UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the COMMISSIONERS:

Nunzio J. Palladino, Chairman
Victor Gilinsky
John F. Ahearne
Thomas M. Roberts
James K. Asselstine

and

Before the ATOMIC SAFETY AND LICENSING BOARD:

Louis J. Carter, Chairman
Dr. Oscar H. Paris
Frederick J. Shon

In the Matter of	)	
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC. (Indian Point, Unit No. 2)	)	Docket Nos. 50-247 SP 50-286 SP
POWER AUTHORITY OF THE STATE OF NEW YORK (Indian Point, Unit No. 3)	)	June 21, 1982

POWER AUTHORITY'S OPPOSITION TO UCS/NYPIRG MOTION FOR RECONSIDERATION OF COMMISSION RULING ALLOWING INTERIM OPERATION AND FOR ISSUANCE OF A SHOW CAUSE ORDER AGAINST THE LICENSEES PRIOR TO COMMENCEMENT OF THE EVIDENTIARY HEARING ON THE SAFETY OF THE INDIAN POINT NUCLEAR POWER PLANTS

ATTORNEY FILING THIS DOCUMENT:

Charles Morgan, Jr.
MORGAN ASSOCIATES, CHARTERED
1899 L Street, N.W.
Washington, D.C. 20036
(202) 466-7000

DS03

TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
II.	UCS/NYPIRG'S EVIDENCE DOES NOT WARRANT THIS LAST MINUTE MOTION	3
III.	THE ROCKLAND COUNTY RESOLUTION FAILS TO SUPPORT RECONSIDERATION OR THE ISSUANCE OF A SHOW CAUSE ORDER . . .	7
IV.	CONCLUSION	9

I. INTRODUCTION

Claiming that it has "new evidence of deficiencies in emergency planning for the Indian Point nuclear power plants,"[1] Union of Concerned Scientists/New York Public Interest Research Group (UCS/NYPIRG) has filed an eleventh-hour motion seeking reconsideration of the Commission's January 8, 1981 order, and issuance of a show cause order against the Power Authority of the State of New York (Power Authority). However, the present motion is yet another in a long series of attempts by UCS/NYPIRG to close two licensed, operational plants which save licensees' consumers hundreds of millions of dollars annually.[2] After failing in a least

---

1. UCS/NYPIRG Motion for Reconsideration of Commission Ruling Allowing Interim Operation and for Issuance of a Show Cause Order Against the Licensees Prior to Commencement of the Evidentiary Hearing on the Safety of the Indian Point Nuclear Power Plants at 1 (June 4, 1982) (emphasis added) (Motion).

2. UCS and NYPIRG, along with other intervenors herein, have been lobbying for years in the communities surrounding Indian Point and in the media for the closing of the plants. Their first entry into the legal arena was the filing of a petition with the Commission in September, 1979 to close Indian Point Units 2 and 3 and to decommission Unit 1. The Commission denied the immediate shutdown request and instead, inter alia, directed that the present investigatory hearings be held and that a Staff Task Force examine the interim operation of the plants. Order at 3, 5-6 (May 30, 1980). After thorough study, the Task Force concluded that the "overall risk of the Indian Point reactor is about the same as a typical reactor on a typical site." Task Force Report On Interim Operation of Indian Point 40 (NUREG-0715) (1980). Based upon this report, the Commission decided "that the risk posed by the operation of the Indian Point facilities did not warrant the suspension of the operating licenses during the adjudicatory proceedings," Order at 3

seven previous attempts to close the plants, UCS/NYPIRG now seeks to circumvent the primary purposes of this proceeding -- the level of safety posed by the Indian Point plants. Intervenors Friends of the Earth/New York Audubon Society (FOE/Audubon), Westchester People's Action Coalition (WESPAC), and West Branch Conservation Association (WBCA) support the UCS/NYPIRG motion. Because intervenors' "new evidence" is more than six months old and because intervenors have grossly misrepresented the present state of emergency planning, this motion, filed on the eve of the

(Jan. 8, 1981), thus once again rejecting UCS/NYPIRG's efforts to close the plants.

NYPIRG followed that decision with a letter to the Staff dated April 1, 1981, which again sought to close the plants, this time for purported failure to comply with emergency planning regulations. The Staff denied the request pursuant to 10 C.F.R. § 2.206 (1981), also noting that the Commission itself reaffirmed its interim operation order on April 7. 46 Fed.Reg. 28,261 (1981).

NYPIRG forwarded a letter to the Commission dated July 24, 1981, again requesting that the plants be closed for alleged emergency planning inadequacies. Letter from Joan Holt to Commissioners at 1 (July 24, 1981). This request was also denied, as confirmed by letter of the Commission's General Counsel dated December 11, 1981.

In October, 1981, UCS/NYPIRG attempted to circumvent this proceeding by filing a petition in the United States Court of Appeals for the Second Circuit seeking extraordinary relief including continuing appellate court jurisdiction over emergency planning at Indian Point, comprehensive revision of the Commission's emergency planning rules and procedures, and a possible shutdown of the plants. UCS/NYPIRG argued, as it does herein, that the Commission's so-called "120-day clock", see 10 C.F.R. § 50.54(S)(2) (1981), for resolving emergency planning deficiencies was ineffective. By Order dated December 15, 1981, the court dismissed UCS/NYPIRG's petition (after first having ruled against UCS/NYPIRG from the bench).

hearing designed to investigate these very issues, should be denied.[1]

II. UCS/NYPIRG'S EVIDENCE DOES NOT WARRANT THIS LAST MINUTE MOTION

UCS/NYPIRG's first piece of "new evidence" is the deficiencies in the Indian Point emergency plans as recorded by the Federal Emergency Management Agency's (FEMA's) Regional Assistance Committee (RAC) in April 1981. Motion at 3.[2] UCS/NYPIRG, however, neglects to mention that on August 24, 1981, the Nuclear Regulatory Commission (NRC) "conclude[d] that this issue has been resolved satisfactorily." Letter from Boyce H. Grier, Director, NRC Region 1, to George T. Berry, Power Authority President and Chief Operating Officer (Aug. 24, 1981) (emphasis added) (Attachment B). Thus, the April 1981 comments of FEMA's RAC are hardly a legitimate ground for a motion purportly based on new evidence.

---

1. UCS/NYPIRG has also erred in filing this motion for a show cause order with the Commission and with the Board. 10 C.F.R. § 2.206(a) expressly provides that a request to institute a proceeding to modify, suspend, or revoke a license must first be made to and considered by the Staff, not the Commission or a licensing board.

2. Presumably this is a reference to the April 6, 1981 letter from Vincent Forde, Acting Regional Director, FEMA, to William C. Hennessy, Chairman, New York State Disaster Preparedness Commission. See Attachment A.

UCS/NYPIRG's second piece of "new evidence" dates from December 1981 and consists of further comments made by FEMA's RAC. Such evidence is also hardly "new" in the context of this hearing, in which the Commission's suggested deadline requires such a rigorous hearing schedule.[1]

UCS/NYPIRG's months-long delay in filing this motion illustrates that its "new" information is not urgent. Its "new evidence" merely confirms that FEMA's evaluations are part of the ongoing process of developing emergency plans for nuclear power plants. FEMA's comments, therefore, do not raise the "substantial health or safety issues" necessary for the issuance of a show cause order under 10 C.F.R. § 2.202. In re Consolidated Edison Co. (Indian Point Units 1, 2, and 3), 2 N.R.C. 173, 177 (1975) ("parties must be prevented from using 10 CFR 2.206 [show cause] procedures as a vehicle for reconsideration of issues previously decided"); accord In re Northern Indiana Public Service Co. (Bailly Generating Station, Nuclear 1), 7 N.R.C. 429, 433-34 (1978), aff'd, 606 F.2d 1363 (D.C.Cir. 1979).

---

1. Although UCS/NYPIRG claims that it does not seek to delay the evidentiary hearings scheduled to begin on June 22, 1982, see Motion at 5, this motion cannot help but delay the proceeding designed to address the very issues raised by Intervenors.

The support for UCS/NYPIRG's motion by FOE/Audubon and WESPAC is similarly inadequate.[1] FOE/Audubon and WESPAC claim that FEMA's Post Exercise Assessment, issued May 27, 1982, is additional new information in support of UCS/NYPIRG's motion. See Response in Support at 3. To the contrary, the FEMA Assessment supports the Power Authority's argument that emergency planning is a dynamic process and that reasonable assurance presently exists that the public can and will be protected in the event of a radiological emergency.

This document details FEMA's comments on the radiological emergency exercise conducted on March 3, 1982. FOE/Audubon and WESPAC are less than candid when they append only the 10-page executive summary of the 68-page assessment to their document,[2] and when they claim that the evaluation of nine functional areas as "weak" constitutes "substantial

---

1. See FOE/Audubon and WESPAC's Response in Support of UCS/NYPIRG Motion for Reconsideration of Commission Ruling Allowing Interim Operation and for Issuance of a Show Cause Order Against Licensee's [sic], and FOE/Audubon and WESPAC's Presentation of Additional New Evidence (June 8, 1982) (Response in Support).

FOE/Audubon and WESPAC's support for UCS/NYPIRG's motion is undercut by their admission that "no feasible emergency measures can protect against the long term consequences of a serious accident at Indian Point." Response in Support at 6. Because FOE/Audubon and WESPAC claim that no plan will be effective, then the purpose of their criticisms of the current plan can only be to make their claim a self-fulfilling prophecy.

2. The Power Authority has appended the entire document to this memorandum as Attachment C.

and significant deficiencies." Id. In fact, the exercise participants also received 19 "good" ratings in 9 functional areas, and 23 "acceptable" ratings in 10 functional areas. See generally Attachment C, FEMA, Post Exercise Assessment (May 27, 1982) (Assessment). Intervenors obscure the fact that the very purpose of an exercise and critique is to identify as many deficiencies as possible so that corrections can be made.

Indeed, the FEMA Assessment of the most important areas of emergency response was highly favorable: (1) "[a]t the state level, all observed functions were carried out well," Assessment at 10; (2) at the Indian Point 3 Emergency Operations Facility, all tested areas were rated from "acceptable" to "good," Assessment at 12; and (3) even in Rockland County, upon which intervenors have focused their criticism, "[c]apabilities for protection of the public were good" and "[e]vacuation and decontamination were well demonstrated." Assessment at 15.

The high marks given the State of New York are particularly noteworthy since, pursuant to N.Y. Exec. Law, Art. 2-B (Consol. 1981), the State maintains primary responsibility for radiological emergency planning and, in the event of a general emergency, the State would commit its extensive resources and coordination and management capabilities.

Finally, the direct testimony filed by the Commission Staff and FEMA in the Indian Point investigatory proceeding

-- which contains an overall review of emergency planning beyond simply the exercise -- contains few negative comments about the state of preparedness. Indeed, Staff witness Thomas Urbanik, II suggests that the evacuation time estimates contained in the emergency plan are even more reliable than the FEMA estimates, which enjoy a rebuttable presumption of validity in the proceeding. Testimony of Dr. Thomas Urbanik, II Concerning the Evacuation Time Estimates Studies for Indian Point, Units 2 and 3 (June 4, 1982).

"After a decision has been rendered, a dissatisfied litigant who seeks to persuade us--or any tribunal for that matter--to reopen a record and reconsider 'because some new circumstance has arisen, some new trend has been observed, or some new fact discovered,' has a difficult burden to bear." In re Duke Power Co. (Catawba Nuclear Station, Units 1 and 2), 4 N.R.C. 619, 620 (1976), quoting ICC v. Jersey City, 322 U.S. 503, 514 (1944). UCS/NYPIRG and FOE/Audubon fail to satisfy this "difficult burden."

III. THE ROCKLAND COUNTY RESOLUTION FAILS TO SUPPORT RECONSIDERATION OR THE ISSUANCE OF A SHOW CAUSE ORDER

UCS/NYPIRG also does not satisfy its burden when it contends that Rockland County's resolution calling for "the Office of Emergency Services to continue to develop . . . a Disaster Preparedness Plan for Rockland County" makes the emergency plan for Indian Point unworkable. See Motion at

4; Attachment A to Motion at 2. UCS/NYPIRG conspicuously fails to note that the resolution also provides:

> RESOLVED, that in the event of a nuclear occurrence at the Indian Point Facilities, the Legislature of Rockland County hereby authorizes, empowers and directs its Chairman, notwithstanding this resolution, to take any and all action in coordinating and cooperating with any and all Federal and State agencies to protect the lives and property of the citizens of Rockland County.

Attachment A to Motion at 3 (emphasis added).

Rockland County's reiteration of its intention to abide by the federal and state plans in case of an emergency, while continuing to develop its own plan, hardly creates what UCS/NYPIRG calls an "emergency preparedness vacuum." Motion at 4.

Thus, the Resolution, obviously a political gesture, would have no practical effect on Rockland County's response to a radiological emergency. The planning for such an emergency is also substantially unaffected, since the State maintains primary responsibility for radiological emergency planning and for the maintenance of the written State and county plan documents. (A thorough two-volume radiological emergency plan exclusively tailored for Rockland County is annexed to the State plan.) In a letter prepared subsequent to the Resolution, Rockland County reaffirmed its commitment to participate in the State's planning process. See Attachment D, Letter from Donald B. Davidoff, Director,

Radiological Emergency Preparedness Group, to John T. Grant, Chairman, County Legislature, at 1 (June 9, 1982).[1]

IV. CONCLUSION

For the reasons stated herein, the Power Authority of the State of New York hereby requests that the UCS/NYPIRG Motion for Reconsideration of Commission Ruling Allowing Interim Operation and for Issuance of a Show Cause Order Against the Licensees Prior to Commencement of the Evidentiary Hearing on the Safety of the Indian Point Nuclear Power Plants be denied.

---

1. FEMA has noted that isolated instances of uncooperativeness by state or local governments would not seriously affect overall radiological emergency preparedness. See, e.g., NYPIRG's Legislative Memorandum re: S-7122 at 5 (July 18, 1981), attached to Governor's Bill Jacket for S-7122 ("[t]he number of these [isolated instances] does not . . . seriously affect the progress of preparedness development at this time").

Respectfully submitted,

Charles Morgan, Jr/BP

Charles Morgan, Jr.
Paul Colarulli
Joseph J. Levin, Jr.

MORGAN ASSOCIATES, CHARTERED
1899 L Street, N.W.
Washington, D.C. 20036
(202) 466-7000

Thomas R. Frey
General Counsel
Charles M. Pratt
Assistant General Counsel

POWER AUTHORITY OF THE
STATE OF NEW YORK
Licensee of Indian Point
Unit 3
10 Columbus Circle
New York, New York 10019

Bernard D. Fischman
Michael Curley
Richard F. Czaja
David H. Pikus

SHEA & GOULD
330 Madison Avenue
New York, New York 10017
(212) 370-8000

Dated: June 21, 1982

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the COMMISSIONERS:

Nunzio J. Palladino, Chairman
Victor Gilinsky
John F. Ahearne
Thomas M. Roberts
James K. Asselstine

and

Before the ATOMIC SAFETY AND LICENSING BOARD:

Louis J. Carter, Chairman
Dr. Oscar H. Paris
Frederick J. Shon

In the Matter of	)	
	)	
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.	)	Docket Nos.
(Indian Point, Unit No. 2)	)	50-247 SP
	)	50-286 SP
POWER AUTHORITY OF THE STATE OF NEW YORK	)	
(Indian Point, Unit No. 3)	)	June 21, 1982

CERTIFICATE OF SERVICE

I hereby certify that on the 21st day of June, 1982, I caused a copy of the Power Authority's Opposition to UCS/NYPIRG Motion for Reconsideration of Commission Ruling Allowing Interim Operation and for Issuance of a Show Cause Order Against the Licensees Prior to Commencement of the Evidentiary Hearing on the Safety of the Indian Point Nuclear Power Plants to be served by first class mail, postage prepaid on:

Louis J. Carter, Esq., Chairman
Administrative Judge
Atomic Safety and Licensing Board
7300 City Line Avenue
Philadelphia, Pennsylvania 19151

Mr. Frederick J. Shon
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. Oscar H. Paris
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Docketing and Service Branch
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Joan Holt, Project Director
Indian Point Project
New York Public Interest Research
Group
9 Murray Street
New York, New York 10007

John Gilroy
Westchester Coordinator
Indian Point Project
New York Public Interest Research
Group
240 Central Avenue
White Plains, New York 10606

Jeffrey M. Blum, Esq.
New York University Law School
423 Vanderbilt Hall
40 Washington Square South
New York, New York 10012

Charles J. Maikish, Esq.
Litigation Division
The Port Authority of New York
and New Jersey
One World Trade Center
New York, New York 10048

Charles M. Pratt, Esq.
Thomas R. Frey, Esq.
Power Authority of the
State of New York
10 Columbus Circle
New York, New York 10019

Janice Moore, Esq.
Counsel for NRC Staff
Office of the Executive
Legal Director
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Brent L. Brandenburg, Esq.
Assistant General Counsel
Consolidated Edison Company
of New York, Inc.
4 Irving Place
New York, New York 10003

Ellyn R. Weiss, Esq.
William S. Jordan, III, Esq.
Harmon and Weiss
1725 I Street, N.W., Suite 506
Washington, D.C. 20006

Charles A. Scheiner, Co-Chairperson
Westchester People's Action
Coalition, Inc.
P.O. Box 488
White Plains, New York 10602

Alan Latman, Esq.
44 Sunset Drive
Croton-On-Hudson, New York 10520

Ezra I. Bialik, Esq.
Steve Leipzig, Esq.
Environmental Protection Bureau
New York State Attorney
General's Office
Two World Trade Center
New York, New York 10047

Alfred B. Del Bello
Westchester County Executive
Westchester County
148 Martine Avenue
White Plains, New York 10601

Andrew S. Roffe, Esq.
New York State Assembly
Albany, New York 12248

Marc L. Parris, Esq.
Eric Thorsen, Esq.
County Attorney
County of Rockland
11 New Hempstead Road
New City, New York 10956

Pat Posner, Spokesperson
Parents Concerned About Indian Point
P.O. Box 125
Croton-on-Hudson, New York 10520

Renee Schwartz, Esq.
Paul Chessin, Esq.
Laurens R. Schwartz, Esq.
Margaret Oppel, Esq.
Botein, Hays, Sklar and Hertzberg
200 Park Avenue
New York, New York 10166

Honorable Ruth W. Messinger
Member of the Council of the City of New York
District #4
City Hall
New York, New York 10007

Greater New York Council on Energy
c/o Dean R. Corren, Director
New York University
26 Stuyvesant Street
New York, New York 10003

Geoffrey Cobb Ryan
Conservation Committee Chairman
Director, New York City Audubon Society
71 West 23rd Street, Suite 1828
New York, New York 10010

Lorna Salzman
Mid-Atlantic Representative
Friends of the Earth, Inc.
208 West 13th Street
New York, New York 10011

Stanley B. Klimberg, Esq.
General Counsel
New York State Energy Office
2 Rockefeller State Plaza
Albany, New York 12223

Atomic Safety and Licensing Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Atomic Safety and Licensing Appeal Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Honorable Richard L. Brodsky
Member of the County Legislature
Westchester County
County Office Building
White Plains, New York 10601

Zipporah S. Fleisher
West Branch Conservation Association
443 Buena Vista Road
New City, New York 10956

Mayor George V. Begany
Village of Buchanan
236 Tate Avenue
Buchanan, New York 10511

Judith Kessler, Coordinator
Rockland Citizens for Safe Energy
300 New Hemstead Road
New City, New York 10956

David H. Pikus, Esq.
Richard F. Czaja, Esq.
330 Madison Avenue
New York, New York 10017

Amanda Potterfield, Esq.
P.O. Box 384
Village Station
New York, New York 10014

Ruthanne G. Miller, Esq.
Atomic Safety and Licensing Board
Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Donald Davidoff
Director, Radiological Emergency
Preparedness Group
Empire State Plaza
Tower Building, RM 1750
Albany, New York 12237

Paul F. Colarulli/BP
Paul F. Colar

ATTACHMENT A

FEDERAL EMERGENCY MANAGEMENT AGENCY
Region II 26 Federal Plaza New York, New York 10278

April 6, 1981

Mr. William C. Hennessy, Chairman
Disaster Preparedness Commission
State of New York
Public Security Building
State Campus
Albany, New York 12226

RE: Review of New York State Radiological Emergency Preparedness (REP) Plan

Dear Mr. Hennessy:

The Regional Assistance Committee (RAC), less the U.S. Department of Energy, has reviewed the draft State Radiological Emergency Preparedness (REP) Plan, using the planning standards contained in FEMA REP-1/NUREG-0654. The detailed comments are attached.

While we recognize that the December 1980 draft submission was prepared in accordance with the "Interim" edition of FEMA REP-1, we evaluated the State Plan against the "Revision 1" edition of the planning standards, which clarified several issues contained in the interim edition. Therefore, the RAC's detailed comments regarding the State Plan are based on the revised standards.

Noticeable progress has been made in the version of the State Plan furnished to the RAC for review on December 17, 1980. The August 1980 draft submission had no county plans prepared in accordance with FEMA REP-1 standards. The December 1980 draft contains a State level plan and seven county plans. The steady progress made is indicative of the commitment by the State and local governments towards radiological emergency preparedness for commercial nuclear power plant accidents. Indeed, the Nuclear Planning Group should be commended for the energies and attainment of its goal in its timely furnishing to the RAC a draft of all State and local plans for locations with operating nuclear reactors. Moreover, we expect that significant and substantive improvements to the submitted plan have already been made.

However, the RAC found it very time consuming to perform the review due to inaccurate cross-referencing and hasty editing. Consequently, the RAC expended a great deal of time trying to locate various portions of the plan that address the specific planning criteria.

In summary, deficiencies in the plan fall into three broad categories:

a. While we recognize the State's efforts to reconcile the conflict between State and county authorities and responsibilities pertaining to radiological emergency preparedness, with proposed enactments such as the "Fink Bill," this deficiency, nonetheless, pervades the plan. Until resolution to this fundamental planning consideration is attained, the plan will remain deficient, even if all other planning standards are adequately addressed.

b. The Plan still lacks specificity in many cases. Methodologies and decision-making processes for the following planning standards require further articulation: emergency response support, notification methods and procedures, public education, accident assessment, radiological exposure control, medical and health support, and recovery and re-entry operations. Cross references should clearly identify elements of the plan as they relate to the planning standards.

c. Certain planning criteria have not been addressed in the submission. Letter agreements with Federal agencies and non-government organizations were missing. Means for relocation have not yet been incorporated in the Plan. Related maps and charts are missing. A program for permanent record devices has not been developed. All planning criteria listed in FEMA REP-1/ NUREG-0654, should be addressed in the plan.

The detailed comments that the RAC has provided, coupled with a meeting you may request to discuss these comments, should serve to identify the revisions necessary in the State Plan.

We ask that, upon completion of these revisions, the Governor apply for formal review and approval of the State Plan, site specific to each reactor location in order of State priority. Each submission should be prepared and furnished in accordance with Section 350.7, FEMA Proposed Rule 44 CFR 350. Requests for additional informal reviews will only delay the review process.

Sincerely,

Vincent Forde
Acting Regional Director

Attachments

ATTACHMENT B

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
631 PARK AVENUE
KING OF PRUSSIA PENNSYLVANIA 19406

Docket Nos. 50-003
50-286

24 AUG 1981

Power Authority of the State of New York
James A. FitzPatrick Nuclear Power Plant
Indian Point 3 Nuclear Power Plant
ATTN: Mr. George T. Berry
President and Chief Operating Officer
10 Columbus Circle
New York, New York 10019

Gentlemen:

By letter dated April 24, 1981, I transmitted to you a copy of a letter from the Federal Emergency Management Agency (FEMA) dated April 23, 1981 and its attached letter from FEMA to the New York State Disaster Preparedness Commission dated April 6, 1981. The attachments to the April 6, 1981 letter listed numerous deficiencies in the New York State and local emergency response plans for the area around your reactor site.

The enclosed letter from FEMA dated August 19, 1981, refers to the deficiencies in the aforementioned April 6, 1981 letter. FEMA concludes that "the present state of planning is generally adequate to carry out the responsibilities of the State and local government in the case of an accident at these sites". We therefore conclude that this issue has been resolved satisfactorily.

Sincerely,

Boyce H. Grier
Director

Enclosure: As stated

cc (w/encl):
J. C. Brons, Resident Manager, IP-3
R. J. Pasternak, Resident Manager, FitzPatrick
J. P. Bayne, Senior Vice President-Nuclear Generation
A. Klausmann, Director, Quality Assurance
M. C. Cosgrove, Site Quality Assurance Engineer
J. F. Davis, Chairman, Safety Review Committee
C. W. Pratt, Assistant General Counsel
D. M. Wilverding, Manager-Nuclear Licensing
D. Halama, Site Quality Assurance Engineer
K. Burke, Director, Regulatory Affairs (Con Ed)
W. D. Hamlin, Assistant to Resident Manager (PASNY)
L. Gleaze, Project Manager
Honorable Hugh L. Carey, Governor of New York
State of New York, Department of Health
Y. Forde, Acting Regional Director, FEMA
D. O. Suren, Chief Executive, Putnam County
L. Heimbach, Chief Executive, Orange County
J. T. Grant, Chief Executive, Rockland County
A. B. Delbello, Chief Executive, West Chester County
J. Dunkelberger, New York State Energy Office
J. [illegible] Director, RSI Division, FEMA
Public Document Room (PDR)
Local Public Document Room (LPDR)
Nuclear Safety Information Center (NSIC)
State of New York
NRC [illegible] (FitzPatrick)
NRC Resident Inspector (Indian Point 3)

ATTACHMENT-C

POST EXERCISE ASSESSMENT

Exercise of the New York State and Westchester, Putnam, Rockland and Orange Counties Radiological Emergency Plans for INDIAN POINT NUCLEAR GENERATING STATION

MAY 27, 1982

Federal Emergency Management Agency
Region 2

FRANK P. PETRONE
Regional Director

26 FEDERAL PLAZA
New York, N.Y. 10278

TABLE OF CONTENTS

		Page
I.	INTRODUCTION	1
	1. FEMA Responsibilities	1
	2. Exercise Event	2
	3. Exercise Objective	2
	4. Participating State and Local Organizations	4
	5. Exercise Critique	6
	6. RAC Evaluation Objectives	6
	7. Federal Observer Team	6
	8. Evaluation Criteria	8
	9. Remedial Action Procedures	8
	10. Review and Approval Procedures	9
II.	EXECUTIVE SUMMARY	10
	1. Overview	10
	2. Summary: State Activities	11
	3. Summary: Indian Point Emergency Operating Facility	12
	4. Summary: Westchester County	13
	5. Summary: Rockland County	14
	6. Summary: Orange County	15
	7. Summary: Putnam County	17
III.	EXERCISE SCENARIO	20
IV.	EVALUATIONS AND RECOMMENDATIONS	21
	1. State	21
	2. Emergency Operating Facility	24
	3. Westchester County	27
	4. Rockland County	39
	5. Orange County	48
	6. Putnam County	56
	7. Dutchess County	67
V.	CORRECTIVE ACTION FOR DEFICIENCIES	68
	1. Schedule for Correcting Significant Deficiencies	68

I. INTRODUCTION

1. FEMA Responsibilities

On December 7, 1979, the President directed the Federal Emergency Management Agency (FEMA) to assume lead responsibility for all off-site nuclear planning and response.

FEMA's immediate basic responsibilities in Fixed Nuclear Facility Radiological Emergency Planning include:

1. Taking the lead in off-site emergency planning and review and evaluation of state and local government emergency plans for adequacy.
2. Determining whether the plans can be implemented, based upon observation and evaluation of exercises conducted in these jurisdictions.
3. Coordinating the activities of other involved Federal and volunteer agencies:

   - Nuclear Regulatory Commission (NRC)
   - Environmental Protection Agency (EPA)
   - Department of Energy (DOE)
   - Department of Health and Human Services (HHS)
   - Department of Transportation (DOT)
   - Department of Agriculture (USDA)
   - National Oceanic and Atmospheric Administration (NOAA)
   - Food and Drug Administration (FDA)

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

Formal submission of emergency plans to the RAC by the states and involved local jurisdictions is, in each case, followed closely by evaluation of those plans and an exercise and critique. A public meeting is held to acquaint the citizenry with the contents of the plans, answer questions about them, and receive suggestions on the plans.

This report is an evaluation of the first joint exercise at the Indian Point site, which involved participation by state, local, and Indian Point Unit 3 personnel to determine whether the radiological emergency plans can be implemented.

2. Exercise Event

A radiological emergency exercise was conducted on March 3, 1982, between the hours of 6:00 a.m. (EST) and approximately 5:00 p.m., to assess the adequacy of radiological emergency response plans for New York State, Westchester County, Rockland County, Orange County, and Putnam County, and to test the state and local capabilities to protect the public in the event of a radiological emergency involving the Indian Point Nuclear Power Station (IPNPS), operated by the Power Authority of the State of New York (PASNY) and located near Buchanan, New York.

3. Exercise Objective

The off-site exercise objective was to demonstrate the response and capability of the state and local governments according to existing plans, and to demonstrate the emergency response capabilities that would be brought into play in the event of a radiological emergency at the IPNPS-3 that affected off-site areas.

The key state and local support capabilities, as presented in the radiological emergency response plans that were to be tested, include:

- The adequacy and capability of implementation of the New York State, Westchester, Rockland, Orange, and Putnam counties and the Indian Point radiological emergency plans.
- The capability of the state, counties, and Indian Point to notify and activate emergency response personnel.
- The capability of the counties and the state to alert and notify the affected permanent and transient population within the plume exposure emergency planning zone (EPZ) of an incident at the Indian Point site and to provide follow-up information as required via sirens and the emergency broadcast system (EBS).
- The capability of the normal and back-up emergency communications among Westchester, Rockland, Orange, and Putnam counties, the state, and Indian Point, including the radiological emergency communications system (RECS) hot line.
- The adequacy of the staffing and activation, as appropriate, of emergency response facilities, and the adequacy of space and habitability for management of radiological emergency at:

Indian Point 3 Control Room (CR)
Indian Point 3 Technical Support Center (TSC)
Indian Point 3 Operational Support Center (OSC)
Indian Point Emergency Operations Facility (EOF)
State Emergency Operations Center (EOC)
ODP Southern District EOC
Westchester County EOC
Rockland County EOC
Orange County EOC
Putnam County EOC
Emergency News Center

- The adequacy and competency of the state, Westchester, Rockland, Orange, and Putnam counties, and Indian Point 3 staff to operate the emergency response facilities.
- The ability of key emergency personnel at Indian Point and at all levels of government to initiate and coordinate timely and effective decisions with respect to a radiological emergency.
- The ability of Indian Point 3 staff to activate the special news center in conjunction with state and county agencies and to provide for periodic release of public information and for rumor control.
- The counties' ability to deploy radiological field monitors and to receive and assess meteorological and radiological data from both county and utility field teams, in accordance with their respective radiological emergency plans.
- The ability of Indian Point 3 and the state to calculate dose projections, compare projections to protective action guides (PAGs) and recommend appropriate protective actions.
- The capability of the emergency response organizations for the state and Westchester, Rockland, Orange, and Putnam counties to make decisions and to implement appropriate protective action options. These options include sheltering, (simulated) evacuation of on-site and off-site areas, informing the public on the development of the accident, identification of and provision for special populations, activation of reception and congregate care facilities, and control of ingestion exposure.
- The capability of off-site emergency response personnel to implement access control procedures.
- The ability of Indian Point and Westchester, Rockland, Orange, and Putnam counties to coordinate, control, and deploy radiological monitoring teams via the respective field communications systems.
- Methods for radiation exposure control, including distribution of dosimeters and maintenance of individual worker exposure records.

- Ability to use decontamination facilities and to limit exposure of emergency workers.
- Capability for providing medical support to radiation casualties.
- Capability for implementing procedures for (simulated) reentry, damage assessment, and recovery.

4. Participating State and Local Facilities and Organizations

The principal operating area for the exercise was the plume exposure emergency planning zone around the Indian Point site, approximately a 10-mile radius around the power plant. Organizations and facilities that were designated to participate in the exercise are listed below; during the exercise some of the organizations may have had minimal involvement.

New York State Facilities	
EOCs	Albany, New York
	Office of Disaster Preparedness Southern District Poughkeepsie, New York
Personnel Monitoring Centers	Hawthorne, New York
	Monroe, New York
County Facilities	
EOCs	Westchester County, White Plains, New York Rockland County, Pomona, New York Orange County, Goshen, New York Putnam County, Carmel, New York Dutchess County,* Poughkeepsie, New York
Reception/Congregate Care Centers	Westchester County Rockland County Orange County Dutchess County
Hospitals	Westchester County o Peekskill Hospital
	Orange County o Cornwall Hospital o Middletown Hospital

*Dutchess County EOC was activated to provide support to the plume exposure EPZ counties, such as reception/congregate care centers, monitoring and decontamination of "evacuees," and traffic control.

Indian Point Facilities

Indian Point EOF	Buchanan, New York
Emergency News Center	Verplanck, New York

New York State

Disaster Preparedness Commission
Department of Health
DMNA/Office of Disaster Preparedness
Department of Transportation
Division of State Police
Department of Agriculture Markets
Department of Environmental Conservation
State Energy Office
Department of Social Services
Department of State, Fire Prevention and Control
Department of Education
Office of General Services
Department of Labor
Department of Parks, Recreation and Historic Preservation
Department of Mental Health
Department of Correction
Department of Criminal Justice
Thruway Authority

Counties

Westchester, Rockland, Orange, and Putnam

County Executive
Civil Defense Director
Commissioner of Public Safety
Commissioner of Health
Commissioner of Hospitals
Commissioner of Public Works
Director, Department of Transportation
Commissioner of Social Services
Fire Coordinator
Public Information Officer
Radiological Health Specialist
Sheriff
Volunteer Ambulance Disaster Coordinator
Superintendent of Highways

Private Agencies and Volunteers

American Red Cross
RACES (Radio Amateur Civil Emergency Service)
Conrail
MTA (Metropolitan Transit Authority)
Amtrak
Bus Companies

5. Exercise Critique

A preliminary oral critique of the March 3 exercise was conducted at 11:00 a.m., March 6, 1982, at Cortland Civic Center, New York.

6. RAC Evaluation Objectives

General objectives of the Regional Assistance Committee (RAC) for the operational phase of the plans were to observe and evaluate the exercise, focusing on the ten functional areas listed and briefly described below. These ten functional areas include approximately 75 specific criteria taken directly from Section II of NUREG-0654-FEMA REP-1, Rev. 1, which is the basic planning document on which the state and local plans, and also the criteria for observing and evaluating the exercise, are based.

Functional areas:

- Emergency Operations Facilities and Resources.
- Alerting and Mobilization of Officials and Staff.
- Emergency Operations Management.
- Public Alerting and Notification.
- Public and Media Relations.
- Accident Assessment.
- Actions to Protect the Public.
- Health, Medical, and Exposure Control Measures.
- Recovery and Reentry Operations.
- Relevance of the Exercise Experience.

7. Federal Observer Team

A 50-member off-site Federal Observer Team was established by the FEMA Region II RAC Chairman for observing the response at Indian Point. Observers included:

Observer	Agency	Location/Function
F. Petrone	FEMA (Regional Director)	Oversight Responsibility
R. Kowieski	FEMA (RAC Chairman)	Oversight Responsibility
S. McIntosh	FEMA	State EOC/Team Leader
N. Steinlauf	FEMA	State EOC
J. Feldman	EPA	State EOC/Accident Assessment
M. Adler	DOE	State EOC/P.I.O.
J. Johnson	FEMA	S. District EOC/Team Leader
W. Pierson	FEMA	Indian Point EOF/Team Leader
B. Bores	NRC	Indian Point EOF
J. Harrison	NOAA	Indian Point EOF
M. Jackson	FEMA	News Media Center/P.I.O.
L. Dillon	FEMA	News Media Center/P.I.O.
S. Glass	FEMA	Westchester EOC/Advisor
G. Connolly	FEMA	Westchester EOC/Team Leader
R. Bernacki	FDA	Westchester EOC/Accident Assessment
J. Kelly	FEMA	Westchester EOC/Communications
K. Lawrence	FEMA	Westchester EOC/P.I.O.
D. Tinsman	DOT, USCG	Westchester Co./Evacuation
J. Bravo	FEMA	Westchester Co./Evacuation
F. Fishman	FEMA	Westchester Co./Evacuation
G. Rodriguez	FEMA	Westchester Co./Congregate Care
W. Gasper	ANL*	Westchester Co./Radiological Monitoring
J. Keller	INEL**	Westchester Co./Radiological Monitoring
R. Jones	FEMA	Westchester Co./Medical
P. McIntire	FEMA	Putnam EOC/Advisor
T. Maynard	FEMA	Putnam EOC/Team Leader
K. Gant	DOE	Putnam EOC/Accident Assessment
H. Rand	FEMA	Putnam EOC/P.I.O.
T. Holliday	FEMA	Putnam EOC/Communications
J. O'Sullivan	FEMA	Putnam Co./Evacuation
M. Kaplan	ANL*	Putnam Co./Evacuation
C. Nichols	INEL**	Putnam Co./Radiological Monitoring
J. Bratis	ANL*	Putnam Co./Radiological Monitoring
J. Picciano	FEMA	Rockland EOC/Team Leader
M. Goodkind	ANL*	Rockland EOC/Accident Assessment
R. Garelik	FEMA	Rockland EOC/Communications
G. Seidenfeld	FEMA	Rockland EOC/P.I.O.
P. Lutz	DOT, USCG	Rockland Co./Evacuation
R. Hellriegel	FEMA	Rockland Co./Evacuation
C. Malina	USDA	Rockland Co./Congregate Care/PMC
R. Skinner	INEL**	Rockland Co./Radiological Monitoring
J. Tatar	ANL*	Orange Co./Radiological Monitoring
R. Reynolds	FEMA	Orange Co./Team Leader
E. Levine	ANL*	Orange Co./Accident Assessment
A. Davis	FEMA	Orange Co./Communications
C. Carlton	FEMA	Orange Co./P.I.O.
H. Fish	DOE	Orange Co./Evacuation

Observer	Agency	Location/Function
P. Weberg	FEMA	Orange Co./Evacuation
L. Hoffman	INEL**	Orange Co./Radiological Monitoring
L. Lewis	ANL*	Orange Co./Radiological Monitoring

*Argonne National Laboratory (under contract to FEMA)

**Idaho National Engineering Laboratory (under contract to FEMA)

In addition to the Federal Observer Team, utility's contractor personnel and visitors observed the exercise.

8. Evaluation Criteria

Major functions witnessed by federal observers were evaluated in accordance with the following scheme:

- Capability outstanding: no deficiencies noted, no improvements necessary.
- Capability good: only minor deficiencies noted.
- Capability acceptable: deficiencies noted that limit effective performances.
- Capability weak: significant deficiencies noted.
- Capability lacking: response called for but not demonstrated.

9. Remedial Action Procedures

Provided under Part IV of this report are evaluations and recommendations for remedial actions. These evaluations and recommendations are based on the applicable planning standards (from which the state and local plans were developed) and evaluation criteria set forth in Section II of NUREG-0654 FEMA REP-1, Rev. 1. Other recommendations are suggested that are not keyed to NUREG-0654, but which could improve operations.

In this report, recommendations are presented and are keyed to the state and local jurisdictions. State and local jurisdictions should submit to FEMA a description of the corrective measures they have taken and a schedule for the ones to be undertaken. If remedial actions cannot be instituted immediately, then a detailed schedule for implementing remedial actions must be provided to FEMA, including dates for completion.

The Regional Director of FEMA is responsible for certifying to the FEMA Associate Director, State and Local Programs and Support, Washington, D.C., that the deficiencies noted in the exercise have been corrected and that such corrections have been incorporated into the plan.

10. Review and Approval Procedures

A state that seeks review and approval by FEMA of its plan and annexes submits an application for review and approval to the FEMA Regional Director of the region in which the state is located. The application, in the form of a letter from the Governor, or such other state official as the Governor may designate, is to contain one copy of the completed state plan with an indication that deficiencies have been corrected.

Upon receipt of a state plan, the Regional Director initiates the review process as described in 44 CFR Part 350, Federal Register, Volume 45, Number 123, Tuesday, June 24, 1980 (Review and Approval of State and Local Radiological Emergency Plans and Preparedness). After the Regional Assistance Committee (RAC) and the FEMA Regional staff have completed their review, including the evaluation of the supporting exercise and the public meeting required in proposed 44 CFR Part 350, the FEMA Regional Director will issue a report to FEMA Headquarters regarding the state and local government plans, procedures, and preparedness capabilities. This report will consist of a summary of the overall findings and determinations in respect to the procedures, training, resources, staffing levels, qualifications, and equipment availability. The FEMA Associate Director is to conduct such review of this report as deemed necessary prior to its being forwarded to the appropriate NRC licensing bodies.

II. EXECUTIVE SUMMARY

A joint exercise of the emergency preparedness plans for the Indian Point site was held on March 3, 1982. The off-site exercise was observed by a team of 50 federal observers, who reported their findings to the Federal Emergency Management Agency (FEMA). Participating in the exercise were the owner of Indian Point Unit 3, Power Authority of the State of New York (PASNY), officials and agencies of the State of New York, and the counties of Westchester, Rockland, Orange, Putnam, and Dutchess.

Emergency response facilities observed by FEMA included:

- the Indian Point Emergency Operations Facility (EOF);
- the state Emergency Operations Center (EOC) in Albany;
- the state EOC in the Office of Disaster Preparedness, Southern District;
- the Westchester County EOC;
- the Rockland County EOC;
- the Orange County EOC;
- the Putnam County EOC;
- the Dutchess County EOC; and
- the Emergency News Center in Verplanck.

The Dutchess County EOC also chose to participate in the exercise, although it is not within the 10-mile emergency planning zone.

Evaluators also observed procedures at personnel monitoring centers, at reception/congregate care centers, and at hospitals where simulated accident victims were treated.

Over 50 state, local, and private agencies and departments participated in the exercise.

1. Overview

During the review of the exercise, each of the ten functional areas described in section I.6 were evaluated for the state operations and each of the four municipal counties' operations (except Dutchess). At the state level, all observed functions were carried out well; only minor deficiencies were noted. Among the four counties, nine functional areas were evaluated

as weak. These deficiencies, positive areas of performance, and corrective recommendations are detailed in the summaries provided below and in the following pages.

Several concerns were identified during the exercise that influenced the evaluation of that element. Some of these concerns are identified below.

- The primary means for alerting the populace to a serious radiological emergency will be a system of sirens. This system is now being installed and is to be tested by the licensees. The existing sirens were activated during the exercise, but some of the units did not sound or were inaudible to local residents. The backup system of notification by sound trucks (police/fire trucks equipped with public address systems) was not used.
- Rockland County's police, fire and volunteer ambulance corps initially chose not to participate in the exercise, claiming that inadequate training had been provided. During the exercise these groups participated, but to a minimal extent, thereby reducing the training benefit of the exercise and the ability to fully evaluate the county's preparedness.
- The effectiveness of the existing radiological public education program should be strengthened. Currently, public education on radiological emergency procedures relies on distribution of pamphlets to residents. Concern remains as to the level of public awareness and response. These concerns include the public's understanding of the concept and geographical boundaries of planning zones. Also, the level of awareness of the non English-speaking residents living in the area should be analyzed.

2. Summary: State Activities

Emergency Operations Facilities and Resources. Facilities and resources in the state EOCs in Albany and Poughkeepsie were good. Displays were well placed and promptly updated. Some additional plotting of dose calculations is recommended. The communications between state and local accident assessment teams were weak. Internal communications and public information arrangements were good.

Alerting and Mobilization of Officials and Staff. All mobilization activities functioned well.

Emergency Operations Management. Management of the response organization was well demonstrated. Increased flow of information in both directions between agencies and decision-makers would be beneficial.

Public and Media Relations. At the state EOC in Albany, press facilities and media briefings were good. At the Joint Media Center, the state PIO staff demonstrated good capability.

Accident Assessment. Accident assessment capabilities were good. However, the state did not demonstrate their own independent field monitoring capability. Some additional computational aids would be of value.

Recovery and Reentry. Short-term and long-term recovery and reentry procedures appeared to be good.

Relevance of the Exercise. Participants felt that the exercise was beneficial for training and experience. Use of simulated meteorology and the rapid pace of scenario events detracted somewhat from the realism of the exercise.

3. Summary: Indian Point Emergency Operating Facility (EOF)

Emergency Operations Facilities and Resources. The EOF in Buchanan had acceptable capabilities; however, space was limited and inconveniently arranged. Internal and external communication systems could be improved.

Alerting and Mobilization of Officials and Staff. Staffing and notification was acceptable. Additional feedback from the state and counties to the EOF would be of benefit.

Emergency Operations Management. Management of the response was good for state representatives and acceptable for the county representatives. More involvement of the state and county in decision making is recommended.

Accident Assessment. Capabilities in this area were acceptable. Computing capability for rapid response is recommended. Improvement is needed in use of monitoring data.

Relevance of the Experience. The exercise was felt to be beneficial to the participants.

4. Summary: Westchester County

Emergency Operations Facilities and Resources. The facilities at the Westchester County EOC were good overall. The working space was small but adequate because of the layout. Communication, internal and external, was good. Backup RACES communication capability was demonstrated. Displays and maps were well organized and security was good.

Alerting and Mobilization of Officials and Staff. Westchester County demonstrated a good capability for alerting and mobilizing officials and staff in a timely manner. This resulted from good communications and from adequate procedures and backup personnel. The capability for 24-hour alerting and 24 hour a day operation was good. There is some concern over the availability of enough personnel to adequately staff the reception centers if an actual emergency started on a weekend.

Emergency Operations Management. Emergency operations management, headed by the County Executive, was very good, and demonstrated well-defined leadership at several levels. The staff was kept well informed through periodic briefings by the leaders.

Public Alerting and Notification. Public alerting and notification actions were weak, due primarily to the unsatisfactory performance of the siren system. Lack of understanding by some of the populace of the meaning of the sirens; lack of knowledge of the emergency response planning areas (ERPA); and lack of adequate notification of transients were observed. The procedures for broadcasting EBS messages were very good; EBS messages were well written and timely. Activation of EBS station and issuance of first EBS message were excellent.

Public and Media Relations. The public and media relation actions were acceptable, however, public education programs and rumor control procedures need improvement. Public education pamphlets were mailed and received by rate payers, but apparently were not effective, because the public as a whole seemed to have a general lack of knowledge of radiological emergency preparedness. People who do not pay utility bills directly, such as some tenants, may not have received the pamphlets. Emergency information was not posted, nor was it printed in the telephone book.

Accident Assessment. Accident assessment capabilities were evaluated as acceptable but some deficiencies are noted. The radiological assessment

instrumentation was good, except that the instrument used for measuring radioiodine should be equipped with a silver-containing air filter. Procedures for quickly measuring contamination in liquid samples are needed. Projected dose calculations were good, and field monitoring teams were well trained and capable. The ability to recommend protective actions based on the protective action guidelines was well demonstrated.

Actions to Protect the Public. Overall, the Westchester County personnel demonstrated an acceptable capability to protect the public by implementing protective measures. Improvements are needed in the details of the procedures for relocating residents who do not have private vehicles, in protecting mobility-impaired persons, and in dealing with potential impediments to evacuation.

Health, Medical, and Exposure Control. Most of the health, medical, and exposure control capabilities were weak. The 24-hour capability to determine exposures of emergency workers was weak because of instrumentation problems, while decontamination procedures were weak primarily because of a lack of adequate waste disposal, especially for liquid wastes. Control of access to evacuated areas was good, and maintenance of dose records was good. Action levels that require decontamination procedures were well established.

Recovery and Reentry Operations. Simulated reentry operations made it appear that the capability to recover and reenter exists.

Relevance of the Exercise Experience. Participants felt that the exercise was a good learning experience.

5. Summary: Rockland County

Emergency Operations Facilities and Resources. The facilities at the Rockland County EOC were weak. Significant deficiencies were noted relating to external and internal communications, leadership in the EOC, and space allottment.

Alerting and Mobilization of Officials and Staff. The capability for alerting and mobilization of staff from the EOC was weak. Deficiencies were noted related to the lack of telephone lines and staff to perform initial calling. Backup staff was also lacking. Overall improvement in communications is needed.

Emergency Operations Management. Organizational control, leadership, and decision making were acceptable. However, effective management of the EOC by one individual was not demonstrated. More familiarity is needed with response procedures.

Public Alerting and Notification. Initial notification of the public was weak, primarily because of siren system malfunction. Activation of the EBS station and issuance of the first EBS message were well coordinated. EBS messages were professionally coordinated, cleared, and issued.

Public and Media Relations. Media capabilities were acceptable. However, public awareness of a public education brochure was low. Rumor control needs to be strengthened. There may be a need to translate the brochure in order to reach non-English speaking individuals.

Accident Assessment. Accident assessment capabilities were weak. Poor communication systems contributed to problems in this area. Field monitoring teams need more training with their instruments. The role of the county representative at the EOF needs to be better defined.

Actions to Protect the Public. Capabilities for protection of the public were good. Evacuation and decontamination were well demonstrated.

Health, Medical, and Exposure Control Measures. These activities were well demonstrated. Facilities were good and well staffed.

Recovery and Reentry Operations. The capability of the EOC for recovery and reentry was good, as demonstrated by simulation. Activities in the field were not observed, due to the shortness of the scenario.

Relevance of the Experience. Lack of involvement by some local agencies reduced the effectiveness of the exercise. The inclusion of a simulated wind shift in the scenario was good, but the county's computer analysis system was not used during the exercise.

The exercise identified areas that would benefit from additional training and better equipment.

6. Summary: Orange County

Emergency Operations Facilities and Resources. The facilities at the Orange County Emergency Operating Center (EOC) were evaluated as acceptable.

Some deficiencies were noted, particularly with the communication system linking Orange County with the other counties. Internal communications systems could also be improved. Maps and displays were generally good. Acceptable security was provided.

Alerting and Mobilization of Officials and Staff. The overall capability for alerting and mobilization was evaluated as weak, based upon a deficiency in the key element of 24-hour shift change capability. Backup personnel did not demonstrate sufficient knowledge in all essential areas. The remaining elements in this category were in general adequately demonstrated, although poor communications between agencies in the EOC led to difficulties in establishing access control points.

Emergency Operations Management. Organizational control, leadership, decision making and support by officials were acceptable. Performance was affected by internal communications in the EOC, which depended upon hand-carrying messages between rooms in the facility. Briefing of agencies was sporadic and written updates were not always available.

Reception centers, congregate care facilities, and the decontamination center were well staffed and organized.

Public Alerting and Notification. Public alerting and notification were weak, due primarily to the unsatisfactory performance of the siren system. The EBS was activated in a timely manner. The first EBS message was coordinated with the siren sounding. Procedures for issuing EBS messages were good.

Public and Media Relations. The capability for dealing with the media was good. Rumor control needs to be strengthened. Public education programs also should be strengthened.

Accident Assessment. Capabilities for accident assessment were rated as acceptable. Deficiencies noted included the failure of the field monitoring teams to carry full instrumentation.

Actions to Protect the Public. Means for sheltering or evacuating the public were evaluated as good. All observed facilities were well staffed. Lack of data on radioiodine levels in the field were believed to affect decisions for public protection.

Health, Medical, and Exposure Control Measures. Procedures for medical treatment and exposure control were evaluated as acceptable. Deficiencies noted included the lack of provision for disposal of contaminated wastes. Hospital personnel need additional training. Permanent dose recording instruments were not available for emergency workers.

Recovery and Reentry. Recovery and reentry procedures were evaluated as weak. The significant deficiency related to the lack of full simulation by participants.

Relevance of the Experience. The exercise seemed to provide an acceptable level of experience. One drawback noted was that some response teams were not fully tested, while others were tested on skills that were considered routine.

7. Summary: Putnam County

Emergency Operations Facilities and Resources. The working space in the Putnam County EOC was cramped, which resulted in some minor discomfort to the staff. The overall functioning of the EOC was good in spite of the small size, because the management was good. Communication systems were good, and had good backup.

Alerting and Mobilization of Officials and Staff. Putnam County demonstrated an acceptable capability for alerting and mobilizing officials and staff. The procedures used would have been effective at any time during the day or night, and resulted in a prompt and timely activation of the EOC and field monitoring teams. A capability for continuous operations 24 hours per day was well demonstrated by executing a shift change and by exhibiting lists of backup personnel. This shift change revealed that two key people, the CD Director and the radiological defense (RADEF) officer, do not have adequate backup. An emergency generator was not available in the event of power failure.

Emergency Operations Management. The management of the Putnam County EOC was very good and was well supported by elected officials. Many specific organizations had well-defined roles and demonstrated good performance. Leadership was excellent and support by the RACES organization was excellent.

Public Alerting and Notification. Public alerting and notification were weak, due primarily to the unsatisfactory performance of the siren system. Activation of the EBS station and issuance of first EBS message were good. Other EBS messages were cleared and issued on a timely basis. Some route alerting by police and fire vehicles was simulated but no PA announcements were made. Deficiencies were noted in the ability to notify the transient population.

Public and Media Relations. The capability for public and media relations in Putnam County was acceptable overall. Public education brochures were mailed to the public, and public training courses were given by the fire department and RACES personnel. Nevertheless, there appears to be a need for additional education to help the public understand protective actions and ERPA zones. The PIO officer had good access to all information, and prepared timely and appropriate releases. There was no evidence of a coordinated effort to identify and control rumors.

Accident Assessment. Accident assessment capabilities were evaluated as acceptable; however, some deficiencies were noted. Initial projections of radiological exposure were made independently in a timely manner and confirmed the utility projections. Field monitoring teams were promptly deployed, and were very competent. The instrumentation for whole body gamma ray was good. However, there was no capability for measuring radioiodine. Silver-loaded filters are needed to provide capability for measuring radioiodine.

Actions to Protect the Public. Putnam County demonstrated a good capability to protect the public. Roadblocks were set up promptly. Orders were given in a timely manner for the actions to simulate sheltering and then evacuation. A bus load of students was evacuated (in actuality) to the congregate care center in Dutchess County. This was well done. The congregate care centers were well located, well staffed, and well equipped. Their procedures were good; however, the radiation monitoring personnel could benefit from additional training.

Health, Medical, and Exposure Control. Overall, the health, medical, and exposure control actions were acceptable, with the exception of the procedures for ultimate disposal of contaminated liquids. Direct reading

dosimeters supplied to emergency workers had appropriate ranges and sensitivities. Readings were made and recorded frequently, and the results reported by radio to the ECC. No permanent-record dosimeters were provided. Procedures for approval of exposure of emergency workers in excess of protection action guides need to be clarified. Action levels for decontamination procedures were known.

Recovery and Reentry Operations. Reentry operations were demonstrated by simulation only. An acceptable capability for reentry and recovery appears to exist.

Relevance of the Exercise Experience. There was unanimous agreement that the exercise was very beneficial to the participants, all of whom took the exercise very seriously and performed as if the power plant accident actually occurred.

III. EXERCISE SCENARIO

The scenario provided a simulated series of events on-site that resulted in all four classes of emergency conditions being declared. In turn, these conditions triggered off-site response actions (or simulations).

An overview of the sequence of emergency conditions, major events, and their approximate times of occurrence is summarized below.

EVENT	TIME (EST)
Notification of unusual event	735
Notification of alert	815
District Office begins staffing	830
Notification of site-area emergency	906
Counties activate all emergency workers	915
Activate emergency news center	920
Notice to Brewster congregate care center	1002
Sirens activated	1012
EBS message aired	1015
General emergency declared	1025
Reactor shuts down automatically	1030
Brewster congregate care center functional	1030
Sheltering of selected ERPAS ordered	1055
State emergency declared	1134
EBS message of general emergency	1150
Evacuation ordered for ERPA 16, 18	1153
Evacuation ordered for ERPA 1, 2, 7, 8 & 44	1200
Wind shift	1215
Sheltering ordered for ERPA 24, 26, 45, 46	1215
Downgrade to site area emergency	1509
Simulate elapse of 3 days	
Implement recovery procedures	1558
Exercise terminated	1615

The timetable of exercise events was for the most part withheld from off-site participants. However, the exercise date and the general time of the first exercise event was known, since demonstrations of response functions using volunteers require some advance administrative preparations, such as time off from work, etc.

IV. EVALUATIONS AND RECOMMENDATIONS

1. State

Emergency Operations Facilities and Resources

EOC facilities at Albany and at the Southern District in Poughkeepsie were good, with only minor deficiencies. Displays were well placed and frequently updated; however, additional maps are needed in the Albany EOC to show data such as populations in emergency response planning areas (ERPAs) and the location of county field sampling points.

The communications between state and local accident assessment teams were weak. Internal communications were good. Public information arrangements were also good.

Recommendations:

- Communications systems between the state EOCs and other EOCs should be improved. (Reference NUREG-0654, II.F.)
- Additional maps for displaying populations within ERPAs and field sampling locations should be provided in the Albany EOC. (Reference NUREG-0654, J.10.a)

Alerting and Mobilization of Officials and Staff

The procedures and actions for alerting and mobilization of officials and staff were good. State EOCs were promptly staffed, and 24-hour response capability was demonstrated. RACES operators in Albany were well prepared for providing assistance in notifying emergency personnel. At the Southern District, computerized calling of emergency workers was a good feature.

Emergency Operations Management

Organization, leadership, and decision making were good at the EOCs. Procedures and authority for requesting federal assistance were also good. However, it appeared that there was not enough feedback to agency representatives from the decision makers.

Recommendation:

- State support agencies should be given more involvement in the exercise.

Public Alerting and Notification

These functions were not observed at the state EOCs.

Public and Media Relations

At the Albany EOC press facilities, media briefings, and news releases were good. The media spokesperson performed very well; however, some press questions regarding dose rates were not answered immediately. At Joint Media Center, state PIOs and staff demonstrated a high level of ability. The state is committed to coordinating a joint number system for support of rumor control during an actual emergency. A review of county EBS messages and news releases indicates that in a limited number of instances information in news releases more properly should have been contained in EBS messages. This occurrence could adversely effect overall PIO operations.

Recommendations:

- In conjunction with county PIOs, criteria should be developed to determine what type of information will be issued via EBS and what type via news releases.
- Procedures for quickly activating rumor-control telephone numbers and procedures should be formalized.

Accident Assessment

Accident assessment procedures were good overall. More plotting and display of dose calculations and field data would be beneficial for decision making purposes. The state did not demonstrate their own independent field monitoring capability. The field data reported by the county were not sufficient for confirmation of dose projections. Lack of computing capability slowed dose calculations; however, procedures for calculating doses were adequate.

Recommendation:

- Additional calculating equipment should be considered to expedite dose calculations.
- The state may wish to consider its own field monitoring capability which would allow the state to make an independent accident assessment.

Actions to Protect the Public

Sheltering and evacuation procedures were not observed at the state EOCs.

Health, Medical, and Exposure Control Measures

These activities were not observed at the state EOCs.

Recovery and Reentry

Short-range recovery and reentry procedures appeared to be adequate. It was more difficult to assess the value of the longer-range planning described by the state. Consideration has been given to long-term environmental effects.

Relevance of the Exercise Experience

Participants felt that the exercise was beneficial for training and for gaining more familiarity with the emergency plan. The use of simulated meteorology reduced the realism of the exercise. Some participants also felt the rapid pace of events in the scenario was not realistic. It was also noted that winter-time exercises greatly reduced the role of agricultural agencies.

2. Emergency Operating Facility (EOF)

Emergency Operations Facility and Resources

The Emergency Operating Facility (EOF) in Buchanan, New York, was evaluated as acceptable, with deficiencies noted that would limit effective performance.

Space allotted to the EOF was considered insufficient, and the two-level structure was inconvenient. The communications system in the EOF also needed improvement. Backup telephone lines are needed for the state and counties. The audible intercom system was felt to be detrimental to operations. Internal communications need to be improved to reduce reliance on hand-written messages. Although the REC line to the EOCs allowed good contact, little feedback was observed from the EOCs to the EOF.

Displays and status updates were adequate but little information was displayed on state and county actions.

Recommendations:

- More space is needed for effective display of information in the EOF, and a single-floor area would ease communications.
- The communications system needs improvement, and backup telephone lines should be available (Reference NUREG-0654, II.F)

Alerting and Mobilization of Officials and Staff

Staffing, 24-hour response capability, and alerting capability were evaluated as acceptable, with deficiencies listed below that limited effective performance.

The state and county responses were acceptable.

Feedback of information from the state and counties to the EOF was insufficient. Information on the state's evacuation efforts in response to the utility recommendations was delayed.

Backup staff capability was adequately demonstrated.

Recommendation:

- Improvement is needed in the flow of information back to the EOF from state and local response organizations. (Reference NUREG-0654, II.F)

Emergency Operations Management

The organization, leadership, and decision-making capabilities were evaluated as good for the state with some minor deficiencies, and acceptable for the counties, with deficiencies noted that limited effective performance. More definition of the county representatives' roles at the EOF was needed. Good briefings were held by the utility director. Utility functions were performed very smoothly.

Closer contact was needed between engineering staff at the EOF and at the technical support center to ensure timely and accurate information exchange. Also, state and county representatives should have been made aware of the basis for RECs messages.

Recommendations:

- The role of county representatives at the EOF needs better definition. (Reference NUREG-0654, II.B.6)

Public Alerting and Notification

These activities were not observed at the EOF.

Public and Media Relations

These activities were not observed at the EOF other than that the utility public information officer functioned well in providing information to the media center.

Accident Assessment

Accident assessment capabilities were evaluated as acceptable, with deficiencies noted that limited effective performance.

Communication of field monitoring data to the EOF was erratic.

State representatives at the EOF communicated their dose calculations well to the state EOCs; however, integrated dose estimates were performed by the utility only.

Recommendation:

- Response time for analyzing changes in dose calculation parameters should be shortened. (Reference NUREG-0654, II.I.8)

Actions to Protect the Public

These activities were not observed at the EOF.

Health, Medical, and Exposure Control Measures

These activities were not observed at the EOF.

Recovery and Reentry Operations

These activities were not observed at the EOF.

Relevance of the Exercise Experience

The exercise was felt to be of benefit to the participants.

3. Westchester County

Emergency Operations

Overall, the facilities, resources, space, internal communications, displays, and security were good, and only minor deficiencies were noted.

The Westchester County emergency operating center (EOC) is located in the County Office Building, 148 Martine Avenue, White Plains, New York. The location in the sub-basement area provides excellent protection and security for the emergency workers.

The small working space in the EOC was adequate because it was divided into four work areas. Separate rooms are provided for radio communications, for the accident assessment function, and for management personnel. The fourth room was the large outer room. This contained work tables for the many agency participants and provides wall space to display maps, status boards, etc. Some of the observers considered this outer main room to be too crowded. One thought that the noise level was too high. All four of these rooms were well lighted and well ventilated.

The overall performance of the several communications systems was good. A dedicated executive hot line was used between state and local governments, with the exception of Orange County. The Orange County executive hot line was not functioning because of equipment problems. Backups for the system were a radio network, the commercial telephone, and the RACES systems.

The bulk of the communications from the EOC was sent by commercial telephone (notification, transmitting orders to county workers, etc.). Excess commercial telephone line capacity was demonstrated to be available. Backup for these calls relied heavily on the RACES system. The RACES organization provided a superb communications support.

Communications with federal agencies was adequate.

A need for better communications between the nuclear facility and Westchester EOC was identified. The plant data on release rates, meteorological conditions, etc., were not always complete. Some data bypassed the county representative at the EOF.

Internal communications within the EOC were good. For example, messages were promptly logged and distributed to the proper personnel; plant status, release data, and monitoring data were displayed and updated on a status board; and periodic briefings kept the entire staff well informed.

Displays and maps in the EOC were well organized in general; however, the population distribution map was available at the EOF instead of in the EOC. Some clarification is needed on who has the responsibility for posting information on the displays.

The security was very good because two policemen were stationed at the only entrance to the EOC. The location of the security check point caused some inconvenience, since adequate toilet facilities were not available inside the secured area.

Recommendations:

- The arrangement of tables and the locations for each emergency worker in the EOC should be reviewed in order to minimize the impact of the small space on the operation of the EOC. (Reference NUREG-0654, II.H.3)
- A dedicated line between the EOF and the EOC should be installed to improve communications. (Reference NUREG-0654, II.F.1.d)
- Orange County EOC executive hot line should be made operational so that all the county EOCs can communicate with each other readily (e.g., Orange with Westchester). (Reference NUREG-0654, II.F.1.d)
- A population distribution map should be displayed in the EOC. (Reference NUREG-0654, II.J.10.b)
- Backup communications systems and procedures should be reviewed to reduce dependence on the commercial telephone system, since this may be overloaded in a real emergency. (Reference NUREG-0654, II.F.1.e)
- It is recommended that workers in the EOC wear identification badges that give their names, their organizations (e.g., Red Cross, etc.) and their functions, in order to expedite the flow of messages and orders. (Reference NUREG-0654, II.H.3)

Alerting and Mobilization

Westchester County demonstrated a very good capability for alerting emergency workers, with only minor deficiencies noted. Most of the EOC staff had two-way radios to receive the emergency calls. Telephone lists of backup personnel were available. Manning of the EOC was very prompt, and the arrival of each staff member was recorded on a special display board.

A county representative was alerted and dispatched to the utility's EOF in a timely manner. The field radiological monitoring teams were alerted and dispatched by radio from the police department headquarters. They were deployed promptly.

The several procedures for alerting and mobilizing the emergency workers were effectively demonstrated. These procedures would have functioned at any time during the day or night because of the backup methods of communication. A detailed write-up of these alerting and mobilization procedures should be included in the emergency plan document.

A good capability for staffing the EOC 24 hours a day was demonstrated by performing a shift change at the EOC. This was accomplished very smoothly. A 24-hour capability for staffing the field monitoring teams was not demonstrated; however, each field team knew its backup personnel.

The Social Services staff at the EOC noted a potential shortage of personnel for staffing all of the reception centers to the level required in an actual emergency, should the emergency start on a weekend.

Recommendations:

- More detailed alerting and mobilization procedures should be included in the written plan. (Reference NUREG-0654, II.E.2, H.4)

Emergency Operations Management

Emergency operations management at the Westchester EOC was very good, with only minor deficiencies noted. The organization, control, leadership, and support by elected officials was good.

It was quite evident that many specific organizations had been given roles in the overall emergency response. They knew their roles and responsibilities and participated effectively in the exercise.

Leadership was well defined at several levels. The County Executive took an active role, and was clearly in charge of the EOC. Individual organizations (e.g., Health, Red Cross) each had their own representative in charge of that function. Accident assessment was well staffed and strongly led.

The staff was kept up to date by periodic briefings by the County Executive and by periodic reports by the leaders of each participating organization. The EOC used the emergency classifications used by the utility.

Public Alert and Notification

Some of the actions taken for public alerting and notification were acceptable. Those that were weak and in need of substantial improvement include performance of the siren system and the ability to notify the transient population.

The Westchester EOC received the notice of a site area emergency and verified it. A message for the EBS was prepared by the Westchester PIO in the Joint Media Center, and was coordinated with the other county and state PIOs in the EOC. The siren system was then activated. Some observers heard the sirens very well, some heard them to be weak, and some did not hear them at all. No route-alerting activity was reported.

The EBS message followed the sirens by three minutes and was promptly broadcast by the radio stations. The EBS messages listed by number the Emergency Response Planning Areas (ERPA) that were affected by the simulated emergency. Sample checks by observers indicated a lack of public understanding of the ERPA zones.

A check of the schools indicated that the majority of them had been notified. However, Lakeland School District was notified but did not contact the school districts they were assigned to inform. There was no means established to verify whether school districts were contacted.

Most of the residents had received pamphlets distributed by the utility. Three of the motels and one nursing home visited by an observer were not aware of the pamphlets, while others had received them. There was a lack of knowledge of procedures for notifying the transients, especially those in business establishments.

A review of county EBS messages and news releases indicated that in a limited number of cases information in news releases more properly should have been contained in EBS messages. All official emergency public information pertaining to public safety should be broadcast on EBS. The public has been advised that EBS is the sole source for official emergency public information.

Recommendations:

- Test measurements of sound levels should be made throughout the 10-mile EPZ. Modification and/or additions should then be made until the system meets the notification requirements. (Reference NUREG-0654, II.E.6, J.10.F)
- Route-alerting procedures and messages should be developed to supplement the siren system, especially in those areas of low siren-sound levels. (Reference NUREG-0654, II.E.6, J.10.c)
- Intense efforts should be made to make the public aware of the meaning of the siren signals. (Reference NUREG-0654, II.G.1)
- A very complete educational campaign regarding ERPAs should be implemented that includes distribution of detailed maps showing these areas. (Reference NUREG-0654, II.J.10.a, G.1)
- Criteria should be developed, in conjunction with the state and the other counties, to determine the type of information to be issued via EBS and the type to be issued via news releases.

Public and Media Relations

Overall, public and media relations were acceptable, with some deficiencies noted. Public education programs need improvement.

Public information pamphlets were mailed to residents recently. Questions asked the public by FEMA observers during the exercise confirmed a general lack of understanding of evacuation zones.

The Westchester County public information officer had access to all of the information available at the EOC and the EOF. The information released was timely and concise. Westchester County was responsible for coordinating all EBS messages from the other counties.

The Joint Media Facility (JMF) was the point of contact with the press. The JMF did not have adequate space or equipment, including maps and

charts. Its location, about one mile SSW of the plant, is of some concern, since under certain wind conditions it might be in a contaminated zone potentially requiring evacuation. The alternative JMF location is in White Plains, and might not be conveniently reached under certain conditions, for similar reasons.

Briefings in the media center were not always announced, and not all important briefings were attended by the PIOs. For example, when PASNY announced the site area emergency at 9:20 a.m., only the utility was present, and at the 11:26 a.m. briefing only PASNY and Westchester County were present.

A toll-free information number was listed in the PASNY brochure for rumor control. Two phone numbers were also available in Westchester County for referring rumor inquiries to appropriate personnel.

Recommendations:

- Additional public education is needed so that the public will understand the locations of the areas that are to take protective actions, and will know how to carry out the protective actions. Consideration should be given to ascertain whether a significant number of people did not receive the pamphlets. If this is the case, additional distribution should be made. (Reference NUREG-0654, II.J.10.a, G.1)
- A new location for the JMF, with adequate space and equipment, that is outside the 10-mile EPZ, should be established. (Reference NUREG-0654, II.G.3.a)
- County PIOs should attend all major media briefings.

Accident Assessment

Accident assessment capabilities were evaluated as acceptable, with some deficiencies noted. Methods for measuring radioiodine need to be improved, and procedures for quickly determining contamination levels in liquid samples need to be addressed.

Release rates and meteorological data measured at the plant were used by the Westchester County accident assessment personnel to make initial projections of the radiological exposures expected. The Westchester EOC had excellent maps and an extensive set of transparent overlays to help determine these projections. The ability to calculate projected doses rapidly was demonstrated.

Field monitoring teams were dispatched promptly by the RADEF officer, with communication provided by the police radio. Data from the field teams were transmitted to the EOC by radio in a timely manner.

The field monitoring equipment for measuring whole-body gamma-ray exposure rates was excellent, and covered a wide range of potential exposure rates. Monitoring equipment for measuring radioiodine was inadequate, due to the use of a charcoal filter medium in the air sampling equipment, which limited its functional utility. This filter collects the noble gases as well as iodine. Therefore, the readings do not meet the requirements of NUREG-0654. The use of a silver zeolite filter instead of charcoal greatly reduces the collection of the noble gases.

The number of readings that the field teams could make was limited primarily by travel time from one sample point to another. Nevertheless, if the sampling teams were very efficiently deployed, it appears that data could be obtained in a short time, so that the EOC could make an early independent assessment.

The accident assessment room in the EOC was the central collection point for field samples. Sample media were bagged, labeled, and returned to the EOC when the field teams reported back near the end of the exercise.

The accident assessment personnel in the EOC demonstrated that they could calculate gamma dose rates and doses from iodine from the data transmitted from the field teams. They also demonstrated an ability to recommend protective actions based on the protective action guides. These recommended actions verified the state recommendations.

Recommendations:

- Silver zeolite filters should be used in the air sampling equipment that is used for measuring radioiodine. NOTE: Charcoal filters may be used during drills and exercises, but the silver zeolite filters must be in the instrument kits ready for use in an actual emergency. (Reference NUREG-0654, II.I.9)
- The sequence of sample points used (routes driven by the monitoring teams) should be carefully chosen to give the maximum amount of data for use in making the early independent assessment. (Reference NUREG-0654, II.I.8)

- The number of samples needed for an independent early assessment, and the possible hinderances to fast deployment of the field monitoring teams, should be reviewed to assess the possible need for additional field monitoring teams. (Reference NUREG-0654, II.I.8)
- Procedures should be developed for obtaining the field data measured by the utility's field monitoring team in a timely manner. (Reference NUREG-0654, II.I.8)

Actions to Protect the Public

Overall, the Weschester County personnel demonstrated an acceptable capability to protect the public by implementing protective measures. Some deficiencies were noted that limited effective performance. Improvements are needed in the areas of relocating the populace, protecting the mobility-impaired, and dealing with potential impediments to evacuation.

Police personnel staffed all but one of the traffic control points called for in the exercise. Traffic control point "F" was staffed by city police approximately 40 minutes after the sirens were sounded. Traffic control point "E" was staffed by the State Police 1 hour and 30 minutes after the sirens were sounded. Traffic control point "G" was not staffed during the time that the observer waited at the location. No explanation for these delays was discovered. Police personnel indicated that there may be a lack of enough trained police to staff all of the traffic control points in addition to other duties. Capabilities that were not demonstrated, nor called for by the scenario, but which may be associated with general vehicular evacuation, include capabilities to handle auto accidents, breakdowns, severe road conditions, and supply of gasoline.

Bus transportation is extensive in Westchester County, and is an important part of the evacuation plan, especially for school children and for people without private automobiles. Six bus companies participated in the drill. Five of these had radios in their buses while one depended on periodic telephone calls to the dispatcher. A total of six evacuation routes were run with the buses.

Several problems surfaced during the evacuation tests. Better maps and/or instructions would expedite the evacuation by bus to the reception centers. The use of fixed stops and uncertain times to pick up passengers should be reevaluated, especially for those routes that use narrow, hilly

roads. The lack of radio dispatch on some buses may delay the use of those buses once evacuation has been ordered. There is a need for more substantial plans for bus support -- i.e., memoranda of understanding with bus companies.

Evacuation capabilities for the mobility-impaired, especially those instutionally confined, were not adequately demonstrated. One bus had a platform for loading a wheel chair, but the relatively long load time and the lack of a radio restricted its usefulness.

Reception centers were located well outside of the 10 mile EPZ. At the John Jay High School reception center, the facilities were good; the procedures were good; the supplies and equipment were good; the staffing was good; and a capability for 24-hour operation was simulated by identifying backup personnel. The radiation monitoring and decontamination personnel had acceptable instrumentation, but questioning indicated that additional training is needed. Monitoring and decontamination actions would be expedited by additional training in the characteristics of radiation, in methods of measuring radiation, in procedures for surveying, and in action levels that require decontamination procedures.

One bus was routed to the Harrison High School, which was not designated as a reception center for this exercise. Questioning of the school staff revealed that they were not aware that their school had been designated as a reception center in the county plan.

The School Superintendent's Office at Peekskill and at Croton demonstrated an ability to protect the school children by implementing emergency procedures in a timely manner.

Recommendations:

- Procedures for staffing traffic control points in a timely manner need to be reviewed and strengthened. (Reference NUREG-0654, II.J.10.j)
- Procedures for dealing with impediments to evacuation need to be developed and exercised. These impediments include auto accidents, auto breakdowns, severe road conditions, and the unavailability of gasoline when needed. (Reference NUREG-0654, II.J.10.k)

- All buses used for evacuation should be equipped with radios for dispatching. (Reference NUREG-0654, II.J.10.g)
- Buses used for evacuation should be supplied better maps and instructions concerning the routes and the location of the reception centers. (Reference NUREG-0654, II.J.10.a, J.10.g)
- Procedures and equipment for the evacuation of the mobility-impaired need to be improved. (Reference NUREG-0654, II.J.10.d)
- Additional training is needed for the reception center personnel who do radiation surveying and decontamination. (Reference NUREG-0654, II.J.12)

Health, Medical, and Exposure Control

Most of the measures for health, medical, and exposure control were weak, and significant deficiencies were noted. The 24-hour capability for determining exposures of emergency workers was weak because of instrumentation problems. The decontamination procedures were also weak, primarily because of a lack of adequate waste disposal, especially for liquid wastes.

The policy of the Department of Health of the state of New York is that no potassium iodide will be distributed.

The control of access to evacuated areas was good. Simulated roadblocks were manned in a timely manner by personnel who understood their function.

Exposure of emergency workers was monitored by self-reading dosimeters. Most of these instruments had a range of 0-200 Rem, and were not sufficiently sensitive for accurately measuring the allowable exposures. Exposure of 1 Rem is required to be reported to the EOC. No permanent-record devices (e.g., film badge, TLD) were provided.

Emergency workers were provided with a dose-record card on which they recorded dosimeter readings frequently. In addition, field survey workers were required to report their dosimeter readings periodically to the EOC by radio.

Action levels that require decontamination procedures were well established and were posted. The action level was 0.1 mRem/hr.

Transportation of a radiological accident victim from the plant to a hospital was well demonstrated. The transport was timely and the procedures were designed to limit the spread of contamination and to make the decontamination of equipment easier to accomplish. On arrival, the hospital staff demonstrated good procedures for caring for the patient.

Decontamination procedures at the State Police Troop K Headquarters were adequate. However, the liquid contaminated wastes generated by the decontamination were not properly disposed of. The solid contaminated wastes (e.g., clothing) were collected for ultimate disposal. Some of the monitoring equipment was in need of recalibration.

Recommendations:

- More sensitive self-reading dosimeters (e.g., 0-200 mRem, 0-20 Rem) should be provided to emergency workers. (Reference NUREG-0654, II.K.3.a)
- Permanent record dosimeters (e.g., film badge, TLDs) should be provided to emergency workers. (Reference NUREG-0654, II.K.3.a)
- Methods for permanently disposing of contaminated liquid and solid wastes need to be developed for the decontamination centers. (References NUREG-0654, II.K.5.b)
- Monitoring equipment should be recalibrated periodically according to the schedules set forth in the plan (Reference NUREG-0654, II.H.10)

Recovery and Reentry Operations

Reentry operations were demonstrated in simulation only, but it appeared that the capability to recover and reenter exists.

The county radiation monitoring teams were kept in the field until the simulated radiation levels diminished to near background. The accident assessment team reviewed the exposure data before recommending the beginning of reentry.

Reentry processes were facilitated by the simulated reversal of numerous protective and mobilization actions.

The congregate-care center had a good understanding of plans to assist in the reentry.

Recommendation:

- Future exercise scenarios should provide more time for a detailed reentry activity. (Reference NUREG-0654, II.M.1)

Relevance of the Exercise Experience

Participants felt the exercise encouraged them to become more familiar with the plan, helped point out deficiencies (which will lead to resolution of identified problems), was a good learning experience, and provided training for their primary and backup teams. The scenario was considered very timely and of benefit to most participants.

4. Rockland County

Emergency Operations Facilities and Resource

The facilities of the Rockland County EOC were evaluated as weak; significant deficiencies were noted, as described in the following paragraphs.

The Rockland County Emergency Operating Center (EOC) is located in the Fire Training Center in Pomona, New York. Space provided for the center was adequate for accomodating all participating organizations. However, the space allotted for the accident assessment room was cramped, which severely limited the number of people who could participate in these activities.

The arrangements for maps and for display of information were also adequate, although updating of some displays of information on the status of the situation was not frequent enough.

External communications were the weakest aspect of the EOC. Activities in the accident assessment room were hampered by a lack of telephones, a poorly-functioning RECs line system, and insufficient support staff. A conference telephone in the command room provided an important communication link, but it did not include the utility or the EOF. Contact between the EOF and the Rockland EOC was established through an open telephone line, leaving only one other telephone in the accident assessment room for receipt of information. This telephone was needed to receive information that could not be received over the RECs line speaker phone. The State Police field communication was also not effective for transmittal of messages between the base and the units.

Initial internal communication between the command room, the accident assessment room, and the general operating room was weak, but improvement was noted as the day progressed. The official message board was not updated with sufficient frequency.

Good security measures were used at the entrance to the EOC, but the slowness in getting the system set up caused the room to remain closed until after 9:00 a.m., more than half an hour after the site area emergency. Some security problems developed within the EOC during the day due to the large number of press and media representatives allowed in the room; however, FEMA believes that this would not be allowed in an actual incident.

Rockland County demonstrated a good capability to contact federal response organizations; however, it was noted that the Coast Guard and railroad were contacted independently by all four counties and the utility, resulting in confused messages.

Recommendations:

- Substantial improvement is needed in equipment and procedures for external communication. The RECs line system needs to be made more reliable. Staff support is needed to relieve principals from phoning tasks. (Reference NUREG-0654, II.F.1.b)
- Consideration should be given to allotting more space to the accident assessment room. (Reference NUREG-0654, II.H.3)
- A procedure is needed for keeping the operations-room staff better informed. It is suggested that the operation log be updated frequently and circulated to provide a chronological record of activities.
- The plan should be revised to coordinate contact between the counties, the Coast Guard, the railroad, and other agencies where multiple contacting may also occur. (Reference NUREG-0654, II F.1.c).

Alerting and Mobilization of Officials and Staff

The capability for alerting and mobilization of staff from the EOC was evaluated as weak. Significant deficiencies were noted, as described in the following paragraphs.

Activation of the EOC was rather slow, and there was confusion in setting up security. While the initial response was adequate, 24-hour capability was not demonstrated for most functions. For the radiological assessment officer, backup would need to be provided by the state district office.

Insufficient staff was available for alerting and mobilization of emergency response personnel. There were weaknesses in communications due to insufficient telephone lines and personnel to staff them. The police were only able to communicate within their own county, resulting in lack of coordination with other counties.

Dispatch of a representative to the EOF was achieved in a timely manner.

Recommendations:

- Additional consideration should be given to staffing of critical positions by backup personnel. (Reference NUREG-0654, II.A.1.e).
- More effective methods are needed for initial call-out to emergency personnel. (Reference NUREG-0654, II.E.2).

Emergency Operations Management

Organizational control, leadership, support by officials, and decision making were evaluated as acceptable, with deficiencies noted that limited effective performance, as noted below.

Command and control capabilities were lacking. Effective management of the emergency response by one individual was not demonstrated. In some situations, key participants were not notified of changes in the status of the situation. In the main operating room, verification of events came well after the command room received its information. Briefing sessions were infrequent. However, when held they were very good, and their use became more effective as the day progressed.

Participants in the exercise had adequate written procedures, but training in their use appeared limited. Prompting by state controllers occurred on a number of occasions, limiting the ability of observers to evaluate personnel capabilities.

The County Executive was involved in the decision process. There was, however, some dispute over decision making, e.g., between the sheriff and the State Police. Some local officials initially declined to participate in the exercise, citing a lack of previous training, but did participate to a limited degree.

In the field, police, the Sheriff, Fire Department personnel, and bus drivers were effectively managed. The State Police set up one road block only. The bus company personnel were well trained, but should have radios.

Recommendations:

- More effective management of the EOC is needed to ensure efficient operation. (Reference NUREG-0654, II.A.1.d)
- Emergency staff would benefit from more familiarity with the response procedures. (Reference NUREG-0654, II.A.1.b)

Public Alerting and Notification

Means for public notification were evaluated as weak. Significant deficiencies were noted, as described below.

The EBS system was used effectively. EBS messages were concise and timely. However, other aspects of alerting and notification were weak. Problems noted were as follows:

a. The siren system was not fully functional, and no backup notification system was evident other than telephone contact to facilities such as nursing homes.

b. Members of the public calling some of the emergency center telephone numbers were told that no information was available.

c. A check of six local schools indicatd that none had been called by emergency personnel.

d. Although a brochure had been distributed to those living within 10 miles of the plant, members of the public who were interviewed were unaware of any instructions. The brochure may also be ineffective for informing the numerous Hispanic residents living within the EPZ.

e. A review of county EBS messages and news releases indicated that in a limited number of instances information in news releases more properly should have been contained in EBS messages. All official public information pertaining to public safety should be broadcast on EBS. The public had been advised that EBS is the sole source for official emergency public information.

Recommendations:

- The effectiveness of the inicial public notification system needs to be tested to determine whether the siren system will be sufficient or whether a backup notification system is needed. (Reference NUREG-0654, II.E.6.)
- Rumor control methods need to be strengthened. (Reference NUREG-0654, II.G.2.C.).
- The public education program should be reviewed to determine whether efforts are needed to improve its effectiveness. (Reference NUREG-0654, II.G.2.)
- Criteria should be developed in conjunction with the state and other counties to determine what types of information will be broadcast over EBS and what type will be issued in news releases.

Public and Media Relations

Media capabilities were evaluated as acceptable. Deficiencies that would limit effective performance are noted below.

The public information activities were well coordinated between the county EOC and the Media Center. It should be noted that Westchester County was responsible for coordinating all EBS messages from the other counties.

Although an information brochure had been distributed to the public two weeks before the exercise, awareness of it was low. No provisions were made for non English-speaking residents in the area.

The Rockland County public information officer had access to all of the information available at the EOC and the EOF. The information released was timely and concise.

The Joint Media Facility (JMF) was the point of contact with the press. Its location, about one mile SSW of the plant, is of some concern, since under certain wind conditions it might be in a contaminated zone. The alternative JMF location in White Plains might not be conveniently reached under certain conditions, for similar reasons. There was not adequate space or equipment, including maps and charts.

There was no evidence of coordinated arrangements to identify and control rumors.

Recommendations:

- Additional public education is needed so that the public will understand the boundaries of the areas that are to take protective actions, and know how to carry out the protective actions. (Reference NUREG-0654, II.J.10.a, G.1)
- A new location for the JMF, with adequate space and equipment, that is outside the 10-mile EPZ, should be established. (Reference NUREG-0654, II.G.3.a)
- Procedures should be developed for identifying rumors and for dealing with them. (Reference NUREG-0654, II.G.4.c)

Accident Assessment

Accident assessment capabilities were evaluated as weak. Significant deficiencies were noted, as described below.

The poor communications system in the accident assessment room contributed to problems in this area. One field monitoring team was unable to communicate by radio. The field data were telephoned to the EOC, which relayed the data to the EOF. Due to inappropriate equipment, the EOF had to call the EOCs individually to repeat RECs line messages. A consistent dose assessment methodology had been previously established between state and county assessment teams; however, slowness in the communication system lessened the effectiveness of dose estimate comparisons.

Monitoring equipment for measuring radioiodine was inadequate due to the use of a charcoal filter medium in the sampling equipment, which limited its functional utility. This filter collects the noble gases as well as iodine, and therefore the readings do not meet the requirements of NUREG-0654. The use of silver zeolite filter instead of charcoal greatly reduces the collection of the noble gases.

The field personnel did not demonstrate adequate familiarity with the field instrumentation. Communication with the central data collection point was difficult. Reports of radiation measurements at zero or background were sometimes not passed on to the other assessment centers. One monitoring team remained at one sampling point all morning and at a second point all afternoon, so that their plume-tracking ability was not well demonstrated. Monitoring teams effectively measured and recorded their individual exposures; however, use of TLDs for dose recording would have been easier.

The role of the county representative at the EOF was not well defined. Information he received from the county was not passed on to the EOF. Also, the county representative was bypassed by information flowing from the utility hotline.

Recommendations:

- Silver zeolite filters should be used in the air sampling equipment that is used for measuring radioiodine. NOTE: Charcoal filters may be used during drills and exercises, but the silver zeolite filters must be in the instrument kits ready for use in an actual emergency. (Reference NUREG-0654, II.I.9)
- An improved communications system is needed to suport assessment activities and timely use of field data. (Reference NUREG-0654, II.F.1.d)

- Additional training of field teams would be beneficial to increase their familiarity with equipment and procedures. Responsibilities for field radioiodine measurements should be clearly defined. (Reference NUREG-0654, II.I.8,9)
- The duties of the county representative at the EOF should be more clearly defined. (Reference NUREG-0654, II.C.2.a)

Actions to Protect the Public

Capabilities in the EOC for protection of the public were evaluated as good. Only minor deficiencies were noted.

Actions to protect the public were generally very good. Evacuation planning and execution were demonstrated without any major problems. Congregate-care centers performed in an excellent manner. The Rockland County Psychiatric Center was well staffed, large, and an excellent facility for mass care. However, the staff would benefit from on-the-job training.

The personnel monitoring centers were well staffed, and employees followed established guidelines. However, workers who were monitoring for radioactive contamination need better training to prevent the spread of contamination to clean areas.

Bus drivers in the evacuation routes were well briefed, but should be equipped with radios so that they could request additional help if necessary and obtain updates on plant status. Bus dispatchers had good communication links to the EOC. Backup personnel were available. Ambulance and helicopter evacuation were well demonstrated.

Recommendations:

- Although actions to protect the public were well demonstrated, participation in regular exercises or drills is recommended to further improve task performance. (Reference NUREG-0654, II.N)
- All buses used for evacuation should be equipped with radios for dispatching. (Reference NUREG-0654, II.J.10.g)

Health, Medical, and Exposure Control Measures

Health and medical measures were evaluated as good; only minor deficiencies were noted.

The Rockland County Psychiatric Center provided excellent facilities, supplies, and equipment. Additional training could improve operation of the center.

Exposure of emergency workers was monitored by self-reading dosimeters. Field workers were trained in their use and recorded dosimeter readings at 15-minute intervals. However, no permanent-record devices (e.g., film badge, TLD) were provided. Procedures for obtaining appropriate authority for emergency exposure of workers were well demonstrated. Decontamination level guidelines were well displayed. Good decontamination facilities were available. Food contamination monitoring was carried out at the EOC.

State police simulated control of evacuated areas by setting up one roadblock, a less extensive response than called for in the scenario.

Recommendations:

- On-the-job training would make procedures flow more smoothly at the congregate care centers.
- Use of TLDs or film badges should be implemented for recording of doses. (Reference NUREG-0654, II.3.a.)

Recovery and Reentry Operations

The capability of the EOC for recovery and rentry operations was evaluated as good; only minor deficiencies were noted.

Simulation of recovery and reentry was well carried out at the EOC. Each agency was given specific responsibilities. No field simulations were observed, due partly to the short duration of the exercise.

Relevance of the Exercise Experience

The exercise was felt to be of benefit to county participants. Limited involvement by the local police, fire departments, and ambulance teams reduced the effectiveness of the exercise. Representatives from these departments were present at the EOC and gained some experience with emergency operations. The local police reported that training and involvement of the police prior to the drill had been inadequate to allow effective participation.

The scenario's use of a wind shift contributed to the exercise by allowing more extensive decision making. However, the county's computer analysis system was not used during the exercise to analyze meteorological data.

The exercise demonstrated that better communication systems are needed in the EOC and that there is a need for better integration and training of local agencies.

During the exercise, prompting occurred by state observers and controllers to a degree that affected the ability of federal observers to make evaluations. In most cases it appeared that the prompting was probably superfluous to completion of the activity.

At the congregate care centers and in evacuation areas the exercise was felt to be of benefit in training.

Recommendations:

- Future exercises should include more extensive participation by police, sheriff, fire, and ambulance services. Training needs in these areas should be identified. (Reference NUREG-0654, II. B.9)
- Use of actual meteorological data should be considered for at least a portion of the exercise to allow more realistic response from the accident assessment teams and to provide additional training benefit.
- Local agencies need more training and greater involvement in the emergency plan to ensure effective response (Reference NUREG-0654, II.C.4).
- Nonparticipants must be instructed to refrain from participating in exercise activities.

5. Orange County

Emergency Operations Facilities and Resources

The facilities of the Orange County emergency operating center (EOC) were evaluated as acceptable overall, although some deficiencies were noted. The most significant deficiency occured in the area of communications. This and other deficiencies are further described below.

The Orange County EOC is located in the County Government Center, Goshen, New York. This facility was somewhat cramped, but provided adequate working space for accommodating all participating organizations. The facility was partitioned to reduce internal traffic flow. Separate rooms were used for accident assessment and for decision making by the county executive.

Incoming communications were dispersed between the communications room, County Executive's room, and the accident assessment room. On occasion the limited number of telephone lines and radio facilities hampered operations. A breakdown occurred in the executive hot-line which links the counties, temporarily isolating Orange County from the other counties. Field measurement data were received in the communications room because of radiation shielding of the accident assessment room. Participating field workers, including bus drivers, policemen, and ambulance drivers, had separate radios. The RACES personnel participated in the exercise, but were not observed.

Internal communications were accomplished informally, as needed by the various representatives. Communication relay depended upon hand-carrying of messages between rooms. Periodic situation reports were not prepared. The principal situation board was not always current and occasionally showed conflicting information, and message logs were not widely available.

Maps and displays were available and well laid out, however, some personnel were not familiar with the annotation used on the maps. Radiation dose maps were centrally located on the table in the dose assessment room. Sampling points and relocation centers were well marked on maps.

Security was adequate, provided by Sheriff's Deputies in and outside of the EOC. A personnel checklist was utilized and identification was checked.

Recommendations:

- The Orange County EOC should make the executive hot line operational to facilitate the information flow between counties.
- Additional telephone lines or equivalent systems should be provided in the EOC to serve as an additional backup for dedicated phones. (Reference NUREG-0654, II.F.1.b)
- The plan for internal communications and dissemination of information within the EOC should be improved to increase efficiency and coordination. Radiological field monitoring data should be transmitted directly into the accident assessment room.
- EOC workers should be familiarized with displays.

Alerting and Mobilization of Officials and Staff

The overall capability for continuous 24-hour emergency response operations was evaluated as weak because of inadequate training of relief personnel.

All personnel were contacted and mobilized promptly. Each responding organization possessed adequate staff and quickly established operational readiness. Backup capabilities were simulated or demonstrated. However, a serious concern is the proficiency of the relief personnel. An example of this was noted with the backup county RADEF officer, who was not fully trained in the calculation of dose rates nor experienced in the use of all equipment resources. In general, the backup staff was not as proficient as the primary participants. Radiological monitoring teams arrived promptly and were very efficient. These teams checked through the EOC and were dispatched within an hour of arrival. Emergency response organizations, exclusive of traffic control, demonstrated the ability for prompt notification. This was evidenced at the reception/congregate-care center and the decontamination center. Each of these organizations had adequate communications equipment for alerting response personnel.

Difficulties were encountered in establishing access control points, due to poor interagency communication in the EOC. After notification, the Sheriff and State Police responded promptly. A delay occurred in the ambulance transport of a "victim" to the hospital. The accident occurred at 12:15 p.m. and the patient arrived at the hospital at 1:08 p.m., without communication by two-way radio between the ambulance and hospital.

Recommendations:

- Provide more comprehensive training for key backup personnel. (Reference NUREG-0654, II.A.4)
- Establish a schedule for additional drills in order to develop more familiarity and efficiency with procedures and resources.
- Provide additional training and resources for communication with field support personnel.

Emergency Operations Management

Emergency operations management including organizational control, leadership, decision making, and support by officials was evaluated as acceptable, with some deficiencies noted that limited effective performance. These are noted below.

Participants within the main EOC operations room were adequately organized. The EOC floor plan divided activities among several rooms: communications, accident assessment, and county executive office. This required the County Director to divide his time among the various rooms. Operations were on occasion hindered by weak information flow. Internal communication required hand-carried messages between the rooms. There is a need for greater communication between EOC leaders and agency participants. Briefing of these representatives were sporadic. Written situation updates were not always available.

Command and control capabilities were evident. All participants knew who was in charge. The County CD Director assumed operational control of the EOC. The County Executive responded promptly and clearly exercised his decision-making authority. In his absence his deputy was present and in control. The RADEF officer was fully responsible and involved with the direction and execution of all radiological and associated activities. His instructions to field monitoring teams were clear, and the teams were effectively deployed.

Emergency response organizations, including the reception center, congregate care, social services, Red Cross, decontamination center, fire department and state personnel monitoring center were well organized, properly staffed and directed. Excellent leadership was noted at the congregate-care

center and the decontamination center. At the reception center, four staff members were present, although it was unclear who was in charge. All organizations understand their assignments. Written procedures were followed.

Recommendation:

- The divided floor plan within the EOC requires that effective communication flow and procedures be established to ensure efficient management.

Public Alerting and Notification

Means for alerting and notification of the public were evaluated as acceptable, with deficiencies noted that limit effective performance.

The plan for initial public notification included sounding of sirens and use of the emergency broadcast system (EBS). The first EBS message was broadcast by WABC and local radio stations. The siren system, however, was apparently not fully functional at all locations, and sirens were not heard at some indoor locations. Alternative notification by helicopter was simulated.

Transient accommodations such as motels were adequately informed of the alerting procedures.

A review of county EBS messages and news releases indicated that in a limited number of instances information in news releases more properly should have been contained in EBS messages. All official emergency public information pertaining to public safety should be broadcast on EBS. The public has been advised that EBS is the sole source for official emergency public information.

Recommendations:

- More extensive backup systems should be considered for locations where sirens fail to function or where they may be inaudible to those indoors. Use of bullhorns or route alerting should be considered. (Reference NUREG-0654, II.E.6)
- Criteria should be developed in conjunction with the state and other counties to determine what type of information will be aired over EBS and what type will be issued in news releases.

Public and Media Relations

The publication and coordination of releases of information were evaluated as acceptable with deficiencies noted that limit effective performance.

Public information activities were well coordinated between the EOC and the county PIO at the Joint Media Center. Copies of EBS messages and press releases were not distributed in the EOC, and rumor control procedures were not observed. Westchester County was responsible for coordination of all EBS messages from other counties.

The Joint Media Facility (JMF) was the point of contact with the press. Its location about one mile SSW of the plant is of some concern since under certain wind conditions it might be in a contaminated zone. The alternate JMF location is in White Plains and might not be conveniently reached under certain conditions for similar reasons. There was not adequate space or equipment, including maps and charts at the center.

Briefings in the media center were not always announced, and not all important briefings were attended by the PIOs; for example, when PASNY announced the site area emergency at 0920 hours, only the utility was present, and at the 1126 hours briefing only PASNY and Westchester County were present.

Recommendations:

- Emergency workers in the EOC should be kept better informed of the information being released to the public.
- Press briefings should be announced in advance so that PIOs can attend.
- Additional public education is needed so that the public will understand the locations of the areas that are to take protective actions and will know how to carry out the protective actions. (Reference NUREG-0654, II.J.10.a, G.1)
- A new location for the JMF with adequate space and equipment that is outside the 10 mile EPZ should be found. (Reference NUREG-0654, II.G.3.a)
- Procedures should be reviewed for identifying rumors and for dealing with them. (Reference NUREG-0654, II.G.4.c)

Accident Assessment

Capabilities for performing accident assessment were rated as acceptable, with deficiencies noted that limit effective performance, as noted below.

A separate room in the EOC was provided for accident assessment. Staff operations were adequately organized and directed. Monitoring teams were well trained and mobile, but did not carry instrumentation such as high-range instruments, although additional equipment was available at the EOC. Monitoring equipment for measuring radioiodine was inadequate due to the use of a charcoal filter medium in the air sampling equipment, which limited its functional utility. This filter collects the noble gases as well as iodine, and therefore the readings do not meet the requirements of NUREG-0654. The use of a silver zeolite filter instead of charcoal greatly reduces the collection of the noble gases. Prompt reporting of whole-body gamma field measurements to the EOC was observed. Good capability for airborne monitoring was demonstrated by deployment of a Civil Air Patrol airplane.

Recommendations:

- Field teams should demonstrate familiarity with instruments having response ranges that might be needed during an actual event. (Reference NUREG-0654, II.I.8)
- Silver zeolite filters should be used in the air sampling equipment that is used for measuring radioiodine. NOTE: Charcoal filters may be used during drills and exercises but the silver zeolite filters must be in the instrument kits ready for use in an actual emergency. (Reference NUREG-0654, II.I.9)

Actions to Protect the Public

Means for sheltering, evacuation of the public, reception and care, and transportation were evaluated as good, with only minor deficiencies noted. All observed facilities were well organized, well staffed, and efficiently operated. While traffic control at reception centers was sufficient for the exercise, no special provisions for the mobility-impaired was observed.

The evacuation bus route was well directed, and a medical drill was very well executed.

It was felt that the lack of accurate means for radioiodine measurement might affect the decisions to evacuate or shelter.

Recommendations:

- Means for obtaining prompt and accurate field measurements of radioiodine should be specified to provide guidance on protective action decisions. (Reference NUREG-0654, II.I.9)
- Provisions for care of the handicapped should be considered at the reception centers.

Health, Medical, and Exposure Control Measures

Health, medical, and exposure control measures were evaluated as acceptable, with deficiencies noted that limit effective performance.

County procedures for contaminant monitoring of all employees active in the EPZ were closely followed. Screening of evacuees and vehicles was also well demonstrated; however, means for final disposal of contaminated solids and liquids were not established. While pocket dosimeters were effectively used for personal monitoring, permanent-recording instruments were not available. Sufficient staff was available to avoid exposures in excess of protective action guides.

Recommendations:

- Disposal methods for contaminated materials should be developed.
- Permanent-recording devices (e.g., TLDs or film badges) should be considered for emergency workers. (Reference NUREG-0654, II.K.3.a)
- Additional training is needed at local hospitals on radiation monitoring.

Recovery and Reentry Operations

Recovery and reentry operations were evaluated as weak, with significant deficiencies noted. This evaluation was based primarily on the lack of full simulation. The operations officer conducted a concise general briefing for exercise participants; this was followed closely by termination of the

exercise. Although participants appeared to understand their roles, no actions were simulated before the EOC was closed.

Recommendation:

- Important recovery and reentry procedures should be effectively demonstrated to ensure capabilities and to provide training. (Reference NUREG-0654, II.M.1)

Relevance of the Exercise Experience

Observers felt that the exercise provided an acceptable level of experience. While participants at the fixed facilities felt the experience was beneficial, the field teams varied in their evaluations. The monitoring teams were enthusiastic and gained valued experience. Access control personnel, however, felt that their activities were routine. The scenario was good in that it called for participation of all counties in the EPZ; however, more extensive use could have been made of monitoring teams by having them take more readings and samples.

Recommendation:

- Improvement in the exercise experience could be gained by having activities designed to thoroughly test teams with complex duties (such as field monitoring teams) while minimizing activities that are routine for other participants.

6. Putnam County

Emergency Operations

Overall, the emergency operating center (EOC) had good facilities, resources, internal communications, displays and security. However, some minor deficiencies were noted and are described below. This EOC is located in the County Office Building, on Main Street, Carmel, New York.

The EOC was very small, and had a cramped working space that was especially noticed in the radiological assessment area and in the communications area. The overall functioning of the EOC was good in spite of the small size, because the management was excellent. Amenities such as lighting, ventilation, and display space were good. However, a conveniently located drinking fountain would be a welcome addition.

Several primary and backup communications systems provided a good performance. The primary system between the nuclear facility, the state, and the local governments was a dedicated hot-line telephone, the Radiological Emergency Communications System (RECS). Backup systems included a special radio network, the commercial telephone, and the RACES system. The executive hot line functioned very well until it failed near the end of the exercise. The backup radio was then adequately utilized.

The primary communication between the EOC and the agencies and organizations that provided the local response was via commercial telephone. This consisted of many telephone lines and instruments that provided good performance. The backup RACES system was excellently equipped, and was manned by very competent operators.

Communication with the buses used for evacuation was by radio. This channel was adequate, but in two instances messages were delayed until the channel was cleared.

Communications with federal agencies was adequate.

Communications within the EOC were excellent as a result of the following procedures: messages were quickly verified and logged before they were distributed within the EOC; the data describing the plant status and the radioisotope release rates were posted on a status board and promptly updated; and the staff was kept well informed by periodic briefings.

A small improvement in the functioning of the EOC could be made by synchronizing all of the clocks.

Information was well displayed at all key locations in the EOC, and was effectively utilized in making decisions and in carrying them out. The displays consisted of a status board and several maps. The information posted on the status board was easily read from a distance. The map that showed evacuation routes was good; however, it could be made more legible from a distance. An excellent map showed the location of the plume and the locations of the radiation monitoring stations, and gave the field sampling data.

Security was adequate except for the initial 15 minutes after activating the EOC. During this initial time, the access was uncontrolled. After a security officer was assigned to the entrance, and after he had been instructed, security was adequate. A sign-in procedure was required in addition to name tags. Not all workers were required to show identification, but this is because many of the workers were known to the security officer.

Recommendations:

- The Orange County EOC should be added to the hot-line network so that all of the county EOCs can readily communicate with each other, e.g., Putnam with Orange. (Reference NUREG-0654, II.F.1.d)
- The arrangement of tables and the locations for each emergency worker in the EOC should be reviewed to minimize the effects of the small space on the operations. (Reference NUREG-0654, II.H.3).
- Procedures for security should be reviewed. (Reference NUREG-0654, II.H.3)

Alerting and Mobilization

Putnam County demonstrated an acceptable capability to respond to an emergency that starts at any time during the day or night. However, some deficiencies were noted that limit effective performance.

The alert notice from the utility to the State Police was relayed to the County Sheriff's Office. This office, which is staffed 24 hours per day, demonstrated effective call-out procedures for alerting county officials or

their alternates. Home telephone numbers, home addresses, and some radio call systems were available to facilitate notification.

The county officials reported promptly and activated the EOC in a timely manner. Procedures for notification of emergency response organizations and personnel were excellent. Mobilization was timely, with some personnel reporting within 15 minutes. All were on duty in about 30 minutes. Alerting of the radiation monitoring field teams was accomplished by radio soon after the EOC was activated.

Most of the alerting was done with telephones, but radio backup was available. The RACES personnel provided excellent support.

The EOC verified messages (e.g., Alert, Site Area Emergency, etc.) from the EOF and the utility, both by repetition at the time of notification and by call-back shortly after receipt of the message. Putnam County was dependent on the Westchester representative at the EOF for much of the radiological data needed for accident assessment at the Putnam EOC.

A capability to continue operations 24 hours per day was demonstrated at the EOC by a shift change at 1300 hours, and by exhibiting a list of backup personnel. This revealed that two of the key people, the CD Director and the RADEF Officer, do not have adequate backups.

Power for the communications equipment used for alerting depended on a battery in case of power failure. This battery had only an 8-hour capacity.

Recommendations:

- Alternates for the CD Director and RADEF Officer should be trained as soon as possible. (Reference NUREG-0654, II.A.4).
- An emergency power generator should be considered for use during a power failure. (Reference NUREG-0654, II.A.4, F.1.d).
- Monitoring teams should be dispatched to the field at the earliest possible time, so that they are in position to provide data for an independent early assessment of the emergency. (Reference NUREG-0654, II.H.4, I.8).
- Procedures for transmitting meteorological data, plant emissions data, and data obtained by the utility field monitoring teams from the utility and EOF to the EOC should be reviewed and strengthened. (Reference NUREG-0654, II.F.1.d, I.8).

Emergency Operations Management

The emergency operations management was good, with only minor deficiencies noted. The organization, control, and leadership, as well as the support by elected officials, were good.

Many specific organizations had roles in the response of Putnam County to the exercise scenario. It was clear that these organizations understood their responsibilities and knew how to implement specific provisions in the emergency plan. The operations officer consulted procedures and checklists frequently.

Leadership was excellent. The Civil Defense Director was clearly in charge of the EOC, and was supported by the County Executive. The CD Director, the County Executive, and the RADEF Officer conferred frequently, contacted other EOCs and the state, and reached important decisions quickly.

The RADEF Officer was clearly responsible for the accident assessment function. He directed the field teams, analyzed the data, and briefed the health officer and other EOC officials. He used the utility's emergency classifications.

The RACES organization was assigned to field monitoring, and provided excellent support.

The Civil Defense Director, the County Executive and the leaders of the supporting organizations gave periodic reports to keep the workers in the EOC up to date. The more important items were posted periodically.

Public Alert and Notification

Some of the actions taken for public alerting and notification were acceptable. Those that were weak and in need of substantial improvement include performance of the siren system and the ability to notify the transient population.

At the notice of a Site Area Emergency, the Putnam County EOC coordinated the activation of the siren system with the release of the first EBS message. Some of the sirens failed to sound. Others sounded but were not loud enough in all areas. In addition, interviews with the public revealed that many had not heard the siren or did not know what they meant or that they

should listen to the EBS for instructions. Those interviewed also did not know the meaning of the Emergency Response Planning Areas (ERPA) or the boundaries for the ERPAs.

The EBS messages were written, cleared, and broadcast (in simulation) in a timely manner. No TV monitor was available in the EOC to check the EBS messages on the TV.

Route alerting by police and fire trucks equipped with PA systems is the backup for the siren system. The adequacy of the backup system was not demonstrated. A few route alerts were simulated, but no PA announcements were made.

Checks with motel operators revealed that the sirens had not been heard. No evidence of notification of the transient population was found.

A review of county EBS messages and news releases indicated that in a limited number of instances information in news releases more properly should have been contained in EBS messages. All official emergency public information pertaining to public safety should be broadcast on EBS. The public has been advised that EBS is the sole source for official emergency public information.

Recommendations:

- Test measurements of sound level should be made throughout the 10-mile EPZ. Modifications and/or additions should then be made until the system meets the notification requirements. (Reference NUREG-0654, II.E.6, J.10.c).
- Route-alerting messages and procedures should be developed to supplement the siren system, especially in those areas of low siren sound level. (Reference NUREG-0654, II.E.6, J.10.c).
- Criteria should be developed in conjunction with the state and other counties to determine what type of information will be aired over EBS and what type will be issued in news releases.
- Intense efforts should be made to make the public aware of the meaning of the siren signals. (Reference NUREG-0654, II.G.1).
- A simpler alternative to the ERPA zone designations should be developed, or a very complete educational campaign that includes distribution of maps showing these areas should be conducted. (Reference NUREG-0654, II.J.10.a, G.1).

Public and Media Relations

Overall, the public and media relations actions were acceptable, but some deficiencies were noted. Public education programs and rumor control procedures need improvements.

Public education brochures were mailed to the public a short time before the exercise. These brochures listed a toll-free telephone number that the public could call to get more information. In addition, training courses for the public were given regularly by the Fire Department and RACES personnel. They were assisted by Putnam County department heads. Nevertheless, it appears that additional education is needed to help the public understand actions that are to be taken in the event of an emergency. No posted notices and no information in the telephone book were found.

The Putnam County Public Information Officer (PIO) at the EOC was in charge of releases to the media. These were transmitted to the Joint Media Center after they had been approved by the County Executive. The PIO had access to all participants in the EOC, including the County Executive, and to all information there. It should be noted that Westchester County was in charge of coordinating all EBS messages from the several counties. The Putnam County PIO staff at the Joint Media Center effectively coordinated EBS and news release issuance.

The Joint Media Facility (JMF) was the point of contact with the press. Its location about one mile SSW of the plant is of some concern since under certain wind conditions it might be in a contaminated zone. The alternative JMF location is in White Plains and might not be conveniently reached under certain conditions for similar reasons. There was not adequate space or equipment, including maps and charts at the center.

Briefings in the Media Center were not always announced, and not all important briefings were attended by the PIOs; for example, when PASNY announced the site area emergency at 9:20 a.m., only the utility was present, and at the 11:26 briefing only PASNY and Westchester County were present.

Recommendations:

- Additional public education is needed so that the public will understand the locations of the areas that are to take the protective actions and will know how to carry out the protective actions. (Reference NUREG-0654, II.J.10.a, G.1).
- Procedures should be developed for identifying rumors and for dealing with them. (Reference NUREG-0654, II.G.4.c).
- A new location for the JMF, with adequate space and equipment that is outside the 10-mile EPZ should be found. (Reference NUREG-0654, II.G.3.a)
- All major press briefings should be announced in advance so that PIOs can attend.

Accident Assessment

Accident assessment capabilities were evaluated as acceptable, but some deficiencies were noted. A problem in the method for determining radioiodine should be corrected, and procedures for quickly determining contamination levels in liquid samples need to be addressed.

Initial projections of the radiological exposures were made from release rate and meteorological data measured at the power plant. The Putnam County EOC had excellent maps and transparent overlays to use for this purpose. These initial projections were used before field sample data were available.

Field monitoring teams were deployed promptly by the RADEF Officer in the EOC. This was possible because of the excellent support provided by the RACES personnel, who also provided communications for transmission of the field data to the EOC.

The monitoring equipment for measuring whole-body gamma-ray exposure rates was excellent. Monitoring equipment for measuring radioiodine was inadequate, due to the use of a charcoal filter in the air sampling equipment. This filter also collects the noble gases, so that the readings do not meet the requirement of NUREG-0654. The use of a silver zeolite filter in place of the charcoal greatly reduces the collection of the noble gases.

The number of readings that the field teams could make was limited primarily by travel time from one sample point to another. Nevertheless, if the sampling teams were very efficiently deployed, data could be obtained in a short enough time for the EOC to make an early independent assessment.

No liquid samples were analyzed in the field; however, liquid and solid samples from the field were delivered to the central collection point at the EOC.

No field measurements of radiation levels were obtained from the utility through the EOF; however, some boundary dose projections were obtained.

Recommendations:

- Silver zeolite filters should be used in the air sampling equipment that is used for measuring radioiodine. Charcoal filters may be used during drills and exercises but the silver zeolite filter should be in the instrument kits ready for use in an actual emergency. (Reference NUREG-0654, II.I.9).
- The sequence of sample points used (routes driven by monitoring teams) should be carefully chosen to give the maximum amount of data for use in making the early independent assessment. (Reference NUREG-0654, II.I.8).
- Procedures should be developed for obtaining the field data measured by the utility's field monitoring teams. (Reference NUREG-0654, II.I.8).
- The number of samples needed for an independent early assessment, and the possible hinderances to fast deployment of the field monitoring teams should be reviewed in order to assess the possible need for additional field monitoring teams. (Reference NUREG-0654, II.I.8).

Actions to Protect the Public

Putnam County officials demonstrated a good capability to take the actions necessary to protect the public, and only minor deficiencies were noted.

Simulated roadblocks were set up promptly, and most personnel understood their functions at each site. Orders were given in a timely manner for the various actions that were required to simulate sheltering and then evacuation. A bus-load of students was evacuated to the congregate-care center in Dutchess County. This demonstrated evacuation was very good.

The locations of the congregate-care centers in Brewster and Dutchess counties are well outside the 10-mile EPZ. They are located in schools where large gymnasiums, cafeterias, and monitoring and decontamination facilities were provided. In one case, the Vasser Hospital cooperated to provide medical care if required.

The procedures for processing evacuees at the congregate-care centers were good. Health care, decontamination, and monitoring were adequate; however, the monitoring personnel could benefit from additional training.

The facilities at the congregate-care centers were good. An early shortage of equipment needed for long-term operation was relieved by the arrival of a Red Cross truck filled with equipment (e.g., cots, blankets, etc.).

The staffing at the congregate-care centers was excellent and included personnel from County Health, from the Police, from Civil Defense, from RADEF and from the Red Cross. The number of personnel was ample.

Recommendations:

- Additional training for those workers performing radiation monitoring and decontamination procedures is recommended. (Reference NUREG-0654, II.J.12).
- Procedures for dealing with impediments to evacuation need to be developed and exercised. These impediments include auto accidents, auto breakdowns, severe road conditions and the unavailability of gasoline when needed. (Reference NUREG-0654, II.J.10.k).

Health, Medical, and Exposure Control

Overall, the health, medical, and exposure control actions were acceptable, with some exceptions. The procedures for ultimate disposal of liquid and solid wastes needs to be addressed.

The policy of the Department of Health of the State of New York is that no potassium iodide will be distributed to the general population.

The control of access to evacuated areas was good. Roadblocks were manned, and the personnel at the roadblocks understood their function.

Emergency workers were provided with dosimeters to measure exposure. Two instruments of the direct reading type were provided (0-20 Rem and 0-200 Rem). These were read frequently (e.g., 15-minute intervals) and the readings recorded on a card. The EOC called the field teams to obtain dosimeter readings for logging. No permanent-record dosimeters (e.g., TLDs, film badges) were provided.

Emergency worker exposure in excess of the 20 Rem limit was not experienced; however, questions revealed that the approval of the County Executive was needed before this limit could be exceeded. The CD Director thought that his approval was necessary.

Evidence for the existence of action levels for determining the need for decontamination was not observed at the personnel monitoring center; however, the workers stated that they existed and knew the counting rates that corresponded.

Personnel decontamination procedures at the personnel monitoring center were demonstrated and were adequate. Decontamination procedures for equipment and supplies were not demonstrated. More training in these procedures is needed. Proper procedures for ultimate disposal of contaminated articles (e.g., clothing) needs to be addressed.

Recommendations:

- Procedures should be clarified so that all personnel know which individual (e.g., the County Executive) can approve emergency workers receiving a radiation exposure in excess of the PAGs. (Reference NUREG-0654, II.K.4).
- Additional training is needed so that personnel monitoring workers will be more familiar with the action levels for decontamination actions. (Reference NUREG-0654, II.J.12).
- Training in methods for decontamination of equipment and supplies should be given to P.M.C. workers. (Reference NUREG-0654, II.K.5.b).
- Methods for permanent disposal of contaminated articles (e.g., liquids, clothing) should be addressed. (Reference NUREG-0654, II.K.5.b).
- Permanent-record dosimeters (e.g., TLDs, film badges) should be provided. (Reference NUREG-0654, II.K.3.a).

Recovery and Reentry

Reentry operations were performed in simulation only. An acceptable capability for reentry and recovery appears to exist.

The county radiation monitoring teams continued to function during the recovery phase. They worked closer and closer to the plume, until the simulated readings decreased to background after a few days (simulated). This was hard to evaluate because the controller left before the conclusion of the exercise. The accident assessment team reviewed the exposure data before making a recommendation.

Prior to termination of the exercise, the County Executive appointed a commission to plan and implement recovery over a 30-day period.

- Recommendations:

  - Future exercise scenarios should provide more time for a detailed reentry activity. (Reference NUREG-0654, II.M.1).

Relevance of the Exercise Experience

There was unanimous agreement among the federal evaluators that the exercise was very beneficial to the participants, all of whom took the exercise very seriously and performed as if the power plant accident actually occurred. Volunteers (nongovernment personnel) are especially commended. While the scenario was a good test of emergency response capabilities of county personnel, it did not (and perhaps was not intended to) address issues of public awareness and public reaction to an emergency.

7. Dutchess County

Because Dutchess County is not located within the 10-mile EPZ, it was not required to demonstrate its emergency preparedness capability. However, since Dutchess County could receive a large number of evacuees during an actual accident, the county, on its own initiative, decided to participate fully in the exercise. The evaluations by federal observers of the Dutchess County activities are noted below.

The emergency operations center (EOC) had adequate space and equipment. The facility was fully staffed, including participation by the County Executive. Security was excellent.

The Putnam County Department of Social Service demonstrated compliance with the plan by notifying its counterpart agency in Dutchess to expect evacuees from specific sectors.

The county had some initial difficulty contacting the media center to coordinate public information. Some telephone numbers were also inaccurate.

Overall, the exercise was considered to be good as a training experience for the county.

V. CORRECTIVE ACTION FOR DEFICIENCIES

1. SCHEDULE FOR CORRECTING SIGNIFICANT DEFICIENCIES

State and local jurisdictions should submit to the RAC the corrective measures they have taken or intend to take. If remedial actions cannot be instituted immediately, then a detailed plan for scheduling and implementing remedial actions must be provided which include a time frame (dates) for completion.

The Regional Director of FEMA is responsible for certifying to the FEMA Associate Director, State and Local Programs and Support, Washington, D.C., that any deficiencies noted in the exercise have been reported and that such corrections have been incorporated into the plan.

ATTACHMENT D

STATE OF NEW YORK
DEPARTMENT OF HEALTH OFFICE OF PUBLIC HEALTH
TOWER BUILDING • THE GOVERNOR NELSON A. ROCKEFELLER EMPIRE STATE PLAZA • ALBANY, N.Y. 12237

DAVID AXELROD, M.D.
Commissioner

GLENN E. HAUGHIE, M.D.
Director

June 9, 1982

Mr. John T. Grant
Chairman
County Legislature
County Office Building
11 New Hempstead Road
New City, NY 10956

Dear Mr. Grant:

Thank you for inviting us to discuss the implications of the Rockland County resolution on radiological emergency preparedness. The May 28 meeting was very helpful to us. I hope that we answered your questions.

I received a copy of Mr. Hennessy's letter to Mr. Petrone on this subject. I believe a copy was also sent to you, but another copy is enclosed for your information. On the basis of our meeting and Mr. Hennessy's statement, several corollary items emerge.

The Radiological Emergency Preparedness Group will be able to continue Plan revision efforts with your staff, but the Plan must be yours.

REPG will be able to continue training efforts in Rockland County.

REPG will be able to pursue substantial funding of the Rockland radiological emergency plan effort. We expect to fund those costs submitted in relation to the March exercise, and a substantial portion of those items requested by the County for the future.

REPG assumes that County staff will continue to be available to work on the above items.

REPG assumes that Rockland will continue to support the four county concept for the time being, and that the concept will be incorporated in the new plan.

REPG assumes that the County will continue to participate with us and the other affected counties in drills and exercises at reasonable times.

If this summary is an accurate statement of the situation, we are ready to move ahead as described.

Sincerely yours,

Donald B. Davidoff
Director
Radiological Emergency
Preparedness Group

Att.

bcc: Mr. Hennessy
Dr. Axelrod
Mr. Leavy
Dr. Stasiuk
Ms. Milstrey
Mr. Tyree
Mr. McQueen
Lt. Col. Law
Mr. DeVito
Mr. Thompson
Mr. Kelly
Mr. Brandenberg
Mr. Pratt
Mr. Petrone