person serving as Rockland County Liaison to Bergen County remained at the BCEOC throughout the exercise, until termination at 1520. This person was in continual contact with his counterpart at the RCEOC. There was no question or confusion about early termination at the BCEOC.

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

2.3.2 Rockland County - Dose Assessment/Field Team Coordination

- a. **MET: Objectives 4, 5, 6, 7, and 14**
- b. **DEFICIENCY: NONE.**

- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.3.3 Rockland County - Field Monitoring Teams

- a. **MET: Objectives 2, 3, 4 and 5**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION:**

Issue No.: 75-96-06-A-04

Description: Team member was unfamiliar with instrument operability checks. The team member performing instrument operability checks prior to departure from the EOC was not aware of the existence of a check source on one of the instruments. Instead he assumed that a separate check source which he had available was to be held in contact with the instrument at that point. His action could not be guaranteed to provide an adequate test of the instrument operation. (NUREG-0654, H.10).

Recommendation: Team members should be given additional hands on training on each of the instruments that they are expected to check and use. This should be followed with a demonstration by each of the team members that they can perform all steps required to obtain accurate field monitoring data.

Issue No.: 75-96-08-A-05

Description: Team unfamiliar with air sampling and counting instrumentation. Prior to counting the air sample particulate and iodine cartridge two controls on the instrument to be used were accidentally changed by one of the team members. The team members were not familiar with the proper setting of these controls and did not understand the operation of the instrument well enough to correct the problem and get a valid reading on the sample. In addition the particulate and iodine samples were counted as a unit rather than separately as required for accurate estimation of airborne activity. (NUREG 0654, I.9).

Recommendation: Team members should be given additional hands on training on each of the instruments that they are expected to check and use. This should be followed with a demonstration by each of the team members that they can perform all steps required to obtain accurate field monitoring data.

Schedule of Corrective Actions:

- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.3.4 Rockland County - Traffic Control Points

- a. **MET: Objectives 4, 5, and 17**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.3.5 Rockland County - Reception Center and Congregate Care Center (Out of Sequence)

- a. **MET: Objectives 4, 5, 18 and 19**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.3.6 Rockland County - Emergency Worker Personnel Monitoring Center (Out of Sequence)

- a. MET: Objectives 2, 4, 5, and 22**
- b. DEFICIENCY: NONE.**
- c. AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. NOT DEMONSTRATED: NONE.**
- e. PRIOR ARCAs - RESOLVED: Objectives 5 & 22.**

Issue No.: RC-2

Description: Workers in emergency worker monitoring and decontamination were aware of their dose limits of 1R, 3R and 5R, but vehicle monitors were unsure of dose limits and the units mR vs. R.

Corrective Action Demonstrated: Vehicle monitors were aware of dose limits. Signs and personal cards also listed exposure limits. They also understood the difference between R & mR.

Issue No.: RC-3

Description: Vehicle monitors did not monitor the wheel wells in order to determine if contamination existed in the wheel well area.

Corrective Action Demonstrated: The vehicle monitor provided a complete monitoring of the wheel and wheel-well area, along with the rest of the vehicle.

Issue No.: RC-4

Description: Vehicle monitors incorrectly filled out the vehicle decontamination form which resulted in vehicle decontamination workers not being aware of all contaminated areas, and labeled a vehicle as "clean" when it was actually still contaminated. When the vehicle was re-monitored, the contaminated areas were not checked because they were believed to be clean.

Corrective Action Demonstrated: Vehicle monitors correctly filled out the vehicle contamination report form.

f. PRIOR ARCAs - UNRESOLVED: NONE

2.3.7 Rockland County - General Population Bus Runs (Out of Sequence)

a. MET: Objectives 4 and 15

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

d. NOT DEMONSTRATED: NONE.

e. PRIOR ARCAs - RESOLVED: NONE.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.3.8 Rockland County - School Bus Run (Out of Sequence)

a. MET: Objectives 4 and 16

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

d. NOT DEMONSTRATED: NONE.

e. PRIOR ARCAs - RESOLVED: NONE.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.3.9 Rockland County - School Interviews: Valley Cottage Elementary School, Nyack School District; St. Augustine's School, Clarkstown School District; Thiells Preschool, North Rockland School District; Pomona Junior High School, East Ramapo School District; and Robin Hill School, Ramapo School District (Out of Sequence)

a. MET: Objective 16

- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.4 WESTCHESTER COUNTY

2.4.1 Westchester County - Emergency Operations Center

- a. **MET: Objectives 1, 2, 3, 4, 9, 10, 11, 14, 15, 16, and 17**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.4.2 Westchester County - Dose Assessment/Field Team Coordination

- a. **MET: Objectives 4, 5, 6, 7, and 14**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**

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

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

2.4.3 Westchester County - Field Monitoring Teams

a. **MET:** Objectives 2, 4, 5, 6, and 8

b. **DEFICIENCY:** NONE.

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

d. **NOT DEMONSTRATED:** NONE.

e. **PRIOR ARCAs - RESOLVED:** Objective 5

Issue No.: WC-1

Description: Field Monitoring Team #1 did not always read their dosimeters every 30 minutes. After the first controller input of gross beta gamma readings of 122 mR for open window and 97 mR for closed window at 1417, the team made an oversight by not asking the Controller for their dosimeter readings. This was subsequently corrected for later controller generated readings.

Corrective Action Demonstrated: Field Team HD-1 scrupulously read their dosimeters every 15 minutes and recorded all information. Any elevated readings would be promptly reported to the Field Team coordinator at the EOC. This served to correct the ARCA number WC-1 from the previous exercise.

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

2.4.4 Westchester County - Traffic Control Points

a. **MET:** Objectives 4, 5, and 17

b. **DEFICIENCY:** NONE.

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

- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.4.5 Westchester County - Reception Center and Congregate Care Center (Out of Sequence)

- a. **MET: Objectives 4, 5, 18 and 19**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: Objective 18**

Issue No.: WC-2

Description: There were four trained monitors, however, two (2) monitors took an extreme amount of time monitoring the evacuees. Two monitors accomplished monitoring of six evacuees. Two monitors accomplished monitoring of six evacuees (simulated) within 90 seconds. The other two monitoring times ranged from 2 minutes to 3 and ½ minutes. The average of the monitoring times resulted in the inability to monitor 20% of the EPZ population in 12 hours.

Corrective Action Demonstrated: Portal monitors monitored evacuees in 10 seconds and once contamination was found, hand held instruments were used to scan the evacuees. The scan via hand held instruments took 90 seconds.

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

2.4.6 Westchester County -Emergency Worker Personnel Monitoring Center (Out of Sequence)

- a. **MET: Objectives 2, 4, 5, and 22**

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

d. NOT DEMONSTRATED: NONE.

e. PRIOR ARCAs - RESOLVED: Objective 22

Issue No.: WC-3

Description: Vehicle monitors rested their hand on the contaminated tire then continued to monitor the vehicle causing the potential contamination of worker and monitoring equipment.

Corrective Action Demonstrated: Monitors followed proper procedures while conducting vehicle monitoring.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.4.7 Westchester County - General Population Bus Runs (Out of Sequence)

a. MET: Objectives 4, 5, and 15

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

d. NOT DEMONSTRATED: NONE.

e. PRIOR ARCAs - RESOLVED: NONE.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.4.8 Westchester County - School Bus Run (Out of Sequence)

a. MET: Objectives 4 and 16

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

d. NOT DEMONSTRATED: NONE.

e. PRIOR ARCAs - RESOLVED: NONE.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.4.9 Westchester County - School Interviews: Hillcrest Elementary School, Peekskill City School District; Frank G. Linsey Elementary School, Hendrick Hudson City School District; BOCES, BOCES School District; Todd Elementary School, Briarcliff Manor Public School District; Croton Harmon High School, Croton Harmon School District; St. Columanus, Lakeland School District; Ossining High School, Ossining School District; Westorcharde Elementary School, Chappaqua Central School District; and Mohansic School, Yorktown School District (Out of Sequence)

a. MET: Objective 16

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

d. NOT DEMONSTRATED: NONE.

e. PRIOR ARCAs - RESOLVED: NONE.

f. PRIOR ARCAs - UNRESOLVED: NONE.

2.4.10 Westchester County - Medical Drill, Westchester County Medical Center (Out of Sequence)

a. MET: Objective 20 and 21

b. DEFICIENCY: NONE.

c. AREAS REQUIRING CORRECTIVE ACTION: NONE.

- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE.**

2.5 BERGEN COUNTY

2.5.1 Bergen County - Emergency Operations Center

- a. **MET: Objectives 1, 2, 3, and 4**
- b. **DEFICIENCY: NONE.**
- c. **AREAS REQUIRING CORRECTIVE ACTION: NONE.**
- d. **NOT DEMONSTRATED: NONE.**
- e. **PRIOR ARCAs - RESOLVED: NONE.**
- f. **PRIOR ARCAs - UNRESOLVED: NONE**

APPENDIX 1

ACRONYMS AND ABBREVIATIONS

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

ANL	Argonne National Laboratory
ARCA	Area Requiring Corrective Action
BCEOC	Bergen County Emergency Operations Center
CFR	Code of Federal Regulations
CST	Condensate Storage Tank
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EAL	Emergency Action Level
ECON	Environmental Conservation
ED	Emergency Director
EPA	U.S. Environmental Protection Agency
EPZ	Emergency Planning Zone
FDA	U.S. Food and Drug Administration
FEMA	Federal Emergency Management Agency
GE	General Emergency
INEL	Idaho National Engineering Laboratory
IPNPS	Indian Point Nuclear Power Station
JNC	Joint News Center
NOUE	Notification of Unusual Event
NRC	U.S. Nuclear Regulatory Commission
NUREG-0654	NUREG-0654/FEMA-REP-1, Rev. 1, <i>"Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," November 1980</i>
OCEOC	Orange County Emergency Operations Center
ORO	Offsite Response Organization
OSC	Operations Support Center

PAB	Primary Auxiliary Building
PCEOC	Putnam County Emergency Operations Center
RAC	Regional Assistance Committee
RACES	Radio Amateur Civil Emergency Service
RCEOC	Rockland County Emergency Operations Center
REP	Radiological Emergency Preparedness
RERP	Radiological Emergency Response Plan
RSC	Reactor Coolant System
RVLIS	Reactor Vessel Level Indicator System
SAE	Site Area Emergency
SI	Safety Injector
SEOC	State Emergency Operations Center
USDA	U.S. Department of Agriculture
WCEOC	Westchester County Emergency Operations Center

APPENDIX 2

EXERCISE EVALUATORS AND TEAM LEADERS

The following is a list of the personnel who evaluated the Indian Point 3 exercise on April 10, 1996. Evaluator Team Leaders are indicated by the letters "(TL)" after their names. The organization which each evaluator represents is indicated by the following abbreviations:

FEMA	- Federal Emergency Management Agency
ANL	- Argonne National Laboratory
INEL	- Idaho National Engineering Laboratory
DOT	- Department of Transportation
DOE	- Department of Energy
USDA	- US Department of Agriculture
KLT	- K.L. Travis & Associates, Inc.
NRC	- Nuclear Regulatory Commission
FDA	- Food & Drug Administration
EPA	- Environmental Protection Agency

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
New York State:		
Exercise Oversight	S. McIntosh RAC Chairperson	FEMA
Emergency Operations Center	V. Cochran (TL)	FEMA
Emergency Operations Center	R. Graham	USDA
Emergency Operations Center	J. Sutch	ANL
Emergency Operations Facility	J. Lusher	NRC
Joint News Center	C. McCoy	ANL
Joint News Center	A. Lookabaugh	ANL
Joint News Center	L. Mazzella	FEMA
WABC	L. Mazzella	FEMA
 Orange County, New York:		
Emergency Operations Center	D. Fredericks (TL)	FEMA
Emergency Operations Center	H. Fish	ANL
Emergency Operations Center	G. Jacobson	ANL
Field Monitoring Team	H. Harrison	ANL
Field Monitoring Team	J. Staroba	ANL
Traffic Control Point	T. Carroll	ANL

EVALUATION SITEEVALUATORORGANIZATION**Orange County - Out of Sequence:**

- Reception Centers
- Congregate Care Centers
- Emergency Worker PMC
- General Population Bus Runs
- School Bus Runs
- EOC Equipment Inventory
- School Interviews - Highland Falls M.S.
Highland S.D.

G. Brozowski	EPA
S. O'Neill	FEMA
G. Brozowski	EPA
S. O'Neill	FEMA
D. Fredericks	FEMA
S. O'Neill	FEMA
S. O'Neill	FEMA

Putnam County, New York:

Emergency Operations Center
Emergency Operations Center
Emergency Operations Center
Field Monitoring Team
Field Monitoring Team
Traffic Control Point

R. Acerno (TL)	FEMA
C. Reichow	ANL
F. Wilson	ANL
R. Bernacki	FDA
C. Hunckler	ANL
A. Teotia	ANL

Putnam County - Out of Sequence:

- Reception Centers
- Congregate Care Centers
- Emergency Worker PMC
- General Population Bus Runs - Mahopac
- General Population Bus Runs - Haldane
- School Bus Runs - Garrison/Ryder
- School Bus Runs - Putnam Valley
- EOC Equipment Inventory
- School Interviews - St. Philip's Nursery,
Garrison S.D.
- School Interviews - County Cousins Pre-School,
Putnam Valley Central S.D.
- School Interviews - Haldane Central School,
Haldane Central S.D.
- Medical Drill - Putnam Hospital Center

G. Brozowski	EPA
S. O'Neill	FEMA
S. O'Neill	FEMA
R. Acerno	FEMA
R. Acerno	FEMA
G. Brozowski	EPA
R. Acerno	FEMA
S. O'Neill	FEMA
S. O'Neill	FEMA
S. O'Neill	FEMA
S. O'Neill	FEMA
S. O'Neill	FEMA
G. Brozowski	EPA

EVALUATION SITE**EVALUATOR****ORGANIZATION****Rockland County, New York:**

Emergency Operations Center

S. O'Neill (TL)

FEMA

Emergency Operations Center

S. McIntosh

FEMA

RAC Chairperson

Emergency Operations Center

J. Hardin

KLT

Field Monitoring Team

G. Brozowski

EPA

Field Monitoring Team

A. Kuehner

DOE

Traffic Control Point

E. Hakala

ANL

Rockland County - Out of Sequence:

- Reception Centers
- Congregate Care Centers
- Emergency Worker PMC
- General Population Bus Runs - East Ramapo
- General Population Bus Runs - Peter Brega
- School Bus Runs - East Ramapo
- School Bus Runs - Peter Brega
- EOC Equipment Inventory
- School Interviews - Valley Cottage E.S., Nyack S.D.
- School Interviews - St. Augustine's School, Clarkstown S.D.
- School Interviews - Thiells Preschool, North Rockland S.D.
- School Interviews - Pomona J.H.S., East Ramapo S.D.
- School Interviews - Robin Hill School, Ramapo S.D.

G. Brozowski

EPA

S. O'Neill

FEMA

R. Acerno

FEMA

S. O'Neill

FEMA

S. O'Neill

FEMA

S. O'Neill

FEMA

S. O'Neill

FEMA

A. Davis

FEMA

S. O'Neill

FEMA

S. O'Neill

FEMA

A. Davis

FEMA

A. Davis

FEMA

A. Davis

FEMA

Westchester County, New York:

Emergency Operations Center

A. Davis (TL)

FEMA

Emergency Operations Center

S. Nelson

ANL

Emergency Operations Center

C. Herzenberg

ANL

Field Monitoring Team

K. Flynn

ANL

Field Monitoring Team

B. Nowicki

ANL

Traffic Control Point

A. Hall

ANL

Westchester County - Out of Sequence:

- Reception Centers
- Congregate Care Centers
- Emergency Worker PMC

S. O'Neill

FEMA

D. Fredericks

FEMA

G. Brozowski

EPA

<u>EVALUATION SITE</u>	<u>EVALUATOR</u>	<u>ORGANIZATION</u>
• General Population Bus Runs - Liberty Lines	R. Acerno	FEMA
• General Population Bus Runs - Royal Coach	R. Acerno	FEMA
• School Bus Runs - Hendrick Hudson C.S.D.	S. O'Neill	FEMA
• School Bus Runs - Liberty Lines	S. O'Neill	FEMA
• EOC Equipment Inventory	S. O'Neill	FEMA
• School Interviews - Hillcrest E.S., Peekskill City S.D.	S. O'Neill	FEMA
• School Interviews - Frank G. Linsey E.S., Hendrick Hudson C.S.D.	S. O'Neill	FEMA
• School Interviews - BOCES, BOCES S.D.	S. O'Neill	FEMA
• School Interviews - Todd E.S., Briarcliff Manor Public S.D.	S. O'Neill	FEMA
• School Interviews - Croton Harmon H.S., Croton Harmon S.D.	S. O'Neill	FEMA
• School Interviews - St. Columanus, Lakeland S.D.	S. O'Neill	FEMA
• School Interviews - Ossining H.S., Ossining S.D.	S. O'Neill	FEMA
• School Interviews - Westorcharde E.S., Chappaqua S.D.	S. O'Neill	FEMA
• School Interviews - Mohansic School, Yorktown S.D.	S. O'Neill	FEMA
• Medical Drill - Westchester Co. Medical Center	G. Brozowski	EPA
Bergen County, New York: Emergency Operations Center	D. Petta (TL)	DOT

APPENDIX 3

EXERCISE OBJECTIVES AND EXTENT-OF-PLAY AGREEMENT

This appendix lists the exercise objectives which were scheduled for demonstration in the Indian Point 3 exercise on April 10, 1996 and the extent-of-play agreement approved by FEMA Region II on April 9, 1996.

The exercise objectives, contained in FEMA-REP-14, "Radiological Emergency Preparedness Exercise Manual," September 1991, 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 objectives 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 objectives.

A. Exercise Objectives

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

OBJECTIVE 1: MOBILIZATION OF EMERGENCY PERSONNEL

Demonstrate the capability to alert and fully mobilize personnel for both emergency facilities and field operations. Demonstrate the capability to activate and staff emergency facilities for emergency operations.

OBJECTIVE 2: FACILITIES - EQUIPMENT, DISPLAYS, AND WORK ENVIRONMENT

Demonstrate the adequacy of facilities, equipment, displays and other materials to support emergency operations.

OBJECTIVE 3: DIRECTION AND CONTROL

Demonstrate the capability to direct and control emergency operations.

OBJECTIVE 4: COMMUNICATIONS

Demonstrate the capability to communicate with all appropriate emergency personnel at facilities and in the field.

OBJECTIVE 5: EMERGENCY WORKER EXPOSURE CONTROL

Demonstrate the capability to continuously monitor and control radiation exposure to emergency workers.

OBJECTIVE 6: FIELD RADIOLOGICAL MONITORING - AMBIENT RADIATION MONITORING

Demonstrate the appropriate use of equipment and procedures for determining field radiation measurements.

OBJECTIVE 7: PLUME DOSE PROJECTION

Demonstrate the capability to develop dose projections and protective action recommendations regarding evacuation and sheltering.

OBJECTIVE 8: FIELD RADIOLOGICAL MONITORING - AIRBORNE RADIOIODINE AND PARTICULATE ACTIVITY MONITORING

Demonstrate the appropriate use of equipment and procedures for the measurement of airborne radioiodine concentrations as low as 10^{-7} (0.0000001) microcuries per cubic centimeter in the presence of noble gases and obtain samples of particulate activity in the airborne plume.

OBJECTIVE 9: PLUME PROTECTIVE ACTION DECISION MAKING

Demonstrate the capability to make timely and appropriate protective action decisions.

OBJECTIVE 10: ALERT AND NOTIFICATION

Demonstrate the capability to promptly alert and notify the public within the 10-mile plume pathway emergency planning zone and disseminate instructional messages to the public on the basis of decisions by appropriate State or local officials.

OBJECTIVE 11: PUBLIC INSTRUCTIONS AND EMERGENCY INFORMATION

Demonstrate the capability to coordinate the formulation and dissemination of accurate information and instructions to the public.

OBJECTIVE 12: EMERGENCY INFORMATION - MEDIA

Demonstrate the capability to coordinate the development and dissemination of clear, accurate, and timely information to the news media.

OBJECTIVE 13: EMERGENCY INFORMATION - RUMOR CONTROL

Demonstrate the capability to establish and operate rumor control in a coordinated and timely manner.

OBJECTIVE 14: IMPLEMENTATION OF PROTECTIVE ACTIONS - USE OF POTASSIUM IODIDE FOR EMERGENCY WORKERS, INSTITUTIONALIZED INDIVIDUALS, AND THE GENERAL PUBLIC

Demonstrate the capability and resources to implement potassium iodide protective actions for emergency workers, institutionalized individuals, and, if the State plan specifies, the general public.

OBJECTIVE 15: IMPLEMENTATION OF PROTECTIVE ACTIONS - SPECIAL POPULATIONS

Demonstrate the capability and resources necessary to implement appropriate protective actions for special populations.

OBJECTIVE 16: IMPLEMENTATION OF PROTECTIVE ACTIONS - SCHOOLS

Demonstrate the capability and resources necessary to implement protective actions for school children within the plume pathway emergency planning zone.

OBJECTIVE 17: TRAFFIC AND ACCESS CONTROL

Demonstrate the organizational capability and resources necessary to control evacuation traffic flow and to control access to evacuated and sheltered areas.

**OBJECTIVE 18: RECEPTION CENTER - MONITORING,
DECONTAMINATION AND REGISTRATION**

Demonstrate the adequacy of procedures, facilities, equipment, and personnel for the radiological monitoring, decontamination and registration of evacuees.

OBJECTIVE 19: CONGREGATE CARE

Demonstrate the adequacy of facilities, equipment, supplies, personnel, and procedures for congregate care of evacuees.

OBJECTIVE 20: MEDICAL SERVICES - TRANSPORTATION

Demonstrate the adequacy of vehicles, equipment, procedures, and personnel for transporting contaminated, injured, or exposed individuals.

OBJECTIVE 21: MEDICAL SERVICES - FACILITIES

Demonstrate the adequacy of equipment, procedures, supplies, and personnel of medical facilities responsible for treatment of contaminated, injured, or exposed individuals.

**OBJECTIVE 22: EMERGENCY WORKERS, EQUIPMENT, AND VEHICLES -
MONITORING AND DECONTAMINATION**

Demonstrate the adequacy of procedures for the monitoring and decontamination of emergency workers, equipment, and vehicles.

B. Extent-of-Play Agreement

The extent-of-play agreement on the following pages was submitted by the State of New York, and was approved by FEMA Region II on April 9, 1996, in preparation for the Indian Point 3 exercise on April 10, 1996. The extent-of-play agreement includes any significant modification or change in the level of demonstration of each exercise objective listed in Subsection A of this appendix.

Section	Subject
1.	WARNING POINTS
2.	EOCs
3.	EOF
4.	PUBLIC NOTIFICATION
5.	JNC
6.	RECEPTION CENTERS
7.	CONGREGATE CARE CENTERS
8.	EMERGENCY WORKER PMCs
9.	FIELD MONITORING TEAMS
10.	DOSE ASSESSMENT
11.	SPECIAL POPULATION BUS RUNS
12.	SCHOOL EVACUATION BUS RUNS
13.	NOTIFICATION OF HEARING IMPAIRED
14.	EVACUATION OF NON-INSTITUTIONALIZED MOBILITY IMPAIRED INDIVIDUALS
15.	TRAFFIC CONTROL POINTS (TCPs)
16.	IMPEDIMENTS TO EVACUATION
17.	KI ADMINISTRATION
18.	SCHOOL INTERVIEWS
19.	INVENTORY OF EQUIPMENT AND SUPPLIES
20.	MEDICAL DRILLS
21.	OFFSITE EXTENT OF PLAY ACTIVITIES SCHEDULE

NOTE: Real life emergencies take priority over exercise play.

1. WARNING POINTS

During this exercise, the following five (5) Warning Points will be notified:

- New York State
- Westchester County
- Rockland County
- Orange County

- Putnam County

Federal observations will include:

- Telephone calls from the utility via the RECS lines including the notification times and call verification procedures.
- Notification of the designated agency representatives in accordance with the plan/procedures including the time required to notify all individuals on the call-out list.
- Coordination with the EOC.

It should be understood that the call lists may change on a weekly basis. The latest quarterly revision call lists will be provided to FEMA one (1) week before the exercise or at the Federal/ State evaluators briefing session the day before the exercise.

Federal evaluators recording times of various events will synchronize their watches with an official EOC time.

There will be no free play messages introduced at Warning Points.

Shift Change:

There will be no demonstration of a shift change at this location.

2. EOCs

All activities associated with the activation and operation of EOC are to be performed as they would be in an actual emergency.

Federal observations will include:

- Notification of staff;
- Timeliness of activation;
- NYS Southern District's EOC coordination with New York State EOC;
- Bergen County's coordination with Rockland EOC - Activation and operation of Bergen EOC in accordance with host Plan.
- Decision making
 - coordination with other counties and state;
 - notification of public (sirens and EBS messages);
 - protective actions recommendations including consultation with appropriate staff.
- Accident Assessment;
- Communication with appropriate locations;
- Managing an orderly evacuation, if required;
- Free play messages handling including;

- Evacuation of non-institutionalized mobility impaired individuals;
- Notification of hearing impaired;
- Siren failure and back-up route alerting;
- Traffic Control Points (TCPs);
- Impediment(s) to evacuation.

Shift Change:

There will be no demonstration of shift change at the EOCs.

Exceptions:

- State technical liaisons will be pre-positioned and will arrive at respective EOCs no sooner than 30 minutes after Alert declaration is received over RECS line. Utility technical liaisons will be pre-positioned and will arrive at respective EOCs no sooner than 30 minutes after being requested by the respective counties.
- In the event that a school is closed (not-in-session) on April 10, 1996, the Schools Coordinator at the EOC will be required to provide a school contact telephone number for that school which includes off-hours notification numbers. No actual contact will be made with schools that are not-in-session.

3. EOF

All activities associated with the activation and operation of EOF are to be performed as they would be in an actual emergency.

Federal observations will include:

- Timeliness of activation;
- Interpretation and communication of technical data to the State and County EOCs;
- EOF operation management layout, equipment and displays.

Shift Change:

There will be no demonstration of shift change at this location.

Exceptions:

State liaisons will be pre-positioned and will arrive at EOF no sooner than 30 minutes after Alert declaration is received over RECS line.

County liaisons will arrive at EOF no sooner than 15 minutes after Alert declaration is received over RECS line.

4. PUBLIC NOTIFICATION

During the exercise there will be no actual siren sounding and no broadcasting of EBS messages.

However, Federal evaluators will expect to see actual demonstration of all the actions (steps) leading to siren sounding and broadcasting the EBS messages within 15 minutes following each decision to alert and notify the public and to issue protective action recommendations.

FEMA requires that all EBS messages be actually drafted and ready for broadcasting within 15 minutes following each decision that requires an EBS message.

Activities to be simulated:

- Simulated siren sounding and airing of the EBS message must be accomplished within 15 minutes after the County Executives (or his/her designee) reach a decision which requires activating the alert and notification system.
- There will be only one (1) evaluation by FEMA of simulated siren sounding:
 - First EBS message.
- There will be only one (1) evaluation by FEMA of simulated airing of the EBS message. This is the first EBS message. Recommendations such as park/school closings do not require an EBS message, but rather a news release.
- Should the simulation of first siren sounding and/or issuance of first EBS message not meet the 15 minutes mandated time frame, the subsequent simulated siren sounding/issuance of an EBS message may be evaluated by FEMA.

Federal evaluators will record the times for all activities in the process. The last time to be recorded is the time at which the EBS message begins to be broadcasted (first three (3) words of the talk-up read for simulated broadcast).

FEMA will have evaluators at the radio station.

For a simulated siren sounding, Federal evaluators will secure the time of alert system activation from the person simulating the activation.

During the exercise, back-up route alerting is to be simulated at EOC, if a simulated siren failure message is inserted.

5. JNC

Activation and operation of the JNC are to be performed as they would be in an actual emergency.

Federal evaluators will look for:

- Ability to fully staff and operate facility in accordance with the JNC procedures;
- Ability to coordinate PARs with respective EOCs;
- Ability to formulate clear and accurate EBS messages;
- Ability to initiate the EBS messages (simulated) within prescribed 15 minute time frame;
- Ability to provide accurate information to media at press briefings;
- Ability to operate rumor control during the site area emergency and general emergency levels in accordance with the JNC procedures.

Shift Change:

There will be no demonstration of a shift change at this location.

Exceptions:

- State JNC staff will arrive no sooner than 15 minutes after Alert declaration is received by State and County over the RECS line; County JNC staffs will arrive no sooner than 15 minutes after NUE declaration is received over RECS line.
- Siren sounding will be simulated (four County Executives will coordinate the siren sounding over the Executive Hot Line).
- Airing of EBS message (one only) will be simulated specifically, the JNC is only required to make two (2) contacts with the EBS station for only one EBS message (to get credit):
 - during EBS message formulation, contact radio station and place it on stand-by.
 - call again with first EBS message (the clock will be stopped after the announcer says the first three (3) words of the talk-up).
- FCC guidance stipulates that the EBS message should contain only relevant information for the public, such as PARs. This guidance does not allow the dissemination of information about the plant's status, etc., via EBS message. This type of information will instead be included in a News Release.

6. RECEPTION CENTERS

All facilities are to be demonstrated prior to the exercise, out of sequence with the exercise scenario.

One (1) reception center is to be opened and staffed for evacuees in each of the four counties in accordance with respective local emergency response plans. Because of logistics and the need to arrange access to facilities before a demonstration, the following reception centers have been preselected. See offsite extent of play activities schedule.

Reception Centers will not be set-up in advance. Federal evaluations will include:

- Arrival of staff;
- Setting-up;
- Operation.

Per FEMA requirements, each activated facility should be prepared to demonstrate:

- 1/3 of the radiological monitors needed for initial personnel monitoring designated in the plan (1/3 of one shift per Reception Center to be demonstrated) (Orange County only) and other support staff as indicated on page 6:

Number of Persons				
Category	Orange County	Rockland County	Westchester County	Putnam County
Radiological monitors for personnel monitoring	1	2 See Note 1	2 See Note 1	2 See Note 1
Recorders	1	See Note 2	2	See Note 3

Note 1: One monitor for portal monitoring; one monitor for hand held monitoring.

Note 2: Evacuees will be monitored, then either given a "clean" card or directed to decontamination area.

Note 3: Evacuees will be monitored, then either hand-stamped clean or directed to decontamination area.

At a minimum, the additional monitoring personnel will include:

- 2 monitors (1 male, 1 female) for decontamination
- 1 monitor for vehicle monitoring
- 1 monitor for vehicle decontamination

With regard to registrars (social services), the following staffing will be present at a minimum:

- 1 individual, Orange County
- 2 individuals, Rockland County
- 1 individual, Putnam County
- 2 individuals, Westchester County

Please note that the Federal evaluator may not use a hidden source (such as a lantern mantle) to test the skills of monitors.

- Organizational ability and resources to determine compliance with the 20% planning basis for a 12 hour period including:
 - 90 sec/person monitoring speed using hand-held instrumentation (an average for all personnel monitored);
 - adequate space;
 - adequate instrumentation;
 - adequate staffing by rosters (remaining monitors);
 - thirty seconds/person monitoring speed using portal monitor (Westchester, Rockland, and Putnam Counties only). Two people/minute = 120/hr = 1440/12 hrs.

Each vehicle monitor will process no more than two (2) vehicles. All facilities to be evaluated should be set up as they would be in an actual emergency, with all route markings and contamination control measures in place. Facilities and equipment for decontamination will be in place for evaluator "walk throughs", and decontamination procedures should be explained. There should be only a representative (small) sample of supplies available at each facility.

Decontamination techniques will be simulated. At the PMC, anything that may damage property (such as parking vehicle on grass) is to be simulated. Persons responsible for decontamination should be aware of action levels in organizational plans for determining the need for decontamination. The monitoring and decontamination teams are not to be suited up in anti-contamination clothing. The Federal evaluator may request one (1) monitor only to suit-up in anti-contamination clothing for demonstration purposes.

Shift Change:

There will be no demonstration of a shift change at these facilities.

- Notes:
- 1) SEMO, Westchester, Rockland, Orange and Putnam Counties and FEMA have agreed that the Reception Centers will be demonstrated under the following schedule. See offsite extent of play activities schedule.
 - 2) It will be the responsibility of FEMA to have evaluators available at the times agreed upon (shown above).
 - 3) FEMA evaluator should advise the participants when his/her evaluation is complete so that participants can resume their normal duties.

Exceptions:

- 1) Reception Center floors are not to be covered with paper/plastic during this demonstration.
- 2) Liquid waste from decontamination does not have to be contained and can be discharged to sanitary sewer or directed as run-off, per prior FEMA policy guidance and the NYS Sanitary Code, Part 16.

7. CONGREGATE CARE CENTERS

All facilities to be demonstrated prior to the exercise, out-of-sequence with the exercise scenario.

One (1) congregate care center per county will be opened and staffed in accordance with the plan. Because of logistics and the need to arrange access to facilities before a demonstration, the following congregate care centers were preselected. See offsite extent of play activities schedule.

Each center will demonstrate the following staffing:

- Shelter Manager;
- Registrar;
- Support staff (one individual);
- Communicator.

In some instances one individual may perform two (2) functions (e.g., Shelter Manager could also serve as communicator). Per FEMA instructions, each activated center is to demonstrate its equipment and supplies and will not be set-up in advance.

In addition, FEMA observations will include:

- sleeping accommodation area;
- feeding facility capability;
- sanitary facilities;
- parking areas;
- facility activation.

Shift Change:

There will be no demonstration of a shift change at these facilities.

- Notes: 1) SEMO, Orange, Rockland, Bergen, Westchester and Putnam Counties and FEMA have agreed that the Congregate Care Centers will be demonstrated under the following schedule. See offsite extent of play activities schedule.
- 2) It will be the responsibility of FEMA to have evaluators available at the times agreed upon (shown above).
- 3) FEMA evaluator should advise the participants when his/her evaluation is complete so that participants can resume their normal duties.

Exceptions:

Supplies required for long-term mass care (cots, blankets, food, etc.) are not to be acquired or brought to the centers. However, the Center Manager should be aware of the center's capacity. The center personnel are then to make the necessary estimates of supplies required for the potential evacuees. Sources of the required supplies are to be located and the means for transportation of the supplies is to be determined. Federal evaluators may request to be processed through the registration area. Federal observers may introduce free play problems to test procedures for handling evacuees arriving at a congregate care center without appropriate documents from the referral reception center. Each center must have the capacity signs posted. However, the new space requirement of 40-60SF/person will not be evaluated during this demonstration.

8. EMERGENCY WORKER PMCs

All facilities to be demonstrated prior to the exercise, out-of-sequence with the exercise scenario.

Each county will set up and demonstrate one (1) PMC for local emergency workers. The following PMCs were pre-selected:

Westchester County	1	Fire Training Center, Valhalla
Rockland County	1	Rockland County Sewer District, Rt. 340 Sparkill, NY
Orange County	1	BOCES, Goshen, NY
Putnam County	1	North Highland Fire Department

Emergency Worker PMCs will not be set-up in advance. Federal evaluations will include:

- Arrival of staff;
- Setting-up;
- Operation.

Each PMC will be set up as it would be in an actual emergency, with all route markings and contamination control measures in place. Procedures for monitoring personnel and vehicles are to be demonstrated using Federal evaluators.

Per FEMA instructions, each facility will demonstrate the following:

- one (1) monitor for personnel monitoring;
- one (1) monitor for personnel decontamination;
- one (1) monitor for vehicle monitoring;
- one (1) monitor for vehicle decontamination.

The monitoring and decontamination teams are not to be suited up in anti-contamination clothing. However, the Federal evaluator may request one (1) monitor only to suit-up in anti-contamination clothing for demonstration purposes.

Please note that the Federal evaluator may not use a hidden source (such as a lantern mantle) to test the skills of the monitors.

Facilities and equipment for decontamination will be in place and decontamination procedures explained, including solid waste disposal procedures.

Decontamination actions are to be simulated. At the PMC, anything that may damage property (such as parking vehicles on grass) is to be simulated.

Liquid waste from decontamination does not have to be contained and can be discharged to sanitary sewer or directed as run-off, per prior FEMA policy guidance and the NYS Sanitary Code, Part 16.

Shift Change:

There will be no demonstration of a shift change at these facilities.

- Notes:
- 1) SEMO, Westchester, Rockland, Orange, and Putnam Counties and FEMA have agreed that the Emergency Worker PMCs will be demonstrated under the following schedule. See offsite extent of play activities schedule.
 - 2) It will be the responsibility of FEMA to have evaluators available at the times agreed upon (shown above).
 - 3) The FEMA evaluator should advise the participants when his/her evaluation is complete so that participants can resume their normal duties.
 - 4) 90 sec/person monitoring speed is not applicable to EW PMC.
 - 5) EW PMC floors are not to be covered with paper/plastic during this demonstration.

- 6) One (1) portal monitor for personnel monitoring will be demonstrated by Rockland County only.

9. FIELD MONITORING TEAMS

Each county in the plume exposure EPZ will dispatch two (2) radiological monitoring teams. Each team will be supplied with a controller. The controllers will have simulated field data, which are to be provided to the field teams to determine local dose rate readings consistent with the scenario. Each team should have the necessary equipment to determine both actual area gamma dose rates, presence of beta radiation and airborne radioiodine concentrations. However, each team will have a Federal evaluator. The monitoring teams are not to be suited up in anti-contamination clothing.

To reduce expenses, the use of silver zeolite cartridges will be simulated, and less costly charcoal cartridges will be used. However, the silver zeolite cartridges should be available (at dispatch point of kit) and observed by the Federal evaluator, if requested.

There will be no actual packaging or transport of samples to the laboratory. EOC staff will be questioned only regarding means of transportation of air samples to a central point and the location of the Laboratory. Field teams will be required to obtain air samples during the exercise and will be questioned only regarding the procedures for the pick-up point of air samples.

Shift Change:

There will be no demonstration of a shift change.

Notes: If a field monitoring team is using a multi-channel radio for communication, one of those channels could be used as the primary communication system and the other could be used as the back-up communication system.

Exceptions:

- For those counties not affected by the plume, field monitoring teams may not be able to demonstrate all capabilities listed in the Points of Review, Exercise Evaluation Methodology - Objectives 6 and 8. However, those teams may still be asked to take a sample. It is understood that the circumstances described above will not adversely affect FEMA's evaluation of the field monitoring team's performance (e. g. objective not met or partially met). An interview of team members may substitute for the lack of field data.

10. DOSE ASSESSMENT

All activities associated with dose assessment are to be performed as they would be in an actual emergency. The lead responsibility for dose assessment function rests with the following individuals:

- | | | |
|----------------------|---|---|
| • New York State | - | Director, Bureau of Env. Radiation Protection |
| • Westchester County | - | Dose Assessment Emergency Director |
| • Rockland County | - | Dose Assessment Team Leader |
| • Orange County | - | Radiological Officer |
| • Putnam County | - | Radiological Officer |

The dose assessment team should direct the field teams to locations consistent with its initial projections of the plume location. The dose assessment team should then make determinations of the actual plume based on parameters such as its boundaries and center line.

Plume dose projections should be used to develop protective action recommendations which could modify or expand upon the PARs made originally. Thus the dose assessment team should have the capability to provide the results of dose projection activities to the County Executive responsible for protective action decision making in a manner and within a time frame that supports such decision making.

The Federal evaluator will observe whether dose assessment and accident evaluation personnel provide recommendations to the decision maker taking into account all relevant factors including:

- utility recommendations;
- independent county dose assessment;
- plant conditions.

There will be no actual packaging or transport of sample to the laboratory. EOC staff will be questioned only regarding means of transportation of air samples to a central point and the location of the laboratory.

Shift Change:

There will be no demonstration of a shift change at these facilities.

11. SPECIAL POPULATION BUS RUNS (for General Public)

All bus routes are to be demonstrated prior to the exercise, out-of-sequence with the exercise scenario.

Each of the four 10 mile plume exposure pathway EPZ counties is to activate two (2) bus routes. Federal observers are pre-assigned to the following bus companies. See offsite extent of play activities schedule.

The exercised bus routes are to be "free played" prior to the April 10, 1996 exercise. Free play messages are to be inserted at the garage to the State Controller. Information will be passed to the bus dispatcher for action and dispatching of buses. This approach is to contribute to the realism of the exercise by allowing the Federal observers to select which bus routes will be exercised on the day of the demonstration.

The bus drivers are to assemble at their normal dispatch location and are to be assigned appropriate routes, briefed, and deployed in accordance with the appropriate procedures. The buses are to complete their assigned route but not pick up any volunteer evacuees or not to make any stops at the pick-up points identified on the prescribed bus route. The Federal evaluator will question the bus driver about the location of pickup points. Upon completion of the special population route (last pick-up point), the buses are to return to the garage. The bus drivers' knowledge about the location of the appropriate reception center designated in the plan will be established during an interview.

Federal evaluators will observe whether:

- Bus dispatchers understand and follow activation procedures for drivers;
- Bus drivers receive an information packet specific to his/her route;
- Bus driver's knowledge of the prescribed route, including pick-up points, dosimetry, KI and location of reception center (questioning only) is adequate.

During the April 10, 1996 exercise, there will be initial contact only with the bus company(ies) (telephone call) by the Transportation Coordinator.

Notes: 1) County will pick bus drivers.
2) FEMA will select the route.
3) County can use a van or car as long as the vehicle has communication capability.

Shift Change:

There will be no demonstration of a shift change for bus drivers or bus dispatchers.

12. SCHOOL EVACUATION BUS RUNS

All school bus runs are to be demonstrated prior to the exercise, out-of-sequence with the exercise scenario. Similar to the special population bus run demonstration, each of the four (4) 10 mile plume exposure pathway EPZ counties is to demonstrate two (2) bus routes for

simulated evacuation of two (2) schools within the effected area to host school reception centers.

Federal observers are pre-assigned to the following bus companies. See offsite extent of play activities schedule.

The exercised bus routes are to be "free played" out-of-sequence with the exercise scenario. Free play messages are to be inserted at the bus garage to the State Controller. Information will be passed to the bus dispatcher for action and dispatching of buses. This approach is to contribute to the realism of the exercise by allowing the Federal observers to select which bus routes will be exercised on the day of the demonstration.

The bus drivers are to assemble at their normal dispatch location and are to be assigned appropriate routes, briefed, and deployed in accordance with the appropriate procedures. The buses are to complete their assigned route, but not pick-up any volunteer evacuees and not simulate loading of school children. Upon completion of the school route, the buses are to return to the garage. The bus drivers will be questioned about the location of the school reception center designated in the plan.

Federal evaluators will observe whether:

- Bus dispatchers understand and follow activation procedures for drivers;
- Bus drivers receive an information packet specific to his/her route;
- Bus driver's knowledge of the school location, dosimetry, KI and location of school reception center (questioning only) is adequate.

During the April 10, 1996 exercise there will be initial contact only with the bus company(ies) (telephone call) by the Transportation Coordinator.

- Notes: 1) County will pick bus drivers.
2) FEMA will select a school for simulated evacuation.
3) County can use a van or car as long as the vehicle has communications capability.

Shift Change:

There will be no demonstration of a shift change for school bus drivers or dispatchers.

13. NOTIFICATION OF HEARING IMPAIRED

During the exercise, FEMA will observe the hearing impaired lists at the respective EOC.

The responsible agency in each county should simulate the alert and notification of hearing impaired by describing the following:

- notification procedures;
- means of notification;
- means for verifying that the messages have been received by the hearing impaired.

There will be no actual notification of hearing impaired individuals during the exercise.

14. EVACUATION OF NON-INSTITUTIONALIZED MOBILITY IMPAIRED INDIVIDUALS

During the exercise, FEMA will observe the lists of non-institutionalized mobility impaired individuals at the respective EOCs.

The responsible agency in each County, in discussion with the Federal evaluator, should describe the following:

- Notification procedures;
- Type of disability and transportation resource requirements;
- Availability of appropriate transportation for their evacuation.

There will be no actual dispatch of vehicles for transport of non-institutionalized mobility impaired individuals.

Shift Change:

There will be no demonstration or simulation of a shift change for vehicle drivers responsible for evacuation of non-institutionalized mobility impaired individuals.

Exceptions:

During the exercise there will be no Federal evaluation of the evacuation of mobility impaired individuals at special facilities.

15. TRAFFIC CONTROL POINTS (TCPs)

This demonstration will be comprised of two (2) parts:

- 1) Decision making at EOC;
- 2) Interview of law enforcement officials in each of the four counties (Westchester, Putnam, Rockland, Orange).

Decision making at EOC:

During the April 10, 1996 exercise, each of the four 10 mile plume exposure pathway EPZ counties is to activate two (2) TCPs (EOC Discussion only).

Federal evaluators will select only those TCPs which are assigned as per each County Plan to the designated police departments. Free play messages (concerning activation of TCPs) are to be inserted at the County EOC to the State Controller. Information will be passed on to the County Emergency Management Director or his designee for action and simulated dispatch of police officers.

Decision making at the EOC will involve the following:

- Identification of TCPs on the map;
- Telephone call to appropriate station.

Interview of law enforcement officials:

During the April 10, 1996 exercise, there will be an interview of the law enforcement officials. There will be no actual placing of barricades and signs.

The availability of barricades and signs may be evaluated during the equipment inventory review (prior to exercise if arrangements are made). During the interview, the Federal evaluators will question the law enforcement officials regarding the following:

- How promptly TCPs could be staffed (from time of notifications);
- Whether the officers are equipped with dosimetry and know how often they have to read and record the values as appropriate;
- Whether the officers were supplied with KI and are familiar with KI procedures and "chain of command" for authorization;
- Location of Reception Centers.

Notes: 1) The FEMA evaluator should advise the participants when his/her evaluation is completed so that participants can resume their normal duties.

16. IMPEDIMENTS TO EVACUATION

The demonstration of resources necessary to deal with impediments to evacuation will be simulated.

Each of the four 10 mile plume exposure pathway EPZ counties is to demonstrate the organizational ability to deal with no more than two (2) impediments to evacuation.

Federal evaluators in the county EOCs will hand the free play messages to the State Controller. Information will be passed on to the County Emergency Management Director or his designee for action to test the procedures for the removal of traffic impediment.

The EOC staff needs to be able to assess the significance of impediments, re-route the traffic (if appropriate), identify the resources that are required for its removal (e. g. tow trucks, public works equipment, etc.) and an estimation of the times of arrival at the scene and for clearing the impediment. No equipment will be deployed to the field.

This demonstration will not involve the actual contact of resource providers or dispatch of a police or other emergency vehicle to the scene of a simulated accident.

17. KI ADMINISTRATION

For exercise play related to the use or non-use of KI, it is necessary to have sufficient radioiodine release to force off-site organizations to engage in a decision making process whether to use or not use KI.

At the EOC, personnel within the dose assessment group should be aware of the procedures regarding the distribution of KI and the individual responsible for authorizing the administration of KI. At each EOC, the following officials or their designees should have an on-going discussion regarding the need to authorize the administration of KI:

- New York State - Disaster Preparedness Commission Chairman and Commissioner of Health
- Westchester County - Commissioner of Health and the County Executive
- Rockland County - Commissioner of Health and County Executive
- Orange County - Commissioner of Health and County Executive
- Putnam County - Public Health Director and Radiological Officer

There should be an adequate supply of KI available at the EOC or other designated location for distribution of emergency workers.

Each county should provide its emergency field workers at risk of exposure, supplies of KI along with their dosimetry equipment before dispatch to the field. Emergency workers should be aware of the procedures regarding the distribution of KI and the individual responsible for authorizing the administration of KI (chain of command).

18. SCHOOL INTERVIEWS

In each of the four 10 mile plume exposure pathway EPZ counties, one school per school district will be interviewed. Only those schools that lie within the EPZ will be visited.

Interviews will be conducted prior to the exercise by a team of two (2) observers: one (1) individual from the affected county and one (1) Federal observer. The interviews are all to be arranged by each county.

The purpose of these interviews will be to evaluate the degree of preparedness for each school utilizing EV-2 checklist, including:

- Availability of written plans and procedures;
- How parents are kept informed about the plans, procedures and reception centers;
- Chain of command that would be involved during an evacuation.

Total number of schools to be interviewed:

- Westchester County - 9 schools
- Rockland County - 5 schools
- Orange County - 1 school
- Putnam County - 3 schools

If any of the schools to be interviewed are to be closed (not-in-session) on April 10, 1996, the school contact telephone numbers will be verified at the time of the interview.

Specifically, these interviews will take place according to the following schedules. See offsite extent of play activities schedule.

19. INVENTORY OF EQUIPMENT AND SUPPLIES

Prior to the exercise, Federal evaluators will visit certain facilities within the four 10 mile EPZ counties to verify the inventory of equipment and supplies.

The following facilities will be checked for their inventory:

Orange County

- One Emergency Worker Personnel Monitoring Center (BOCES in Goshen)
- One Reception Center - Temple Hill Elementary School
- EOC - Field Radiological Monitoring Kits

Putnam County

- One Emergency Worker Personnel Monitoring Center (North Highland Fire Dept.)
- One Reception Center - George Fischer Middle School
- EOC - Field Radiological Monitoring Kits

Rockland County

- One Emergency Worker Personnel Monitoring Center (Rockland County Sewer District - Route 340, Sparkill)
- One Reception Center - Pearl River High School
- EOC - Field Radiological Monitoring Kits

Westchester County

- One Emergency Worker Personnel Monitoring Center (County Fire Training Center, Valhalla)
- One Reception Center - Woodlands High School
- EOC - Field Radiological Monitoring Kits (stored at Health Dept.)

See offsite extent of play activities schedule for inventory dates.

20. MEDICAL DRILLS

There will be two (2) medical drills conducted and evaluated prior to the April 10, 1996 exercise:

Westchester County - Westchester County Medical Center
Putnam County - Putnam Hospital Center

Both drills must demonstrate the adequacy of ambulance facilities and procedures for handling contaminated injured individuals.

The functions to be demonstrated include: (1) prompt arrival at the accident scene; (2) initial medical assessment to determine the presenting problems(i.e., life-threatening injury or other type of injury; (3) radiological monitoring (may not be done by EMS or Reception Center staff) if person does not have a life-threatening injury; (4) contamination control procedures if person does not have life-threatening injury or such measures can be effected enroute without delay of treatment; and (5) transport to the appropriate medical facility.

The medical drill scenario will necessitate transporting the victim to a hospital. An actual person will play the role of the victim; he or she will actually be transported to an appropriate

hospital. However, the use of flashing lights and sirens for exercise play is not required and not recommended.

Each drill must also demonstrate the adequacy of hospital facilities and procedures for handling contaminated injured individuals. This demonstration should include:

- Effective preparation for the arrival of the victim, including appropriate contamination control measures;
- Setting appropriate priorities between contamination control and medical treatment;
- The hospital personnel should survey and simulate decontamination of the victim properly.

APPENDIX 4

EXERCISE SCENARIO

This appendix contains a summary of the simulated sequence of events -- Exercise Scenario -- which was used as the basis for invoking emergency response actions by OROs in the Indian Point 3 exercise on April 10, 1996.

This exercise scenario was submitted by the State of New York and New York Power Authority, and approved by FEMA Region II on April 9, 1996.

INITIAL CONDITIONS

- 0700 The Indian Point Unit #3 Nuclear Power Plant is at EOL and has been operating for the last 85 days at 100% power. Plant Operations personnel are completing shift turnover and the following occurrences have been noted:
- Safety Injection (SI) pump #31 has been declared inoperable after determining that the motor to pump coupling - bolts have sheared during performance of 3PT-M16, Surveillance and Inservice Inspection Test. The pump is isolated and disconnected. A new pump is staged in the 55' RAMS Building.
 - Containment Recirculation Fan Cooler Unit #33 has been removed from service for approximately twenty-four (24) hours due to 480V concerns. All actions required by Technical Specification 3.3.B.2.a have been taken.
 - R-10 is out of service due to equipment failure.

EXERCISE COMMENCES

- 0745 The IP#3 Control Room is notified by the IP#2 Control Room that a Con Edison vehicle crashed through the Condensate Storage Tank (CST) fence due to failure of the vehicle's brakes. The vehicle came to rest against the CST. There is no apparent damage to the CST and no apparent leakage. No personnel injuries have occurred.
- 0800 An **NOTIFICATION OF AN UNUSUAL EVENT (NUE)** should be declared based on Emergency Action Level (EAL) 8.3.1, Vehicle crash into or projectile which impacts plant structure or systems within Protected Area boundary.
- 0830 A Reactor Coolant System (RCS) leak occurs exceeding 75gpm. A controlled shutdown by the operators is initiated. It is anticipated that the shutdown will be completed in 2 hrs.

NOTE: Simulator Controller will ensure the 2 hr. shutdown rate is not exceeded.

- 0845 An **ALERT** should be declared based on EAL 3.1.2, Primary system leakage > 75gpm.

Operators continue assessing plant conditions while the shutdown continues.

The Emergency Response Facilities are being manned in accordance with Emergency Planning procedures.

NOTE: If a containment entry is made to identify the leak, the leak will be identified on #31 hot leg.

1000 An increase in RCS leakage occurs greater than the capacity of two charging pumps. Operators attempt to manually trip the reactor due to the loss of pressurizer inventory. The manual attempt to trip the reactor is unsuccessful.

Operators transition from E-0, Reactor Trip or Safety Injection to FR-S.1, Response to Nuclear Power Generation/ATWS.

A Safety Injection (SI) occurs. SI pump #32 trips due to a short in the motor winding causing the breaker to trip on overcurrent when the automatic safeguards equipment sequence is initiated.

The Control Room operators initiate emergency boration and the Nuclear Plant Operators are able to locally trip the control rod drive motor generator sets. This allows all but four (4) control rods to insert into the core.

Attempts to restore an SI pump(s) should commence.

1015 **A SITE AREA EMERGENCY (SAE)** should be declared based on EAL 1.1.2, RED path in F-0.1 Subcriticality AND Emergency boration is required.

Operators transition back to E-0 when the following are verified:

- control rods are inserted into the core except: M-8, N-9, N-7, and P-8;
- reactor power is < 5%;
- a continuous negative start up rate on the intermediate range is present.

The accountability process is being conducted.

1045 Upon completion of accountability, it is determined that there is a missing person. The Emergency Director (ED) will authorize a search and rescue team to be dispatched from the Operations Support Center (OSC).

Radiation levels in containment begins increasing and is detected on Containment Radiation Monitors - R-25/26 due to localized core damage.

1130 SI pump #33 fails due to a failed connection in the motor lead termination box.

R-25/26 continues to increase to approximately 70 R/hr.

- 1145 A **GENERAL EMERGENCY (GE)** should be declared based on EAL 2.2.3, Containment Radiation monitor R-25 or R-26 > 68 R/hr.

Protective Action Recommendations are made to the State/Counties in accordance with Emergency Planning procedures.

Attempts continue to restore adequate core cooling.

R-25/26 continues to increase and Reactor Vessel Level Indicator System (RVLIS) continues to decrease due to the inability to inject adequate amounts of water into the RCS.

- 1300 Plant Vent Radiation Monitor - R-27 indicates a release has occurred. Radiation readings in the Primary Auxiliary Building (PAB) will begin to increase due to the release from penetration "YY" located on the 59' elevation of the Pipe Pen.

Attempts to repair the flange on "YY" will not be successful due to the radiation levels in that area and pressure from containment.

PAB dose rates begin increasing due to the release.

- 1415 Attempts to repair an SI pump will be successful.

- 1445 Attempts to secure the release will be successful.

- 1500 A 24 hr. time advance will occur to allow the transition into Recovery.

- 1545 Exercise is terminated.