ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:8907250058 DOC.DATE: 89/07/14 NOTARIZED: NO DOCKET #
FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
AUTH.NAME AUTHOR AFFILIATION
KWIATKOWSKI,D. Federal Emergency Management Agency
RECIP.NAME RECIPIENT AFFILIATION
CONGEL,F.G. Division of Radiation Protection & Emergency Preparedness

SUBJECT: Forwards "Post Exercise Assessment 871027-29,Exercise of Radiological Emergency Preparedness Plans of New York...." See Rpt

DISTRIBUTION CODE: IE35D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 1+87
TITLE: Emergency Preparedness-Appraisal/Confirmatory Action Ltr/Exercise Rep

NOTES:License Exp date in accordance with 10CFR2,2.109(9/19/72). 05000244

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-3 PD	1	1	JOHNSON,A	1	1
INTERNAL:	AEOD/DOA/IRB	1	1	NRR/DREP/EPB 10	1	1
	NRR/PMAS/ILRB12	1	1	NUDOCS-ABSTRACT	1	1
	OC/LFMB	1	0	REG FILE 02	1	1
	RGN1 FILE 01	1	1	RGN2/DRSS/EPRPB	1	1
EXTERNAL:	LPDR	1	1	NRC PDR	1	1
	NSIC	1	1			

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

TOTAL NUMBER OF COPIES REQUIRED: LTTR 13 ENCL 12

ACRS-21

RIDS/ADDS

RIDS/ADDS

Federal Emergency Management Agency

Washington, D.C. 20472

JUL 14 1989

Mr. Frank G. Congel
Director, Division of Radiation Protection
and Emergency Preparedness
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Congel:

This is to transmit a copy of the Post-Exercise Assessment of the October 27 - 29, 1987, exercise for the Robert E. Ginna Nuclear Power Station, in Ontario, New York. The report, dated June 1989, was prepared by staff of the Federal Emergency Management Agency (FEMA) Region II.

There were no Deficiencies observed during the exercise. Corrective actions in response to the Areas Requiring Corrective Action are to be demonstrated at the upcoming August 1989 exercise at the Ginna site. Thus, FEMA considers that offsite radiological emergency preparedness is adequate to provide reasonable assurance that appropriate measures can be taken to protect the health and safety of the public living in the vicinity of the Ginna Nuclear Power Station. Therefore, the FEMA approval of State and local offsite preparedness plans for Ginna granted under 44 CFR 350 on June 25, 1986, remains in effect.

If you have any questions, please feel free to contact me at 646-2871.

Sincerely,

Dennis Kwiatkowski
Assistant Associate Director
Office of Natural and Technological Hazards

Enclosure

IE35
1/1

Distribution:
Docket 50-244
PD I-3 Reading
M. Rushbrook
A. Johnson

JUN 23 1989

DOCKET NO(S). 50-244

EIS Review Coordinator
EPA Region II
26 Federal Plaza
New York, New York 10276

SUBJECT: ROCHESTER GAS & ELECTRIC CORPORATION - GINNA NUCLEAR PLANT

The following documents concerning our review of the subject facility are transmitted for your information.

- ☐ Notice of Receipt of Application, dated _____.
- ☐ Draft/Final Environmental Statement, dated _____.
- ☐ Notice of Availability of Draft/Final Environmental Statement, dated _____.
- ☐ Safety Evaluation Report, or Supplement No._____ dated _____.
- ☐ Environmental Assessment and Finding of No Significant Impact, dated _____.
- ☐ Notice of Consideration of Issuance of Facility Operating License or Amendment to Facility Operating License, dated _____.
- ☐ Bi-Weekly Notice; Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations, dated _____ [*see page(s)*] _____.
- ☐ Exemption, dated _____.
- ☐ Construction Permit No. CPPR-_____, Amendment No. _____ dated _____.
- ☐ Facility Operating License No. _____, Amendment No. _____ dated _____.
- ☐ Order Extending Construction Completion Date, dated _____.
- ☒ Monthly Operating Report for ~~May 1989~~ transmitted by letter dated ~~6/15/89~~.
- ☐ Annual/Semi-Annual Report- _____ transmitted by letter dated _____.

Office of Nuclear Reactor Regulation

Enclosures:
As stated

ACRS ltr

cc: with enclosure
see attached sheet

OFFICE	NRR/RP I/II/PD I-3						
SURNAME	M. Rushbrook						
DATE	6/23/89						

NRC FORM 318 (10/80) NRCM 0240

OFFICIAL RECORD COPY

Chief, Division of Ecological Services
Bureau of Sport Fisheries & Wildlife
U. S. Department ~~of~~ the Interior
Washington, D. C. 20240

Director, Office of Ecology
and Conservation
National Oceanic & Atmospheric Administration
U. S. Department of Commerce
1335 East West Highway
Silver Spring, Maryland 20910

Dr. William Cunningham
FDA Research Chemist
Bureau of Standards & Technology
Reactor Building 235, Room B-108
Gaithersburg, Maryland 20899

Distribution:
Docket 50-244
PD I-3 Reading
M. Rushbrook
A. Johnson

MAY 18 1989

DOCKET NO(S). 50-244
EIS Review Coordinator
EPA Region II
26 Federal Plaza
New York, New York 10276

SUBJECT: ROCHESTER GAS & ELECTRIC CORPORATION - GINNA NUCLEAR PLANT

The following documents concerning our review of the subject facility are transmitted for your information.

- ☐ Notice of Receipt of Application, dated _____.
- ☐ Draft/Final Environmental Statement, dated _____.
- ☐ Notice of Availability of Draft/Final Environmental Statement, dated _____.
- ☐ Safety Evaluation Report, or Supplement No._____ dated _____.
- ☐ Environmental Assessment and Finding of No Significant Impact, dated _____.
- ☐ Notice of Consideration of Issuance of Facility Operating License or Amendment to Facility Operating License, dated _____.
- ☐ Bi-Weekly Notice; Applications and Amendments to Operating Licenses Involving No Significant Hazards Considerations, dated _____ [*see page(s)*] _____.
- ☐ Exemption, dated _____.
- ☐ Construction Permit No. CPPR-_____, Amendment No. _____ dated _____.
- ☐ Facility Operating License No. _____, Amendment No. _____ dated _____.
- ☐ Order Extending Construction Completion Date, dated _____.
- ☐ Monthly Operating Report for _____ transmitted by letter dated _____.
- ☐ Annual/Semi-Annual Report- _____ _____ transmitted by letter dated _____.

OTHER: Radiological Environmental Survey - January - December 1988.

Office of Nuclear Reactor Regulation

Enclosures:
As stated

ACRS-1 ltr

cc: with enclosure
see attached sheet

OFFICE	NRR/RP I/II/PD I-3						
SURNAME	MRushbrook						
DATE	5/18/89						

NRC FORM 318 (10/80) NRCM 0240

OFFICIAL RECORD COPY

Chief, Division of Ecological Services
Bureau of Sport Fisheries & Wildlife
U. S. Department of the Interior
Washington, D. C. 20240

Director, Office of Ecology
and Conservation
National Oceanic & Atmospheric Administration
U. S. Department of Commerce
1335 East West Highway
Silver Spring, Maryland 20910

Dr. William Cunningham
FDA Research Chemist
Bureau of Standards & Technology
Reactor Building 235, Room B-108
Gaithersburg, Maryland 20899

POST EXERCISE ASSESSMENT

October 27-29, 1987, Exercise of the Radiological Emergency Preparedness Plans of New York State, Wayne County, and Monroe County

for the

ROBERT E. GINNA NUCLEAR POWER STATION

October 19, 1988
(Revised June 1989)

Federal Emergency Management Agency

Region II

26 Federal Plaza, New York, NY 10278

POST EXERCISE ASSESSMENT

October 27-29, 1987 Exercise of the Radiological Emergency Preparedness Plans of New York State, Wayne County, and Monroe County for the ROBERT E. GINNA NUCLEAR POWER STATION

October 19, 1988
(Revised June 1989)

Federal Emergency Management Agency
Region II

26 Federal Plaza
New York, N.Y. 10278

CONTENTS

CONTENTS (Cont'd)

TABLES

GOVERNMENTAL AND ORGANIZATIONAL PARTICIPATION

PARTICIPATING

New York State

- Radiological Emergency Preparedness Group
- State Emergency Management Office
- Department of Health
- Division of State Police
- Department of Agriculture and Markets
- Department of Environmental Conservation
- Department of Parks and Recreation
- Department of Social Services
- Department of Metal Health
- Civil Air Patrol
- Office of Mental Retardation Developmental Disability
- Lake District
- Department of Labor
- Department of Education
- Division of Military and Naval Affairs
- Department of Transportation
- Department of State
- Energy Office
- Public Service Commission
- Rochester Gas & Electric Corporation
- Department of Corrections
- New York Thruway Authority
- American Red Cross-Salvation Army
- Office of General Services
- State Police
- State University of New York
- Office of Fire Prevention and Control
- Western District

Monroe County

- Office of Emergency Preparedness
- Department of Health
- Sheriff's Department
- Public Information Office
- County Executive
- Department of Transportation
- Department of Social Services
- Webster Central School District
- Greece Central School District
- Public Safety Commissioner
- American Red Cross
- Town of Webster
- City of Rochester
- Fire Coordinator
- Regional Transit Authority and Lift Line
- Humane Society
- Rochester Gas & Electric Corporation
- Radio Amateur Civil Emergency Service
- Rochester General Hospital

Wayne County

- Board of Supervisors
- Office of Emergency Management
- Sheriff's Department
- Office of Aging
- Wayne Area Transportation Services

GOVERNMENTAL AND ORGANIZATIONAL PARTICIPATION (Cont'd)

Wayne County (Cont'd)

- Fire Coordinator
- Highway Department
- Ambulance Coordinator
- Social Services
- American Red Cross
- State Department of Health
- Schools Coordinator
- County Extension Association Department
- Wayne Central School District
- Palmyra-Macedon Central School District
- Williamson Central School District
- Union Hill Fire Department
- Ontario Fire Department
- East Williamson Fire Department
- Walsworth Town Highway

Ontario County

- Command and Control
- Sheriff's Office
- Emergency Management

Livingston County

- Command and Control
- Sheriff's Office
- Emergency Management

U.S. Government

- U.S. Nuclear Regulatory Commission
- U.S. Department of Energy, Brookhaven
- U.S. Department of Agriculture
- Conrail
- U.S. Coast Guard
- Federal Aviation Administration

NONPARTICIPATING

- Province of Ontario, Canada

ABBREVIATIONS

ANL	-	Argonne National Laboratory
ARC	-	American Red Cross
ARCA	-	area(s) requiring corrective action
ARFI	-	area(s) recommended for improvement
BNL	-	Brookhaven National Laboratory
DOC	-	U.S. Department of Commerce
DOE	-	U.S. Department of Energy
DOH	-	Department of Health (New York State)
DOI	-	U.S. Department of the Interior
DOT	-	U.S. Department of Transportation
EAL	-	emergency action level
EBS	-	Emergency Broadcast System
ECL	-	emergency classification level
EOC	-	emergency operations center
EOF	-	emergency operations facility
EPA	-	U.S. Environmental Protection Agency
EPZ	-	emergency planning zone
ERPA	-	emergency response planning area
FAA	-	Federal Aviation Administration
FDA	-	U.S. Food and Drug Administration
FEMA	-	Federal Emergency Management Agency
GNPS	-	Robert E. Ginna Nuclear Power Station
HHS	-	U.S. Department of Health and Human Services
INEL	-	Idaho National Engineering Laboratory
JNC	-	Joint News Center
KI	-	potassium iodide
LDEOC	-	Lake District Emergency Operations Center (Newark)
LDFA	-	Lake District Field Activities
MCFA	-	Monroe County Field Activities
MEOC	-	Monroe County Emergency Operations Center
NRC	-	U.S. Nuclear Regulatory Commission
NUE	-	notification of unusual event
NYSPIN	-	New York State Police Information Network
PAG	-	protective action guideline
PAR	-	protective action recommendation
PEA	-	post exercise assessment
PIO	-	public information officer
PMC	-	Personnel Monitoring Center
RAC	-	Regional Assistance Committee
RACES	-	Radio Amateur Civil Emergency Service
RAP	-	Radiological Assistance Program
RECS	-	Radiological Emergency Communications System
REPP	-	Radiological Emergency Preparedness Plan
RERP	-	Radiological Emergency Response Plan
RO	-	radiation officer

ABBREVIATIONS (Cont'd)

SEOC	-	State Emergency Operations Center (Albany)
SEMO	-	State Emergency Management Office
TLD	-	thermoluminescent dosimeter
TSC	-	Technical Support Center
USDA	-	U.S. Department of Agriculture
USN	-	U.S. Navy
WATS	-	Wayne Area Transportation Service
WCFA	-	Wayne County field activities
WEOC	-	Wayne County Emergency Operations Center
WDEOC	-	Western District Emergency Operations Center (Batavia)

SUMMARY

During the week of October 26, 1987, a team of thirty Federal evaluators evaluated a plume and ingestion pathway exercise for the Robert E. Ginna Nuclear Power Station. This was an off-hours unannounced exercise, beginning at approximately 0130 hours on October 27th and continuing through parts of the next two days with the plume and ingestion pathway phases. This exercise tested the Radiological Emergency Response Plans (RERPs) and levels of preparedness of the off-site participants.

Following the exercise, an evaluation was conducted by the evaluation team, and a preliminary briefing for exercise participants involved in the plume portion of the exercise was held at the Holiday Inn in Rochester, New York, at 1100 hours on October 28. After the conclusion of the ingestion pathway portion of the exercise, a preliminary briefing of participants was held at the Joint News Center (JNC) at Rochester Gas & Electric Corporation Headquarters in Rochester, New York, at 1030 hours on October 30. A briefing for the general public was held the same day at 1230 hours at the same location. Subsequent to the preliminary briefings, detailed evaluations were prepared and are included in this report.

During a full-scale exercise, the Federal Emergency Management Agency (FEMA) requires that most components of the State and local emergency response organizations participate. Federal evaluators evaluated the following operations:

- State Emergency Operation Center in Albany
- Operations Facility
- Joint News Center
- Western District EOC
- Lake District EOC
- Monroe County
- Wayne County
- General Population Evacuation (route demonstration)
- School Population Evacuation (route demonstration)
- Traffic Control Points
- Siren activation (simulated) and Emergency Broadcast System messages (actual and simulated)
- Impediments to evacuation

- Radiological Monitoring
- Reception Centers and Congregate Care Centers
- Personnel Monitoring Center
- Mobility Impaired Evacuation (route demonstration)

1 INTRODUCTION

1.1 EXERCISE BACKGROUND

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume lead responsibility for all off-site emergency planning and response at nuclear power facilities. FEMA's responsibilities in radiological emergency planning for fixed nuclear facilities include the following:

- Taking the lead in off-site emergency planning and in the review and evaluation of radiological emergency response plans developed by state and local governments,
- Determining whether such plans can be implemented on the basis of observation and evaluation of exercises of the plans conducted by state and local governments, and
- Coordinating the activities of federal agencies with responsibilities in the radiological emergency planning process:
  - U.S. Department of Commerce (DOC)
  - U.S. Nuclear Regulatory Commission (NRC)
  - U.S. Environmental Protection Agency (EPA)
  - U.S. Department of Energy (DOE)
  - U.S. Department of Health and Human Services (HHS)
  - U.S. Department of Transportation (DOT)
  - U.S. Department of Agriculture (USDA)
  - U.S. Food and Drug Administration (FDA)
  - U.S. Department of the Interior (DOI).

Representatives of these agencies serve as members of the Regional Assistance Committee (RAC), which is chaired by FEMA.

Radiological Emergency Preparedness Plans (REPPs) for the Robert E. Ginna Nuclear Power Station (GNPS), which is located in Ontario, New York, were formally submitted to the RAC by the state and involved local jurisdictions. This submission was followed closely by the critiquing and evaluation of these plans. An exercise was then held on January 21, 1982, and a post exercise assessment was issued by FEMA Region II, on February 12, 1982. A public meeting was held on May 5, 1982, to acquaint the public with the plan contents, answer questions, and receive suggestions on the plans.

A second exercise was conducted on June 22, 1983, and the post exercise assessment was issued by FEMA Region II on October 12, 1983. A third exercise was conducted on September 26, 1985, and the post exercise assessment was issued by FEMA Region II on December 16, 1985. A fourth exercise was conducted over three days, October 27-29, 1987, to assess the capability of the State and local emergency preparedness organizations to implement their radiological emergency response plans and

procedures to protect the public in a radiological emergency involving the GNPS. This was an off-hours unannounced exercise which included plume and ingestion pathway activities.

An evaluation team consisting of personnel from FEMA Region II, the RAC, FEMA's contractors, and Federal and State agencies evaluated the exercise. Thirty Federal evaluators were assigned to evaluate activities of State and local jurisdictions. Team leaders coordinated team operations.

Following the exercise, the federal evaluators met to compile their evaluations. Evaluators presented observations specific to their assignments, the teams of evaluators developed preliminary assessments for each jurisdiction, and team leaders consolidated the evaluations of individual team members. Based on these preliminary assessments, a public critique of the exercise was held for exercise participants and the general public at 1230 on Friday, October 30, 1987, at the JNC at the Rochester Gas & Electric Corporation Headquarters in Rochester, New York.

The findings presented in this report are based on evaluations of Federal evaluators, which were reviewed by FEMA Region II. FEMA requests that State and local jurisdictions submit a schedule of remedial actions for correcting the areas requiring corrective action discussed in this report. The Regional Director of FEMA is responsible for certifying to the FEMA Associate Director of State and Local Programs and Support, Washington, D.C., that all inadequate findings observed during the exercise have been corrected and that such corrections have been incorporated into State and local plans, as appropriate.

Section 350 approval for the GNPS was granted on June 25, 1986.

1.2 FEDERAL EVALUATORS

Thirty Federal evaluators evaluated off-site emergency response functions. These evaluators, their affiliations, and their assignments are given below.

Evaluator	Agency	Exercise Location/Function(s)
I. Husar	FEMA	Oversight Evaluation/Region II RAC Chairman
R. Kowieski	FEMA	State Emergency Operation Center (EOC)/Team Leader; Command and Control
A. Hart	USDA	State EOC/Operations
B. Bores	NRC	State EOC/Accident Assessment
M. Simonin	ANL	State EOC/Communications
E. Fox	NRC	EOF; State EOC/Dose Assessment
B. Ullrich	NRC	Radiation Laboratory

Evaluator	Agency	Exercise Location/Function(s)
S. Nelson	ANL	Western District EOC
T. Carroll	ANL	Lake District EOC; Wayne County Personnel Monitoring Center (PMC)
S. Gerard	FEMA	JNC; Public Information (Ingestion)
J. Opelka	ANL	State ingestion pathway sampling team
S. Googins	EPA	State ingestion pathway sampling team; Wayne County/Field Monitoring; Reception Center
M. Pensak	EPA	State ingestion pathway sampling team; Monroe County/ Field Monitoring
B. Salmonson	INEL	State ingestion pathway sampling team; Monroe County/ Accident Assessment; Reception Center
N. Gaeta	ANL	State ingestion pathway sampling team
P. Weberg	FEMA	Monroe County EOC/Team Leader; Command and Control
W. Gasper	ANL	Monroe County/Operations
A. Davis	FEMA	Monroe County/Communications
G. Seidenfeld	FEMA	Monroe County/Traffic Control; Impediments
C. Peterson	USN	Monroe County/Field Monitoring
B. Galloway	ARC	Monroe County/Congregate Care Center
R. Acerno	FEMA	Monroe County/School Evacuation; General Evacuation
S. McIntosh	FEMA	Wayne County/Team Leader; Command and Control
W. Knoerzer	ANL	Wayne County/Communications/On-Site Evacuation
J. Keller	INEL	Wayne County/Accident Assessment
R. Walsh	FEMA	Wayne County/Operations
N. Chipman	INEL	Wayne County/Field Monitoring
D. Connors	ARC	Wayne County/Congregate Care Center

Evaluator	Agency	Exercise Location/Function(s)
H. Fish	DOE	Wayne County/School Evacuation/General Evacuation
J. Lamb	FEMA	Wayne County/EOC/Route Alerting
R. Bernacki	FDA	Medical Drill

1.3 EVALUATION CRITERIA

The exercise evaluations presented in Sec. 2 are based on applicable planning standards and evaluation criteria set forth in NUREG-0654-FEMA-REP-1, Rev..1 (Nov. 1980), Sec. II. For the purpose of exercise assessment, FEMA uses an evaluation method to apply the criteria of NUREG-0654. FEMA classifies exercise inadequacies as deficiencies or areas requiring corrective actions. Deficiencies are demonstrated and observed inadequacies that would cause a finding that off-site emergency preparedness was not adequate to provide reasonable assurance that appropriate protective measures can be taken to protect the health and safety of the public living in the vicinity of a nuclear power facility in the event of a radiological emergency. Because of the potential impact of deficiencies on emergency preparedness, they are required to be promptly corrected within 120 days of the exercise date, through appropriate remedial actions, including remedial exercises, drills, or other actions. Areas Requiring Corrective Action (ARCA) are demonstrated and observed inadequacies of State and local government performance; although their correction is required during the next scheduled biennial exercise, they are not considered, by themselves, to adversely impact public health and safety. An ARCA which is not corrected in future exercises may be reclassified as a Deficiency. In addition to these inadequacies, FEMA identifies areas recommended for improvement (ARFIs), which are problem areas observed during an exercise that are not considered to adversely impact public health and safety. While not required, correction of these would enhance an organization's level of emergency preparedness.

1.4 EXERCISE OBJECTIVES

The objectives of State and local jurisdictions in this exercise were to demonstrate the adequacy of radiological emergency response plans, the capability to mobilize needed personnel and equipment, and familiarity with procedures required to cope with an emergency at the Rochester Gas & Electric Corporation's GNPS. The exercise was to involve the activation and participation of staff and response facilities of Ginna as well as emergency organizations and facilities of New York State and the counties of Monroe and Wayne. Federal agencies were to be notified during the exercise according to existing protocols. With the exception of one representative from the Department of Energy Brookhaven Area Office Radiological Assistance Program (RAP), Federal agencies with off-site radiological emergency preparedness responsibility were not to participate actively in this exercise. Federal representatives, however, were to act as exercise evaluators. The scope of this exercise, with some exceptions, was to demonstrate by actual performance a number of primary emergency preparedness

functions. At no time was the exercise to interfere with the safe operation of the Ginna plant. The State of New York Radiological Emergency Preparedness Group developed the following objectives for this exercise.

1.4.1 New York State Emergency Operations Center (SEOC)

Plume Objectives:

SEOC-1 Demonstrate the ability to communicate with all appropriate locations, organizations, and field support.

SEOC-2 Demonstrate the ability to mobilize staff and activate the State EOC in a timely manner.

SEOC-3 Demonstrate the adequacy of facilities and displays to support emergency operations.

SEOC-4 Demonstrate the ability to make decisions and to coordinate emergency activities.

SEOC-5 Demonstrate the ability to fully staff facilities and maintain staffing around the clock.

SEOC-6 Demonstrate the ability to identify the need for, request, and obtain Federal assistance.

SEOC-7 Demonstrate the ability to project dosage to the public via the plume exposure, based on plant and field data, and to determine appropriate protective actions based on protective action guidelines (PAGs), available shelter, evacuation time estimates, and all other appropriate factors.

SEOC-8 Demonstrate the ability to provide advance coordination of information released.

SEOC-9 Demonstrate the ability to supply and administer KI, if the decision has been made to do so.

Ingestion Objectives:

SEOC-10 Demonstrate the ability to make decisions and to coordinate emergency activities within the ingestion pathway exposure emergency planning zone.

SEOC-11 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel; special emphasis will be given to communications between field monitoring and sampling teams and their control points.

SEOC-12 Demonstrate the ability to project dosage to the public via ingestion pathway exposure, based on utility and field data, and to determine appropriate protective actions, based on the PAGs and other relevant factors.

SEOC-13 Demonstrate the ability to implement preventive and emergency protective actions for the ingestion exposure pathway hazards.

SEOC-14 Demonstrate the ability to mobilize and deploy sample collection teams in a timely fashion.

SEOC-15 Demonstrate appropriate equipment and procedures for laboratory measurement and analysis of appropriate radioisotope deposition in food and environmental samples.

SEOC-16 Demonstrate the ability to estimate total population exposure.

SEOC-17 Demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely manner.

1.4.2 Western District Emergency Operations Center (WDEOC)

WDEOC-1 Demonstrate the ability to mobilize staff and activate the WDEOC in a timely manner.

WDEOC-2 Demonstrate the adequacy of facilities and displays to support emergency operations.

WDEOC-3 Demonstrate the ability to make decisions and to coordinate emergency activities.

WDEOC-4 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

WDEOC-5 Demonstrate the ability to fully staff facilities and maintain staffing around the clock.

1.4.3 Lake District Emergency Operations Center (LDEOC)

Plume Objectives:

LDEOC-1 Demonstrate the ability to mobilize staff and activate the LDEOC in a timely manner.

LDEOC-2 Demonstrate the adequacy of facilities and displays to support emergency operations.

LDEOC-3 Demonstrate the ability to make decisions and to coordinate emergency activities.

LDEOC-4 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

LDEOC-5 Demonstrate the ability to fully staff facilities and maintain staffing around the clock.

Ingestion Objectives:

LDEOC-6 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

LDEOC-7 Demonstrate the ability to mobilize and deploy sample collection teams in a timely fashion.

1.4.4 Lake District Field Activities (LDFA)

LDFA-1 Demonstrate appropriate equipment, including personal dosimetry and procedures for the collection and transport of samples of soils, vegetation, snow, water, and milk.

1.4.5 Emergency Operations Facility (EOF)

EOF-1 Demonstrate the ability to mobilize staff and activate State functions at the EOF in a timely manner.

EOF-2 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

EOF-3 Demonstrate the adequacy of facilities and displays to support emergency operations.

EOF-4 Demonstrate the ability to fully staff facilities and maintain staffing around the clock.

1.4.6 Joint News Center (JNC)

JNC-1 Demonstrate the ability to mobilize staff and activate the facility promptly.

JNC-2 Demonstrate the ability to brief the media in a clear, accurate, and timely manner.

JNC-3 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

JNC-4 Demonstrate the ability to establish and operate rumor control in a coordinated fashion.

JNC-5 Demonstrate the ability to fully staff facilities and maintain staffing around the clock.

JNC-6 Demonstrate the adequacy of facilities and displays to support emergency operations.

JNC-7 Demonstrate the ability to alert the public within the 10-mile EPZ and disseminate an initial instructional message within 15 minutes.

JNC-8 Demonstrate the ability to formulate and distribute appropriate instruction to the public in a timely manner.

1.4.7 Monroe County Emergency Operations Center (MEOC)

MEOC-1 Demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel.

MEOC-2 Demonstrate the ability to mobilize staff and activate facilities promptly.

MEOC-3 Demonstrate the adequacy of facilities and displays to support emergency operations.

MEOC-4 Demonstrate the ability to make decisions and to coordinate emergency activities.

MEOC-5 Demonstrate the ability to fully staff the facility and maintain staffing around the clock.

MEOC-6 Demonstrate the ability to project radiation dosage to the public via plume exposure, based on plant data and field data, and to determine appropriate protective measures, based on PAGs available shelter, evacuation time estimates, and other appropriate factors.

MEOC-7 Demonstrate the ability to alert the public within the 10-mile EPZ and disseminate an instructional message within 15 minutes.

MEOC-8 Demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the 10-mile EPZ.

MEOC-9 Demonstrate the organizational ability to deal with impediments to evacuation, such as inclement weather or traffic obstruction. Resources will actually be deployed.

MEOC-10 Demonstrate the organizational ability to control access to an evacuated area.

MEOC-11 Demonstrate the ability to identify the need for and request and obtain State assistance (if warranted).

1.4.8 Monroe County Field Activities (MCFA)

MCFA-1 Demonstrate the ability to continuously monitor and control emergency worker exposure.

MCFA-2 Demonstrate the ability to mobilize and deploy field monitoring teams in a timely manner.

MCFA-3 Demonstrate appropriate equipment and procedures for determining ambient radiation levels.

MCFA-4 Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} μCi/CC in the presence of noble gas.

MCFA-5 Demonstrate the ability to provide backup public alerting procedures, if necessary, in the event of partial siren system failure.

MCFA-6 Demonstrate that information on emergency actions has been provided to permanent and transient population within the 10-mile EPZ.

MCFA-7 Demonstrate the organizational ability and resources to establish a traffic control point.

MCFA-8 Demonstrate the ability to supply and administer KI, if the decision has been made to do so.

MCFA-9 Demonstrate the organizational ability and resources necessary to manage orderly evacuation of all or part of the plume EPZ.

MCFA-10 Demonstrate a sample of resources necessary to deal with impediments to evacuation, such as inclement weather or traffic obstruction.

MCFA-11 Demonstrate the adequacy of procedures for registration and radiological monitoring of evacuees over a 24-hour period.

MCFA-12 Demonstrate the adequacy of facilities for mass care of evacuees.

MCFA-13 Demonstrate adequate procedures and equipment for disposal of contaminated waste (e.g., clothing).

MCFA-14 Demonstrate the organizational ability and resources to affect an orderly evacuation of schools within the plume EPZ.

1.4.9 Wayne County Emergency Operations Center (WEOC)

WEOC-1 Demonstrate the ability to communicate with all appropriate locations, organizations, and field support.

WEOC-2 Demonstrate the ability to mobilize staff and activate facilities promptly.

WEOC-3 Demonstrate the adequacy of facilities and displays to support emergency operations.

WEOC-4 Demonstrate the ability to make decisions and to coordinate emergency activities.

WEOC-5 Demonstrate the ability to fully staff facilities and maintain staffing around the clock.

WEOC-6 Demonstrate the ability to project radiation dosage to the public via the plume exposure, based on plant data and field data, and to determine appropriate protective measures, based on PAGs, available shelter, evacuation time estimates, and other appropriate factors.

WEOC-7 Demonstrate the ability to alert the public within the 10-mile EPZ and disseminate an instructional message within 15 minutes.

WEOC-8 Demonstrate the organizational ability and resources to manage orderly evacuation of all or part of the 10-mile EPZ.

WEOC-9 Demonstrate the organizational ability to deal with impediments to evacuation, such as inclement weather or traffic obstruction.

WEOC-10 Demonstrate the organizational ability to control access to an evacuated area.

WEOC-11 Demonstrate the ability to identify the need for and to request and obtain State assistance (if warranted).

WEOC-12 Demonstrate the ability to effect an orderly evacuation of on-site personnel.

1.4.10 Wayne County Field Activities (WCFA)

WCFA-1 Demonstrate the ability to continuously monitor and control emergency worker exposure.

WCFA-2 Demonstrate the ability to mobilize and deploy field monitoring teams in a timely manner.

WCFA-3 Demonstrate appropriate equipment and procedures for determining ambient radiation levels.

WCFA-4 Demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} μCi/CC in the presence of noble gas.

WCFA-5 Demonstrate the ability to provide backup public alerting, if necessary, in the event of a partial siren system failure.

WCFA-6 Demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely fashion.

WCFA-7 Demonstrate the organizational ability and resources necessary to control access to an evacuated area.

WCFA-8 Demonstrate the ability to supply and administer KI, if the decision has been made to do so.

WCFA-9 Demonstrate the organizational ability and resources to manage orderly evacuation of all or part of the plume EPZ.

WCFA-10 Demonstrate a sample of resources necessary to deal with impediments to evacuation, such as inclement weather or traffic obstruction.

WCFA-11 Demonstrate the adequacy of procedures for registration and radiological monitoring of evacuees over a 24-hour period.

WCFA-12 Demonstrate the adequacy of facilities for mass care of evacuees.

WCFA-13 Demonstrate adequate procedure and equipment for disposal of contaminated waste (e.g., clothing).

WCFA-14 Demonstrate adequate equipment and procedures for decontamination of emergency workers, equipment, and vehicles.

WCFA-15 Demonstrate the organizational ability and resources necessary to effect orderly evacuation of schools within the plume EPZ.

1.4.11 Medical Drill (Rochester General Hospital)

MD-1 Demonstrate adequacy of ambulance facilities and procedures for handling contaminated individuals.

MD-2 Demonstrate adequacy of hospital facilities and procedures for handling contaminated individuals.

1.5 EXERCISE SCENARIO

1.5.1 Scenario Overview

Initial Conditions

1. The R.E. Ginna Nuclear Power Station is operating at 100% rated thermal power and has been operating continuously for 145 days.

2. The turbine drive auxiliary feedwater pump is out for replacement of the pump thrust bearing and thrust bearing cooler. All parts are available.

3. The reactor core is in cycle 16, which is near its end of life. The boron concentration in the reactor coolant system is 20 ppm.

4. Containment spray pump 1A is inoperable because of seized pump bearings since noon yesterday. Replacement parts are on order and expected to arrive this morning. Bearing replacement should then require about one day of actual work. Required surveillances are complete and satisfactory for today.

5. At 1600 hours yesterday, the safety injection pump suction valve from the boric acid storage tanks, MOV 826A, failed to open during performance of the quarterly safeguard valve operation periodic test (PT-2.3). Subsequent investigation revealed a grounded motor. The grounded motor has been removed and sent to the motor shop for repair. The motor is expected to be returned to the station tomorrow at 0900 hours. Installation and testing is expected to be complete by 1400 hours tomorrow. All valves in the system that provide the duplicate function have been tested satisfactory for operability.

6. At 2130 hours last night, the reactor coolant system total leak rate increased from 0.75 gpm to 1.5 gpm. The identified leak rate is approximately 0.25 gpm. Containment activity has increased significantly. The shift is continuing to investigate the cause of

the leakage. A containment entry is planned as soon as the paperwork is complete.

7. The volume control tank level is decreasing approximately 1% every eight minutes. Containment sump "A" pump starts automatically approximately every 54 minutes.

Approximate Time (hours)	Event Description
Day 1	
0045	Initial conditions established.
0100	Commence exercise.
0130 UNUSUAL EVENT	A NUE should be declared in accordance with SC-100, "Ginna Station Event Evaluation and Classification," EAL: Reactor Coolant Leakage; primary system leakage greater than technical specification limits (greater than 1 gpm unidentified for more than four hours). The four-hour time limit expired at 0130 hours.
0225 ALERT	The 480-V bus #16 normal feed trips out due to #16SS transformer fault. The 1B emergency diesel generator starts and loads on to 480-V bus #16. Operations restores equipment lost when bus #16 tripped out. An ALERT should be declared in accordance with SC-100, "Ginna Station Event Evaluation and Classification," EAL: Fire; Fire potentially affecting safety systems as determined by the shift supervisor.
0415 SITE EMERGENCY	Reactor shutdown continues. If the Technical Support Center (TSC) decides to cross-tie buses #14-16, one of the two tiebreakers will not close because of mechanical problems.
0415	A SITE EMERGENCY should be declared in accordance with SC-100, "Ginna Station Event Evaluation and Classification," EAL: Fire; Fire causing loss of safety systems including redundant components as determined by the shift supervisor (i.e., loss of both containment spray pumps), or EAL: Events in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Approximate Time (hours)	Event Description
0515	The EOF, JNC, and Engineering Support Center should be nearing operational status.
0535 GENERAL EMERGENCY	A GENERAL EMERGENCY should be declared in accordance with SC-100, "Ginna Station Event Evaluation and Classification," EAL: Loss of Engineered Safety Features; Inability to shut down the reactor which results in core damage with indications of containment pressure increasing rapidly and reactor remains at power after reactor trip initiated (i.e., power range indication) or EAL: Containment systems; Failed fuel indicated by sampling of containment atmosphere and containment pressure 30 psig and increasing or shift supervisor's opinion that containment may be breached. An immediate protective action recommendation will be made in accordance with SC-240, "Protective Action Recommendations." Operations stabilizes the plant using Emergency Operating Procedures.
0630	The station experiences a severe aftershock from the earthquake, severing the two control rod pressure housings that have been leaking. Reactor coolant system pressure rapidly decreases followed by containment pressure and radiation levels increasing. Safety injection should be initiated again. There is no off-site radiation release at this time.
0645	The B RHR pump suction line from containment sump "B" ruptures because of the earthquake, the earthquake aftershock, and containment pressure. The auxiliary building sump Hi level alarm annunciates in the control room. "A" auxiliary building sump pump indicates it has tripped and will not restart. Plant vent monitors show rapid increases in radiation levels. A major release to the environment begins. The release path is from the containment through "B" RHR suction line out the plant vent.
0700-0800	Efforts are underway to track the plume, terminate the release, and implement/coordinate PARs.

Approximate Time (hours)	Event Description
0800	The release is terminated because of the repair of the 1B emergency diesel generator with restoration of power to 480-V bus #16 and MCC-1D and the closing of MOV-851B.
0800-0900	Plume tracking continues.
0900	Off-site radiation levels have significantly decreased because of plume passage. Downgrade discussions are in progress. Recovery/reentry discussions commence.
1000	The plume exercise is terminated. Begin ingestion pathway phase.
Day 2	
0845	Demonstration of ingestion pathway sampling teams and radiological laboratory analysis. No dose assessment activity will be activated. Some minor EOC activity and communications with the field teams through LDEOC will occur.
Day 3	
0845	Demonstration of ingestion pathway decision making and public information functions.

1.5.2 Description of State and Local Resources

All emergency response agencies were to be tested for ensuring that their resources were actually deployed in adequate numbers to reasonably test their notification, mobilization, command, coordination, and communications capabilities. Except as noted below activities demonstrated out of sequence with the exercise scenario and where field response was to be simulated based on analysis conducted in the County EOCs, State and County agencies were to have total authority in determining the degree of mobilization and deployment of their resources in a radiological emergency at the GNPS. Consistent with this intent, the decision to demonstrate or to actually deploy resources may be made at the time of the exercise.

The following activities were to be demonstrated by the State and local governments to determine the capabilities of their emergency resources.

	New York State	Monroe	Wayne	Sequence*
Notification of Agencies	Actual	Actual	Actual	I
Call-up of Personnel	Actual	Actual	Actual	I
Activate Organization	Actual	Actual	Actual	I
Maintain Security	Actual	Actual	Actual	I
Conduct Dose Assessment	Actual	Actual	Actual	I
PAG Recommendation	Actual	Actual	Actual	I
Operate Joint News Center	Actual	Actual	Actual	I
EPZ Siren Activation	N/A	Simulate	Simulate	I
EBS Message Broadcast	Actual	Actual	Actual	I
Dispatch Field Survey Teams	Actual (5)	Actual (2)	Actual (2)	I
Exchange of Field Data	Actual	Actual	Actual	I
Reception Center Set-up	N/A	Actual (1)	Actual (1)	O
Congregate Care Center	N/A	Actual (1)	Actual (1)	O
School Bus Run	N/A	Actual (1)	Actual (1)	O
General Population	N/A	Actual (1)	Actual (1)	I
Traffic Control Points	N/A	Actual (1)	Simulate	I
Road Impediments	N/A	Actual (1)	Simulate	I
Coast Guard	N/A	Simulate	N/A	I
Mobility Impaired	N/A	Simulate	Simulate	I
Personnel Monitoring Center	N/A	N/A	Actual	O
Evacuation of On-Site Personnel	N/A	N/A	Simulate	I
Route Alerting	N/A	Simulate	Simulate Interviews	I

	New York State	Monroe	Wayne	Sequence*
Radiological Laboratory	Actual	N/A	N/A	O
Medical Drill	N/A	Actual	N/A	O

*I equals in sequence and O equals out of sequence with exercise scenario events.

1.5.3 Emergency Classification and Event Time Line

Emergency Classification Notification	Utility Declared	EOF	New York State EOC Received	NYS Western District EOC Received	NYS Lake District EOC Received	Monroe County EC Receivec
Unusual Event	0129	-	0134	-	0129	013001
Alert	0219	-	0223	-	0223	022302
Facility Declared Operational	-	0445	0324	0330	0445	024503
Site Area Emergency	-	0415	0422	0422	0422	043004
General Emergency	-	0600	0615	0615	0615	061206
Release Started	-	0656	0710	0710	0710	070707
Release Terminated	-	0906	0910	0910	0910	0[redacted]9

1.5.4 Protective Action Timeline

Event		Utility Recommendation Time	Utility Recommendation ERPAs	EOF Recommendation Received Time	N.Y. State EOC Recommendation Made Time[c]	N.Y. State EOC Recommendation Made ERPAs	West Dst. EOC Recommendation Received Time	West Dst. EOC Recommendation Received ERPAs	Lake Dst. EOC Recommendation Received Time	Lake Dst. EOC Recommendation Received ERPAs
General Population Advisory	S				0309					
	E									
Protective Action #1	S									
	E				0436	W1,2,3 (MI)				
Protective Action #2	S	0600	M-All, W2,3,5,6,7	0600	0555	W1,2,3				
	E	0600	W1	0600	0555	M-All (MI), W1,2,3 (MI)				
Protective Action #3	S	0656	M-All,	0700	0628	M-All, W2,3,5,6,7	0635	M-All		
	E	0656	W1,2,3, S-7, M1-7,9	0700	0628	W1				
Protective Action #4	S				0743	M-All, W2,3,5,6,7.	0738	M-All		
	E				0743	W1				
Protective Action #5	S	0810	15°, 25 mi	0810	0915	M-All, W2,3,5,6,7				
	E	0810	W1,2,3,5-7, M1-7,9	0810	0915	W1				

Event		Monroe County EOC Decision Made Time	Monroe County EOC Decision Made ERPAs	Monroe County EOC Siren Activation[a] Time	Wayne County EOC Decision Made Time	Wayne County EOC Decision Made ERPAs	Wayne County EOC Siren Activation[a] Time	JNC Decision Received Time	JNC Decision Received ERPAs	JNC EBS Activation[a] Time
General Population Advisory	S	0314		0320	0309		0320	0309		0323[b]
	E									
Protective Action #1	S									
	E	0435			0436	W1,2,3 (MI)			W1,2,3 (MI)	0448
Protective Action #2	S	0555			0555	W1,2,3		0555	W1,2,3	0610
	E	0555	M-All (MI)		0555	W1,2,3 (MI)		0555	W1,2,3 (MI), M-All (MI)	
Protective Action #3	S	0628	M-All (to 10 mi.)	0638	0628	W2,3,5,6,7	0638	0628	W2,3,5,6,7, M-All	0641
	E	0628				W1		0628	W1	
Protective Action #4	S	0743	M-All		0743	W2,3,5,6,7		0743	W2,3,5,6,7, M-All	0753
	E	0743			0743	W1		0743	W1	
Protective Action #5	S	0915	M-All Addt'l 5 mi.	0929	0915	W2,3,5,6,7	0929	0915	W2,3,5,6,7, M-All Addt'l 5 mi.	0930
	E	0915			0915	W1		0915	W1	

MI = Mobility-Impaired.
S = Shelter.
E = Evacuation.

[a]Simulation.

[b]Actual.

[c]PARs were made independently from those recommended by utility.

2 EXERCISE EVALUATION

2.1 NEW YORK STATE

2.1.1 State Emergency Operations Center (EOC)

The State EOC in Albany, New York, was involved in this off-hours unannounce exercise, beginning on October 27, 1987, at 0130 hours. Activities during the plume portion of the exercise on October 27th ranged from activation of the EOC to projected doses to the public, PARs, and coordination of information released. The ingestion pathway portion of the exercise occurred through parts of the next two days and demonstrated the ability to estimate the total population exposure, collect samples, and perform laboratory analyses, as well as distribute appropriate information to the public.

2.1.1.1 State EOC — Plume Exposure

The State fully met 7 of the 9 objectives assigned to the State EOC during the plume exposure exercise, with one objective being partially met and one objective not being demonstrated.

The New York State Police Headquarters in Albany was notified of a NUE and Alert Emergency Classification Level (ECL) at the GNPS at 0134 and 0223 hours, respectively. These messages, as well as subsequent updates, were received and verified via the RECS telephone in a timely manner.

The objective to demonstrate the ability to communicate with all appropriate locations, organizations, and field support (SEOC-1) was met. The communications systems functioned well for all sections within the State EOC, with only minor problems experienced with one telefax machine; however, backup telefax units were available and used. Hard copies of messages were available from three separate lines for Telefax units as well as from the New York State Police Information Network (NYSPIN) communication system and teletype service. There was more than adequate communications equipment available, including the primary, Radiological Emergency Communications System (RECS), and numerous backups such as Radio Amateur Civil Emergency Service (RACES), teletype, local government radio, operations secure radio, and district radios. Both staffing and handling of the communication equipment were excellent. The RECS communications system was used to transmit initial and follow-up information.

The objective to demonstrate the ability to mobilize staff and activate the State EOC in a timely manner (SEOC-2) was met. Primary State emergency response personnel were notified by the New York State Police communications officer that an Alert ECL had been declared by the GNPS. These personnel reported immediately to the State EOC in Albany, New York, to implement their agency's respective initial notification and operations procedures. Effective call-out procedures were utilized and the EOC was staffed and operational by 0324 hours. Complete staffing of the EOC with

participation from approximately 24 State agencies and organizations was accomplished by 0530 hours. Other notification calls regarding the emergency status at Ginna were made to FEMA, Conrail, Amtrak, and the Canadian government, respectively. Contiguous states were also contacted via teletype.

Both the command and control and accident assessment sections were promptly activated in the State EOC. State Department of Health personnel verified the status of events with the utility and also established communications with both Wayne and Monroe counties over the executive hotline telephone.

The objective to demonstrate the adequacy of facilities and displays to support emergency operations was met (SEOC-3) at the State EOC, which is located in the basement of the New York Department of Public Security building in Albany. This facility was adequate to support extended emergency operations. Overall, the facilities, maps, and displays were adequate. The status boards were available and updated with current information. However, the emergency classification levels were not clearly indicated and visible to all of the personnel working throughout the operations section of the State EOC. It is recommended that large and clearly printed emergency classification level signs be posted at one or two other locations within the large operations room so that all staff are cognizant of the status of events. In addition, it may be beneficial to announce over the public address system in the operations room whenever the emergency classification changes or other significant events occur.

The objective to demonstrate the ability to make decisions and to coordinate emergency activities (SEOC-4) was partially met. The command and control function was effectively demonstrated at the State EOC. Both the Field Operations Management Group Director (Department of Health), and, after a shift change at 0820 hours, the Director of the Radiological Emergency Preparedness Group were clearly in charge of the State operations. Both individuals utilized their staff in a professional, effective, and timely manner in the decision-making process. They anticipated potential problems, discussed possible actions, and coordinated information over the executive hotline telephone with officials of both affected counties.

Internal communication with other sections within the State EOC was minimal. A telephone equipped with a speaker in the command and control room would be helpful in keeping the entire staff informed about the status of activities within each county and their anticipated protective actions. In addition, the command and control decision maker should provide periodic briefings for the entire EOC staff on the status of events. Presently, key individuals must leave their section in order to brief the command and control section, while critical events could occur during their absence. A public address system is recommended in each section in the State EOC for use in briefing staff on the emergency situation.

The objective to demonstrate the ability to fully staff facilities and maintain staffing around the clock (SEOC-5) was met at the State EOC. More than 24 state agencies and organizations were represented in the operations section during the exercise. Twenty-four-hour staffing was demonstrated through a shift change, presentation of a roster, and, in many cases, double-staffing of positions throughout the various sections of the State EOC. Shift changes were normally staggered, allowing for

continuity with minimal disruption of ongoing activities. During the shift changes, incoming staff were briefed as to the current status of events and operational activities. Staff on both shifts were knowledgeable of the State plan and the procedures, which were performed in an efficient manner. Clerical staff were available and assisted in message handling. However, additional support was needed in the operations section for message handling. At various times there were delays of more than 30 minutes in the distribution of pertinent information from one room to another. Additional assistance for relay of messages, along with important messages being highlighted and processed immediately, would improve the efficiency of handling messages in the operations section.

The objective to demonstrate the ability to identify the need for, request, and obtain Federal assistance (SEOC-6) was met at the State EOC. DOE simulated the dispatch of 10 two-person radiological field monitoring teams and mobile laboratories from Brookhaven National Laboratory (BNL), West Valley Nuclear, and Knolls Atomic Power Laboratory to assist the State and counties. In addition, one representative from BNL did arrive and assisted the accident assessment section in the State EOC during the exercise.

The objective to demonstrate the ability to project dose to the public via plume exposure and to determine appropriate protective measures based on PAGs and all other appropriate factors (SEOC-7) was met. Projected doses were derived from plant release data and field measurements, with plume exposures generated from hand-calculator and computer models. Dose projections were promptly made and verified using field monitoring data that were received in the accident assessment section of the State EOC. Protective action recommendations were developed by the counties based upon information provided by the utility, the State, and NRC. PARs were reviewed and updated as conditions changed (e.g., plant status, weather, evacuation time estimates, time of day, and quality of available shelter). Discussions were held between the State and county regarding exposures in excess of PAGs for emergency workers.

A previous ARCA (New York State 19) from GNPS PEA dated December 16, 1985 has been corrected and verified.

In several instances, interpretations of data received from the utility differed from interpretations made by the State. Additional information was obtained from the utility in order to resolve these different interpretations. Also, there were instances in which information received in the accident assessment section was erroneous. For example, the volume of air sampled by one Monroe County field team was reported as 10 L instead of 10 ft^3, which resulted in an overestimate for iodine concentrations by a factor of about 28. The accident assessment staff should be trained to question data outside the parameters of established sampling procedures.

The objective to demonstrate the coordination of information released to the public (SEOC-8) was met at the State EOC. At 0309, the SEMO representative coordinated information with Wayne and Monroe counties in their decision to activate sirens (simulated), and the subsequent issuance (actual) of an EBS message three minutes after the siren activation.

The objective to demonstrate the ability to supply and administer KI, once the decision has been made to do so (SEOC-9), was not demonstrated at the State EOC. The issuance of KI was never formally addressed, only informally mentioned in the operations section with respect to the possible distribution and ingestion of it by emergency workers, along with a brief discussion with the counties.

DEFICIENCIES

No Deficiencies were observed at the State EOC during the plume pathway portion of the exercise.

AREA REQUIRING CORRECTIVE ACTIONS

1. Description: Because the command and control section is separate from the operations section, the entire EOC staff was not briefed frequently (NUREG-0654, II, A.1.b, A.2.a).

   Recommendation: Consideration should be given to installation of a central public address system throughout the State EOC that should be used frequently by a key individual to brief staff on the emergency situation.

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: The emergency classification levels were not clearly indicated and visible to all of the personnel working in the State EOC.

  Recommendation: Large and clearly printed signs identifying the emergency classification level should be posted and visible to EOC staff.

- Description: The command and control section staff could not listen to communications with the counties over the executive hotline telephone.

  Recommendation: Consideration should be given to installing a speaker telephone in the command and control section of the State EOC to help keep the staff informed as to the status of emergency response activities in the counties and anticipated protective actions.

- Description: The accident assessment section received field monitoring data concerning air samples, where volumes were given in liters instead of cubic feet, which resulted in an overestimate of radioactive iodine concentrations by a factor of about 28.

  Recommendation: The accident assessment section's staff should be trained to be more familiar with field monitoring techniques, and means should be taken to ensure the correctness of the measurement units provided.

2.1.1.2 State EOC — Ingestion Pathway

The State fully met 7 of the 8 objectives assigned to the State EOC during the ingestion pathway exercise, with one objective being partially met.

The objective to demonstrate the ability to make decisions and to coordinate emergency activities (SEOC-10) was met at the State EOC. The accident assessment section frequently involved appropriate state agency personnel and kept them informed of all incoming data and data analysis, from various State sampling teams, for their planning considerations. The overall management and coordination of information was effective and responsive throughout the ingestion pathway decision-making process. Key personnel were actively involved in the activities and kept all staff informed of decisions. The staff was knowledgeable of their duties and familiar with the State plan.

The objective to demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel (SEOC-11) was met. The State EOC received information transferred by telephone from the Lake District EOC which communicated directly with the field sampling teams via radio. With commercial telephones used for backup communication, State dose assessment personnel designated the sampling locations and types of samples taken by the teams. Communications capabilities between the Lake District Office and the field teams as well as communications between the District Office and the State EOC were adequate.

The objective to demonstrate the ability to project the dose to the public via ingestion pathway exposure and determine appropriate protective measures, based on PAGs and all other appropriate factors (SEOC-12) was met. Meteorological and actual or expected release data of radionuclides were available from the utility. The State field teams were instructed to take samples of vegetation, food products, soil, water, milk, etc., and the results of laboratory analyses were available. Protective actions were recommended, such as sheltering animals and using stored feed. Recommended actions were consistent with FDA exposure guidelines and were reviewed and updated as sample analysis data indicated changes. The overall ability of the dose assessment section in the State EOC was excellent, with information being provided on the results of data analyses as soon as received. Potentially contaminated samples were analyzed to determine differences in readings and potential erroneous readings (e.g., units of measurements).

The objective to determine the ability to implement protective actions for ingestion pathway hazards (SEOC-13) was met at the State EOC. Current information relating to the location of dairy farms, meat and poultry producers, fisheries, vegetable and fruit growers, grain producers, food-processing plants, and water-supply intake points and reservoirs was provided by the appropriate State agencies in the EOC. Detailed county maps with grid overlays to identify areas of concern were utilized to determine the crops, dairies, and other agricultural businesses effected. This information needs updating because of annual and seasonal crop rotation occurring within areas; therefore, the maps are created at the time of the emergency based upon affected areas.

The State agencies coordinated their information with the dose assessment section and other EOC management staff. Recommendations were made regarding protective actions (e.g., shelter animals, hold milk in storage tanks, and clean fruit and

vegetables before use) based upon laboratoryanalyses of samples taken and field monitoring data. The EOC staff was knowledgeable as far as the harvest of crops and how to implement protective actions. Dissemination of protective action recommendations to the public was coordinated through appropriate key personnel at the EOC, the State PIO, and County extension agents. Additionally there was coordination with the County EOCs who were contacted via NYSPIN. According to EOC staff, there is a sufficient body of trained County staff to work individually with affected individuals for implementation of protective actions.

A previous ARCA (New York State 17) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the ability to mobilize and deploy field sampling teams in a timely fashion, although directly observed at the State EOC (SEOC-14), was met by effectively deploying the sampling teams from the Lake District EOC based on direction of the State EOC. The State EOC received information from the Lake District SEMO as to the status and location of the five field sampling teams at all times. The field teams were directed through the Lake District SEMO to take certain types of samples at specific locations. The State field sampling teams were notified during the plume exposure portion of the exercise and dispatched to the Lake District SEMO for prepositioning for the ingestion pathway portion of the exercise.

The objective to demonstrate appropriate equipment and procedures for laboratory measurement and analysis of appropriate radioisotope deposition in food and environmental samples (SEOC-15) was partially met. The Civil Air Patrol was contacted to provide transportation of field samples from the Lake District EOC to the State Department of Health Laboratories in Albany. However, due to prohibitive weather conditions, the aircraft did not land in the vicinity of the Lake District EOC. In accord with pre-exercise agreements, selected field samples were delivered to the laboratory in a State DOT truck. The samples were surveyed with an appropriate radiation-monitoring instrument prior to unloading. However, neither the truck driver nor vehicle were monitored prior to leaving the loading dock to ensure that radiological contamination was not present. Adequate personnel protective equipment was worn by staff performing the monitoring and all samples were surveyed.

Samples were taken to a receiving laboratory where they were again surveyed, sorted, bagged, and relabeled. Radiation levels were recorded on outer tags; however, units were not listed and the analytical lab section did not recognize that the numbers were survey readings. Laboratory personnel indicated some uncertainties regarding the following radiological procedures for handling contaminated samples during an emergency: cross contamination control; preparation of various media for analysis; and disposition of samples.

Samples were then logged at another location and resorted depending on the type of analysis required. Samples were sorted based on level of activity in the sample as indicated by the survey. Higher level activity samples were analyzed in the high level lab, whereas, those indicating near background levels were analyzed in the low level lab. The preparation and analyses were the same in both labs. Directions were received from the State EOC for the prioritizing of the various samples.

Absorbent paper and protective gloves were used to prevent contamination and cross-contamination of samples. Reusable equipment was washed between each sample preparation. Samples were individually prepared, with the residue material bagged and labeled.

Appropriate analytical instrumentation was available for the analyses. Of the types of samples received at the laboratory, Marinelli beakers holding samples for analysis were bagged to prevent contamination of analytical equipment.

The objective to demonstrate the ability to estimate the total population exposure (SEOC-16) was met at the State EOC. During the final phase of the exercise, periodic estimations of hypothetical individual exposure were performed. The initial individual dose was calculated and conservatively extrapolated over one year out to 50 years. The dose assessment section calculated the dose commitments for individuals from exposure to ground deposition and from ingestion of contaminated foods. This was done throughout the assessment activities for hypothetical individuals in various locations in the impacted area. Total population exposure estimates were not done, but were fully discussed conceptually at the conclusion of the exercise as agreed in the guidelines established for this evaluation. Conceptualized long-term total population exposure calculations were discussed with the utility and within the State dose assessment section. Affected organizations were briefed in these discussions so that the staff could understand the basis for the total population exposure figures should members of the public inquire.

The objective to demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely fashion (SEOC-17) was met at the State EOC. During the ingestion pathway portion of the exercise, the PIO through pre-exercise agreement, was permitted to function at the State EOC. The PIO coordinated news releases with key personnel from both the dose assessment and the radiation protection section. Coordination with the counties was simulated before releasing them to the news media. News bulletins were promptly drafted in the EOC by the PIO. These bulletins were clear and appropriate to the situation (e.g., shelter animals and use stored feed and water supplies; do not use produce from the fields; and produce or milk in stores is safe to consume). Protective action areas were adequately described in terms of familiar boundaries and landmarks in the news bulletins. The news bulletins were simulated as having been released over the wire service line following the coordinated approval of key personnel in the State EOC.

DEFICIENCIES

No Deficiencies were observed at the State EOC during the ingestion pathway portion of the exercise.

AREA REQUIRING CORRECTIVE ACTION

1. Description: The DOT truck and driver used for transporting samples were not monitored prior to leaving the laboratory after the samples had been unloaded to ensure that radiological contamination was not present. (NUREG-0654, II, I.8, J.11).

   Recommendation: Procedures should be implemented whereby the unloaded vehicles used to transport the samples and the driver are monitored before leaving the laboratory.

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: Samples taken into the laboratory for analysis were not properly tagged, showing units for radiation numbers.

  Recommendation: Samples should be tagged and labeled with all appropriate data and units.

- Description: Laboratory personnel indicated some uncertainties regarding the following radiological procedures for handling contaminated samples during an emergency: cross-contamination control; preparation of various media for analysis; and disposition of samples following laboratory analyses.

  Recommendation: New York State Dose Assessment personnel should meet with Laboratory personnel periodically to enable them to ask questions of the Dose Assessment personnel relative to laboratory procedures.

2.1.2 Western District Emergency Operations Center (WDEOC)

The State fully met 4 of the 5 objectives assigned to the WDEOC, with one objective being partially met.

The objective to demonstrate the ability to mobilize staff and activate in a timely manner (WDEOC-1) was met. The WDEOC was activated following notification of the Alert ECL at 0242 hours. Staff members were notified using a standard call list containing current home and work telephone numbers. The WDEOC was operational by 0330 hours and fully staffed at 0525 hours.

The objective to demonstrate the facilities and displays to support emergency operations (WDEOC-2) was met. There was sufficient furniture, space, and other necessary equipment. The facility has all the necessary equipment and supplies to

maintain extended operations. Access was controlled by a uniformed State Police Officer who verified the identification credentials of all entrants and logged times of ingress and egress. Maps, charts, and status boards were prominently displayed and updated with each change in status. Periodic briefings were held during which staff were consulted as appropriate for additional information and suggestions. All incoming staff were briefed on the situation shortly after arrival. Second-shift individuals were briefed by their first-shift colleagues.

The objective to demonstrate the ability to make decisions and coordinate emergency activities (WDEOC-3) was met. The district coordinator was in charge at the EOC until replaced by the Central District Coordinator at the shift change. At all times, the appropriate individual was effectively in charge of the EOC's activities in assisting in implementing State EOC activities.

The objective to demonstrate communications with all appropriate locations, organizations, and field personnel (WDEOC-4) was partially met. The three telephone lines serving the WDEOC and the limited number of telephone sets were not sufficient to support emergency communications at the WDEOC. Both the telefax telephone line and the principal telephone line failed to work for periods of 10-30 minutes. This sometimes left the WDEOC with only one telephone line operating. The telephone line problems were resolved by 0645 hours after several calls to the telephone company. In addition, the radios for the departments of Fire Safety, Transportation, and Environmental Conservation all suffered intermittent failures. There was some overlap between these radio failures and the problems with the telephone service. The Police radio and the RECS telephone were operational throughout the exercise.

A previous ARCA (Western District 4) from GNPS PEA dated December 16, 1985 has been corrected and verified. Previous ARCAs (Western District 7 and 8) have not been corrected.

The objective to fully staff facilities and maintain staffing around the clock (WDEOC-5) was met. A shift change was completed by 0800 hours, thereby demonstrating 24-hour coverage for the EOC.

DEFICIENCIES

No Deficiencies were observed at the Western District EOC.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: The radio system at the Western District EOC, which caused problems during the 1983 and subsequent exercises was partially updated. However, it is still unreliable and suffered intermittent failures during the exercise that caused minor problems (NUREG-0654, II, F.1).

Recommendation: The cause of intermittent problems with the radio system at the Western District EOC should be investigated and remedied.

AREAS RECOMMENDED FOR IMPROVEMENT

- **Description:** The main telephone line and the telefax line at the Western District EOC were both out of service intermittently during the first five hours of the exercise.

  Recommendation: The cause of intermittent loss of telephone service at the Western District EOC should be determined and remedied.

2.1.3 Lake District Emergency Operations Center (LDEOC)

2.1.3.1 Lake District EOC — Plume Exposure

The State fully met 4 of the 5 objectives assigned to the LDEOC during the plume exposure exercise, with one objective being partially met.

The objective to demonstrate the ability to mobilize staff and activate the LDEOC in a timely manner (LDEOC-1) was met. The LDEOC was activated following a call at 0223 hours. Staff members were notified using a call list. All essential staff were called by 0245 hours, and mobilization was completed in about two hours.

The objective to demonstrate the adequacy of facilities and displays (LDEOC-2) was met. This excellent EOC was large, well equipped with all necessary furnishings, capable of supporting extended operations, and had auxiliary power. Maps, displays, and a status board were available and visible, and were kept up to date. Access to the EOC was controlled. Periodic briefings were conducted with staff participation. The second shift was briefed by their counterparts as they came in, followed by a general briefing.

The objective to demonstrate the ability to make decisions and coordinate emergency activities (LDEOC-3) was met. The District Director, as designated in the plan, was the individual in charge. Periodic briefings were held and staff activities coordinated.

The objective to demonstrate communications with all appropriate locations, organizations, and field personnel (LDEOC-4) was partially met. While the facility has the capability of communicating with various organizations, the three telephone lines at the LDEOC were inadequate to adequately support communications for this EOC. Communications systems in place worked efficiently throughout the exercise.

A previous ARCA (Lake District 4) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the ability to fully staff facilities and maintain staffing around the clock (LDEOC-5) was met by an actual shift change and the presentation of a roster.

DEFICIENCIES

No Deficiencies were observed at the Lake District EOC during the plume pathway portion of the exposure.

AREAS REQUIRING CORRECTIVE ACTION

No new Areas Requiring Corrective Action were observed at the Lake District EOC during the plume pathway portion of the exercise.

AREAS RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed at the Lake District EOC during the plume pathway portion of the exercise.

2.1.3.2 Lake District EOC — Ingestion Pathway

The State fully met 1 of the 2 objectives to be evaluated at the LDEOC during the ingestion pathway exercise, with one objective being partially met.

The objective to demonstrate deployment of sampling teams from the LDEOC for rapid movement into the field (LDEOC-7) was met. Sampling team members were notified at the conclusion of the plume exposure exercise to report to the dispatch point at the start of day two of the exercise. The LDEOC was activated on the second day of the exercise to support the ingestion pathway field sampling effort. Five ingestion pathway field sampling teams were mobilized and deployed into the 50-mile ingestion planning zone. The teams were directed and controlled from the LDEOC in Newark.

Various communications systems were available for use by the staff. They consisted of:

- State DOT radio -- mobile communication with vehicles used by the sampling teams.
- High-frequency radio -- to State EOC.
- Commercial telephones -- to State EOC, backup to sampling teams, and telefaxes for hard copies.

- Backup radio system -- Disaster Preparedness Commission, mobile van manned by State Police, and SEMO chase vans.

The objective to demonstrate communications with all appropriate locations (LDEOC-6) was partially met. The State DOT radio system was used as the primary link with the sampling teams during this exercise. The team, which was required to travel the farthest from the Lake District EOC, lost radio contact because the radio antenna was not properly installed on their vehicle and was forced to use commercial telephones. However, none of the field teams had the Lake District EOC telephone numbers. When the telephone numbers were obtained, the team had difficulty in getting through because of the inadequate number of telephone lines coming into the EOC. When reports from the sampling teams in the field were received in the EOC, they were promptly telefaxed to the State EOC.

One of the sampling teams requested information on the location of dairy farms. The LDEOC was not able to provide this information to the team. However, the agriculture and markets computer listing (which included dairies) was available at the LDEOC.

DEFICIENCIES

No Deficiencies were observed at the Lake District EOC during the ingestion pathway portion of the exercise.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: The sampling team which was required to travel the farthest from the Lake District EOC lost radio contact and had to communicate with the EOC via telephone. None of the sampling teams were equipped with or knew the Lake District EOC telephone numbers (NUREG-0654, II, I.8, F).

   Recommendation: Sampling teams should have, or be provided while in radio contact, with telephone numbers to call facilities they are required to communicate with.

2. Description: The LDEOC staff were not able to provide information to one of the teams concerning the locations of dairy farms, even though this information was available at the EOC (NUREG-0654, II, J.11).

   Recommendation: Additional training should be provided to LDEOC staff to assure that existing information can be readily referenced and made available to field teams.

AREAS RECOMMENDED FOR IMPROVEMENT

2.1.4 Emergency Operations Facility (EOF)

The EOF fully met all 4 objectives for which it was responsible during the exercise.

The objective to demonstrate the ability to mobilize staff and activate facilities promptly at the EOF (EOF-1) was met. State and County representatives were mobilized through the use of a current written call list. Staffing at the EOF was completed at 0441 hours upon the arrival of a State representative. Once the staff had arrived, a utility off-site liaison person arranged a briefing as to the events that had occurred and the current status of the plant.

The objective to demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel at the EOF (EOF-2) was met. All communications systems functioned well. The RECS telephone line was the primary communications system, with telefax, commercial telephones, and NRC network systems as backups. Exchange of information over the RECS line between the State and utility were timely. Field monitoring data was transmitted in a timely manner to appropriate locations.

A previous ARCA (EOF 1) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate adequacy of facilities and displays to support emergency operations at the EOF (EOF-3) was met. Sufficient facilities were available and used. Maps, charts, displays, and a status board were available, visible, and frequently updated with current information. During the exercise, the State and County representatives used the displays during discussions and updated the visual aids, showing the implementation of PARs.

The objective to demonstrate the ability to fully staff facilities and maintain staffing around the clock at the EOF (EOF-4) was met. There were two representatives present from the State and Wayne County and three representatives from Monroe County. The staff were knowledgeable and displayed adequate understanding of procedures. Twenty-four-hour staffing capabilities were demonstrated by presentation of a roster. The operation at the EOF was flawless and extremely professional.

DEFICIENCIES

No Deficiencies were observed at the EOF.

AREAS REQUIRING CORRECTIVE ACTION

No Areas Requiring Corrective Action were observed at the EOF.

AREAS RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed at the EOF.

2.1.5 Joint News Center (JNC)

Six of the eight objectives assigned to the JNC were fully met, with two objectives being partially met.

The objective to demonstrate the ability to mobilize staff and activate facilities promptly (JNC-1) was partially met. The New York State Police was notified of an Alert ECL at the plant at 0223 hours. This message was transmitted to all affected areas; at 0230 hours, staff mobilization procedures were demonstrated through the use of a current written call list. Staffing of the JNC was completed at 0317 hours. However, several State PIO staff were prepositioned from Albany to Rochester which expedited activation of the JNC within approximately 45 minutes. Therefore, real-time mobilization of State PIO staff could not be performed since only one State PIO representative was to have been prepositioned according to guidelines established for the exercise.

The objective to demonstrate the ability to brief the media in a clear, accurate, and timely manner (JNC-2) was met. Media kits were available for distribution to the press. They contained appropriate information on the utility and local area and an explanation of nuclear power plants and radiation. Formal briefings were held hourly throughout the exercise. The information was accurate and complete, and hard-copy news releases were promptly available. Radio and television broadcasts were monitored to keep track of what the public was actually receiving, and rumor control telephones were staffed to rectify errors in information received by the public. Logs were maintained of information released to the media, and all incoming messages and information were routed to the PIOs. The PIOs were in constant contact with their information sources to keep current on all activities.

The objective to demonstrate the ability to communicate with all appropriate locations, organizations, and field personnel (JNC-3) was met. Communications and other support systems are more than adequate, which included access to the RACES communication system. Telephone conferencing was available on at least one line, and no problems were experienced with any of the systems. A hard-copy telefax machine was operational to the State EOC and the EOF. However, logging procedures should be instituted for State and County PIO staff for all incoming and outgoing messages.

The objective to demonstrate the ability to establish and operate a rumor control operation in a coordinated manner (JNC-4) was met. The rumor control telephone line was activated at both the JNC and the County EOCs. The mobility-impaired telephone number was released on the EBS network.

The only telephone number published for the JNC was the number found on the utility stationary used for press releases. Only the location of the JNC is advertised. This policy therefore leads the media and public to perceive that the utility, instead of

the State and counties, is providing the central point of contact for all inquiries, with the efforts being coordinated among all representatives present. JNC procedures should be revised to insure that media representatives are properly briefed that government authorities are the central point of contact for the media. In addition, news releases might be considered to indicate that the JNC is a joint operation comprised of State, County, and utility personnel.

The rumor control telephones were staffed by representatives from all organizations present at the JNC, including the utility. The staff were knowledgeable, although they were not always aware of updated information due to the lack of visual displays. Approximately 10 calls can be handled simultaneously on the rumor control telephone system.

A previous ARCA (JNC 5) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the ability to fully staff facilities and maintain staffing around the clock (JNC-5) was met. The JNC was fully staffed by representatives from the State, Monroe and Wayne counties, and the utility. The staff displayed adequate training and knowledge of emergency procedures. Twenty-four-hour staffing was demonstrated by presentation of a roster, and a shift change was demonstrated by County and rumor control staff. The second-shift staff was briefed by first-shift staff as to the current status of events and ongoing activities.

The objective to demonstrate the adequacy of facilities and displays to support emergency operations (JNC-6) was met. Facilities were more than adequate. The status boards were maintained; however, they were not clearly visible for personnel staffing media desks and the rumor control telephones. In addition, maps showing areas where protective actions were taken were not displayed at the JNC. The facility can accommodate more than 200 reporters at a briefing; however, additional work space may be needed if additional PIOs were to arrive at the JNC.

The objective to demonstrate the ability to alert the public within the 10-mile EPZ and disseminate an initial instructional message within 15 minutes (JNC-7) was partially met. The EBS was activated six times (one actual EBS activation and five simulations) as a result of coordinated, cooperative discussions with State officials and County representatives. All plan procedures were followed, with siren activations (simulated) and message releases being accomplished within appropriate timeframes. The designated PIO transmitted the messages to the main EBS radio station for simulated transmission to other appropriate EBS stations. EBS messages contained complete instructional information. Copies of the EBS messages were telefaxed prior to release to the appropriate EOCs according to the plan. However, this process of generating EBS messages could be enhanced through the use of a word processing system. In addition, the designated PIO should actually complete the authentication and verification process with the EBS radio station(s). This precaution will minimize any procedural misunderstandings that might occur in a real emergency.

Copies of the script to be used by route alerting teams were available in the occurrence of siren failures, or in the event that other such actions requiring route alerting become necessary.

Previous ARCAs (New York State 8 and 9, JNC 4) from GNPS PEA dated December 16, 1985 have been corrected and verified.

The objective to demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely manner (JNC-8) was met. Emergency public instructions were drafted jointly in the JNC. The messages were clear and appropriate to the situation. Modified prescripted messages were used. Evacuation instructions were provided; however, the public was not instructed as to what items they should take with them and what should be done to prevent air from entering the automobile. JNC procedures should be revised and PIO staff trained to prepare EBS messages that contain information comparable to that which is contained in the public information brochure.

DEFICIENCIES

No Deficiencies were observed at the JNC.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: Several State PIO staff were prepositioned from Albany to Rochester which expedited activation of the JNC within approximately 45 minutes (NUREG-0654, II, E.2).

   Recommendation: Pre-exercise agreements should be adhered to for demonstrating the activation of State PIO personnel assigned to the JNC.

2. Description: The designated PIO should actually complete the authentication and verification process with the EBS radio station(s) (NUREG-0654, II, G.4.b).

   Recommendation: Additional training is required for PIOs in the procedures for interacting with EBS station(s).

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: The only telephone number published for the JNC was the number found on utility stationary used for press releases, and no numbers were found on State and County press releases. Only the location of the JNC at the utility's headquarters is advertised conveying the impression that the JNC is a utility operation. The State and County representatives should become more actively involved in the operation and activities at the JNC.

  Recommendation: JNC procedures should be revised to insure that media representatives are properly briefed that government

authorities are the central point of contact for the media in coordination with the utility. In addition, joint letterhead stationary should be procured for news releases to indicate that the JNC is a joint operation comprised of State, County, and utility personnel.

- Description: The displays at the JNC were not clearly visible for personnel staffing the rumor control telephones and the media desks.

  Recommendation: Better positioning of visuals within the rumor control and media desk areas would enhance the ability of those personnel to give rapid and current information.

- Description: Maps showing areas where protective actions were taken were not displayed in the JNC.

  Recommendation: Maps showing areas where protective actions are to be taken should be developed for use in the JNC.

- Description: Evacuation instructions issued to the public via EBS messages did not contain information about what items evacuees should take with them and what should be done to prevent air from entering the automobile.

  Recommendation: JNC procedures should be revised and PIO staff trained to prepare EBS messages that contain information comparable to that which is contained in the public information brochure.

2.1.6 Ingestion Pathway Sampling Teams

As part of the mobilization process, the field team members completed a check of the equipment kit inventory and performed the appropriate battery and check source operability tests of the survey instruments (LDEOC-7).

The sampling teams were not provided with the telephone numbers needed to contact the EOC in cases of radio failure (LDEOC-6). The team members were briefed on the simulated accident events that lead up to the conditions that existed on the second day of the exercise. A preliminary isopleth plot of the plume phase measurement data was displayed to give the field teams some idea of where they might encounter the ground deposition footprint. The field team members were instructed on proper radio protocol and the use of data log forms for help in communicating the field measurement data to the LDEOC over the radio. The LDEOC had new updated log forms, whereas the field team equipment kits had at least two versions of outdated log forms (i.e., different forms among teams). This inconsistency caused some initial confusion in data transmission. In one case, survey routes had to be retraced and measured again to acquire consistent measurement data.

The objective to demonstrate appropriate equipment, including personal dosimetry and procedures for the collection and transport of samples of soils, vegetation, snow, water, and milk (LFDA-1) was partially met. Sampling teams were provided with appropriate protective clothing, particularly hand and foot coverings. Five sampling teams were dispatched into the field; separate write-ups for each team follow:

1. Team 1. The red team was assigned to collect soil and vegetation (grass) samples. The techniques demonstrated were appropriate. The team also visited a milk-producing facility. All necessary milk-sampling equipment was available in the team kit. Agriculture and market representatives felt that milk labels used for samples from various dairies will need more information to make the sample data useful to the decision makers at the State EOC. Team members demonstrated good contamination control techniques, both for personal contamination and prevention of cross-contamination of samples. Meticulous sample data logs and sample labels were maintained throughout the exercise. Some additional training should be provided to the radiation technician team member regarding the significance or lack thereof of the direct field measurements. All measurements at background levels were assumed to mean that no contamination existed, which may or may not have been the case. This assumption resulted in a relaxation in the use of protective clothing gloves. It is possible to have radioiodine contamination at levels that are significant for the pasture-cow milk pathway and not produce deposition exposure rates that are detectable with cpm range survey meters used by the field team.

2. Team 2. The yellow team demonstrated the ability to collect ingestion pathway samples. Appropriate equipment was supplied in the field kits, and team members generally followed written procedures. The team did not demonstrate a good capability to prevent cross-contamination; samples were not properly double-bagged, and water was not used to clean sampling utensils after each sample was collected. Sampling locations were found without problems, and data on samples were promptly and accurately reported to the dispatcher at the State EOC.

   The team was provided with direct-reading dosimeters (DRDs) and thermoluminescent dosimeters (TLDs). However, team members did not take periodic readings of their DRDs nor were they aware of the maximum allowable dose without authorization.

3. Team 3. The blue team demonstrated adequate field procedures in the collection of milk, soil, and vegetation samples. Contamination control was well monitored by team members. Radiac decontamination wash was used to wash sampling equipment between samples, and samples were double-bagged and labeled.

The team maintained a communications log, a five part sample log, and a field measurement survey log (old and new forms). Proper techniques were demonstrated for transferring samples being transported to the laboratory for analysis.

4. Team 4. The team was instructed to take numerous samples, including one soil sample, four produce samples (from local produce stands and fields), and two grass samples. Team members were knowledgeable in both procedures and collection techniques. Contamination control was maintained, and the paperwork completed followed the procedures required.

5. Team 5. The orange team obtained soil, vegetation (pasture), and milk samples. The team demonstrated the ability to collect samples, measure exposure rates, control contamination, and monitor worker exposure. Proper equipment decontamination procedures were demonstrated using isoclean to sterilize milk sampling equipment. Written procedures for sampling were available, and all samples were properly labeled and packaged.

A previous ARCA (New York State 21) from GNPS PEA dated December 16, 1985 has been corrected and verified.

DEFICIENCIES

No Deficiencies were observed in the performance of the ingestion pathway sampling teams.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: The LDEOC had newly updated log forms, while the field team equipment kits had at least two versions of outdated log forms (i.e., different forms among teams). This inconsistency caused some initial confusion in data transmission. In some cases, survey routes had to be retraced and measured again to acquire consistent measurement data (NUREG-0654, II, I.8).

   Recommendation: The same form should be used by the field team controller and all sampling teams.

2. Description: The sampling teams were not provided with the telephone numbers needed to contact the EOC in cases of radio failure (NUREG-0654, II, I.8, F).

   Recommendation: These telephone numbers should be provided in the kits issued to the sampling teams.

3. Description: The labels used for identifying milk samples from various dairies will need more information to make the sample data useful to the decision makers at the State EOC (NUREG-0654, II, I.8).

   Recommendation: All agriculture and market personnel should have the same training with respect to information requirements on milk sample labels (i.e., feeding history of cattle, time of milking, and any dilution by uncontaminated milk).

4. Description: Sampling team radiological technicians were not familiar with the significance (or lack of significance) of the direct field measurements. All measurements at background levels were assumed to mean that no contamination existed, which may or may not have been the case. This assumption resulted in a relaxation in the use of protective clothing, gloves. It is possible to have radioiodine contamination that is indistinguishable from the natural variation in background levels using the cpm range field survey meter used by the team (NUREG-0654, II, I.8).

   Recommendation: Radiation technician team members should be properly equipped and trained to take background readings using the micro-R survey meter.

5. Description: Some team members did not demonstrate good ability to prevent cross-contamination of samples. They did not properly double-bag samples nor use water to clean sampling utensils after collecting each sample (NUREG-0654, II, I.8).

   Recommendation: Additional training should be provided to sample team members to reduce the potential for cross-contamination.

6. Description: Some team members provided with direct-reading dosimeters and TLDs did not take periodic readings, nor were they aware of the maximum allowable dose without authorization (NUREG-0654, II, K.3.b, K.4).

   Recommendation: Training should be provided to sampling team members on radiological exposure control.

AREAS RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed in the performance of the ingestion pathway sampling teams.

2.2 WAYNE COUNTY

2.2.1 Wayne County Emergency Operations Center (WEOC)

Ten of the twelve objectives assigned to the WEOC were fully met, with two objectives being partially met.

The objective to demonstrate the ability to mobilize staff and activate facilities promptly (WEOC-2) was met. The County warning point is a 24-hour facility located in the Wayne County Sheriff's Communication Center. Initial notification of key EOC staff occur from this County warning point. The initial notification of the NUE was received on the RECS telephone at 0133 hours from the utility control room. County Sheriff's personnel used two telephones with quick-dial capability to call EOC staff personnel. The call-up roster appeared up to date and designated both primary and backup personnel with both seven-digit and two-digit quick-dial numbers listed. One key EOC responder could not be reached, but an alternate on the call-up list did respond. Notification of the Alert ECL was received from the utility via the RECS telephone at 0223 hours. Calls to notify the balance of the EOC staff at the Alert ECL were completed within approximately 25 minutes by 0247 hours.

Activation and staffing of the WEOC was timely. Mobilization commenced immediately after notification of the NUE ECL at 0133 hours and continued through the Alert notification at 0223 hours. The WEOC was opened by the on-duty sheriff's deputy, and security of the WEOC (Office of Emergency Management) was in place by 0210 hours. By 0315 hours, 16 response agencies were represented at the EOC.

The objective to demonstrate the ability to fully staff facilities and maintain staffing around the clock (WEOC-5) was met. Double-staffing was accomplished by the Wayne County Sheriff's Department and the New York State Police. A shift change about midway through the exercise was demonstrated by the American Red Cross (ARC), Patient Services Director (nurses), and an elected official. A second-shift roster for the other agencies was presented to complete the demonstration of 24-hour staffing.

The objective to demonstrate the ability to support emergency operations in the EOC (WEOC-3) was partially met. Although space in the WEOC is limited, this did not seem to hinder the EOC staff from accomplishing their tasks. However, the limited space does not make for ideal working conditions for a protracted period. Plans for relocating the WEOC within another year or so are being formulated. All charts, wall displays, status boards, and maps were visible, and significant events were posted and updated. The Chairman of the County Board of Supervisors was very knowledgeable about the Wayne County plan and procedures.

Previous ARCAs (Wayne 2 and 34) from GNPS PEA dated December 16, 1985 remains uncorrected.

The objective to demonstrate the ability to communicate with all appropriate locations (WEOC-1) was met. Communications links were excellent at the WEOC. The RECS telephone connects the utility with the WEOC and the dedicated executive hotline

telephone connects the Monroe, Wayne, and New York State EOCs. The RECS line functioned properly. Numerous telephone lines were available in the EOC for use by the response agencies. The Sheriff could access police radio links, and the fire coordinator could contact the Lyons Fire Department to use the mutual-aid frequency for backup communications. Communication with the two radiological field monitoring teams was provided by using RACES personnel and equipment. Each field team had a RACES operator, and one field team in a Sheriff's car also had the Sheriff's radio as backup, while the other field team in the Union Hill Fire Department Ambulance had the mutual-aid net for backup communications. There was excellent demonstration of all appropriate communications links (commercial, public, and private).

Previous ARCA (Wayne 6, 33 and 37) from GNPS PEA dated December 16, 1985 have been corrected and verified.

Wayne County Sheriffs officers maintained security at the closed-door entrance to the EOC operations areas. Assigned officers promptly logged incoming personnel by requesting identification and issuing EOC identification badges.

The objective to demonstrate the ability to make decisions and to coordinate emergency activities (WEOC-4) was met. The Chairman of the Board of Supervisors for Wayne County was effectively in charge of emergency operations as designated in the plan. Periodic briefings were held throughout the exercise, with all County agencies providing updates of actions taken. All EOC staff members were well trained and knowledgeable about their emergency response functions. Plans and procedures were available. Message handling during the course of the exercise was very effective.

The objective to demonstrate the ability to project radiation dosages to the public via the plume exposure (WEOC-6) was partially met. The dose assessment staff made changes in the computer program the morning of the exercise. These changes resulted in seriously inaccurate thyroid dose projections. Apparently, the staff neither attempted to verify the accuracy of the revision nor attempted to justify the last-minute changes. These alterations to the computer program should have been closely checked and verified prior to use.

Field measurements obtained from the Wayne County monitoring teams were used to project doses at 1, 2, 5, and 10 miles. These values were confirmed when the Monroe County field monitoring team data became available. The dose assessment staff did not recognize that utility measurements had been obtained by telefaxes from the EOF. These data also confirmed the previous County field data.

The County Radiological Officer (RO) provided input to the County decision maker on most protective actions. The last protective action (i.e., to shelter out to 17 miles, or to the county line) could not be defended with the data available in the dose assessment area. Because of the problems with the computer calculations mentioned above, the RO advised the County decision maker that he could neither confirm nor deny the advisability of the utility and state PAR.

The objective to demonstrate the ability to alert the public within the 10-mile EPZ and disseminate an instructional message within 15 minutes (WEOC-7) was met.

Sirens were simulated to have been sounded, and six EBS messages were developed. The coordination of EBS messages between the State and counties was effective. After agreement had been reached on the contents of each message, a "decision time" was also agreed upon, which started the 15-minute clock within which each message was issued. The PIO had a direct link to the JNC to coordinate message information. Ontario Volunteer Fire Department personnel were advised at 0252 hours to report to the fire station to demonstrate route alerting capabilities.

Another public alerting activity involved the Sheriff's Department at the WEOC, when a list of hearing-impaired persons was given to the Sheriff's Department representative at 0341 hours after the sirens had been sounded.

After the decision was made to shelter populations beyond the 10-mile EPZ, the law enforcement personnel discussed the need for "ad hoc" public alerting. There were no observations of any activities, real or simulated, to implement this ad hoc alerting.

The objective to demonstrate the ability to manage an orderly evacuation of the 10-mile EPZ (WEOC-8) was met through numerous County activities. Evacuation of individuals was simulated. ERPAs W1, W2, and W3 were initially covered for evacuation of the mobility-impaired with subsequent evacuation for all of W1; the coverage was later extended to shelter all of ERPAs W2, W3, W5, W6, and W7. In response to a free-play message interjected at the WEOC, activation of traffic control points were simulated in the field. Evacuation activities also included demonstration of the organizational activities necessary to respond to a free-play message to evacuate mobility-impaired persons at three separate facilities. A list of mobility-impaired individuals was used to demonstrate this response planning at the WEOC.

The objective to demonstrate the ability to control access to an evacuated area (WEOC-10) was met. Access to the evacuated area was controlled and all actions posted on the status board. The traffic control point was activated at 0235 hours; roads were blocked at 0235 hours; the Federal Aviation Administration (FAA) (air traffic) was placed on standby at 0303 hours; rail traffic was cleared at 0312 hours; the U.S. Coast Guard was advised of Alert Status at 0255 hours; and parks and recreation areas were advised by the Sheriff's Department to close at 0318 hours. The traffic control points were fully staffed at 0530 hours.

The objective to demonstrate the ability to deal with impediments to evacuation (WEOC-9) was met by coordination at the WEOC and simulation of field activities. At 0636 hours, the County Sheriff's Department was advised of a possible hazardous materials accident at the intersection of Whitney Road and southbound Route 350. Two sheriff's cars were dispatched, and the State Police Hazardous Material team was placed on standby.

The objective to demonstrate the need to identify and request State assistance was met (WEOC-11). The State was requested to provide manpower and resources for various emergency response functions. The County interacted effectively and appropriately with the State. The Sheriff's Department responders at the scene redirected the traffic traveling east on Paddy Lane sothat it traveled south on Ontario/Wolworth Road. The Sheriff's Department requested the assistance of the State

Police Hazardous Material team. Two fire departments were dispatched with instructions to use full protective clothing and self-contained breathing apparatus. It was reported at 0651 hours that the chemical had not leaked and that there were no injuries at the scene of the accident. At 0700 hours, it was reported from the field that responders were awaiting the arrival of chemical company representatives. The alternate evacuation route was kept in effect until 0717 hours, when the road was cleared and the truck was simulated to have been removed.

The objective to demonstrate the ability to coordinate, with the utility, an evacuation of on-site personnel (WEOC-12) was met. The EOF coordinated all activities for on-site evacuation with the WEOC. On-site evacuation was completed at 0918 hours.

DEFICIENCIES

No Deficiencies were observed at the Wayne County EOC.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: The dose assessment staff made changes in the computer program used to make dose projections. These changes resulted in inaccurate thyroid dose projections (NUREG-0654, II, I.10, J.10.m).

   Recommendation: Changes to the computer program should be verified and checked for accuracy prior to use for projecting doses.

2. Description: The Wayne County RO did not question the technical reasons for the 25-mile shelter PAR (17 miles in Wayne County) strongly enough (NUREG-0654, II, I.10, J.10.m).

   Recommendation: Training should be provided to the RO to assure that all data, either the County's or the utility's, are used to defend or refute PARs.

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: Although discussions were witnessed among law enforcement personnel at the EOC, Wayne County did not demonstrate implementation of a directive to alert the affected areas beyond the 10-mile EPZ which received the recommendation to shelter.

  Recommendation: When protective action recommendations are made beyond the 10-mile EPZ, appropriate actions should be taken to alert the public.

2.2.2 Radiological Field Monitoring Teams

One of the three objectives being evaluated for Wayne County field monitoring teams was fully met, with two objectives being partially met.

The objective to mobilize and deploy two radiological field monitoring teams in Wayne County (WCFA-2) was met. Team members were notified beginning at 0300 hours via radio pagers activated by the Wayne County fire dispatcher. The team members arrived promptly at the dispatch point and were ready for deployment to the field by 0400 hours. Both teams used a written checklist to verify supplies and equipment in their field kits. Instruments were checked against a radiological source and calibrated. Battery checks were also performed. The teams were then briefed on personal exposure control, meteorological conditions, and the ECL. However, additional information on current conditions of the plant should have been included in the briefings.

The teams were dispatched to travel to their first sampling point at approximately 0505 hours. The drivers were familiar with the area and located these sampling points without any difficulties.

The objective for demonstrating appropriate equipment and procedures for determining ambient radiation levels and the taking of air samples (WCFA-3) was partially met. Both teams demonstrated appropriate procedures for determining ambient levels. Readings were taken according to the written survey procedures, except that one team performed only closed-window readings, even though both open and closed readings are required by the procedures to properly characterize the plume location. Readings were properly logged and recorded by instrument, date, time, and location, according to the standard instruction sheets. These forms are somewhat long and cumbersome to use; often they impeded the progress of the team's sampling efforts. Several problems were identified related to contamination control in the field: (1) protective coverings for the survey instrument probes were not used; (2) the equipment kits were opened in the plume, which could lead to contamination of equipment and possible cross-contamination of samples; and (3) a pail that was set on the ground to support the air-sampling equipment was put back into the vehicle without checking for contamination.

A previous ARCA (Wayne 36) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} µCi/CC in the presence of noble gases (WCFA-4) was partially met. Written SOPs were available and used by team members, but one team used inappropriate proceduresfor counting air samples. The charcoal/silver zeolite cartridges and the particulate filters were monitored simultaneously rather then separately. Samples were removed from the plume to a low-background area for monitoring.

A previous ARCA (Wayne 21) from GNPS PEA dated December 16, 1985 has been corrected and verified.

DEFICIENCIES

No Deficiencies were observed in the performance of the Wayne County field monitoring teams.

AREAS REQUIRING CORRECTIVE ACTION

1. **Description:** One team performed only closed-window readings, even though both open- and closed-window readings were required to properly characterize the plume location (NUREG-0654, II, I.8).

   Recommendation: Field monitoring team members should be trained to take both open- and closed-window instrument readings.

2. **Description:** Several problems were identified related to contamination control in the field.

   - One of the teams did not use protective coverings for the survey instrument probes.

   - The equipment kits were opened in the plume, which could lead to contamination of equipment and possible cross-contamination of samples.

   - A pail that was set on the ground to support the air-sampling equipment was put back into the vehicle without checking it for contamination (NUREG-0654, II, I.8).

   Recommendation: Field monitoring team members should be trained in proper procedures for contamination control.

3. **Description:** Radiological monitoring team members used an inappropriate procedure for air sample surveys. The charcoal/silver zeolite cartridges and the particulate filters were monitored simultaneously rather then separately (NUREG-0654, II, I.9).

   Recommendation: The field monitoring teams should be trained in proper survey techniques for the analysis of air samples.

AREAS RECOMMENDED FOR IMPROVEMENT

- **Description:** The teams were not briefed on current conditions at the plant before they were deployed into the field.

  Recommendation: The field monitoring teams should be briefed regarding current conditions at the plant before they are deployed into the field.

- **Description:** The forms used to record and transmit monitoring field data are somewhat long and cumbersome to use; they often impeded the progress of the team's sampling efforts.

  Recommendation: The radiological field monitoring forms should be streamlined to facilitate field team activities.

2.2.3 Field Activities

Eight of the ten objectives being evaluated for Wayne County field activities were fully met, with a determination being made that the other two objectives were inappropriate for field activities since they were being evaluated in the WEOC.

The objective to demonstrate the ability to provide backup procedures for alerting the public in the event of a partial siren failure (WCFA-5) was met based on interviews with fire volunteers. A free-play message was introduced in the WEOC at 0355 hours, which stated that a siren had failed to operate (simulation). The Ontario Volunteer Fire Department is responsible for conducting route alerting in the area covered by the siren failure although an actual demonstration was not planned for this exercise, fire volunteers were interviewed regarding equipment needed and procedures to follow. Six vehicles are available at the fire station. Should more vehicles be needed, they would be obtained from the County. Appropriate maps and route messages are contained in the standard operating procedures (SOPs). These are also kept in each vehicle. Route alerting teams have received training in radiological exposure control during the past year. Pocket dosimeters (0-200 R, 0-5 R), TLDs, KI, and record keeping forms were available and prepackaged for each emergency worker. Emergency workers knew that dosimetry badges were to be worn while working in the field.

A previous ARCA (Wayne 39) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the ability to formulate and distribute appropriate instructions to the public in a timely fashion (WCFA-6) was met by the distributed public information brochures for Wayne County. These brochures contained the evacuation routes, pickup points, and other emergency response information.

The objective to demonstrate resources necessary to control access to an evacuated area (WCFA-7) was inappropriate as a field activity objective since it was simulated in the field and its demonstration was evaluated in the WEOC.

The objective to demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ (WCFA-9) was met by the deployment of a bus to complete general population evacuation route #1. The Wayne Area Transportation Service (WATS) dispatcher received a call at 0426 hours from the WEOC requesting that vehicles be placed on standby in anticipation of an evacuation. At 0610 hours, a call was received from the WEOC directing the dispatcher to deploy a bus to evacuate ERPA W1. The driver of the bus was briefed on the route to follow and received his dosimeter prior to deployment. He was knowledgeable in his responsibilities,

maintained radio contact with the dispatcher, was familiar with the route, and quickly completed his pickup route. Upon completion of his evacuee pickup route, he proceeded to the designated reception center.

The objective to demonstrate a sample of resources necessary to deal with impediments to evacuation (WCFA-10) was inappropriate as a field activity objective since it was simulated in the field and its demonstration was evaluated in the WEOC.

The objective to demonstrate procedures for registration and radiological monitoring of evacuees (WCFA-11) was met. A Reception/Congregate Care Center was activated at the North Rose Wolcott High School in Wolcott, New York. Individuals simulating evacuees were processed through the center. They were monitored upon initial entry, segregated if contaminated, and directed to the decontamination operation at the center. All clean or decontaminated evacuees were given a registration sheet and routed to a registration area for processing. Evacuees who had been monitored, decontaminated (if necessary), and registered were stamped with a rubber stamp for identification. The registration cards issued to the evacuees following reception and monitoring were collected at the registration area.

The objective to demonstrate the adequacy of facilities for mass care of evacuees (WCFA-12) was met at the Rose Wolcott Reception/Congregate Care Center. The center is located 25 miles from the Ginna plant and can accommodate 1000 people. The facility was equipped with enough sleeping supplies, toilets, drinking water, and parking to support the anticipated number of evacuees. Adequate staffing was available to support extended operations.

The objective to demonstrate adequate equipment, and procedures for decontamination of emergency workers, equipment, and vehicles (WCFA-14) was met at the reception center. Vehicles were monitored when they entered the facility and properly routed to either a radiologically clean parking lot or the decontamination area. Appropriate decontamination procedures were used by the emergency workers. Contaminated evacuees were directed into the decontamination area and instructed to remove contaminated clothing and place them in tagged and sealed plastic bags prior to decontamination. They received showers and were remonitored for contamination.

Personnel monitoring center were activated at the Wayne County Highway Department garage in Lyons, New York. The procedures for monitoring and decontaminating County emergency workers were described in detail to the Federal evaluator. The facility and staff were sufficiently supplied and trained to perform the required operations. Proper movement of potentially contaminated individuals was demonstrated.

Previous ARCAs (Wayne 30 and 38) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate adequate procedures and equipment for disposal of contaminated wastes at the reception center (WCFA-13) was met. Potentially contaminated materials were placed in plastic bags labeled "radioactive." The personnel were aware that the wastes should be stored in a secured area away from evacuees and that the utility would be responsible for final disposal.

A previous ARCA (Wayne 25) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the resources necessary to effect an orderly evacuation of schools within the plume EPZ (WCFA-15) was met at the Williamson School Garage. The transportation coordinator at the garage received a call from the School Coordinator at the Wayne County EOC at 0910 hours, instructing him to evacuate the school children from the Williamson Senior High School to the Rose Wolcott Reception/Congregate Care Center. Bus drivers were given instructions concerning the routes and procedures to follow and were issued dosimeters. One bus was dispatched, completed the designated route in a timely fashion, and maintained continuous radio contact with the dispatcher.

A previous ARCA (Wayne 42) from GNPS PEA dated December 16, 1985 has been corrected and verified.

DEFICIENCIES

No Deficiencies were observed in the performance of Wayne County field activities.

AREAS REQUIRING CORRECTIVE ACTION

No Areas Requiring Corrective Action were observed in the performance of Wayne County field activities.

AREAS RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed in the performance of Wayne County field activities.

2.2.4 Emergency Worker Radiological Exposure Control

The demonstration of both objectives for emergency worker exposure control were fully met.

The objective to demonstrate the ability to continuously monitor and control emergency worker exposure was met (WCFA-1). All of the County emergency workers who were assigned activities in the field were knowledgeable with exposure control and were equipped with the required instrumentation. The maximum allowable dose without authorization was known, and personnel recorded dosimeter readings periodically. Emergency staff for the Ontario Fire Department and field monitoring teams had appropriate dosimetry equipment. A knowledge on exposure limits by bus drivers was demonstrated.

A previous ARCA (Wayne 29, 35, 40, and 41) from GNPS PEA dated December 16, 1985 have been corrected and verified.

The objective to demonstrate the ability to supply and administer KI (WCFA-8) was met. Radiological exposure control kits, issued to County emergency workers contained supplies of KI for ingestion by the individual. Workers were aware of the procedures for the prompt administration of KI once the decision was made at the WEOC.

DEFICIENCIES

No Deficiencies were observed in the performance of Wayne County radiological exposure control.

AREAS REQUIRING CORRECTIVE ACTION

No Areas Requiring Corrective Action were observed in the performance of Wayne County radiological exposure control.

AREAS RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed in the performance of Wayne County radiological exposure control.

2.3 MONROE COUNTY

2.3.1 Monroe County Emergency Operations Center (MEOC)

All eleven objectives assigned to the MEOC were fully met.

The objective to mobilize staff and promptly activate facilities (MEOC-2) was met. The Monroe County warning point received notification of a NUE at 0130 hours. A computerized pager notification system was activated at the warning point to alert the key County officials. The warning point is staffed around the clock so that it is available to receive notification and disseminate messages at any hour of any day. Following the initial notification to the key County officials, the remainder of the emergency staff was mobilized using preplanned call-out procedures. Commercial telephones and a pager system were used. The MEOC was fully staffed and declared operational at 0245 hours.

The objective to demonstrate the ability to fully staff the MEOC and maintain staffing around the clock (MEOC-5) was met. Second-shift personnel for some agencies represented at the MEOC were mobilized. They assumed their respective emergency response activities and, along with the first shift, demonstrated knowledge and

familiarity with their responsibilities. Duty rosters were made available that identified the second-shift personnel for agencies that did not actually change staff.

The objective to demonstrate the communications with all appropriate locations, organizations, and field personnel (MEOC-1) was met. Primary and backup communication links with other emergency response locations were effectively used by Monroe County personnel. The dedicated RECS and executive hotline telephones were used extensively throughout the exercise. Numerous telephone lines and redundant radio systems were available at the MEOC. The communication systems used by the Dose Assessment Team at the MEOC functioned without any problems. Radio communications were maintained with the County radiological field monitoring teams.

The objective to demonstrate the adequacy of facilities and displays to support emergency operations (MEOC-3) was met. The area used for the MEOC has undergone extensive renovation since the 1985 exercise. Significant improvements have been made to provide additional space while maintaining overall continuity of operations. A central operations room was used by the responding emergency staff. Adjacent to the main operations area are rooms used by the Accident Assessment Team, executive personnel, communications, and the PIO. Each of these functional areas were readily accessible from the central operations room. Required maps and displays were all posted in visible locations. Status boards depicting the emergency classification level, meteorological data, affected areas within the EPZ, population impacted, Reception/Congregate Care Centers, and other pertinent data were maintained and updated as appropriate. A public address system used during briefings was difficult to hear in several locations.

The objective to demonstrate the ability to make decisions and coordinate emergency activities (MEOC-4) was met. The Director of the Office of Emergency Preparedness was clearly in charge of all decision making until the County Executive arrived at the MEOC. Periodic briefings were held to update staff on the emergency situation. Individual agency staff at the MEOC presented verbal updates on their status and ongoing events during the briefings. Message logs were kept for all incoming and outgoing transmissions, and the messages were reproduced and distributed as necessary. The County Executive thoroughly considered all recommendations from the radiological officer and discussed all relevant plant condition with the State and Wayne County EOCs before a protective action decision was made.

A previous ARCA (Monroe 29) from GNPS PEA dated December 16, 1985 has been corrected and verified.

Reception centers were placed on standby, and the schools used as reception centers were requested to cancel normal activities and be available for use if required. Three schools were designated as reception centers and placed on standby at 0705 hours. Personnel from the Monroe County departments of Health and Social Services and the ARC were put on standby.

The objective to demonstrate the ability to project radiation dosage to the public via plume exposure, based on plant and field data, and to determine appropriate measures (MEOC-6) was met. Manual dose calculations were compared with computer-generated dose projections; as soon as field measurement data became available, the dose

projections were compared. Field measurements were also used to generate dose projections at several distances and to generate source-term information because source-term information was not readily available from the EOF. Several "what if"-type calculations were carried out during the course of the exercise. As more information became available from the EOF (e.g., in-plant monitor readings), the better these dose projection estimates became. The county liaison at the EOF helped expedite the flow of plant data with the EOC. The dose assessment PARs were well thought out and soundly supported by the available information. In general, the dose assessment protective actions were consistent with existing conditions and available data.

A previous ARCA (Monroe 30) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the ability to direct alerting of the public within the 10-mile EPZ and the dissemination of an initial instructional message within 15 minutes (MEOC-7) was met. Following receipt of PARs by the executive staff at the MEOC, the County Executive cooperated with his counterparts at the State and Wayne County EOCs, using the dedicated telephone line. When the Monroe County Executive reached concurrence on PARs with his own staff, the State and Wayne County EOCs, the Monroe County PIO at the JNC were notified immediately. The PIO included the information received from the MEOC in the EBS messages released from the JNC. Six EBS messages were prepared and simulated as being broadcast within the 15-minute guideline.

The decision was made to shelter populations beyond the 10-mile EPZ. However, there were no observations of any activities, real or simulated, to implement ad hoc alerting of population beyond 10 miles.

The objective to demonstrate the organizational ability and resources necessary to manage an orderly evacuation of all or part of the plume EPZ (MEOC-8) was met. Traffic control of the affected area was formally addressed following the interjection of a free-play message by the Federal evaluator at 0430 hours. The Monroe County Sheriff's Department and the Department of Transportation coordinated their efforts to provide manpower and resources in a timely manner. Traffic volumes and anticipated evacuation times were discussed.

The objective to demonstrate the organizational ability and resources necessary to deal with impediments to evacuation, such as inclement weather or traffic obstructions (MEOC-9) was met through the demonstration of emergency workers with the Monroe County Department of Transportation. A free-play message for traffic impediments was presented to the MEOC staff following notification of the General Emergency ECL. The Command and Control Section at the MEOC analyzed the situation and informed the Department of Transportation of the location and nature of the impediment. The personnel and equipment required were determined, and resources were dispatched to the field location.

The objective to demonstrate the organizational ability to effectively implement traffic and access control (MEOC-10) was met. Representatives from the Monroe County Department of Transportation and the Sheriff's Department coordinated their

efforts to provide the resources and manpower to establish and maintain traffic control at all designated locations. This activity promptly followed the insertion of a free-play message requiring activation of a traffic control point for evaluation in the field. There were sufficient quantities of County resources available to support both the access and traffic control functions. Additional help could be obtained from the State agencies located in the MEOC.

The objective to demonstrate the ability to identify the need for, request, and obtain State assistance (MEOC-11) was met. State resources in terms of equipment and personnel were requested and put on standby status for numerous emergency response activities.

DEFICIENCIES

No Deficiencies were observed at the Monroe County EOC.

AREAS REQUIRING CORRECTIVE ACTION

No Areas Requiring Corrective Action were observed at the Monroe County EOC.

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: The public address system used during the MEOC briefings to assist the various agency representatives in presenting their status reports was difficult to hear in several locations in the main operations area.

  Recommendation: Additional speakers should be strategically positioned around the main operations area to fill in the "dead" spots in the coverage of the public address system.

- Description: Monroe County did not demonstrate implementation of a directive to alert the affected areas beyond the 10-mile EPZ which received the recommendation to shelter.

  Recommendation: When protective action recommendations are made beyond the 10-mile EPZ, appropriate actions should be taken to alert the public.

2.3.2 Radiological Field Monitoring Teams

All three objectives being evaluated for Monroe County radiological field monitoring teams were partially met.

The objective to demonstrate the ability to mobilize and deploy field monitoring teams in a timely manner (MCFA-2) was partially met. Two teams were mobilized and deployed into the field during the exercise. A written call list was used to notify team members via commercial telephones. All notifications were complete within 10 minutes, and the teams were mobilized and deployed in one hour. There was no clearly defined procedure to assure that trained team members would be available during periods of vacation or travel. The vacation and travel schedules of team members should be staggered so that an adequate number of trained personnel are always available. Written checklists were used by both teams to verify equipment and supplies, and equipment was properly checked. However, it was noted that team A failed to check off the items as they went through their kits. The team members in team A also neglected to leave their equipment turned on after they conducted battery and calibration checks using a known source. Before deployment the teams were not adequately briefed on current plant conditions, meteorological data, or control procedures by the field team dispatcher. Field team members were all aware of their individual responsibilities and field duties.

A previous ARCA (Monroe 32) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate appropriate equipment and procedures for determining ambient radiation levels (MCFA-3) was partially met. Both teams had all required equipment and supplies available in their kits. Proper procedures were demonstrated by both teams for determining ambient radiation levels. However, the volume of air sampled by one Monroe County field team was reported as 10 Liters (L) instead of 10 cubic feet. Field team personnel should be trained to report all sampling units in the proper units. Team members measured background radiation levels at each specific sampling point using correct field procedures. They were careful not to contaminate their equipment, and probes were always stored in plastic bags. The teams followed sampling procedures effectively. However, members of team A exhibited poor understanding of the strategy for sampling while minimizing their exposure. The team failed to relocate outside the plume while conducting a radio check requiring 23 minutes in a field of 470 mR/hr and a 15-minute team conference. Team A was also late in calling in sample results, sometimes taking up to one hour.

A previous ARCA (Monroe 31) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate appropriate equipment and procedures for measurement of airborne radioiodine concentrations as low as 10^{-7} µCi/cc in the presence of noble gases (MCFA-4) was partially met. Team memmbers demonstrated adequate calibration, the setting up of the air pump, knowledge of the proper amount of sampling time, and the correct labeling of air samples. However, the team did not have the equipment necessary for measurement of airborne radioiodine concentrations as specified in the plan. The canisters and filters were read with a meter (mR/hr) in the field before they were sent to a laboratory for further analysis.

A previous ARCA (Monroe 33) from GNPS PEA dated December 16, 1985 remains uncorrected.

DEFICIENCIES

No Deficiencies were observed in the performance of the Monroe County field monitoring teams.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: The radiological monitoring teams were not adequately briefed on current plant conditions, meteorological data, or control procedures by the field team dispatcher before being deployed into the field (NUREG-0654, II, I.8).

   Recommendation: Field teams should receive detailed briefings before being dispatched.

2. Description: One Monroe County field team reported the volume of air sampled as 10 liters instead of 10 cubic feet as prescribed in the field team procedures (NUREG-0654, II, I.8).

   Recommendation: Field team personnel should be trained to report all sampling units in the proper units as prescribed in the field team procedures.

3. Description: Members of Team A exhibited poor understanding of the strategy for sampling while minimizing their exposure. The team failed to relocate outside the plume while conducting a radio check and a 15-minute team conference. Also, team A took an inappropriate amount of time to call in sample results, sometimes as long as one hour (NUREG-0654, II, I.8)..

   Recommendation: Additional training should be provided to team members on approved field techniques, with particular emphasis on radiological safety.

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: Team A members failed to check off the items as they inventoried their kits. They also neglected to leave their equipment turned on after they calibrated the equipment using a battery and radioactive source checking procedure.

  Recommendation: Team members should receive additional training on check-out procedures.

2.3.3 Field Activities

All nine objectives being evaluated for Monroe County field activities were fully met.

The objective to demonstrate that information on emergency actions has been provided to permanent and transient population within the 10-mile EPZ (MCFA-6) was met by the distributed public information brochures for Monroe County. These brochures contained the evacuation routes, pickup points, and other emergency response information.

The objective to demonstrate the ability to provide backup procedures for alerting the public in the event of a partial siren failure (MCFA-5) was met. A free-play message was introduced in the MEOC at 0326 hours, which stated that siren #22 had failed to operate. The Webster Police Department is responsible for conducting route alerting in the area covered by siren #22. Its representative at the MEOC contacted the dispatcher and initiated the field response. Actual deployment of field personnel was simulated.

A previous ARCA (Monroe 12) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the organizational ability and resources to establish a traffic control point (MCFA-7) was met. The Monroe County Sheriff's Department promptly established a traffic control point at the intersection of Route 104 (Irondequoit Expressway) and Hard Road. The officer responding to the control point arrived at 0507 hours and demonstrated a thorough understanding of the procedures for traffic control. Delivery of barricades to the control point was simulated by the Department of Transportation at the MEOC. Proper dosimetry was utilized by the officer.

Previous ARCA (Monroe 34 and 35) from GNPS PEA dated December 16, 1985 have been corrected and verified.

The objective to demonstrate organizational ability and resources needed to manage orderly evacuation of the general population (MCFA-9) was met by the dispatch of a bus from the Regional Transit Service to complete an evacuation route X-3D. The driver was familiar with the process used to transport evacuees out of the affected area and was acquainted with the designated bus route. The bus was dispatched from the garage in Rochester at 0545 hours. The locations of reception centers were known by the bus driver.

The objective to demonstrate the resources necessary to deal with impediments to evacuation, such as traffic obstruction (MCFA-10) was met in the field. A free-play message was injected, which required the activation of County resources to control traffic and clear an evacuation route. An accident involving an overturned truck loaded with bales of hay was simulated at the intersection of Plank Road and Route 250. The accident (simulated) caused a blockage of the route, and the driver of the truck was injured. The appropriate resources were notified and asked to respond to the accident.

An ambulance was called to treat the injured, and the Department of Transportation was called on to provide a bucket loader to remove the bales of hay. The Sheriff's Officer arrived at 0543 hours and the ambulance arrived at 0559 hours. However, dispatch of the bucket loader was simulated rather than actually demonstrated per pre-exercise agreement.

The objective to demonstrate the procedures for registration and radiological monitoring of evacuees over a 24-hour period (MCFA-11) was met. Rush-Henrietta Senior High School was activated as a reception/congregate care center for the exercise out of sequence with the exercise events. The facility was adequate for handling reception, registration, and radiological monitoring requirements for potentially contaminated evacuees, vehicles, and pets. The monitoring and reception staff appeared well trained and knowledgeable in the correct use of monitoring instruments and personal dosimetry. On the basis of the number of trained monitoring teams and available equipment, approximately 3500 evacuees could be monitored during a 12-hour period. However, only a small portion (300-500) could have been housed at the facility. Separate facilities were provided for decontamination of female and male evacuees. Incoming vehicles were monitored upon entering the parking area; however, clean and contaminated parking areas were not well marked within the parking lot.

Resources were reported to be adequate in terms of the number of personnel and equipment. Reception centers were officially opened at 0744 hours, and personnel were directed to deploy to the centers and prepare to accept evacuees.

Arriving evacuees entered the facility through a common entry before being monitored within the building. This approach could lead to some cross-contamination of evacuees, requiring additional decontamination efforts. Evacuees who were found to be contaminated were processed through the decontamination area of the facility. Showers were used for decontamination and then individuals were remonitored.

The objective to demonstrate the adequacy of facilities for mass care of evacuees (MCFA-12) was met. Rush-Henrietta Senior High School was activated as a Congregate Care Center. The facility is adequate to handle the anticipated number of evacuees (around 350). The staff were familiar with the procedures and the requirements for equipment and supplies. An adequate number of professional and volunteer personnel was available to staff and operate the mass care operation.

The objective to demonstrate procedures and equipment used for the disposal of contaminated waste (MCFA-13) was met. The monitoring and decontamination personnel at the reception center all understood the proper procedures for the collection, storage, and disposal of contaminated wastes. Any items that could not be readily decontaminated would be packed in separate plastic bags and appropriately labeled and documented. The separate packages would be collected in a larger, yellow-colored bag and labeled as contaminated waste. These bags would be stored for later pickup by the utility for proper disposal. Waste items would be logged and inventoried for identification and compensation purposes.

A previous ARCA (Monroe 23) from GNPS PEA dated December 16, 1985 has been corrected and verified.

The objective to demonstrate the resources necessary to effect orderly evacuation of schools within the plume EPZ (MCFA-14) was met. A free-play message was introduced at the MEOC, which required the dispatch of a bus to Webster High School to simulate pickup of students and transport to the reception center at Monroe Community College. A bus was dispatched from the Webster Central School Bus Garage in Webster at 0900 hours. The driver was briefed on the route and dosimetry procedures prior to departure from the garage. The driver was familiar with the route to be followed and was equipped with a radio for communications with the dispatcher. The bus ran the designated route, finishing at the reception center.

DEFICIENCIES

No Deficiencies were observed in the performance of Monroe County field activities.

AREAS REQUIRING CORRECTIVE ACTION

No Areas Requiring Corrective Action were observed in the performance of the Monroe County field activities.

AREAS RECOMMENDED FOR IMPROVEMENT

- Description: Clean and contaminated parking areas were not well marked within the parking lot.

  Recommendation: Additional directional signs and arrows should be used to route traffic in the parking area as appropriate.

- Description: Arriving evacuees entered the facility through a common entry before being monitored within the building. This approach could lead to some cross-contamination of evacuees, requiring additional decontamination efforts.

  Recommendation: Thought should be given to altering the traffic flow of evacuees into the building. Consideration should be given to monitor arriving evacuees prior to entry into the building to avoid the potential of cross contamination of evacuees.

2.3.4 Emergency Worker Radiological Exposure Control

Both objectives being evaluated for Monroe County emergency worker radiological exposure control were fully met.

The objective to demonstrate the ability to continuously monitor and control emergency worker exposure (MCFA-1) was met by county emergency workers assigned to field duties. All field personnel participating in the exercise were equipped with the required dosimetry devices and TLDs. These workers were involved with radiological field monitoring, traffic control, general population bus evacuation, evacuation of schools, and impediments to evacuation.

Emergency workers were familiar with how to read, record, and transmit dosimeter values to the appropriate locations. The field personnel knew the maximum allowable doses without further authorization and what steps to take in the event of an exposure that exceeds those limits. Proper dosimetry equipment and proceedures were demonstrated for traffic control staff and field monitoring teams.

Previous ARCA (Monroe 26 and 36) from GNPS PEA dated December 16, 1985 have been corrected and verified.

KI was provided in the dosimetry kits distributed to all emergency workers in the field. Personnel were aware that they must receive authorization from their superiors before ingesting KI. The objective to demonstrate the ability to supply and administer KI to emergency workers (MCFA-8) was met.

DEFICIENCIES

No Deficiencies were observed in the performance of Monroe County emergency worker radiological exposure control.

AREA REQUIRING CORRECTIVE ACTION

No Areas Requiring Corrective Action were observed in the performance of Monroe County emergency worker radiological exposure control.

AREA RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed in the performance of Monroe County emergency worker radiological exposure control.

2.4 MEDICAL DRILL

The medical drill occurred out of sequence on December 3, 1987. One of the two objectives to be evaluated was fully met, with the other objective being partially met.

The objective of demonstrating adequacy of ambulance facilities and procedures for handling contaminated individuals (MD-1) was met. The scenario for the medical drill began at 0830 and involved a plant employee who became injured and contaminated in the Ginna Auxiliary Building. The plant staff provided initial first aid and a health

physics evaluation. An ambulance arrived at the scene at 0855, and its crew was briefed on the injured person's condition by plant staff. Rochester General Hospital was advised of the patient's condition. The ambulance crew was provided with dosimetry by plant staff, who demonstrated adequate monitoring and prevention of contamination in the vicinity of the patient. When the ambulance arrived at the hospital at 0940, a health physicist from the Ginna plant monitored the ambulance crew and vehicle.

The objective of demonstrating adequacy of hospital facilities and procedures for handling contaminated individuals (MD-2) was partially met. Rochester General Hospital was all set up to receive a contaminated injured patient when the ambulance arrived. It has an excellent, roomy facility for treating contaminated patients. Medical care was prompt and samples were taken and properly identified. A nurse/recorder maintained a log of vital signs, radiation monitoring, sampling, and all other procedures. A hospital physicist was in the room to monitor the patient and the staff. The monitoring instrument (a Victoreen 491) was last calibrated on 11/21/86 and was scheduled for recalibration in November 1987.

During the decontamination procedures, hospital staff kept a blanket under the patient, which kept contaminated water under the patient. The blanket under the patient was changed, but again decontamination results were unchanged. The hospital staff did not understand why the referee did not significantly reduce the contamination level they were monitoring. The use of the blanket, which could contaminate the back of a patient was one reason decontamination was inadequate. Another reason was use of a very high pressure hose which could spread contamination to the staff as well as to other parts of the patient. Gentle scrubbing with Betadyne was recommended by the hospital physician in lieu of the hose. Emergency room staff did not check their self-reading dosimeters prior to entering the emergency room; therefore, initial readings were not recorded. Two of these dosimeters actually read 200 mR. Health physicists from the GNPS adequately demonstrated patient transfer and staff exit procedures.

DEFICIENCIES

No Deficiencies were observed in the medical drill portion of the exercise.

AREAS REQUIRING CORRECTIVE ACTION

1. Description: Hospital staff used a blanket under the contaminated patient which could contaminate the patient's back and a high pressure hose which could spread contamination (NUREG-0654, II, L.1).

   Recommendation: Hospital staff should be given initial training in decontamination procedures.

2. Description: Emergency room staff did not check their self-reading dosimeters before entering the emergency room; initial

readings were not recorded. Two of these dosimeters actually read 200 mR (NUREG-0654, II, K.3.b).

Recommendation: Emergency room staff should be given training in the use of personal dosimetry.

AREAS RECOMMENDED FOR IMPROVEMENT

No Areas Recommended for Improvement were observed in the medical drill portion of the exercise.

3 REMOVAL OF COMPLETED AREAS REQUIRING CORRECTIVE ACTION FROM PREVIOUS POST EXERCISE ASSESSMENT (December 16, 1985)

The following list summarizes those ARCAs identified in the GNPS PEA dated December 16, 1985 which have been corrected and verified in previous exercises and have been removed from the chart provided in Section 4 of this report:

New York State EOC numbers 1-7, 10-16, 20, 22 and 23

Western District EOC numbers 1-3, 5, and 6

Lake District EOC numbers 1-3

Emergency Operations Facility numbers 2-3

Joint News Center numbers 1-3

Wayne County numbers 1, 3-5, 7-10, 12-16, 18-20, 22-24, 26-28, 31 and 32

Monroe County numbers 1-7, 9-11, 13, 15-22, 24-25, 27 and 28

The only ARCAs appearing in Section 4 of this report are those previous ARCAs which remain incomplete, have been completed as a result of the October 27-29 exercise, or are new ARCAs.

4 SUMMARY OF AREAS REQUIRING CORRECTIVE ACTION

Section 4 of this report contains various tables reflecting the status of ARCAs for the GNPS. Tables 4.1 through 4.8 also summarize recommendations to correct those Areas Requiring Corrective Action identified during the October 27-29 exercise. These tables also include ARCAs identified in previous exercises which remain unresolved or have been rectified during this exercise.

TABLE 4.1.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
New York State

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	Because the command and control section is separate from the operations section, the entire EOC staff was not briefed frequently. Consideration should be given to installation of a central public address system throughout the State EOC that should be used frequently by a key individual to brief staff on the emergency situation.	A.1.b, A.2.a	3	X		I
2.	Wayne County followed procedures to request authorization from DOH for exposures to emergency workers in excess of EPA protective action guides. Based on data available to the State at that time, the authorization was denied. Upon receipt of the original request for authorization to exceed protective action guides, the State should have contacted Wayne County for the information and data needed to support a recommendation for authorizing the excess doses, and it should have moved more quickly to authorize the precautionary use of KI for the one Wayne County field monitoring team that received a 5 Rem whole body dose. The State should fully utilize the County field monitoring data and coordinate more closely with the counties in deciding whether to authorize the use of KI and worker exposures in excess of protective action guides.	J.10.e, K.4	6		6/22/83	C
3.	Some EBS messages referred to telephone books for additional information. Complete information was not available in the latest Rochester telephone book and was very difficult to find in the 1983-84 telephone book for Wayne County. References to telephone books and public information brochures in EBS messages should be reviewed. The EBS messages should describe the location of the information in the telephone book well enough that it can be found quickly.	E.7, J.10.c			6/22/83	C
4.	The statement, "This is not a test," in EBS messages numbered 1, 4, 5, 6, 7, 8, and 9 conflicts with the statement, "This is a test," in messages numbered 2 and 3. The messages should be reviewed and a single statement consistent with the requirement of the State REPP should be chosen for all messages.	E.7, J.10.c			6/22/83	C
5.	Maps of crop distribution should be available at the SEOC.	J.11			6/22/83	C
6.	The decision to include or exclude captive populations under the State's KI policy should be made.	J.10.e			6/22/83	C[f]

TABLE 4.1.1 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Ingestion Exercise
New York State

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	The DOT truck and driver used for transporting samples were not monitored prior to leaving the laboratory after the samples had been unloaded to ensure that radiological contamination was not present. Procedures should be implemented whereby the unloaded vehicles used to transport the samples and the driver are monitored before leaving the laboratory.	I.8, J.11	27	X		I
2.	The sampling team which was required to travel the farthest from the Lake District EOC lost radio contact and had to communicate with the EOC via telephone. None of the sampling teams were equipped with or knew the Lake District EOC telephone numbers. Sampling teams should have, or be provided while in radio contact, with telephone numbers to call facilities they are required to communicate with.	I.8, F	4	X		I
3.	The LDEOC staff were not able to provide information to one of the teams concerning the locations of dairy farms, even though this information was available at the EOC. Additional training should be provided to LDEOC staff to assure that existing information can be readily referenced and made available to field teams.	J.11	29	X		I
4.	The LDEOC had newly updated log forms, while the field team equipment kits had at least two versions of outdated log forms (i.e., different forms among teams). This inconsistency caused some initial confusion in data transmission. In some cases, survey routes had to be retraced and measured again to acquire consistent measurement data. The same form should be used by the field team controller and all sampling teams.	I.8	7	X		
5.	The sampling teams were not provided with the telephone numbers needed to contact the EOC in cases of radio failure. These telephone numbers should be provided in the kits issued to the sampling teams.	I.8, F	4, 7	X		I
6.	The labels used for identifying milk samples from various dairies will need more information to make the sample data useful to the decision makers at the State EOC. All agriculture and market personnel should have the same training with respect to information requirements on milk sample labels (i.e., feeding history of cattle, time of milking, and any dilution by uncontaminated milk).	I.8	7	X		I

TABLE 4.1.1 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Ingestion Exercise
New York State (Cont'd)

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
7.	Sampling team radiological technicians were not familiar with the significance (or lack of significance) of the direct field measurements. All measurements at background levels were assumed to mean that no contamination existed, which may or may not have been the case. This assumption resulted in a relaxation in the use of protective clothing, gloves. It is possible to have radioiodine contamination that is indistinguishable from the natural variation in background levels using the mR/hr range field survey meter used by the team. Radiation technician team members should be properly equipped and trained to take background readings using the micro-R survey meter.	I.8	7	X		I
8.	Some team members did not demonstrate good ability to prevent cross-contamination of samples. They did not properly double-bag samples nor use water to clean sampling utensils after collecting each sample. Additional training should be provided to sample team members to reduce the potential for cross-contamination.	I.8	7	X		I
9.	Some team members provided with direct-reading dosimeters and TLDs did not take periodic readings, nor were they aware of the maximum allowable dose without authorization. Training should be provided to sampling team members on radiological exposure control.	K.3.b, K.4	6	X		I
10.	Members of the ingestion pathway sampling team should have protective clothing, particularly hand and foot coverings, available.	K.5.b			6/22/83	C

TABLE 4.2.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Western District

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.[c]	The radio system at the Western District EOC, which caused problems during the 1983 and subsequent exercises was partially updated. However, it is still unreliable and suffered intermittent failures during the exercise that caused minor problems. The cause of intermittent problems with the radio system at the Western District EOC should be investigated and remedied.	F.1	4	X	9/26/85 6/22/83	I
2.	There are an inadequate number of telephone lines and telephone equipment available at the WDEOC. Additional telephone lines and equipment should be secured for the WDEOC.	F.1	4	X	9/26/85	I
3.	There was interference between the local government radio and RECS dedicated land line at the WDEOC. The source of interference needs to be located and eliminated.	F.1.d	4		6/22/83	C

TABLE 4.3.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Lake District

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	There are an inadequate number of commercial telephone lines at the LDEOC. Additional telephone lines should be installed for use by the emergency staff.	F.1	4	X	9/26/85	I

TABLE 4.4.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Emergency Operations Facility

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	Delays were observed in obtaining information and receiving answers to questions from the State and utility over the RECS line, which was located in the dose assessment room at the Monroe County EOC. Some utility field-monitoring data transmitted via the RECS line were in error and data concerning ground deposition and iodine release information were not received in a timely manner. The cause for these problems should be reviewed by the State and counties and the appropriate training of staff should be accomplished to improve the accuracy and timeliness of information transmitted to the counties via the RECS line.	F.1.d			6/22/83	C

TABLE 4.5.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Joint News Center

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	Several State PIO staff were prepositioned from Albany to Rochester which expedited activation of the JNC within approximately 45 minutes. Pre-exercise agreements should be adhered to for demonstrating the activation of State PIO personnel assigned to the JNC.	E.2	2	X		I
2.	The designated PIO should actually complete the authentication and verification process with the EBS radio station(s). Additional training is required for PIOs in the procedures for interacting with EBS station(s).	G.4.b	13	X		I
3.	Some EBS messages did not contain complete instructional information. EBS messages should specify both the telephone book and calendars are sources of information for emergency procedures.	E.5			9/26/85	C
4.	The telephone number given for use by mobility-impaired persons in need of assistance for evacuation was not staffed by trained personnel. Training should be provided for operators of the mobility-impaired telephone numbers.	E.7 J.10.d			9/26/85	C

TABLE 4.6.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Wayne County

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	The dose assessment staff made changes in the computer program used to make dose projections. These changes resulted in inaccurate thyroid dose projections. Changes to the computer program should be verified and checked for accuracy prior to use for projecting doses.	I.10, J.10.m	10	X		I
2.	The Wayne County RO did not question the technical reasons for the 25-mile shelter PAR (17 miles in Wayne County) strongly enough. Training should be provided to the RO to assure that all data, either the County's or the utility's, are used to defend or refute PARs.	I.10, J.10.m	10, 11	X		I
3.	One team performed only closed-window readings, even though both open- and closed-window readings were required to properly characterize the plume location. Field monitoring team members should be trained to take both open- and closed-window instrument readings.	I.8	9	X		I
4.	Several problems were identified related to contamination control in the field. - One of the teams did not use protective coverings for the survey instrument probes. - The equipment kits were opened in the plume, which could lead to contamination of equipment and possible cross-contamination of samples. - A pail that was set on the ground to support the air-sampling equipment was put back into the vehicle without checking it for contamination. Field monitoring team members should be trained in proper procedures for contamination control.	I.8	7	X		I
5.	Radiological monitoring team members used an inappropriate procedure for air sample surveys. The charcoal/ silver zeolite cartridges and the particulate filters were monitored simultaneously rather then separately. The field monitoring teams should be trained in proper survey techniques for the analysis of air samples.	I.9	8	X		I

TABLE 4.6.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Wayne County (Cont'd)

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
6.	The EOC operations and dose assessment areas continue to have a limited working space and poor ventilation. Prolonged use of this facility would reduce the efficiency of emergency response personnel. The Wayne County EOC facility should be relocated to a new facility or the existing facility should be substantially upgraded.	H.3	5		9/26/85 6/22/83	I[e]
7.	The RECS speaker disrupted communications on the RECS line. Interference on the RECS line also occurred when another telephone in the dose assessment room was used during RECS transmissions. RECS should be reviewed to identify and eliminate sources of interference.	F.1.d			6/22/83	C
8.	Tests of the completed siren system should include sound level measurements made throughout the EPZ to establish the adequacy of the warning.	J.10.c		1/21/82	C[d]	
9.	Additional education of the public is needed concerning notification methods and responses such as turning on the radio and/or television to get the EBS messages when the sirens are sounded. Based on spot checks of the general population, most people who were interviewed on the day of the exercise, either did not remember receiving a public information brochure or believed that the sirens were a signal to evacuate the EPZ rather than a signal to tune to the local EBS station. Based on these field observations, continuing public education efforts are recommended.	G.1, G.2			9/26/85 6/22/83 1/21/82	C[g]
10.	One of the field monitoring teams was unable to measure radioiodine in the plume due to an equipment failure. Wayne County should identify sources of backup radiological monitoring equipment.	H.7			9/26/85 6/22/83	C
11.	Methods for disposal of the contaminated wastes collected at the decontamination centers need to be provided.	J.9			1/21/82	C
12.	Not all bus drivers and police officers were certain of the exposure limits specified in the plan or with procedures for requesting authorization to receive excess exposure. Training of emergency workers should emphasize radiation exposure limits; a card should be inserted in the exposure control kit as a reminder.	K.4			6/22/83	C

TABLE 4.6.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Wayne County (Cont'd)

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
13.	Staff at the personnel monitoring center were unfamiliar with criteria for decontamination of personnel, equipment and vehicles, procedures to be followed if contamination could not be reduced below 0.1 mRem/hr, or procedures for handling an injured, contaminated patient. Additional training in decontamination procedures is recommended.	K.5.a, K.5.b			6/22/83 1/21/82	C
14.	The RECS line at the Wayne County EOC was subject to interference from another telephone with the EOC and from a pitch-tone internal to the line. The RECS line at the Wayne County EOC should again be reinspected to eliminate this equipment problem.	F.1.b, F.1.d			9/26/85	C
15.	Loss of dosimetry capability was experienced by one radiological field team member and was not reported to supervisory staff. Field monitoring personnel should be trained to report any loss of dosimetry capability to supervisory staff.	K.3.a			9/26/85	C
16.	Radiological monitoring Team 2 did not carry out monitoring during transit between sampling locations, did not determine the appropriate scale multiplier for the CDV-715 and did not respond promptly to changing field conditions. Radiological monitoring staff should receive more training to increase their ability to use appropriate equipment and procedures.	I.8			9/26/85	C
17.	The leader of the radiological monitoring team stated that there was no backup equipment at the Union Hill Fire House to measure radioiodine in the plume. Also, backup field monitoring equipment did not appear to be available at the East Williamson Fire Station. Additional equipment should be made available to field monitoring teams in case of equipment failure.	I.8			9/26/85	C
18.	Staff at the personnel monitoring center need additional training. Survey instruments were used with protective caps that reduce sensitivity and the instruments lacked calibration tags or stickers. In addition, a better traffic flow pattern needs to be developed for returning potentially contaminated individuals to the personnel monitoring areas. Staff at the personnel monitoring center needs additional training. An improved traffic flow pattern needs to be established for movement of potentially contaminated individuals from the vehicle contamination area to the personnel monitoring area.	J.12			9/26/85	C

TABLE 4.6.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Wayne County (Cont'd)

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
19.	The Ontario Fire Department did not have KI available for their field personnel assigned to route alerting. Individuals were sent into the field without KI which could not have been administered promptly, once the decision had been made to do so. KI should be made available to the Ontario Fire Department for all staff involved in field activities. Procedures should be in place for the prompt administration of KI should the need arise.	J.10.e			9/26/85	C
20.	The Ontario Fire Department staff that participated in route alerting activities did not know correct exposure limits. Moreover, personnel did not know the individual who could authorize excess exposure. The Ontario Fire Department staff who are involved in route alerting should receive additional training in procedures for managing worker exposure control. They should be aware of dose limitations and who can authorize excess exposure.	K.4			9/26/85	C
21.	The Ontario Fire Department staff responsible for route alerting did not take dosimetry into the field. The Ontario Fire Department personnel that perform route alerting should be given additional training in emergency worker radiological exposure control.	K.3.a			9/26/85	C
22.	Bus drivers from the Williamson Center school drove buses that were not equipped with 2-way radios. Dosimetry readings and requests for emergency information could not be promptly related to emergency managers. Buses to be used for evacuations should be equipped with 2-way radios.	K.3.b, K.4			9/26/85	C
23.	Some transient residents interviewed were not adequately aware of what actions were to be taken in a radiological emergency. Public education efforts should be continued and transient populations, such as migratory workers, should be included in the awareness programs.	G.2			9/26/85	C

TABLE 4.7.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Monroe County

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	The radiological monitoring teams were not adequately briefed on current plant conditions, meteorological data, or control procedures by the field team dispatcher before being deployed into the field. Field teams should receive detailed briefings before being dispatched.	I.8	7	X		I
2.	One Monroe County field team reported the volume of air sampled as 10 liters instead of 10 cubic feet as prescribed in the field team procedures. Field team personnel should be trained to report all sampling units in the proper units as prescribed in the field team procedures.	I.8	7	X		I
3.	Members of Team A exhibited poor understanding of the strategy for sampling while minimizing their exposure. The team failed to relocate outside the plume while conducting a radio check and a 15-minute team conference. Also, team A took an inappropriate amount of time to call in sample results, sometimes as long as one hour. Additional training should be provided to team members on approved field techniques, with particular emphasis on radiological safety.	I.8	7	X		I
4.	Tests of the completed siren system should include sound level measurements made throughout the EPZ to establish the adequacy of the warning.	J.10.c			1/21/82	C[d]
5.	Messages should be prepared for use with the mobile public-address units in the event that this backup is needed.	E.6			1/21/82	C
6.	Additional education of the public is needed concerning notification methods and responses such as turning on the radio and/or television to get the EBS messages when the sirens are sounded. Based on spot checks of the general population, most people who were interviewed on the day of the exercise, either did not remember receiving a public information brochure or believed that the sirens were a signal to evacuate the EPZ rather than a signal to tune to the local EBS station. Based on these field observations, continuing public education efforts are recommended.	G.1, G.2			6/22/83 1/21/82	C[e]

TABLE 4.7.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Monroe County (Cont'd)

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
7.	Procedures for the disposal of contaminated wastes (e.g., clothing) collected into plastic bags at the decontamination centers should be developed.	J.9			1/21/82	C
8.	The low-range dosimeters (0-5 R) used during the exercise were not sensitive enough to detect the low levels of exposure which, according to procedures in the Monroe County plan, require emergency workers to contact their supervisor when they have received an exposure of 100 mR. Consideration should be given to raising the minimum reporting level to at least 500 mR, which can be more easily read on the existing low-range dosimeters.	K.5.a			6/22/83	C
9.	The initial recommendation of the radiological officer to evacuate ERPA's M1 and M2 was not implemented by the official in charge. A subsequent recommendation to evacuate was implemented. The delay in implementing an evacuation order could have led to unnecessary exposure of evacuees to the airborne plume. The official in charge should be frequently briefed on the findings and recommendation of the radiological officer.	J.9			9/26/85	C
10.	Efforts by the Monroe County liaison officer at the EOF to expedite the flow of plant data were largely unsuccessful. The Monroe County radiological officer should identify the cause of the delay in the transfer of plant data, and should develop procedures to assure that this information is promptly received.	F.1.d			9/26/85	C
11.	The dose assessment staff compared projected and measured dose rates. The number of comparisons was limited by the lack of positive field monitoring data. The County radiological officer should deploy field monitoring teams to obtain a more complete definition of the plume, so that an adequate number of comparisons between projected and measured dose rates can be made. These comparisons are needed in order to verify protective action recommendations.	I.8			9/26/85	C
12.	The field monitoring teams did not check their equipment adequately before going into the field. Field monitoring teams should thoroughly check their equipment against the list in the plan before leaving their deployment area.	I.8			9/26/85	C

TABLE 4.7.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Monroe County (Cont'd)

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
13.	The procedures used to measure radioiodine concentration deposited in the filter media were not consistent or reproducible. Appropriate equipment and procedures should be provided to assure controlled and reproducible measurement of airborne radioiodine concentrations. Field monitoring teams should be trained on an ongoing basis in the measurement of radioiodine samples.	I.9	8	X	9/26/85	I
14.	Traffic control point #1 was established only after a significant delay, which resulted from significant confusion regarding its location. Police officers should be briefed on TCP locations when being dispatched.	J.10.j			9/26/85	C
15.	Local police assigned to traffic control and route alerting were equipped with high-range dosimeters only. 0-5 R dosimeters should be issued to all emergency workers, as specific in the plan.	K.3.a			9/26/85	C
16.	In several instances, emergency workers were not aware of the dose at which they should call in, or were not familiar with the frequency at which readings were to be taken. Training of emergency workers in exposure control procedures should be conducted on an ongoing basis.	K.3.b, K.4			9/26/85	C

TABLE 4.8.0 Robert E. Ginna Nuclear Power Station — Summary of Areas Requiring Corrective Action
October 27-29, 1987
Medical Drill
Rocheseter General Hospital

No.	Area Requiring Corrective Action	NUREG-0654 FEMA-REP-1 Rev. 1, Reference	FEMA Objective[a]	10/27/87	Previous Exercise	Present Status[b]
1.	Hospital staff used a blanket under the contaminated patient which could contaminate the patient's back and a high pressure hose which could spread contamination. Hospital staff should be given initial training in decontamination procedures.	L.1	24	X		I
2.	Emergency room staff did not check their self-reading dosimeters before entering the emergency room; initial readings were not recorded. Two of these dosimeters actually read 200 mR. Emergency room staff should be given training in the use of personal dosimetry.	K.3.b	6	X		I

[a]Objective number is from GM EX-3 (dated February 26, 1988) as it relates to ARCAs.

[b]C: Corrective Action Completed
I: Corrective Action Incomplete.

[c]Rewrite of ARCA 7 from GNPS PEA dated 12/16/85, page 78.

[d]Completed after acceptance of Alert and Notification System (dated 3/7/86).

[e]Consolidation of ARCA 2 and 34 from GNPS PEA dated 12/16/85, pages 82 and 86.

[f]This previously identified performance ARCA has been reclassified as a planning issue.

[g]This ARCA corrected through annual letter of certification.