UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	(Best Efforts Issue)
	)	

TESTIMONY OF DENNIS M. BEHR, DOUGLAS M. CROCKER, DIANE P. DREIKORN, EDWARD B. LIEBERMAN, AND JOHN A. WEISMANTLE ON THE "BEST EFFORTS" CONTENTIONS EP 1-2, 4-8, AND 10

Hunton & Williams
707 East Main Street
P.O. Box 1535
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3 - Volume I of draft Suffolk County plan (Nov. 1982)

I. IDENTIFICATION AND QUALIFICATION OF WITNESSES

1. Q. Will the witnesses please identify themselves and provide a brief description of their professional qualifications and background?

A. [Behr] My name is Dennis M. Behr. I am a principal of The Behr Consulting Group, Inc. I am currently supporting LILCO with training and exercising of the Local Emergency Response Organization. My professional

qualifications, and those of the other witnesses, are Attachments A-E to this testimony.

In the past, I have managed the development of a liquified natural gas emergency plan, the rewrite of an electric distribution system storm restoration program, and the development of offsite emergency preparedness programs for the Indian Point and Nine Mile Point nuclear power plant sites. This last effort involved coordinating the efforts of five counties, the State of New York, three utility companies, and two contractors to develop and produce plans and procedures for the State of New York and the five counties surrounding these two sites. It also included preparing Oswego County for the first federally graded exercise conducted in the State of New York.

I have managed emergency preparedness projects for the following clients: LILCO, Niagara Mohawk Power Corporation, Consolidated Edison Company of New York, the New York Power Authority, General Public Utilities Nuclear Corporation, Toledo Edison Company, Public Service Electric and Gas Company, and Rochester Gas and Electric Company.

[Crocker] My name is Douglas M. Crocker. As Manager of the Nuclear Emergency Preparedness Division for LILCO, I oversee all aspects of the Shoreham onsite (LILCO) and offsite (LERO) emergency preparedness program. I am responsible for the development and maintenance of facilities, plans, procedures, training, and drill programs to satisfy NRC and FEMA requirements.

At the time of the Three Mile Island accident, I was working in the Stone & Webster's environmental engineering department. After TMI the area of emergency planning grew extensively, and I was recruited by

management to be trained and to participate in an emergency planning project that was just beginning at the William H. Zimmer Nuclear Power Station. From May 1980 to January 1984 I worked on, and ended up managing, all of Stone & Webster's offsite emergency preparedness activities for the five counties and two states surrounding Zimmer in conjunction with those counties and states.

From September 1982 to January 1984, I developed the emergency response plans for the Commonwealth of Kentucky and the Kentucky EPZ counties for the Marble Hill Nuclear Generating Station. During this time I was the Project Engineer responsible for all emergency planning work in the New York office of Stone & Webster. This included work for the Salem, Shoreham, Indian Point, and Oyster Creek nuclear power plants.

Since 1984 I have been working for LILCO, first as a Stone & Webster employee and later as a LILCO employee. Initially I worked onsite as the Onsite Emergency Preparedness Supervisor. In 1986 I moved to the equivalent position for offsite emergency preparedness activities. Now I oversee both onsite and offsite emergency preparedness for Shoreham.

[Dreikorn] My name is Diane P. Dreikorn. I am employed by LILCO as Supervisor of Offsite Plans and Facilities. In this capacity I am responsible for the development and implementation of the Shoreham Nuclear Power Station Local Offsite Radiological Emergency Response Plan (the LERO Plan). I also oversee all emergency facilities and equipment to ensure that they are maintained in a state of readiness and that they comply with NRC and FEMA requirements. In addition, I am qualified as a Radiation Health Coordinator in the Local Emergency Response Organization (LERO), and I function as a company liaison on radiological issues to governmental agencies.

Before my promotion to Supervisor, I held the position of Senior Emergency Planner. My responsibilities included the development and implementation of emergency plans and procedures, specifically those related to radiological issues (i.e., protective action recommendations and accident assessment) for the Shoreham onsite and offsite emergency organizations.

Before my employment with LILCO, I worked with Impell Corporation, an engineering consulting firm, where I provided consulting services to the nuclear power industry. My responsibilities included conducting training on radiological emergency preparedness to onsite and offsite organizations and performing audits of emergency preparedness plans and procedures to determine compliance with federal requirements.

Before joining Impell, I was employed by the New York State Department of Health as section chief of the Radioactive Materials Licensing Section. My responsibilities in this position included providing technical assistance to the accident assessment group in the New York State Emergency Operations Center (EOC) for drills and exercises of nuclear emergency preparedness plans for power plant sites in New York State. I also acted in this capacity during the Ginna nuclear power plant accident in 1982.

[Lieberman] My name is Edward B. Lieberman. I am president of KLD Associates, Incorporated. I am the principal architect of the Shoreham evacuation plan and have been retained by LILCO to calculate evacuation time estimates for the Shoreham plan. I was responsible to a large extent for the theoretical development of the DYNEV traffic simulation model, the tool used to calculate the Shoreham evacuation time estimates. I serve in LERO as the Traffic Engineer at the EOC and have performed that function in numerous drills and training sessions. In addition, I have supervised

several studies performed by KLD in connection with developing evacuation plans and evacuation time estimates for other nuclear power stations, including Ginna, Davis-Besse, Pilgrim, and Seabrook.

[Weismantle] My name is John A. Weismantle. I am the Vice President of Research and Development and Corporate Studies for LILCO. My responsibilities include overseeing all activities associated with the Local Emergency Response Organization (LERO). I have been employed by LILCO since 1965 and have worked as an engineer on both the Shoreham and Jamesport nuclear projects. In addition, I have been actively involved in the Shoreham licensing effort from the beginning and have helped develop the offsite LERO Plan and implement both the onsite and offsite plans. I also serve as the Manager of Local Response for LERO and served in that capacity during the February 13, 1986 Exercise of the LERO Plan. Over the past several years I have testified on more than 50 issues during the course of this litigation.

II. "BEST EFFORTS" AND LERO INTERFACE WITH STATE AND COUNTY

Purpose of Testimony

2. Q. What is the purpose of this testimony?

A. [Crocker, Weismantle] Our purpose is to demonstrate that LILCO's emergency plan and the best efforts response of Suffolk County and New York State will satisfy regulatory requirements concerning the functions addressed in the following contentions (as rewritten by the Licensing Board):

Contention EP 1 -- directing traffic

2 -- blocking roadways, setting up barriers in roadways, and channeling traffic

4 -- removing obstructions from public roadways, including the towing of private vehicles

5 -- activating sirens and directing the broadcast and contents of emergency broadcast system (EBS) messages to the public

6 -- making protective action recommendations

7 -- making protective actions for the ingestion exposure pathway

8 -- implementing recovery and reentry

10 -- maintaining access control at the EPZ perimeter

3. Q. What emergency plan will you be discussing in this testimony?

A. [Crocker, Weismantle] We rely on the LERO Plan, called the Shoreham Nuclear Power Station Local Offsite Radiological Emergency Response Plan (Revision 9). We expect to publish Revision 10 to the Plan within the next two weeks, but it will not likely change this testimony materially.

Applicable Regulations and Guidelines

4. Q. What NRC regulation addresses the "best efforts" response?

A. [Crocker, Weismantle] The regulation is 10 C.F.R. § 50.47(c)(1), which reads as follows:

> (c)(1) Failure to meet the applicable standards set forth in paragraph (b) of this section may result in the Commission declining to issue an operating license; however, the applicant will have an opportunity to demonstrate to the satisfaction of the Commission that deficiencies in the plans are not significant for the plant in question, that adequate interim compensating actions have been or will be taken promptly, or that there are other compelling reasons to permit plant

operations. Where an applicant for an operating license asserts that its inability to demonstrate compliance with the rquirements of paragraph (b) of this section results wholly or substantially from the decision of state and/or local governments not to participate further in emergency planning, an operating license may be issued if the applicant demonstrates to the Commission's satisfaction that:

(i) The applicant's inability to comply with the requirements of paragraph (b) of this section is wholly or substantially the result of the non-participation of state and/or local governments.

(ii) The applicant has made a sustained, good faith effort to secure and retain the participation of the pertinent state and/or local governmental authorities, including the furnishing of copies of its emergency plan.

(iii) The applicant's emergency plan provides reasonable assurance that public health and safety is not endangered by operation of the facility concerned. To make that finding, the applicant must demonstrate that, as outlined below, adequate protective measures can and will be taken in the event of an emergency. A utility plan will be evaluated against the same planning standards applicable to a state or local plan, as listed in paragraph (b) of this section, with due allowance made both for--

(A) Those elements for which state and/or local non-participation makes compliance infeasible and

(B) The utility's measures designed to compensate for any deficiencies resulting from state and/or local non-participation.

In making its determination on the adequacy of a utility plan, the NRC will recognize the reality that in an actual emergency, state and local government officials will exercise their best efforts to protect the health and safety of the public. The NRC will determine the adequacy of that expected response, in combination with the utility's compensating measures, on a case-by-case basis, subject to the following guidance. In addressing the circumstance where applicant's inability to comply with the requirements of paragraph (b) of this section is wholly or substantially the result of non-participation of state and/or local governments, it may be presumed that in the event of an actual radiological emergency state and local officials would generally follow the utility plan. However, this presumption may

> be rebutted by, for example, a good faith and timely proffer of an adequate and feasible state and/or local radiological emergency plan that would in fact be relied upon in a radiological emergency.

This rule is found at 52 Fed. Reg. 42,078, 42,085-86 (Nov. 3, 1987).

5. Q. Do you think Suffolk County and New York State would follow the LERO Plan in an emergency at Shoreham?

A. [Crocker, Weismantle] Yes. There are three reasons. First, the NRC regulation quoted above presumes that noncooperating governments will "generally follow" the utility plan. Second, State personnel in recent depositions have emphasized that they cannot respond to an emergency without a plan. While they would have us conclude from this that they simply could not respond, or respond adequately, we think it is more realistic to conclude that they would use the only plan available. Third, following the LERO Plan is the very best way to protect the public and achieve maximum dose savings.

6. Q. Why do you think it is the best way?

A. [Crocker, Weismantle] The LERO Plan is designed specifically for an emergency at Shoreham. It follows all applicable federal regulations and guidelines and is structured to be consistent with the State Plan and with other local plans for nuclear plants in the State of New York (which are also structured in accordance with federal regulations and guidelines). The State and County have stated that they do not have plans designed specifically for Shoreham. By the time Shoreham operates at full power, the LERO Plan will have been approved by the NRC, and found capable of protecting public health and safety, after long and thorough litigation. It has been revised several times to respond to State and County criticisms,

FEMA RAC comments, and Licensing Board decisions. No one has yet come up with a better way to protect the public than by following the LERO Plan. Finally, the State and County know that LILCO has provided resources (tow trucks, monitoring teams, radiation health consultants, and many more) that are available to help respond to an emergency. It would be irrational not to use these resources in an emergency.

7. Q. What "State Plan" do you mean?

A. [Behr, Crocker, Weismantle] We refer to the New York State Radiological Emergency Preparedness Plan for Commercial Power Plants (Rev. 8/87). This was prepared for the State Disaster Preparedness Commission by the Radiological Emergency Preparedness Group.

8. Q. Is it true that using an emergency plan, even if the responder is unfamiliar with it, is better than responding ad hoc?

A. [Behr, Crocker, Weismantle] Yes. All emergency response professionals will agree that responding according to any reasonable plan is better than responding with no plan at all.

9. Q. What regulatory guidelines apply to a utility offsite emergency plan?

A. [Crocker, Weismantle] The guidelines are found in NUREG-0654, as modified by NUREG-0654/FEMA-REP-1, Rev. 1, Supp. 1, dated November 1987. This is still in draft but has been published for "interim use and comment."

10. Q. Have you complied with the Supp. 1 guidelines?

A. [Behr, Crocker, Weismantle] Yes. After Supp. 1 was published, we revised our plan to meet the new guidelines. A specification of where the revised Plan addresses the Supp. 1 guidelines is Attachment II to the cover letter to Revision 9 (Attachment F to this testimony).

11. Q. NUREG-0654 Supp. 1 assumes (on page 2) that in an actual emergency State and local officials will "[h]ave the resources sufficient to implement those portions of the utility offsite plan where State and local response is necessary." Is this a realistic assumption for Shoreham?

A. [Behr, Crocker, Weismantle] Yes. First, the LERO Plan provides the resources that might be needed to perform the functions addressed by Contentions 1-2, 4-8, and 10. To be specific, LERO has provided:

- All equipment and personnel to direct traffic
- All equipment and personnel to remove roadway obstructions
- All personnel, monitoring equipment, and dose projection methods for making protective action recommendations
- Complete siren coverage of the EPZ
- An EBS in addition to the State EBS
- Monitoring capability and a plan for buying up contaminated foodstuffs in the aftermath of an emergency

Even long-term access control could be handled by LERO alone if it had to be.

Second, the LERO Plan identifies resources in Suffolk County that might be needed and allows us to call on the County in an emergency. Suffolk County is a large and prosperous county with many resources in addition to the ones identified in the LERO Plan.

Third, the State of New York is a large and prosperous state (the second largest in the country in population) and is prepared to respond to accidents at five other nuclear plants in the State. The State has various officials, departments, and personnel who are intimately familiar with applicable federal emergency regulations and guidelines for nuclear plants, who have participated extensively in preparing and receiving the State

Plan and various local plans for nuclear plants in New York, and who have engaged in numerous successful exercises of those plans. The State Plan lists numerous resources for responses to radiological emergencies. For example, the State Plan lists the following resources for Long Island: SEMO Southern District Headquarters, Region 1 Headquarters of the Department of Environmental Conservation, Regional Headquarters for the State Department of Health, Regional Headquarters of the Department of Transportation (Hauppauge), and Troop L of the State Police. See State Plan, Part II, Section II. Other State resources are listed in the State Plan as well.

Authority

12. Q. Who would be in charge of a response to a radiological emergency at Shoreham?

A. [Behr, Crocker, Weismantle] The County would take the lead in the initial offsite response. The State would provide appropriate supportive services to the extent necessary, in the same way it does for the other nuclear counties in the State. The State would take the lead for some phases of the response, such as decisions for the ingestion pathway.

If the County were unable to manage the response, the Governor would declare a state of emergency, and the State would assume command and control pursuant to State law. This possibility exists for every other nuclear plant in the State and is expressly addressed in Article 2-B of the New York State Executive Law and in the State Plan. Indeed, the State Plan expressly addresses the possibility that the State might have to take over responsibility from a county unwilling or unable to respond. State Plan at I-5, III-18 to -19.

13. Q. Who would be in charge for the County?

A. [Behr, Crocker, Weismantle] The County Executive would have ultimate responsibility. LILCO believes that he would be advised by the Director of the Division of Emergency Preparedness in the Department of Fire, Rescue and Emergency Services (DFRES); by the Commissioner of the DFRES; by the Suffolk County Police; and by the County Department of Health Services.

14. Q. Why the Division of Emergency Preparedness and the DFRES?

A. [Crocker, Weismantle] According to the County Charter, Article XI:

> Section 1102. Powers and duties.
>
> The department of emergency preparedness shall provide and maintain a plan of emergency services for the protection of life and property in Suffolk county when threatened by natural disasters or enemy attack, conforming to the plans, regulations and orders of the New York state office of natural disaster and civil defense,and the federal defense civil preparedness agency.
>
> (1) Shall maintain and operate the county emergency operations center, which is designated as the alternate seat of county government in time of an emergency;
>
> (2) Shall be responsible for assembling disaster information, preparing emergency situation reports, coordinating and providing assistance when needed for all emergency activities during extreme emergencies or disasters within Suffolk county;
>
> (3) Shall maintain, operate and coordinate the use of the county civil defense emergency communications network with those county agencies and services having emergency and disaster responsibilities;
>
> (4) Shall maintain and monitor the national advance warning attack system located in the emergency operating center and implement the county-wide warning system when directed by the federal and state civil defense agencies;

(5) Shall be responsible for the maintenance, operation and monitoring of the national severe weather warning network, and advise all appropriate local officials of threatening hurricanes or other severe weather conditions which may pose a threat to life and property in Suffolk county;

(6) Shall keep and maintain current county-wide emergency equipment and resources information data which can be used and coordinated during a disaster;

(7) Shall be responsible for the maintenance and daily operational check of the Suffolk county school alert warning system;

(8) Shall be responsible for maintaining operational liaison, in accordance with federal, state and local directives, with all cooperating private agencies; that is, salvation army, red cross, private industry, brookhaven national laboratory, utility companies, national guard units, civil air patrol, etc.

(9) Shall be responsible for organizing, approving, recruiting, equipping and training volunteer agencies for emergency preparedness purposes;

(10) Shall identify, locate and plan for the intergration[1/] with emergency service teams all privately owned construction and health service equipment, all trained construction, radiological, health service and sanitation personnel, and all public utility installation and maintenance personnel;

(11) Shall be responsible for securing and maintaining radiological monitoring equipment, provide for the radiological training of sufficient volunteers to adequately cover the major radiological monitoring stations, when needed, in Suffolk county;

(12) Shall secure, through the appropriate federal and state agencies for the various county departments and local municipalities, usable federal surplus and excess property or equipment;

(13) Shall secure and process requests for federal and state financial assistance when the county chief executive delares a state of emergency exists within the county;

1/ So in original. Probably should be "integration."

> (14) Shall be the coordinating agency in the processing and submission of disaster claims and assistance requested by all political subdivisions as outlined in the directives of the office of emergency preparedness and the state department of natural disaster and civil defense.
>
> Section 1103. Other Laws.
>
> The department of emergency preparedness shall be maintained and operated in accordance with the federal defense civil preparedness agency and the emergency defense laws of the state as the same shall be from time to time amended.
>
> The department of emergency preparedness is intended to be, to mean, and to include the term, "civil defense" as the same appears and as used in section 9122 of the unconsolidated laws of the state of New York. The department and the director shall have all of the powers and duties conferred upon a local officer of civil defense and the local director of civil defense by section 9122 of the consolidated laws.

Suffolk County Charter §§ 1102-03. The Department of Emergency Preparedness is now the Division of Emergency Preparedness in the Department of Fire, Rescue and Emergency Services (DFRES).

15. Q. Who would be in charge for the State?

A. [Behr, Dreibhorn, Weismantle] The Governor would be ultimately responsible. Dr. Axelrod, New York State Commissioner of Health and Chairman of the Disaster Preparedness Commission (DPC), would be in charge at the direction of the Governor. See State Plan, Exec. Summary, at 3. Reporting to him would be the New York State Radiological Emergency Preparedness Group (REPG) and the New York State Emergency Management Office (SEMO). During an emergency at one of the State's nuclear facilities, over a dozen State agencies would be represented at the State EOC.

Communicating with the County and State

16. Q. In an emergency, how would LERO and LILCO communicate with New York State and Suffolk County?

A. [Behr, Crocker, Weismantle] Notification is addressed by the onsite plan, EPIP 1-5, and by OPIP 3.1.1 and 3.3.2. For the County, there is a Radiological Emergency Communications System (RECS) line to the Suffolk County Police Department and to the County EOC. Admitted Fact[2/] 8 (uncontested as to Suffolk County). Police Department Headquarters is at Yaphank, about 15 miles from the LERO EOC at Brentwood. The County EOC is near Police Headquarters. There is also a dedicated phone line from the Shoreham Control Room to the Suffolk County Police. Admitted Fact 13.

Commercial phone lines are available as a backup. Admitted Fact 11. The police are reached by calling the Duty Officer, whose number is in the LERO procedures. The Duty Officer is on call 24 hours a day. Alternatively, the police can be reached by dialing 911.

For the State, we use commercial telephone lines. The phone numbers are listed in the LERO and Shoreham procedures.

In addition, there is a RECS line from LERO/LILCO to or near several State offices. According to the Intervenors' answers to LILCO's interrogatories, the RECS lines to the State terminate (i) about 50 yards from the REPG office in Albany, (ii) two floors away from the State Police Communications Center in Albany; (iii) in the State EOC in Albany; and (iv) in the SEMO district office in Poughkeepsie. LILCO is ready at any time to

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2/ "Admitted Facts" are those attached to LILCO's Second Renewed Motion for Summary Disposition of the "Legal Authority" Issues (Contentions 1-10), dated March 20, 1987.

relocate the first two of these RECS lines to the current location of the State offices. Since the lines are operational, we believe that the only thing necessary to establish communications is for the State to reattach phones to the lines.

In answers to LILCO's interrogatories, the Intervenors say the lines terminate in "bare, dangling wires." However, it is reasonable to believe that the State will reconnect the RECS line as part of its "best efforts," since the State Plan establishes the RECS as the means of communication between the State and responding counties. See State Plan, Executive Summary at 3.

17. Q. What can LERO do about this?

A. [Crocker, Weismantle] The LERO Plan calls for a LILCO liaison in Albany to go to the State EOC. OPIP 3.1.1, Att. 1, ¶ B.8. If necessary (by which we mean if the Licensing Board believes it is necessary), we will have our Albany liaison take a RECS telephone with him and make advance arrangements for a phone repairman to install it.

18. Q. What about face-to-face communications?

A. [Behr, Crocker, Weismantle] We would expect face-to-face communications between LERO and the County to be established early in an emergency. Our procedures call for us to send a liaison to Suffolk County Police Headquarters and to invite County and State personnel to the LERO EOC. The "best efforts" way to manage an emergency response would be to have State and County representatives in the LERO EOC. Also, the LERO Plan provides for two LERO Emergency Preparedness Advisors (EPA's) to be sent to wherever the Suffolk and Nassau County Executives are. OPIP 3.1.1, p.

8 of 90. Thus, if the Suffolk County Executive chooses to go to the County EOC rather than the LERO EOC, the LERO Plan has the flexibility to accommodate that choice.

Initial Notification

19. Q. How would the County Executive learn of the emergency?

A. [Crocker, Weismantle] The Shoreham Control Room Communicator is instructed by his onsite procedures to contact, using the RECS line, the Suffolk County "warning point" at Suffolk County Police Headquarters in the event of a problem at Shoreham leading to an Unusual Event or the declaration of some higher Emergency Classification Level (ECL). After receiving this notification from the Shoreham plant, the police would undoubtedly contact the County Executive on their own.

Police Order Number 88-1 provides that "the Duty Officer will notify a representative of the Office of the County Executive in the event of a newsworthy or major incident." The Order lists three people to be called during business hours and one, Assistant to the County Executive, to be called at all other times and on holidays.

In any event, once the LERO Director of Local Response was notified of the problem at Shoreham, he would call the County Executive in accordance with the Suffolk County Interface Procedure, Attachment 10 of OPIP 3.1.1. At each level of emergency from Unusual Event on up, OPIP 3.1.1 tells the LERO Director of Local Response to contact the Suffolk County Executive. OPIP 3.1.1, pp. 4, 6, 10 of 90.

20. Q. What would the LERO Director tell the County Executive?

A. [Crocker, Weismantle] That would depend on the status of the emergency. The LERO Director would already have obtained information on plant and weather conditions from the Shoreham operators. He might even have an initial protective action recommendation from the onsite experts, in the very unlikely event that the initial situation was that serious. Among other things, the LERO Director would inform the County Executive that LERO's personnel and other resources were available at the County's direction to assist in the implementation of the emergency response, if such a response became necessary.

21. Q. Suffolk County says the County Executive and his deputies do not regularly carry pagers. What would you do if the County Executive could not be reached?

A. [Crocker, Weismantle] In the first place, we think it is extremely unlikely that neither the County Executive nor any of his deputies could be reached. Someone from the County Executive's office, whether it is the County Executive himself, the Chief Deputy County Executive, the Deputy County Executive, or the Assistant to the County Executive, is always available to be reached in the event of an emergency. As noted above, the Suffolk County Police Duty Officer has his own procedure and means to notify one of these representatives when a "newsworthy or major incident" takes place, and it is the Duty Officer that the LERO Director would call if the LERO Director was unable to reach the County Executive through the County Executive's Office.

Also, contact would ordinarily be established early during an emergency, at the Unusual Event stage, so that by the time protective action decisions had to be made, contact would already have been established.

If, however, we could not reach anybody from the County Executive's office, we would ask the police to contact the Director of the Division of Emergency Preparedness, the Commissioner of the DFRES, or whoever is designated by the County Executive to carry out his responsibilities in his absence. In the unlikely event that the emergency had progressed sufficiently to require protective actions and we could still not reach the County Executive or his designated representative, we would ask the police to let us sound the sirens and broadcast the first EBS message (Message A). Assuming a Site Area or General Emergency had been declared, we would notify and dispatch LERO Traffic Guides without delay, though they would not actually direct traffic until the police, the Director of Emergency Preparedness, or the County Executive or his representative had been consulted.

22. Q. Suppose there were a delay reaching the County Executive and the DFRES?

A. [Crocker, Weismantle] We would deal with the County Police and the State. According to the Suffolk County Charter, Article XII:

> c. It shall be the duty of the police department to preserve the public peace, prevent crime, detect and arrest offenders, protect the rights of persons and property and enforce all laws and ordinances applicable to the county.

Suffolk County Charter § 1208.c. Also, according to the Suffolk County Charter:

> Section 1215. Special patrolmen. a. The commissioner may appoint as many citizens as he deems advisable to serve as special patrolmen, without pay, on election day, on a day of public celebration, or in the case of riot, pestilence, invasion or other public calamity. Such appointment shall be made only for a specified time, and shall be revocable at all times by the commissioner.

> b. Such special patrolmen shall be vested with all the powers and privileges and shall perform all the duties of the patrolmen in the regular police department. Each such special patrolman shall wear a badge to be furnished by the commissioner. In making such appointment, the commissioner shall in no way interfere with the force or lawful command of the sheriff of the county.
>
> * * *
>
> Section 1216. School crossing guards. a. The commissioner may appoint school crossing guards to serve for such period of time he deems advisable. Such school crossing guards shall be empowered to direct pedestrian and vehicular traffic at locations to which they may be assigned and shall perform such other related duties as may be prescribed by the commissioner.

Suffolk County Charter §§ 1215-16.

We believe, therefore, that in the postulated absence of all County leaders, the police would still be able to act to protect life and property and to give LERO permission to direc. traffic, for example.

23. Q. You mentioned the State also.

A. [Crocker, Weismantle] Yes. As we said above, we would be talking to the State at about the same time. We would advise the State what to do and could seek permission from the State instead of the County.

24. Q. Is the LERO Plan flexible enough to cope with the contingencies set out above?

A. [Crocker, Weismantle] Yes. Provisions for communicating with the County Police, the State, and the federal government are in the Plan. The steps in the County Interface Procedure (OPIP 3.1.1 Attachment 10) can be followed with the State as easily as with the County. Indeed, OPIP 3.1.1 § 3.0 says that in the event the Governor declares a state of emergency, references in the procedure to the Suffolk County Executive should be replaced by the Governor as appropriate.

State and County
Familiarity with the LERO Plan

25. Q. How familiar are State and County personnel with the LERO Plan?

A. [Behr, Crocker, Dreikorn, Weismantle] A number of State and County personnel have testified about the plan in this proceeding. We can say at a minimum, then, that some State and County personnel, including several Suffolk County police officers, are familiar enough with the plan to testify about it. Also, in a recent deposition State REPG personnel Papile, Baranski, and Czech testified they reviewed portions of the LERO Plan years ago.

We know also that the State of New York has a radiological emergency response plan and a number of people experienced in making protective action decisions and recommendations. The State Plan is similar in scope to the LERO Plan because it is written against the same federal criteria. Also, the State is actively involved in preparing, exercising, and drilling for radiological emergencies at the other nuclear facilities in the State and actually responded to an emergency at Ginna in 1982. The same types of data (plant conditions, meteorological data, dose rates, population figures, and evacuation time estimates) are used to make protective action decisions for all nuclear plants.

Moreover, once the NRC approves the LERO Plan and issues a full power operating license, it is impossible to believe that the State and County would not review the LERO Plan and become familiar with it. The "best efforts" principle must mean, at least, that appropriate State and County personnel will become familiar with the utility plan, if they have no plan of their own. Suffolk County has itself noted that the public can be best protected only through the integrated planning efforts of the parties. LBP-82-75, 16 NRC 986, 1007 (1982).

26. Q. What other nuclear plants must New York State plan for?

A. [Behr, Crocker, Dreikorn, Weismantle] The following nuclear power plants are in New York State:

Indian Point Units 2 & 3
FitzPatrick/Nine Mile Point Units 1 & 2
R.E. Ginna

The following plants in other states have parts of their 50-mile EPZ's within New York State:

Millstone Units 1, 2, & 3 (one a BWR)
Haddam Neck
Vermont Yankee (BWR)
Yankee Rowe
Oyster Creek (BWR)

There are also five CANDU reactors at the Pickering Generating Station in Ontario, approximately 18 miles from the New York State border and 36 miles from the New York State land area.

27. Q. Are there other plants like Shoreham in New York State?

A. [Behr, Crocker, Dreikorn, Weismantle] Yes. The FitzPatrick plant near Oswego, New York, is a boiling water reactor (BWR) quite similar to Shoreham. While there are some differences, they would not affect protective action decisions.

28. Q. Is it important to know how familiar with the LERO Plan the State and County are?

A. [Crocker, Weismantle] No. Because of the County's and State's refusals to cooperate, for planning purposes we have assumed no familiarity at all with the specifics of the LERO Plan on the part of County and State officials. That is, we assume that the Governor and the County Executive and their chief advisors will not know in advance the details of the LERO Plan. However, we also assume that they are capable of reasoning, of following sound advice, and of making decisions, just like any competent executive.

With respect to the highest-level decisionmakers, the Governor and County Executive, this unfamiliarity is likely no different from other emergency plans. It is doubtful that the chief executives of other localities or states in the country are intimately familiar with emergency planning for nuclear plants. Instead, they must rely on the advice of others.

The difference here is that the "others" must to a greater extent than elsewhere be DOE, FEMA, NRC, LERO, and LILCO advisors. As noted above, Revision 9 of the LERO Plan provides for two Emergency Preparedness Advisors (EPA's) to "advise and assist Suffolk and Nassau County officials to implement those portions of the offsite plan where a county response is identified." OPIP 2.1.1, p. 5a of 79. OPIP 3.1.1 calls for the LERO Director of Local Response to send the Advisors to the locations of the Suffolk and Nassau County Executives. OPIP 3.1.1., p. 8 of 90. However, the State's and County's own advisors, particularly the State's, should still be helpful.

29. Q. How does the LERO Plan provide for the unfamiliarity you've assumed?

A. [Crocker, Weismantle] We have provided a full complement of trained personnel to perform every function that might have to be done quickly in an emergency. Thus one of our "compensating actions" for the County's and State's assumed unfamiliarity is to provide a trained LERO "stand-in" for each State and County person. Since these compensating personnel are prepared to perform each function themselves, they can certainly show government officials how to do it.

For this reason, to the extent the State or County people cannot understand something about the LERO plan, there is in every case someone in LERO to explain it. Since LERO is fully staffed to implement the plan

without help from the State and County, the LERO people who would otherwise act alone can simply tell the State or County what LERO would do (and why) if it were acting alone. The State and County can then either agree or disagree about whether to follow the LERO advice, of course, just as the State or local government officials could agree or disagree with their own advisors or with onsite advice at other nuclear plants.

30. Q. Is the LERO Plan flexible enough to accommodate the participation of State and County personnel?

A. [Dreikorn, Weismantle] Yes. While there have always been provisions in the Plan for the participation of the State and County, as noted above, we have revised the LERO Plan specifically to accommodate them. We are also emphasizing the LERO-County-State "interface" in our training and drills.

Here are some of the ways the LERO Plan provides the flexibility to incorporate the State and County into an emergency response:

1. The Plan's procedures are quite specific and detailed. They lay out in great detail the steps one has to go through to perform the various functions called for by the Plan.

2. We have provided a full complement of LERO personnel who can either perform the emergency response functions themselves or advise others how to perform them.

3. We have provided the equipment necessary to perform the emergency response functions. This gives the County and State the flexibility either to use their own equipment, if they have it, or to use LERO's.

4. We have provided communication systems allowing us to talk to all levels of government, and to link government officials together with LERO personnel. For example, as we discuss below, once the County (or State) gives permission for LERO Road Crews to remove a road obstruction, we can communicate that decision

almost instantly to the Road Crew by radio. Of course, these communication systems were not installed specifically in response to the "realism" issues; they have always been a part of the Plan.

5. We have provided places and facilities (telephones, for example) for the State and County at the LERO EOC and the Emergency News Center.

31. Q. Do you believe the State and County will improve their familiarity with the LERO Plan once Shoreham is licensed for full-power operation?

A. [Crocker, Weismantle] Yes. It would be irrational, and certainly not "best efforts," to continue to refuse to plan, or even to review the details of the LERO Plan. Additional familiarity and additional planning by the State and County can only improve the safety of the public.

The State of New York has some experience with filling in for a nonparticipating county. In 1983 the State developed an interim plan for Rockland County when the county pulled out of planning for an accident at the Indian Point plant. The interim plan was approved by FEMA and successfully tested in a federally graded exercise.

Cooperation

32. Q. Why do you think you could work with Suffolk County in an emergency?

A. [Behr, Weismantle] There are a number of reasons. One of them is this. In the summer of 1985 the Suffolk County Executive supported holding a test of the LERO Plan and issued an Executive Order to that effect. Various Suffolk County agencies began reviewing the LERO plan, and a number of meetings were held between LILCO and County personnel. We were at some of these meetings. They were held in a cordial atmosphere, with both parties engaging planning in a professional manner.

A second reason is that it would be in the best interest of the public (that is, it would be "best efforts") to work together because that would be the best way to get the information needed to respond to an emergency. This is recognized by the State Plan, which provides for the working together of State, county, and utility.

33. Q. Have you had occasion to work with New York State on emergency planning?

A. [Behr, Crocker, Dreikorn] Yes. In the past, LILCO has participated in the New York State Power Pool Subcommittee on Emergency Preparedness, which now meets about every two months. All New York State utilities that have nuclear facilities are members of the Subcommittee. The Subcommittee meets to discuss planning issues, coordinate exercise schedules and activities, and discuss budget matters. It regularly meets with New York State to discuss emergency planning and exercise preparation. Until recently, when the State barred our representatives from the meetings, LILCO participated in the work of this Subcommittee.

34. Q. Are you aware of statements by Suffolk County that the County would never "delegate" certain tasks to LILCO in an emergency?

A. [Crocker, Weismantle] Yes. But we do not think such statements present a problem for two reasons. First, in a real emergency "best efforts" would require the County officials and police to involve themselves in all the emergency response functions addressed in this testimony. The police, for example, would help direct traffic.

Second, as the attached Affidavit of John D. Leonard, Jr. (Attachment N) indicates, the State has been prepared to use utility company employees to direct traffic in the past.

Contentions 1 and 2: Traffic Control

35. Q. Please state Contention 1 as rewritten by the Board.

A. [Crocker, Lieberman, Weismantle] Contention 1 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning directing traffic.

Memorandum (Extension of Board's Ruling and Opinion on LILCO Summary Disposition Motions of Legal Authority (Realism) Contentions and Guidance to Parties on New Rule 10 CF.R. § 50.47(c)(i)) (April 8, 1988) ("April 8 Memorandum") at 26.

36. Q. Please state Contention 2 as rewritten by the Board.

A. [Crocker, Lieberman, Weismantle] Contention 2 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning blocking roadways, setting up barriers in roadways, and channeling traffic.

April 8 Memorandum at 26.

37. Q. Describe briefly the LERO traffic control plan.

A. [Crocker, Lieberman, Weismantle] As OPIP 3.6.3 (Traffic Control) and Figure 2.1.1 (p. 3 of 5) of the Plan reveal, the LERO Plan provides for an Evacuation Coordinator at the EOC, supported by a Traffic Control Coordinator, Traffic Engineer, Evacuation Route Coordinator, Road Logistics Coordinator, and Traffic Control Point Coordinator. Each of the three Staging Areas has a Staging Area Coordinator. In the field, the LERO Plan calls for 130 Traffic Control Posts (TCP's) manned by 165 traffic guides. See the Board's Partial Initial Decision (PID), 21 NRC at 791.

38. Q. Are all the TCP's equally important?

A. [Lieberman] No. The order of importance of the traffic posts is listed in OPIP 3.6.3 Attachment 7. To achieve the "controlled" ETE, it is not necessary that every traffic guide be in place. Specifically, only those TCP's which enhance roadway capacity along the critical paths (that is, those that are the last to evacuate) need be manned. Approximately 47 of the 130 TCP's fall into this classification.

39. Q. What do the Traffic Guides do?

A. [Lieberman] They are trained to "facilitate" certain traffic movements and to "discourage" others. PID, 21 NRC at 793. These movements are listed in OPIP 3.6.3 Attachment 4. They are also shown graphically on schematic drawings, one for each TCP.

40. Q. Aside from directing traffic, what traffic control measures are called for in the LERO Plan?

A. [Lieberman] Two sections of road (Lower Rocky Point Road and North Country Road) are to be converted to one-way traffic westbound between Woodhull Landing Road and Shore Road. Appendix A, page IV-18. Also, six channeling treatments are called for. These are described in Appendix A, pages IV-20 through IV--21. Also, Route 25A from Echo Avenue to Patchogue-Mt. Sinai Road (CR 83) is channelized to three lanes.

41. Q. What is a "controlled" versus an "uncontrolled" evacuation under the LERO plan?

A. [Crocker, Lieberman, Weismantle] "Controlled" means that the Traffic Guides direct traffic at the time they are able to affect the evacuation times. "Uncontrolled" means that no traffic control measures are used throughout the entire evacuation.

42. Q. To effect a "controlled" evacuation, how fast must the Traffic Guides be mobilized?

A. [Lieberman, Weismantle] The Licensing Board has found that LERO field workers, including Traffic Guides, can be substantially mobilized in about three hours from their initial notification. PID, 21 NRC at 723-24. The 47 high-priority, capacity-enhancing TCP's can certainly be manned in about three hours. The modeling work for a "controlled" evacuation assumes that Traffic Guides will be in place by the time congestion begins, approximately one hour after an evacuation recommendation. See PID, 21 NRC at 720.

43. Q. What do you mean by "mobilized"?

A. [Lieberman, Weismantle] This refers to the elapsed times from when the Traffic Guides are notified until the time they reach their field locations.

44. Q. How many police are available locally?

A. [Crocker, Weismantle] According to the Intervenors' answers to LILCO's interrogatories, the County employs 2,615 police employees, both uniformed and nonuniformed. Of these 1,740 are dedicated to the patrol division in patrol, supervisory, and administrative positions. At any given time, approximately 185 uniformed officers are assigned to vehicles for patrol, Expressway enforcement, crime scene, and supervisory duties.

Also, according to the interrogatory answers, between three and 12 State Police vehicles are on duty in Suffolk County at any given time. According to the State Plan, Troop L of the State Police (which is located on Long Island) has 63 patrol cars, 29 "concealed identity" cars, and 16 Bureau of Criminal Investigation cars. See State Plan, Part II, Section II, page 27.

45. Q. Have Suffolk County's consultants advised anything about traffic control?

A. [Crocker, Lieberman] Yes. In 1982 a Suffolk County steering committee, headed by a Deputy County Executive, drafted a plan for the County. The then-County Executive called this the "best possible plan" for Suffolk County. We will refer to the "Working Draft Report" as the "Voorhees Plan," since it was prepared by PRC Voorhees. The County ultimately rejected the Voorhees Plan in Resolution 111-1983.

46. Q. What did the Voorhees plan recommend with respect to traffic control?

A. [Weismantle] The Voorhees plan, which was based on a 20-mile EPZ, contemplated (at pages 25-26) that the Suffolk County Police Department would direct traffic and patrol evacuated areas. It also contemplated that the Riverhead Police Department, Southampton Police Department, Southold Police Department, and several local police departments within a 20-mile EPZ would patrol evacuated areas, direct traffic, and confirm evacuation. On page 26 it contemplated that police departments outside the EPZ would provide traffic control and support functions. On page 49 it identified 10 police departments (including the Parkway Police, part of the State Police) within 20 miles of the plant and another 14 police departments outside 20 miles.

47. Q. Why do you refer to the Voorhees Plan, if the County rejected it?

A. [Crocker, Weismantle] Well, we do not agree that it was the "best possible plan." It used a 20-mile plume EPZ, some four times the area that NRC regulations prescribe. It lacked any procedures at all. And it relied heavily on opinion polls to predict emergency behavior, which is unsound planning practice.

Nevertheless, the Voorhees plan is one source of information about County resources and organization. And where it agrees with the LERO Plan, it adds weight to the conclusion that following the LERO Plan would be "best efforts" for the County. For example, the Voorhees "best possible" plan agrees with us on the following points:

- The County Executive and Director of the Division of Emergency Preparedness would have command-and-control
- Sirens would be used to alert the public
- Suffolk County Police would direct traffic and provide access control
- The County would depend heavily on the State for advice on protective action recommendations

48. Q. How does the LERO Plan call for the police to be incorporated into the response?

A. [Behr, Crocker, Weismantle] By procedure, LERO sends a liaison to police headquarters at Yaphank. OPIP 3.6.3 § 5.1.7.b. The LERO Traffic Control Point Coordinator serves this function in accordance with OPIP 3.6.3, Attachment 15, a procedure entitled "Participation of Suffolk County Police Department During a Radiological Emergency." LERO will also advise the Suffolk County Executive that he or his representative should go to the LERO EOC. OPIP 3.1.1, Attachment 10 § 3.G. LERO will suggest that the Commissioner of Police or his representative also come to the LERO EOC and bring a portable police radio. Id. § 3.H.3.

49. Q. How would police officers be dispatched to the TCP's?

A. [Behr, Crocker, Weismantle] The "best efforts" would be to assemble the police at Yaphank Police Headquarters for briefing before dispatching them to the field. Accordingly, the LERO Plan calls for the LERO Traffic

Control Point Coordinator to proceed to Police Headquarters to assist in the dispatch of the police. OPIP 3.6.3 § 5.1.7.b.

50. Q. What if the police do not go to Yaphank before going to the TCP's?

A. [Behr, Crocker, Weismantle] The LERO Plan is flexible enough to accommodate this alternative. According to OPIP 3.1.1, Attachment 10, we would ask the Police Commissioner to come to the LERO EOC with a radio. The Police Commissioner would work with the Evacuation Coordinator in the LERO EOC, and the dispatch of the police could be coordinated through the police radio system.

51. Q. How would LERO traffic guides deal with the police?

A. [Behr, Crocker, Weismantle] LERO Traffic Guides are instructed by both their training and their procedures to cooperate with the police and to assist them as necessary in implementing traffic control. Section 7 of the Traffic Guide Procedure, OPIP 3.6.3, Attachment 1, instructs the Traffic Guides as follows:

> If County or other police arrive at your post, turn over control to them and notify your Lead Traffic Guide. Brief them on the strategy of the control post and any problems that have arisen during the emergency. Remain with them throughout the duration of the assignment to provide radiological dose information and communications with LERO. Request that police accompany you to the Emergency Worker Decontamination Facility in Brentwood at the completion of the assignment.

52. Q. Do the Traffic Guides have written instructions?

A. [Behr, Crocker, Lieberman, Weismantle] Yes. Each Traffic Guide has, among other things, a diagram of the traffic movements to be encouraged and discouraged at his Traffic Control Post. Attachment N to this testimony is an example. In addition, copies of these diagrams are delivered to

Police Headquarters at Yaphank by the Traffic Control Point Coordinator at the time of the emergency.

53. Q. Could the average police officer understand the diagram and direct traffic in accordance with it?

A. [Weismantle] Yes. That is our judgment, and it is the judgment of our consultant Harry Babb, a former Captain, Executive Officer at the Suffolk County Police Academy. The diagrams are simple drawings showing traffic movements to be encouraged and discouraged and where to put traffic control equipment.

It also appears to be the judgment of at least one high-ranking member of the Suffolk County Police Department, Assistant Chief Inspector Richard C. Roberts. During his deposition on April 26, 1988, Chief Roberts testified that his police officers, who are trained to direct traffic and who are already familiar with many of the intersections that they routinely patrol in Suffolk County, would be able to implement the specific traffic control strategies of the LILCO Plan if so ordered. Roberts deposition, p. 106. Chief Roberts also testified that he believed that the Suffolk County Police are already trained to implement such special techniques as blocking lanes on roadways, controlling access to roads, and converting a road to one-way flow. Roberts deposition, p. 71.

54. Q. How long a delay in effecting traffic control would likely result because of a County "best-efforts" response?

A. [Behr, Crocker, Weismantle] None at all. The LERO Traffic Guides would be dispatched and at their posts just as the LERO Plan prescribes.

The police ought to be able to mobilize at least as quickly . ERO, particularly for the 47 capacity-enhancing TCP's. In fact, at his deposition,

Chief Roberts estimated that the approximately 185 police officers on patrol in Suffolk County at any given time could, after being radioed, assemble at police headquarters in Yaphank within about 50 minutes. Roberts deposition, p. 115. Chief Roberts further estimated that up to 600 police officers could be mobilized in about two hours. Roberts deposition, p. 114. Under the LERO Plan, only 165 police officers would be specifically assigned to implement traffic control.

Even if the police could not mobilize quickly, there is nothing to prevent Suffolk County from giving permission, as necessary, to LERO to direct traffic until police get there.

55. Q. Suffolk County appears to argue that it is not permitted by law to permit private parties to direct traffic.

A. [Behr, Lieberman, Weismantle] As the attached affidavits of Charles A. Daverio, Jay Richard Kessler, and John D. Leonard, Jr. (Attachments K, M, and N) show, it is quite common for private persons to direct traffic with the approval of the authorities. LILCO in particular has often both directed traffic and blocked roadways in the interest of safety. It is also our experience that private parties direct traffic in emergencies without the express approval of the authorities. Private parties also commonly put "barriers" in the road -- that is, flares to direct other motorists around an accident. Also, flagmen are commonly used to direct traffic through construction sites -- even in the presence of moving construction equipment.

56. Q. Other than wanting to use "best efforts" to move traffic, is there any reason why the County Executive would be likely to use the LERO traffic control plan?

A. [Behr, Crocker, Lieberman, Weismantle] Yes. He will want to use the traffic plan to make his decisionmaking more reliable. To make a

protective action decision, the County Executive will want to know how long it will take to evacuate. The most reliable evacuation time estimates are those in the LERO Plan. Indeed, they are the only ETE's for the 10-mile EPZ. Moreover, the "envelope of uncertainty" associated with LERO "controlled" time estimates is more limited than for the "uncontrolled" estimates. If the County Executive wishes to use the "controlled" estimates in making his decisions, he will want to direct his police (or LERO) to use the traffic control measures on which those estimates are based. The alternative would be to order everyone not to direct traffic at all and then use the "uncontrolled" estimates for decisionmaking. But this would not be "best efforts." Nor would it be "best efforts" to order t .e police to do their best without reference to any plan, because then the County Executive would have to accept greater uncertainty in the time estimates used in decisionmaking.

57. Q. Please explain LILCO's "immateriality" argument.

A. [Behr, Crocker, Lieberman, Weismantle] LILCO's position is that, assuming there is time to mobilize the LERO Traffic Guides, any evacuation from a Shoreham emergency will be a controlled one. Traffic control will be provided, as quickly as already litigated for a LERO-only response, by the Traffic Guides or by the Suffolk County Police or by a combination of the two. The participation of the police would enhance, if anything, the emergency response because there would be additional people to direct traffic in accordance with the LERO Plan.

Assuming unrealistically that the participation of the Suffolk County Police somehow "degraded" the emergency response by slowing down evacuation times to somewhere between the "controlled and the "uncontrolled"

time estimates, this is not enough to justify denying LILCO an operating license and does not mean that the LERO Plan fails to meet NRC requirements. To put it another way, even assuming that the police would degrade the response to somewhere between the controlled and uncontrolled times, there is nevertheless reasonable assurance that adequate protective actions (in this case evacuation) can and will be taken. There are several reasons:

1. The delta T (difference in time) between the controlled and uncontrolled times for summer normal weather (100 percent compliance) is about 35 minutes. The uncertainty in the ETE's is plus-or-minus 10 percent, or about 30 minutes. PID, 21 NRC at 792.

2. Even the "uncontrolled" evacuation times for Shoreham are likely to be shorter than the evacuation times for some other licensed plants in this country.

3. Using the "uncontrolled" times in making a protective action recommendation would rarely cause LERO to make a different recommendation relative to using the "controlled" times.

4. By incorporating into the plan, at the direction of the Board, the sensitivity study of the ETE's, LILCO has already incorporated and planned for the possibility that the police might slow evacuation down.

5. The mere possibility that the police might cause the evacuation to be slower does not significantly reduce the capability of the LERO Plan to provide dose savings to the public.

58. Q. Are you saying that Traffic Guides are not useful?

A. [Behr, Crocker, Lieberman, Weismantle] No. As planners we support the use of Traffic Guides. And we have provided them. But whether an applicant is required to guarantee that the authorities will not interfere with the Traffic Guides is a different question. We are saying, basically, that the hypothetical possibility that the police, using their best efforts and

generally following the LERO Plan, might slow down the evacuation slightly is "immaterial" to compliance with NRC emergency planning requirements.

59. Q. The Appeal Board, in a decision that was later remanded, said that "something more is needed than an aspiration that the public will be able to fend for itself in the event an evacuation is required." The citation is ALAB-818, 22 NRC 651, 677 (1985) (footnote omitted). Apart from Traffic Guides, what has LILCO done to provide for the speedy evacuation of the Shoreham 10-mile EPZ?

A. [Crocker, Lieberman, Weismantle] We assume the question goes only to evacuation of people driving their own cars, and so we will not address, for example, the buses we provide for people without their own cars or the ambulances we have arranged for people in nursing homes and hospitals.

We assume also that you are not referring to our efforts to alert people so they can evacuate — for example, our procedures for sending Route Alert Drivers to the homes of hearing-impaired people to alert them individually. PID, 21 NRC at 853.

Considering only the traffic measures for members of the general public with their own cars, LILCO has done the following things:

1. We have had KLD analyze the road network using the DYNEV model and identified the best routes for people to take. PID, 21 NRC at 783-84, 791.

2. We will inform people about these routing assignments through the annual public education brochure and the other informational materials that were litigated in 1984. PID, 21 NRC at 765-76.

3. We have provided patrolling route spotters to identify impediments and any other congestion-inducing events; we have also contracted with an aircraft company to provide aerial spotters, weather permitting.

4. Our Traffic Guides will be mobilized at the Site Area Emergency stage, regardless of what the County and State do; no matter what the "legal authority" situation is at the time of an accident, our guides will be in place and prepared to direct traffic in accordance with the plan. Even if (hypothetically) they were not allowed to direct traffic, they would still serve as stationary observers who could report by radio to the EOC on traffic conditions.

5. We have provided tow trucks and road crews which are stationed at strategic locations within the EPZ to remove impediments upon instructions received by radio from the EOC. PID, 21 NRC at 809-12.

6. We have provided a Traffic Engineer at the LERO EOC to develop alternative evacuation routes and modified Traffic Guide directions in the event an impediment affects traffic movements. He will also develop a revised ETE in this event.

7. We have provided an EBS capable of reporting traffic conditions to the evacuating public.

60. Q. In the Zimmer case the Appeal Board said that although the NRC requirements do not prescribe specific time limits governing the evacuation of plume EPZ's, it does not follow that an evacuation plan need not be concerned with the efficiency with which evacuation might be accomplished given the conditions under which it must take place. The citation is ALAB-727, 17 NRC 760, 770 (1983). Has LILCO concerned itself with the efficiency of the evacuation of the public?

A. [Lieberman] Yes. That is the purpose of the DYNEV analysis mentioned above and of the other elements of the Plan designed to facilitate the movement of evacuating vehicles.

61. Q. How detailed is your traffic analysis?

A. [Lieberman] As documented in Appendix D to Appendix A of the LERO Plan, the traffic analysis is conducted at a very high level of detail. Specifically, an equilibrium traffic assignment model and a dynamic traffic simulation model are applied in an interactive and iterative manner to

explore and evaluate alternative routing and control strategies. This activity is extensive and has the objective of identifying the "best" traffic management policy responsive to minimizing the exposure of the public to dosage and also minimizing the estimated evacuation time. While no representation is made that the final results are optimal, it is my opinion that the evacuation plan and the associated ETE's represent an effective response to all evacuation scenarios considered.

I have reviewed approximately 20 other evacuation plans for nuclear power stations. I am confident that the analysis conducted for Shoreham is at least equal, and generally superior, to those applied at these other stations.

62. Q. Under what circumstances might you have an "uncontrolled" evacuation?

A. [Crocker, Lieberman, Weismantle] There are two. First, you might have an uncontrolled, or partly uncontrolled, evacuation if you had such an extremely fast-breaking emergency that traffic guides could not be fully mobilized in time. This has already been litigated. PID, 21 NRC at 720-25.

Second, you would have an uncontrolled evacuation if (hypothetically) the County and State advised the public to evacuate and also both (1) ordered LERO not to use traffic guides and (2) ordered the police not to direct traffic either. But this would not be "best efforts."

63. Q. What evacuation time estimates are there in the LERO Plan?

A. [Lieberman, Weismantle] The evacuation time estimates (ETE's) are in OPIP 3.6.1, Attachment 2. These were calculated using the DYNEV model. See PID, 21 NRC at 783, 785, 805-08. In Revision 5 of the LERO Plan the ETE's for Shoreham were revised as explained in the Affidavit of Edward B.

Lieberman in Support of Contentions 1, 2 and 9 -- Immateriality (Dec. 14, 1987). It is those revised ETE's that are in the current LERO Plan.

64. Q. What are the differences in evacuation times between a "controlled" and an "uncontrolled" evacuation.

A. [Crocker, Lieberman, Weismantle] The difference (delta T) between controlled and uncontrolled ranges from 35 minutes for normal weather to 55 minutes for adverse winter weather, assuming that evacuees generally comply with the recommended evacuation routes.

Here are the delta T's for Shoreham:

Weather Conditions	Percent Compliance	Uncontrolled	Controlled	Delta T
Summer Normal	100	5.67hrs.=340 min.	5.08hrs.	0.59hrs.=35 min.
Summer Adverse	100	6.83	6.00	0.83
Summer Normal	50	6.42	5.42	1.00
Winter Normal	100	5.17	4.58	0.59
Winter Adverse	100	7.08=425 min.	6.17	0.91=55 min.

The delta T between the summer normal uncontrolled time with 50 percent compliance and the summer normal controlled time with 100 percent compliance is 1.34 hours or 80 minutes.

65. Q. What is the uncertainty in your evacuation time estimates?

A. [Lieberman] I would judge the uncertainty in ETE's for the "controlled" evacuation to be about plus-or-minus 10 percent, or about plus-or-minus 30 minutes. PID, 21 NRC at 792. For the uncontrolled evacuation, the uncertainty in the ETE would be somewhat greater. Note that the analysis does not assume that evacuating motorists perform at a higher level of efficiency (i.e., the roadways service traffic at a higher rate) for a controlled evacuation than for an uncontrolled evacuation. Thus, driver uncertainty and performance is assumed to be equal under both conditions. However,

an uncontrolled evacuation may be accompanied by a somewhat lower compliance with recommended routes. Thus, it is the uncertainty with the level of compliance under an uncontrolled evacuation that would tend to increase the uncertainty in ETE's.

66. Q. How do the Shoreham "uncontrolled" ETE's compare to ETE's for other nuclear pla

A. [Lieberma ismantle] As we indicated in LILCO's testimony in 1984, several othe nuclear plants (Indian Point, for example) have evacuation time estimates longer than Shoreham's. Clearly, evacuation is still a viable option for Indian Point, even with the longer times.

NUREG/CR-1856, "An Analysis of Evacuating Time Estimates Around 52 Nuclear Power Plant Sites," gives additional data:

Plant	General Pop. Evac Time Normal	Page of NUREG/CR-1856	Sectors
1 Beaver Valley	345 min.	B-4	All
2 Calvert Cliffs	546	B-8	SW
3 D.C. Cook	355	B-12	BCDE
4 Dresden	480	B-14	II,V,X
5 Ft. St. Vrain	600	B-19	II,IV,VIII
6 Haddam Neck	477	B-21	A
7 Hatch	600	B-22	A-E, M-P
8 LaSalle	600	B-26	II,V,IX
9 Millstone	576	B-29	NE
10 Oyster Creek	360	B-34	NE
11 Peach Bottom	360	B-36	N
12 Pilgrim Station	440	B-37	NNW-NW
13 Quad Cities	720	B-40	I,VI,X
14 St. Lucie	380	B-43	N-NW
15 Salem	360	B-44	SW
16 Surry	600	B-47	J-M
17 TMI	780	B-48	Dauphin Co.
18 Trojan	359	B-49	NNE-E
19 Turkey Point	365	B-50	WNW-SW
20 Zion	1260	B-54	I,II,IV

Note that, of the above plants, numbers 2, 4, 5, 6, 7, 8, 9, 12, 13, 16, 17, and 20 had times greater than the Shoreham Winter Adverse Uncontrolled

times. Nos. 2, 4, 5, 6, 7, 8, 9, 13, 14, 16, 17, and 20 had times greater than the Shoreham Summer Normal Uncontrolled times with 50 percent compliance.

67. Q. Do you think that NRC regulations require that an emergency plan be able to accomplish "controlled" times under all circumstances?

A. [Behr, Crocker, Weismantle] No, the controlled times are obviously not required in all circumstances.

68. Q. How can you say that?

A. [Behr, Crocker, Lieberman, Weismantle] NUREG-0654 provides the following guidance:

> The overall objective of emergency response plans is to provide dose savings (and in some cases immediate life saving) for a spectrum of accidents that could produce offsite doses in excess of Protective Action Guides (PAGs).

(Emphasis added; footnotes omitted.) The Licensing Board has already ruled that in some fast-breaking accidents traffic guides cannot be fully mobilized in time. PID, 21 NRC at 724. This does not prevent the LILCO Plan from meeting NRC requirements.

Also, the emergency plans for Indian Point present a range of ETE's that indicates that the ETE for an uncontrolled evacuation of the entire EPZ could be as much as five hours longer than for a controlled evacuation.

69. Q. What is it about the Shoreham location that causes the "uncontrolled" times to be so close to the "controlled" times?

A. [Lieberman] The Licensing Board has found that the quantitative results describe the "comparatively low sensitivity of evacuation time to route compliance and traffic control." PID, 21 NRC at 792.

The LERO plan recommends only one traffic management tactic that will result in a significant departure from normal traffic patterns: the one-way flow treatment along a section of Lower Rocky Point and North Country Roads. This treatment was applied to a potentially "critical path" along a low-capacity evacuation route servicing a high-density residential area. The added capacity, while productive, is small relative to the total available capacity of all the evacuation routes.

To be more specific, the added outbound lane contributes an additional 750 vehicles per hour capacity on this route, which is only the western boundary of the EPZ. This explains why this treatment, while justifying the effort, provides a limited reduction in the ETE. The more recent DYNEV runs introduced additional traffic onto the evacuation network in Zone Q. The effect of introducing additional traffic on this route in Zone Q, downstream of this one-way section, serves to discourage some traffic from selecting this route due to the attendant increase in congestion. The result is a reassignment of traffic from Zones F and Q to other westbound routes to the south.

70. Q. What else can you tell us about the road network in the EPZ?

A. [Lieberman] The data we presented in 1984 show that about 30,000 vehicles travel westward out of the EPZ on every ordinary workday, without traffic guides and with relatively little congestion.

71. Q. Are there other locations in this country where traffic control would have a more pronounced effect?

A. [Lieberman] Yes. One example is the Indian Point plant. The current evacuation plan for Indian Point calls for several extensive traffic management tactics:

- The New York State Police (NYSP) and NYS Thruway Authority are assigned the responsibility for restricting access to the Pallisades Interstate Parkway (PIP) in Rockland County so as to permit both southbound and northbound lanes to service southbound evacuating traffic.

- The NYSP must also limit access to the NYS Thruway.

A total of 11 interchanges must be manned concurrently in order to implement the one-way strategy along the PIP. This requires a total of 27 persons directing traffic plus 30 unattended barricades. Additional personnel and barricades are needed on the NYS Thruway. The roles of the NYSP personnel are to guide traffic approaching each interchange onto the southbound entry ramps and onto the northbound exit ramps so that they can travel southbound. In addition, they must orchestrate the crossing of traffic on the northbound lanes of the PIP, over to the southbound lanes, south of the NYS Thruway.

By using the northbound lanes of the PIP for southbound evacuating traffic, an additional capacity of about 3000 vph is added to the outbound roadway system. This benefit is nearly five-fold the increase in outbound capacity provided by the one-way treatment in the Shoreham EPZ. Thus, the sensitivity in ETE's for Rockland County, for controlled versus uncontrolled conditions, is far greater than for the Shoreham EPZ.

72. Q. Under what circumstances would the absence of Traffic Guides preclude evacuation as a viable protective action?

A. [Behr, Crocker, Dreikorn, Weismantle] It would never "preclude" evacuation. An uncontrolled evacuation could always be recommended, as it might have to be in an extremely fast-breaking accident with a release of long duration expected.

73. Q. Under what circumstances would the absence of Traffic Guides change the protective action recommendation from evacuation to sheltering?

A. [Behr, Crocker, Dreikorn, Weismantle] Ordinarily, timely protective action recommendations are made on the basis of plant conditions; in such a case the issue of whether the evacuation would be controlled or uncontrolled plays no part in the decision.

74. Q. What about a wind shift? Might the knowledge that there would be no traffic guides cause you to forego recommending evacuation in the event of a wind shift?

A. [Behr, Crocker, Dreikorn] If a plume were headed toward a certain population but we knew that the wind would shift so that the population would be exposed for only a short time, then it is conceivable that we might choose sheltering over evacuation because of the longer "uncontrolled" evacuation times. But this is an unlikely set of circumstances. The uncertainty in predicting the time of a wind shift is likely to be as great as or greater than the uncertainty in the evacuation time estimates.

75. Q. How are the evacuation time estimates used in the dose projection model?

A. [Behr, Crocker, Dreikorn, Weismantle] The Radiation Health Coordinator is responsible for advising on protective action decisions based on an independent asssessment of conditions at the Shoreham Plant and, "if time permits," an independent development of Protective Action Recommendations based upon dose projections or offsite radiological monitoring survey data. OPIP 3.6.1 § 2.1.

In an extremely fast-breaking emergency, LERO (or any other response organization) would rely on information from the onsite (LILCO) organization. The onsite recommendation would be based on plant conditions and the accident classified as set out in the Emergency Action Levels or

"EAL's." The classification of the accident is solely the responsibility of the onsite organization.

For a General Emergency in which there had not yet been a release, LERO would use Attachment 5 to OPIP 3.6.1 to make a recommendation. Attachment 5 contains "pie charts"; its recommendations depend primarily on plant conditions. Evacuation time estimates play only an indirect part; for example, persons using the chart take other things into consideration such as weather conditions.

If there has been an airborne release but the public has not yet been advised to take protective actions, then a protective action recommendation can be made using OPIP 3.6.1 § 5.1, which relies on the ACCDOC model to calculate expected doses using the HP-85 computer. The expected mode of evacuation (controlled or uncontrolled) is input into the program in accordance with OPIP 3.6.1 § 5.1.13 (page 11 of the procedure).

76. Q. How sensitive is the model's output to whether controlled or uncontrolled time estimates are input?

A. [Crocker, Dreikorn] The differences in time estimates for controlled or uncontrolled evacuations are less important than other immediate concerns, for example, when the release will occur, what magnitude the release will be, how long the release will last, and the effect of weather conditions.

77. Q. Leaving aside whether the lack of traffic control would change your recommendation, isn't it true that (for an evacuation of the entire EPZ), an increase in evacuation time of 35-80 minutes would mean that people might be exposed to a plume for that much longer?

A. [Behr, Crocker, Lieberman, Weismantle] It is <u>possible</u> that some evacuees might be exposed to a plume for an additional 35 or more minutes.

The following factors, however, make this postulated additional risk very small:

1. During the last 35-80 minutes of an evacuation only a small portion of the population is still in the EPZ. See Appendix A to the LERO Plan, App. E.

2. The people in the tail end of the evacuation during the last 35-80 minutes would generally be five miles or more from the plant during that time.

3. The people who are delayed by the absence of traffic control tend to be concentrated in the northwest. The worst-case scenario thus requires the plume to head approximately west southwest.

78. Q. How much of the time does the wind blow in that direction?

A. [Crocker, Driekorn] About four percent of the time.

79. Q. Have you done any calculations to show the sensitivity of population dose to the absence of Traffic Guides?

A. [Dreikorn, Lieberman, Weismantle] Yes. In the exercise proceeding before the Frye Board LILCO presented calculations showing the effect of a 50-minute delay in the mobilization of Traffic Guides in the accident simulated during the February 13, 1986 exercise. The delay had no effect on total population dose. See Attachment O to this testimony.

80. Q. Assuming that the Suffolk County Police were unfamiliar with the LERO Plan but were using their "best efforts" to evacuate people from the EPZ and were "generally following" the LERO Plan, is it likely they would evacuate the EPZ slower than the LERO Plan "controlled" time estimates?

A. [Crocker, Lieberman, Weismantle] No.

81. Q. Assuming that the Suffolk County Police were using their "best efforts" to evacuate people <u>without</u> using the LERO Plan, is it likely they would evacuate the EPZ slower than the "uncontrolled" time estimates?

A. [Lieberman] No. "Best efforts" implies that police officers would apply their skills to routing traffic in directions that are generally outbound relative to Shoreham. It also implies that they will expedite the movement of vehicles through intersections.

It is reasonable to expect that most evacuees will follow the recommended routes. Since these recommended routes are, in general, outbound relative to Shoreham, there is likely to be no conflict between the evacuation routes perceived by the police to be appropriate and those selected by evacuees.

To the extent that some evacuees depart from the recommended routes (i.e., noncompliance), the presence of police personnel may act to encourage evacuees to reconsider their noncompliance decision and to follow the recommended routes. Thus, it can be argued that the mere presence of police officers will foster improved compliance relative to the "uncontrolled" case.

Police also have the skills to redirect traffic along alternate paths if a preferred direction is severely congested. While motorists will perform such route adjustments on their own, the application of the additional skill of a police guide should expedite this process. Such local diversion is explicitly modeled in DYNEV.

Thus, the presence of police personnel, even if they are unfamiliar with the LERO Plan, will likely mitigate the inefficiencies embodied in the "uncontrolled" and "noncompliant" case studies. In conclusion, police would probably serve to produce a more efficient evacuation than modeled, rather than slow the evacuation process relative to the "uncontrolled" scenarios.

Contention 4: Road Obstructions

82. Q. Please state Contention 4 as rewritten by the Board.

A. [Behr, Crocker, Lieberman, Weismantle] Contention 4 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning removing obstructions from public roadways, including the towing of private vehicles.

April 8 Memorandum at 26.

83. Q. How are road obstacles removed in the LERO Plan?

A. [Behr, Crocker, Lieberman, Weismantle] They are removed by LERO Road Crews in accordance with OPIP 3.6.3 (Traffic Control). PID, 21 NRC at 719.

84. Q. How would this portion of the LERO Plan work assuming a "best efforts" State and County response?

A. [Behr, Crocker, Weismantle] The LERO Road Crews would be mobilized and dispatched just as prescribed by the LERO Plan. They would either remove road obstacles with the permission (if necessary) or under the direction of State or County personnel, or the State or County could remove the obstacles themselves, if that were a better way to do it under the circumstances at the time.

85. Q. How would you get permission from the State or County to use the road crews?

A. [Behr, Crocker, Weismantle] We have direct radio communication from the LERO EOC both to the Staging Areas and to the Road Crew trucks. One of three things would happen. First, the County (or State) could give permission to use the LERO Road Crews before or while the Road Crews mobilized at their Staging Areas, in which case the EOC could

communicate the information that the authorities had given permission to the Staging Areas and the Road Crews could be told at the Staging Areas.

Second, if the Road Crews had already been dispatched when permission was granted, this information could be communicated instantly by radio from EOC directly to the trucks.

Third, the County Police could remove the obstructions themselves. Chief Roberts, during his deposition, indicated that the Suffolk County Police Department has 11 tow trucks for use primarily in towing disabled police and other County vehicles, as well as for towing vehicles seized as evidence in police investigations. Roberts deposition, pp. 145-46. For the towing and removal of disabled private vehicles, the County's practice is to use, under a licensing arrangement, commercial towing services. Roberts deposition, pp. 145-46.

Fourth, the New York State Department of Transportation (DOT) has a regional office in Hauppauge, New York. The DOT would have access to road crews also.

86. Q. How much delay in removing road obstructions would result from the participation of the State and County?

A. [Behr, Crocker, Lieberman, Weismantle] None at all. LERO would remove obstacles according to plan, with the approval of the authorities. Since the County has additional resources for removing obstacles, its participation could speed things up, but it could not slow them down.

87. Q. The Intervenors seem to be still arguing that it is illegal for LERO to tow cars in an emergency. What do you think?

A. [Crocker, Weismantle] Suffolk County uses private tow trucks to remove disabled cars ordinarily. Private motorists routinely call private towing

companies to move their disabled cars. We cannot see why similar activities would suddenly become illegal in a radiological emergency.

88. Q. Does LILCO ever remove road impediments in the course of its business?

A. [Crocker, Weismantle] Yes. As the attached Affidavit of Charles A. Daverio shows (page 9), LILCO has in the past been asked by the authorities to tow a stranded vehicle. During his deposition, Chief Roberts confirmed that private entities, such as a utility, can be and have been directed by the police to perform such functions. Roberts deposition, p. 151.

Contention 5: Sirens/EBS

89. Q. Please state Contention 5 as rewritten by the Board.

A. [Behr, Crocker, Weismantle] Contention 5 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning activating sirens and directing the broadcast and contents of emergency broadcast system messages to the public.

April 8 Memorandum at 26.

90. Q. Does the LERO Plan have administrative and physical means for alerting and providing prompt instructions to the public within the plume exposure pathway EPZ?

A. [Behr, Crocker, Weismantle] Yes. The means include sirens and an Emergency Broadcast System (EBS).

91. Q. What did the Voorhees plan say about the sirens?

A. [Weismantle] The Voorhees plan contemplated that the siren system would be used to alert the public. Voorhees plan, page 16.

92. Q. How are the LERO sirens activated?

A. [Behr, Crocker, Weismantle] The sirens can be activated from any of three different locations by LILCO or LERO. Admitted Fact 7. We anticipate that the State or County would ask us to sound the sirens as soon as it became necessary to alert the public.

93. Q. What would the sirens mean to the public?

A. [Behr, Crocker, Weismantle] Under the LERO Plan, the sirens alert people to tune their radios to the EBS. The public is told this in the annual public education brochure and by a variety of other means.

94. Q. What EBS will LERO use?

A. [Behr, Crocker, Weismantle] The LERO EBS at this time includes WPLR of New Haven, Connecticut, as the common point control station (CPCS). The coverage of this EBS is being separately litigated. Within the past few days, however, WPLR has advised us that it will continue as the CPCS only until Shoreham is issued a full-power license. This decision by the station came at a time when the New Haven Board of Aldermen was about to pass a resolution condemning WPLR's participation in the EBS for Shoreham, when a U.S. Congressman was pressuring the station not to participate, and when anti-Shoreham groups were pressuring the station's advertisers.

After Shoreham is issued a full-power license, WPLR is willing to continue as a primary station. WGLI, one of our present primary stations, has agreed to take over as the CPCS.

However, in light of the fact that LILCO has now twice put together an EBS and then had to change it, in the future we will rely in the first instance on the ordinary State EBS, with WCBS of New York City as its

Common Program Control Station-1. The details of the system are given in Admitted Facts 14-27. The present procedure, OPIP 3.8.2 § 5.1.4 (Rev. 9), already addresses the possibility of switching from the WPLR system to the WCBS system once an emergency has begun. Included in the WCBS EBS are WALK and the other radio stations in LILCO's original EBS. Accordingly, there is no question that coverage of the entire EPZ is provided.

Accordingly, in the future, if there is an emergency at Shoreham requiring the activation of an EBS, the LERO Director of Local Response will ask the Suffolk County Executive to activate or endorse activation of the WCBS system. Furthermore, the State Plan makes clear that the State Emergency Management Office can coordinate the issuance of EBS messages if county personnel have difficulty doing so. State Plan at K-8. The Director will then call WCBS directly and ask it to broadcast a message, which he will be prepared to read over the phone directly onto the air. The LERO Director has copies of the prewritten EBS messages in the LERO Plan with him at all times. Sample Message A, a simple warning that an emergency message is to follow (PID, 21 NRC at 757-58), is only three paragraphs long and can be read quickly.

If there is any undue delay in activating the WCBS system, the LERO Director will ask the County Executive to endorse activating the Shoreham local EBS.

Also, as called for under OPIP 3.8.2 § 5.1.4a, the LERO Coordinator of Public Information, when WCBS takes over as CPCS, will call WPLR and ask it to transmit the two-tone attention signal and inform its listeners to tune to WCBS for further emergency information. This step is to be repeated each time a new EBS message is issued in order to activate the tone alert radios.

95. Q. How are EBS messages prepared and broadcast under the LERO Plan?

A. [Behr, Crocker, Weismantle] EBS messages are governed by OPIP 3.8.2 (Emergency Broadcast System Activation).

96. Q. How exactly would EBS messages be written with a County and State "best efforts" response?

A. [Behr, Crocker, Weismantle] Prewritten sample EBS messages in OPIP 3.8.2, modified as necessary, would be used. Final decisions on the EBS messages would be coordinated with the County or State, with the County Executive or the State Chairman of the DPC giving the final approval.

97. Q. How much delay in sounding the sirens would you expect the "best efforts" participation of the County and State to cause?

A. [Behr, Crocker, Weismantle] There would be no delay. We would expect that once a decision had been made to broadcast an EBS message, the sirens would be sounded at the same time as the EBS was activated.

98. Q. How much delay in broadcasting EBS messages would you expect the "best efforts" participation of the State and County to cause?

A. [Behr, Crocker, Weismantle] There would be no delay in broadcasting EBS messages either. Again, once a decision had been made on a protective action, an EBS message would go out immediately afterward to tell the public what they should do. It makes sense that the County and State would want to tell the public right away about any decisions they had made.

99. Q. Does the Plan meet the time requirements in NRC regulations?

A. [Crocker, Weismantle] Yes. The Licensing Board has noted two 15-minute requirements:

> The regulations therefore have two separate 15-minute notification requirements. The first requires the licensee to transmit notice of an emergency at the plant to offsite authorities within 15 minutes after the emergency is recognized. The second requires offsite authorities to make a prompt public notification decision and to have the capability to carry out that decision within 15 minutes of their receipt of a notification of emergency at the plant.

PID, 21 NRC at 708. The Board has also found that, for a utility plan, it is LERO that is the "offsite authorities" for the purposes of the first 15-minute requirement:

> In this unique case, State and local officials are not the offsite authorities who will receive the initial notification from the Shoreham control room, since New York and Suffolk County are not participating in emergency planning. Instead, LILCO plans for that notification to be received at its Customer Service Office in Hicksville, New York. LILCO Plan at 3.3-1 to 3.3-4.

PID, 21 NRC at 708-09. The County Police and County EOC (as well as the State, assuming it has reconnected its RECS phones) are notified by RECS phone at the same time as the Customer Service Office.

The second 15-minute requirement covers the time from when a decision is made until an EBS message is broadcast. The clock starts running when an EBS message is approved (that is, when Suffolk County or the State agrees to broadcast it), and the message is supposed to start going out over the air within 15 minutes after that.

Under the LERO Plan, with the "best efforts" participation of the State and County, (1) decisions would be made with the participation of the County and/or State representatives, (2) an EBS message from the Plan would be prepared with the concurrence of the County and/or State, and (3) the message would be read over the phone to WCBS and broadcast at the same time. It is this third step, reading the message, that must be begun within 15 minutes.

Contention 6: Decisions/PAR's

100. Q. Please state Contention 6 as rewritten by the Board.

A. Contention 6 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning making decisions and official recommendations to the public as to the appropriate actions necessary to protect the public health and safety, including deciding upon protective actions which will be communicated to the public.

April 8 Memorandum at 26.

101. Q. How are protective action recommendations made under the LERO Plan?

A. [Behr, Crocker, Dreikorn, Weismantle] Plume exposure pathway protective action recommendations are made in accordance with OPIP 3.6.1 (Plume Exposure Pathway Protective Action Recommendations).

102. Q. What is the current informed opinion on the best way of making protective action recommendations?

A. [Behr, Crocker, Weismantle] Protective action recommendations (PAR's) should be made on the basis of plant conditions. That is the purpose of having very detailed Emergency Action Levels (EAL's), which allow the onsite organization to classify the accident into one of four levels based on the condition of the plant. The onsite procedures (EPIP 1-4 and 2-3) and Attachment 5 to OPIP 3.6.1 contain "pie charts" giving "predetermined" protective action recommendations for a general emergency.

103. Q. Aren't protective action recommendations also made on the basis of dose projections?

A. [Behr, Crocker, Dreikorn, Weismantle] They can be. However, in most situations PAR's are based on plant conditions using the pie charts of OPIP 3.6.1. Generally this is done before a release to ensure that timely PAR's

can be disseminated to the public. Dose projections are only hypothetical until actual release rates are monitored at the plant stack.

104. Q. What is the essence of making a protective action recommendation?

A. [Behr, Crocker, Dreikorn, Weismantle] There are really only two significant protective actions that might be called for in an emergency: sheltering or evacuation. EPA protective action guides or plant conditions are used to decide whether one or both of these protective actions should be taken. The PAR's chosen are those likely lead to greater dose savings -- that is, to minimize the radiation dose to the public.

105. Q. How do you use dose projections to make protective action recommendations?

A. [Behr, Crocker, Dreikorn, Weismantle] If a release of radioactive material is "in progress or is imminent" (OPIP 3.5.2 § 4.1), the procedures describe how to use the HP-85 computer model to calculate downwind doses. OPIP 3.5.2 § 5.2. The input for the calculation comes from the Shoreham Station on the New York State Radiological Emergency Data Form (OPIP 3.5.2 § 5.2.1). The calculations are performed by the Radiation Health Coordinator for use in making PAR's according to OPIP 3.6.1. OPIP 3.5.2 § 5.2.148.

106. Q. Does Suffolk County have people who are capable of making protective action decisions?

A. [Behr, Crocker, Weismantle] Yes. The County has people who understand the basic principles of radiation health physics. They certainly have people who understand what a "rem" is. And the basic concept -- that of minimizing radiation dose -- is a simple one.

107. Q. Does New York State have people capable of making protective action decisions?

A. [Behr, Crocker, Dreikorn, Weismantle] Yes. New York State has technical experts in this area who are capable of making protective action recommendations for five other nuclear power plants in the state, as well as for the ingestion pathways of those five plants and of several out-of-state plants. The State Plan sets forth the procedures, patterned upon and in compliance with federal regulations, for making Protective Action Recommendations. State personnel are experienced in methods of dose assessment and Protective Action Guides, and interface with DOE/RAP personnel from Brookhaven as provided in the State Plan. See, e.g., State Plan at K-2.

108. Q. Could a well-meaning government official, not trained in the specifics of the Shoreham emergency plan, nevertheless make decisions in accordance with it promptly?

A. [Behr, Crocker, Weismantle] Yes. The reasons are these:

Any executive, such as a County Executive, routinely makes decisions on subjects for which he does not have detailed expertise himself. He does so by relying on judgment, common sense, and his advisors.

This general rule applies in an emergency response. County Executives vary as to how much attention they pay to the details of radiological emergency planning, but it is safe to say that some of them get their only exposure to it infrequently, when the emergency plan is exercised. They rely heavily on their advisors to make protective action recommendations.

In particular, even if Suffolk County were doing emergency planning for Shoreham, it is likely the County would depend heavily on New York State for advice. Certainly the Voorhees plan (page 15) said that under the

State plan, the New York Office of Disaster Preparedness has the "primary responsibility" for accident assessment. It goes on to say that the County's decision on protective actions depends "heavily" on this State assessment.

New York State advisors who know how to make protective action recommendations would certainly be available to help respond to a Shoreham emergency. So would the LILCO onsite advisors.

In addition, the LERO Plan compensates for Suffolk County's lack of preparedness in two ways. First, LERO advisors (including the Radiation Health Coordinator) are prepared to advise the County. Second, the Department of Energy RAP Team can advise unusually quickly because it is only six miles from the plant.

The County Executive would not be "making decisions" in a vacuum. He would be part of the give-and-take that always accompanies the making of protective action decisions. If you postulate a case in which the accident was so fast-breaking that there would be no time for this give-and-take, then you are simply postulating an accident in which the County Executive would have no choice but to accept the onsite recommendation because of lack of better information. This situation could occur at any plant, even if the county and state governments had cooperated in emergency planning.

[Behr] My experience from drills at other nuclear plants is that, if county executives lack knowledge about an accident, they tend to act quickly and order an evacuation in order to be safe.

109. Q. As to the LERO advisors, the Intervenors claim they will never coordinate or cooperate with LILCO. What is your reaction?

A. [Crocker, Weismantle] We have two reactions. First, such statements cannot possibly be true. The statements by the State and County that they would not do certain things (for example, sound the sirens) have as an underlying, unstated assumption that doing those things would not be "best efforts." In every instance discussed in this testimony, that assumption is contrary to fact.

It simply cannot be true that a County Executive would never (for example) sound sirens or order an evacuation. For example, if advised by the utility, DOE, and the NRC that a release would occur in about 34 hours (one possible scenario, based on Shoreham-specific probabilistic risk assessment work), it is simply not credible that the authorities would not recommend evacuation because they have decided evacuation is "impossible."

Second, Suffolk County, by electing not to develop an independent capability to assess an accident at Shoreham, has made itself utterly dependent in the short run on data supplied by LILCO, LERO, and the Department of Energy. The lack of planning by the County has made it more, not less, likely to follow LILCO's and LERO's advice.

110. Q. How does the Department of Energy RAP Team participate in emergency planning decisions?

A. [Behr, Crocker, Dreikorn, Weismantle] The DOE RAP Team collects monitoring data and consults with LERO on the appropriate protective action recommendation. They are prepared to consult with Suffolk County or New York State as well.

Indeed, the State Plan provides for coordination with or use of DOE RAP personnel in certain phases of the emergency response, including the

ingestion pathway phase. Also, in his deposition on April 25, 1988, Frank P. Petrone, Executive Assistant to the Suffolk County Executive, said that if there were an accident at the Brookhaven Laboratory reactor, Suffolk County would work with the Department of Energy. Petrone deposition, p. 51. There is therefore good reason to believe that both the County and the State would work with the DOE RAP Team in a Shoreham emergency. The DOE RAP Team is part of the LERO Plan.

111. Q. How can you be sure the County or State or both will make the correct protective action decision, and make it quickly enough, in an emergency?

A. [Behr, Crocker, Dreikorn, Weismantle] We cannot guarantee that any individual will not make a mistake, or not delay unduly, in deciding what to do. No one can guarantee that for any emergency plan anywhere, no matter how well prepared the state and local authorities are. Nor is such a guarantee required by NRC regulations. We know, however, that New York State is familiar with the need to make timely PAR decisions based on the State Plan, the quality of the State resources, and their experience practicing radiological emergency responses with other nuclear counties.

112. Q. How do you convey the protective action recommendations to the public?

A. [Behr, Crocker, Weismantle] We have prepared prewritten EBS messages. These messages are all designed to convey to the public that the protective action recommendations have been made after consultation with a variety of people. That is exactly what would happen in a real emergency at Shoreham and at virtually any other nuclear facility in this country.

Contention 7: Protective
Actions for Ingestion Pathway

113. Q. Please state Contention 7 as rewritten by the Board.

A. [Behr, Crocker, Dreikorn, Weismantle] Contention 7 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning protective actions for the ingestion exposure pathway.

April 8 Memorandum at 27.

114. Q. How are ingestion pathway protective action decisions made under the LERO Plan?

A. [Behr, Crocker, Dreikorn, Weismantle] Ingestion pathway protective action decisions are made in accordance with OPIP 3.6.6 (Ingestion Pathway Protective Actions).

115. Q. Can you summarize what has to be done to make protective action recommendations for the ingestion exposure pathway?

A. [Behr, Crocker, Dreikorn, Weismantle] Yes, as the name implies, these protective action recommendations have to deal with "ingestion" -- the consumption of food and drink. What is required is that food, water, and dairy products be monitored and analyzed for radioactive contamination. Also, air and soil samples are taken and analyzed for contamination. The public must then be advised what precautions to take -- that is, not eating certain foods or taking precautions such as washing or peeling fruits and vegetables. Providers of food and drink may have to be contacted and prevented from purveying contaminated food and drink.

116. Q. Who would do the monitoring?

A. [Behr, Crocker, Dreikorn, Weismantle] LILCO is prepared to monitor air, soil, food, and drink, using monitoring teams from the onsite facility, as

detailed in OPIP 3.6.6. We would expect that the federal government would help with this task. In particular, OPIP 3.6.6 provides for monitoring to be done by the Department of Energy (DOE) Radiological Assistant Program Teams (RAP Teams) that are located at Brookhaven National Laboratory on Long Island. New York State also relies on DOE RAP Teams to do monitoring for the other operating nuclear facilities in the State. See, e.g., State Plan at K-2. Thus they are intimately familiar with the type of monitoring that would be done in the ingestion exposure pathway under the LERO Plan.

In addition, we would expect the State to monitor, either using the same monitoring points designated by the LERO Plan or additional monitoring points as well. The State plays a major role in monitoring the ingestion pathway and collecting samples for analysis at all other nuclear facilities in the State. State Plan at K-2, K-3, K-6 through K-7. Since most of Shoreham's 50-mile EPZ is also covered by the 50-mile EPZ's for the Indian Point, Millstone, and Haddam Neck nuclear power plants. New York State should be already familiar with the ingestion pathway monitoring needs for those parts of the 50-mile EPZ's for these facilities that cover Long Island. (For a map showing the 50-mile EPZ's for these facilities, see Attachment T to this testimony.) Therefore, the State should be able to do its own monitoring.

117. Q. Once you have monitoring data, how would you decide what to advise the public?

A. [Behr, Crocker, Dreikorn, Weismantle] These decisions are made by a committee under both the LERO Plan, the New York State Plan, and every other radiological response plan for the other nuclear counties in the State.

See OPIP 3.10.1 and the State Plan, Part I, Section IV. LERO's Recovery Action Committee would have representatives from the State, the County, the federal government, and the utility. Protective action decisions would be made by the committee based on the information collected by the LILCO monitoring teams, the DOE RAP monitoring teams, and any information collected by the State's own monitoring teams and the County, if it decided also to collect samples.

118. Q. Do you think the State and Suffolk County could be effective in dealing with the ingestion pathway for Shoreham?

A. [Behr, Crocker, Dreikorn, Weismantle] Yes. One reason is that the 50-mile EPZ's for several other nuclear plants cover almost completely the 50-mile EPZ for Shoreham. See Attachment T to this testimony. Thus these ingestion pathway issues are not new to them. New York State has an ingestion pathway procedure (Procedure K of the State Plan), which was recently tested during the October 1987 Ginna Exercise. State Plan, Procedure K. Initial results of that exercise were favorable. February 10, 1988 Admitted Fact No. 55 (Contentions 7 and 8). Also, much of the information LERO uses to do sampling is based on State lists. The State also has regional offices for many of its Departments that cover Long Island. See State Plan, Part II, Section II.

119. Q. Could the federal government also help?

A. [Behr, Crocker, Dreikorn, Weismantle] Yes. As NUREG-0654 Supp. 1 says, the federal government maintains "in-depth capability to assist licensees, States and local governments through the Federal Radiological Emergency Response Plan." NUREG-0654 Supp. 1, page 7.

The Federal Radiological Emergency Response Plan (FRERP), 50 Fed. Reg. 46,542 (Nov. 8, 1985), makes available the enormous resources of the federal government to help respond to a radiological emergency. This goes beyond radiological monitoring and assessment and includes the resources of FEMA, the NRC, EPA, the Department of Health and Human Services, DOE, the Department of Agriculture, the Department of Defense, the Department of Commerce, and the Department of the Interior. Id. at 46,551 col. 2.

In addition, the State Plan provides a detailed inventory list of equipment that the federal Radiation Assistance Program maintains at the Brookhaven National Laboratory. State Plan, Part II, Section II, pp. 31-37. Since the Brookhaven Lab is on Long Island, it would be convenient for the State to use those resources for a Shoreham emergency.

120. Q. Could Suffolk County help?

A. [Crocker, Weismantle] Suffolk County does have a disaster response plan, including some provisions for civil defense. According to the deposition of Frank P. Petrone, taken by LILCO on April 25, 1988, Suffolk County, in connection with this planning activity, maintains a listing or map identifying food sources in the County (deposition page 27).

Also, the County has a wide variety of other resources at its disposal, as is evident from the Emergency Directory for the Suffolk County Division of Emergency Preparedness. See Attachment U to this testimony.

121. Q. Do you believe that the State and County can make appropriate protective action decisions for the ingestion pathway using "best efforts"?

A. [Behr, Crocker, Dreikorn, Weismantle] Yes, for all the reasons above and because these decisions would be made when there were not time pressures, after everyone was safely out of the evacuated areas.

122. Q. How much delay would you expect in making protective action decisions for the ingestion exposure pathway EPZ?

A. [Behr, Crocker, Weismantle] None at all, for the reasons given above.

Contention 8: Recovery and Reentry

123. Q. Please state Contention 8 as rewritten by the Board.

A. [Behr, Crocker, Dreikorn, Weismantle] Contention 8 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning recovery and reentry.

April 8 Memorandum at 27.

124. Q. How are recovery and reentry handled under the LERO Plan?

A. [Behr, Crocker, Dreikorn, Weismantle] Recovery and reentry are covered by OPIP 3.10.1 (Recovery/Reentry).

125. Q. How would this procedure work assuming a State and County "best efforts" response?

A. [Behr, Crocker, Dreikorn, Weismantle] First, it is important to note that at this stage of the emergency the State, County, LILCO, and LERO would have been working together for some time. As OPIP 3.10.1 indicates, decisions are made by a Recovery Action Committee. This is the same process as is followed in the State Plan and in every radiological emergency plan for the other nuclear plants in the State. The Recovery Action Committee would have representatives from the State, the County, the federal government, and the utility. If there were any problems or disagreements, we would expect to discuss them and make a decision. Obviously the decisions of the governmental authorities would be controlling. But we would expect them to consider all information, and our advice, in order to produce a "best efforts" decision.

126. Q. What dose criteria would the Recovery Action Committee use to make decisions about what recovery and reentry activities to pursue?

A. [Crocker, Dreikorn, Weismantle] The State of New York uses a standard of 500 mrem (projected dose commitment) for recommending that protective actions be lifted. This is the criterion found in 10 C.F.R. § 20.105(a). PID, 21 NRC at 881. It is the same one used in the LERO Plan. OPIP 3.10.1 § 5.3.2.

127. Q. How would you convey the decisions to the public?

A. [Behr, Crocker, Weismantle] Once a decision is made by the committee, the advice to the public can be conveyed using the State EBS (the one using WCBS as the lead station), LERO's EBS, ordinary radio and television, and even newspaper articles and ads. In some circumstances it would be realistic to use newspapers, since there would be no extreme time pressure.

128. Q. What types of activities are involved in the recovery and reentry phase?

A. [Behr, Crocker, Dreikorn, Weismantle] In addition to surveying the affected area, the following activities would take place during the recovery and reentry phase of a radiological emergency:

1. Providing for temporary reentry for those residents who must attend to livestock or for those who would be needed for firefighting.

2. Determining that all utilities are working.

3. Broadcasting the decision to reenter and the precautions, if any, that the public needed to take once back in the evacuated area.

4. Assisting residents in reentering the affected area after the decision to reenter had been made.

5. Providing emergency food to the returning public.

129. Q. What resources would be available during a Shoreham emergency to make sure that these activities are taken care of?

A. [Behr, Crocker, Dreikorn, Weismantle] All of LERO and LILCO would be at the disposal of the State and County to ensure that these activities were fully staffed and ultimately completed. In addition, there are many resources on the State, County, and federal level that could be used. For example, the State Plan relies on the following State and local agencies during the recovery and reentry phase:

1. The State and County Departments of Health
2. State and local police
3. The State Public Service Commission
4. The State Department of Agriculture and Markets
5. The State Department of Environmental Conservation
6. The State Energy Office
7. The State Department of Social Services
8. The State Emergency Management Office

State Plan at IV-1 through IV-5. It appears that many of the above State agencies have regional headquarters that serve both Long Island and the area north of New York City that covers the 10-mile and 50-mile EPZ's for the Indian Point facility. Therefore, many of these agencies are already familiar with the specific roles they would play during a radiological emergency. In addition, the County has a wide variety of agencies and services comparable to the State. See Suffolk County Division of Emergency Preparedness Emergency Directory (Attachment U to this testimony).

130. Q. How much delay can be expected in making decisions and recommendations on recovery and reentry?

A. [Behr, Crocker, Weismantle] None at all, for the reasons given above.

Contention 10: Access Control

131. Q. Please state Contention 10 as rewritten by the Board.

A. [Behr, Crocker, Dreikorn, Weismantle] Contention 10 reads as follows:

> Whether LILCO's emergency plan and the best efforts response of the State and County governments will satisfy regulatory requirements concerning access control at the EPZ perimeter.

April 8 Memorandum at 27.

132. Q. How is access control at the EPZ handled under the LERO Plan?

A. [Behr, Crocker, Lieberman, Weismantle] "Access control" during an evacuation has already been litigated. See PID, 21 NRC at 804-05. As we testified in 1983 and 1984, Traffic Guides are trained to "discourage" people from entering the EPZ, but they will not try to prevent them from entering. This is because people might have a good reason for entering the EPZ during an evacuation, most likely reuniting with their families before evacuating. See PID, 21 NRC at 793.

133. Q. What about long-term access control?

A. [Behr, Crocker, Lieberman, Weismantle] After the EPZ or some portion of it has been evacuated, longer-term access control must be considered. The simplest way would be to simply continue manning the traffic posts around the perimeter of the evacuated area. This would likely be done by Suffolk County Police or State Police. Chief Roberts, during his deposition, indicated that the police already have been trained in controlling access to hazardous or evacuated areas and, if ordered to implement the LERO Plan,

would understand what they had to do. Roberts deposition, p. 101. LERO emergency workers could also be brought back to help. According to the State Plan, the State Department of Transportation and the State Police are also capable of maintaining access control. State Plan at K-7. The National Guard could also help. The federal government could also provide personnel to man traffic posts if no one else was available.

134. Q. Could additional posts be manned if the County wanted?

A. [Behr, Crocker, Lieberman, Weismantle] Yes. There is nothing to prevent the Suffolk County Police from manning additional posts at the perimeter if they want. LERO has maps showing all roads entering the EPZ, and the police have maps too. We would expect that, near the end of the evacuation, the County Director of the Division of Emergency Preparedness, the County Commissioner of DFRES, and the County Police, after consultation with LERO, FEMA, the NRC, and the DOE RAP Team, would decide if additional control points were needed.

[Lieberman] In fact, I have prepared a list of 43 Access Control Posts around the perimeter of the EPZ.

[Crocker, Weismantle] LERO will make this list available to the Suffolk County Police in an emergency and is prepared to offer them advice and assistance in manning the necessary access control posts.

135. Q. Are there other means of controlling access?

A. [Behr, Crocker, Lieberman, Weismantle] Yes. We would expect that the providing of clear information about where the contaminated areas were would discourage people from entering them. Information about the

location of the contaminated areas would be widely available, both through the ordinary news media and by means of the EBS, both the State EBS and the secondary LERO EBS.

136. Q. How much delay would result in achieving access control from the "best efforts" participation of the State and County?

A. [Behr, Crocker, Lieberman, Weismantle] We would expect no delay at all. Once traffic guides were in place during the evacuation, some of those around the perimeter could simply stay in place until they were relieved; others could be moved to additional Access Control Points.

137. Q. What did the Voorhees plan recommend about access control?

A. [Lieberman, Weismantle] The Voorhees plan said (page 98) that check points would be established on all roads into restricted areas. It said that check points would be manned by Suffolk County police with support by local police and New York State Police.

The Voorhees plan also said (page 35) that the New York National Guard would provide security (that is, assisting in maintaining law enforcement in evacuated areas of the EPZ) and that the New York State Highway Patrol would help provide perimeter control (operating road blocks at the perimeter of the evacuated area).

III. CONCLUSION

138. Q. Given all this, do you think that the LERO Plan is capable of achieving dose reductions in the event of an accident that are "generally comparable to what might be accomplished with government cooperation"? CLI-86-13, 24 NRC 22, 30 (1986).

A. [Behr, Crocker, Dreikorn, Weismantle] Yes, for all the reasons stated above.

139. Q. Does the LERO Plan comply with the applicable NRC requirements?

A. [Behr, Crocker, Weismantle] Yes.

140. Q. Does that conclude your testimony?

A. [Behr, Crocker, Dreikorn, Lieberman, Weismantle] Yes.

CERTIFICATE OF SERVICE

In the Matter of
LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station, Unit 1)
Docket No. 50-322-OL-3

I hereby certify that copies of TESTIMONY OF DENNIS M. BEHR, DOUGLAS M. CROCKER, DIANE P. DREIKORN, EDWARD B. LIEBERMAN, AND JOHN A. WEISMANTLE ON THE "BEST EFFORTS" CONTENTIONS EP 1-2, 4-8, AND 10 were served this date upon the following by Federal Express as indicated by one asterisks, or by first-class mail, postage prepaid.

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DATED: May 6, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	(Best Efforts Issue)
	)	

ATTACHMENTS FOR TESTIMONY OF DENNIS M. BEHR, DOUGLAS M. CROCKER, DIANE P. DREIKORN, EDWARD B. LIEBERMAN, AND JOHN A. WEISMANTLE ON THE "BEST EFFORTS" CONTENTIONS EP 1-2, 4-8, AND 10

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707 East Main Street
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May 6, 1988

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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In the Matter of	)	
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	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	(Best Efforts Issue)
	)	

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May 6, 1988

ATTACHMENTS FOR LILCO'S TESTIMONY ON THE "BEST EFFORTS" CONTENTIONS EP 1-2, 4-8, AND 10

A. Resume of Dennis M. Behr

B. Resume of Douglas M. Crocker

C. Resume of Diane P. Dreikorn

D. Resume of Edward B. Lieberman

E. Resume of John A. Weismantle

F. Letter, SNRC-1420 (Jan. 22, 1988) with attachments

G. Organizational Matrix with Governmental Interface, the LERO Plan, Figure 2.1.2

H. Suffolk County Interface Procedure, OPIP 3.1.1, Attachment 10

I. Participation of Suffolk County Police Department During a Radiological Emergency, OPIP 3.6.3, Attachment 15

J. Affidavit of Douglas M. Crocker

K. Affidavit of Charles A. Daverio

L. Affidavit of James W. Devlin

M. Affidavit of Jay Richard Kessler

N. Affidavit of John D. Leonard, Jr.

O. Affidavit of Edward B. Lieberman

P. Sample Diagram for Traffic Guides, Traffic Control Post #38

Q. Calculation of Effect of Delay in the Mobilization of Traffic Guides on Total Man-Rem Received by EPZ Population

R. Excerpts from the Deposition of Assistant Chief Inspector Roberts

S. EPIP 1-5, Notifications, the Onsite Plan

T. Map of 50-mile EPZ's Impacting on New York State

U. Emergency Directory of the Suffolk County Division of Emergency Preparedness

V. Map of Traffic Control Points for the Shoreham EPZ (provided separately)

ATTACHMENT A

PROFESSIONAL QUALIFICATIONS

DENNIS M. BEHR

Vice President - Secretary

THE BEHR CONSULTING GROUP, INC.

My name is Dennis M. Behr. My business address is The Behr Consulting Group, Inc., 366 Veteran Highway, Commack, NY 11725. I am the Vice President - Secretary of the Behr Consulting Group.

I received my Bachelor of Science degree in Nuclear Engineering from the State University of New York, Maritime College in 1973. While at the State University of New York, Maritime College, I earned a United States Coast Guard license as a Third Assistant Engineer for Steam or Motor Vehicles, Unlimited Horsepower.

From 1974 to 1980, I worked with a major architectural engineering firm and an engineering analysis consulting firm as a rotating equipment engineer, performing Applications Engineering, Start-up Engineering and Vibration Analysis for both stationary and shipboard rotating equipment. My responsibilities included specification development, bid analysis, factory and field performance test surveillance, troubleshooting and nondestructive testing, and predictive maintenance program development.

During my employment with Stone and Webster Engineering Corporation, I spent approximately one year representing the concerns of a major foreign oil company in this country. This involved extensive travel within the continental United States and Canada to witness acceptance testing of major plant equipment prior to shipment.

Prior to establishing The Behr Consulting Group, Inc., I worked for Impell Corporation, one of the country's largest engineering services corporations, from April 1980 through March 1986. During this time, I progressed from the level of Senior Engineer to Manager of the Emergency Preparedness Section and was responsible for coordinating the efforts of personnel on both small and large projects. My

responsibilities included the development of technical materials, supervision of project personnel and maintenance of quality, schedules and budgets.

I managed several major projects while I was with Impell. I managed On-site and Off-site emergency preparedness support for the Shoreham Nuclear Power Station. This included such tasks as program appraisal, hearing support, plan and procedure development, development and implementation of a video assisted training program and a drill and exercise program including the federally graded exercise on February 13, 1986. I was also involved in federal agency interface activities and in the negotiation of exercise objectives with the Federal Emergency Management Agency (FEMA), during preparations for the February 13 graded exercise.

I also managed the Off-site Emergency Preparedness Program development for the Indian Point and Nine Mile Point Nuclear Power Plant sites. This involved the coordination of the efforts of five counties, the State of New York, three utility companies and two contractors to develop and produce plans and procedures for the five counties surrounding these two sites and the State of New York. This task also included making presentations to local elected officials, the public, local law enforcement, and other emergency services agencies. It also involved the preparation of detailed technical responses to intervenor group questions and the development and conduct of the first Radiological Emergency Preparedness training program to NUREG-0654 standards in the State of New York. Lastly, this development included the preparation of Oswego County for the first federally graded exercise conducted in the State of New York.

In the capacity of Section Manager, I was not only responsible for the Management of all Emergency Preparedness projects but also for all business planning, recruiting and marketing involving emergency preparedness services. Clients for which I managed such projects include: Long Island Lighting Company, Niagara Mohawk Power Corporation, Consolidated Edison Company of New York, New York Power Authority,

General Public Utilities Nuclear Corporation, Toledo Edison Company, Public Service Electric Gas Company, and Rochester Gas and Electric Company.

Typical responsibilities on smaller projects included: training, drill, and exercise preparation, exercise observation and control, negotiation of exercise objectives with FEMA for various graded exercises, program reviews and critiques, emergency response facility evaluations, and emergency resource (equipment) inventory evaluations.

I have been a principal of The Behr Consulting Group, Inc. since April 1986. During the past two years, I have managed or participated in emergency preparedness efforts, including: off-site training, a liquified natural gas emergency plan development effort, the rewrite of an electric distribution system storm restoration program involving both the operations and communications aspects of service restoration, an on-site drill exercise program and off-site planning support for LILCO, and litigation support in the Shoreham Nuclear Power Station licensing proceeding as a witness on training and Scope of Exercise issues.

In addition, my professional qualifications include a presentation I gave in June 1981 to the ANS Spring Conference. It is entitled "An Approach to County Radiological Emergency Response Program Planning."

ATTACHMENT B

DOUGLAS M. CROCKER

MANAGER, NUCLEAR EMERGENCY PREPAREDNESS DIVISION
NUCLEAR OPERATIONS SUPPORT DEPARTMENT
LONG ISLAND LIGHTING COMPANY

EDUCATION

Stevens Institute of Technology - B.E. with Honor in Mechanical Engineering, 1972

State University of New York at Stony Brook - M.S. in Marine Environmental Science, 1978

Stone & Webster Radiological Safety Course

Medical Aspects of Radiological Emergencies Course, New York Academy of Medicine, 1983

Harvard School of Public Health, "Planning for Nuclear Emergencies," 1985

Harvard School of Public Health, "Advanced Planning for Nuclear Emergencies," 1986

EXPERIENCE SUMMARY

During the period May 1980 to the present, Mr. Crocker was generally responsible for preparing emergency plans, procedures, training programs, exercise scenarios, and other emergency planning activities. He was actively involved in ASLB licensing hearings on emergency planning. He has participated in many practice exercises and has observed many emergency plan exercises.

Mr. Crocker is presently Nuclear Emergency Preparedness Manager responsible for the SNPS Onsite and Offsite (LERO) Emergency Preparedness Programs. This consists of developing and maintaining facilities, plans, procedures, training, and drill programs to satisfy NRC and FEMA requirements in support of the SNPS licensing effort. He directs a staff of 45 LILCO and consultant personnel.

From May 1986 to December 1987, Mr. Crocker served as Supervisor - Offsite Emergency Preparedness in addition to his duties as Manager of Nuclear Emergency Preparedness.

During the period March 1985 to June 1986, Mr. Crocker was Onsite Emergency Preparedness Supervisor responsible for all onsite planning activities including the onsite portion of the 1986 NRC observed exercise.

From September 1982 to February 1985 Mr. Crocker was Project Engineer responsible for all Stone & Webster Engineering Corp. - N.Y. emergency planning projects. In this capacity, he directed a staff of forty-five engineers and planners in the execution of up to five simultaneous projects for utility clients.

Mr. Crocker joined Stone & Webster Engineering Corporation (SWEC) in May 1976 as an Engineer in the Environmental Engineering Division. Working in the Environmental Impact Analysis Group, his activities included the mathematical modeling of cooling tower visible

plumes, coastal storm surge, and wave effects on shoreline intake structures. He has also had experience with the modeling of thermal discharges from power plants and with the collection and analysis of hydrothermal data. His past assignments include circulating water system performance tests at Shoreham Nuclear Power Station and the preparation of industrial energy survey reports for the petroleum refining and olefins industry. At Shoreham, Mr. Crocker was responsible for the collection and analysis of hydraulic transient data.

Prior to joining SWEC, Mr. Crocker worked as a Research Assistant at the Marine Science Research Center at the State University of New York at Stony Brook, collecting and analyzing oceanographic data during his graduate study from 1974 to 1976.

From 1972 to 1973, Mr. Crocker worked as an Estimator for L. K. Comstock and Co., Inc., preparing bids for electrical construction projects.

PUBLICATIONS

"Radiological Protection Issues Associated with the Establishment and Operation of Public Evacuee Reception Centers on Long Island," D. M. Crocker, D. P. Dreikorn, and R. J. Watts, to be presented at the Health Physics Society Annual Meeting, Boston, Mass., July, 1988.

"Development and Verification of a Synthetic Northeaster Model in Application to Coastal Flooding," Y. J. Tsai, D. M. Crocker, T. J. Burda, and F. K. Chou, Proceedings of National Symposium on Urban Storm Water Management in Coastal Areas, 1980.

"Intake Screenwall Surging Caused by Wave Dynamics," Y. J. Tsai, Y. C. Chang, and D. M. Crocker, Hydraulics in the Coastal Zone, 1979.

"EN-129: Cooling Tower Visible Plume Model - User's Manual," Y. J. Tsai and D. M. Crocker, Stone & Webster Engineering Corp., April 1977.

"EM-128 - Intake Surge Model - User's Manual," D. M. Crocker and Y. C. Chang, Stone & Webster Engineering Corp., August 1977.

AWARDS

Stone & Webster Engineering Corporation's "Ten Best Papers Award," 1980.

DETAILED EXPERIENCE RECORD
DOUGLAS M. CROCKER

LONG ISLAND LIGHTING COMPANY, SHOREHAM NUCLEAR POWER STATION (May 1984 to present)

Manager, Nuclear Emergency Preparedness Division (July 1986 to present)

Mr. Crocker is responsible for all Nuclear Emergency Preparedness activities for the Shoreham Nuclear Power Station. He oversees the onsite and offsite (LERO) emergency preparedness programs to ensure a satisfactory level of preparedness. He is responsible for plans, procedures, drills, training, exercises and facilities for the 3600 member emergency response organization. In this effort, he directs a staff of 45 LILCO and consultant personnel. Additional duties include providing technical support and testimony in ASLB licensing hearings, coordinating with legal support organizations, and coordinating exercise activities with NRC and FEMA. During the period July 1986 to December 1987, Mr. Crocker also served as Acting Offsite Emergency Preparedness Supervisor.

Offsite Emergency Preparedness Supervisor (May 1986 to July 1986)

Mr. Crocker was responsible for the development and maintenance of the Local Emergency Response Organization (LERO). He was responsible for the LERO plan and procedures, training, drills, and facility maintenance. He supervised a staff of twelve LILCO and consultant personnel. Additional duties included support of ASLB licensing hearings on emergency preparedness issues and the resolution of FEMA plan and exercise comments.

Onsite Emergency Preparedness Supervisor (March 1985 to May 1986)

Mr. Crocker was responsible for the Onsite Emergency Preparedness Program. He directed the preparation and maintenance of: (1) SNPS Emergency Plan and Procedures, (2) Emergency Response facilities, (3) Emergency Preparedness Training Program, and (4) Emergency Preparedness Drill Program. He was responsible for preparations for the successful onsite portions of the first NRC observed exercise. He directed a staff of ten LILCO and consultant personnel in this effort.

Onsite Emergency Preparedness Coordinator (acting) (May 1984 to February 1985)

Mr. Crocker came to SNPS as a Stone & Webster employee in May 1984 to serve as an interim replacement for the departing LILCO coordinator. He was responsible for the onsite emergency preparedness preparations for the first NRC observed exercise. Mr. Crocker left Stone & Webster to work for LILCO in the same capacity.

STONE & WEBSTER ENGINEERING CORPORATION, NEW YORK, N.Y. (May 1976 to February 1985)

Appointments:
Project Engineer - 1982
Environmental Engineer - 1982
Engineer - Environmental - May 1976

Emergency Planning, SWEC-NY (September 1982 to February 1985)

Mr. Crocker was PROJECT ENGINEER, responsible for all emergency planning work in SWEC-NY, supervising a group of approximately forty-five planners.

Long Island Lighting Company (September 1982 to February 1985)

Mr. Crocker was PROJECT ENGINEER, coordinating planning support services by SWEC personnel at LILCO headquarters and the Shoreham site.

Public Service Company of Indiana (September 1982 to January 1984)

Mr. Crocker was PROJECT ENGINEER for emergency planning for the Kentucky portions of the Marble Hill NGS emergency planning zone. He was responsible for the preparation of state and county plans, procedures and training.

State of Delaware (September 1982 to November 1983)

Mr. Crocker was PROJECT ENGINEER, directing emergency plan, procedure, and training program development for the Delaware Department of Emergency Planning and Operations.

Cincinnati Gas & Electric Company (May 1980 to January 1984)

Mr. Crocker was PROJECT ENGINEER for emergency planning for the Wm. H. Zimmer Nuclear Power Station in Moscow, Ohio. He was responsible for all offsite emergency plans, procedures, and training, and provided licensing support to CG&E during its ASLB hearings.

Brookhaven National Laboratory (March 1980 to April 1980)

Mr. Crocker was assigned to a feasibility study of alternative fuel uses in industrial boilers and furnaces.

Long Island Lighting Company (November 1979 to February 1980)

Mr. Crocker was assigned to the pressure and performance testing of the cooling water circulating system at the Shoreham Nuclear Power Station, where he was responsible for data collection and analysis.

U.S. Department of Housing and Urban Development, Federal Flood Insurance Administration (FIA) (March 1978 to December 1978)

Mr. Crocker conducted Flood Innsurance Studies for nine coastal communities in Maine. He was PRINCIPAL COASTAL INVESTIGATOR, responsible for the development of a synthetic northeaster storm model and for the analysis of coastal flood elevations.

U.S. Department of Housing and Urban Development, Federal Flood Insurance Administration (FIA) (June 1977 to March 1978)

Mr. Crocker was SUPPORT COASTAL ENGINEER for the Maine flood study. He was assigned to northeaster computer model development.

National Oil Company, Libya (May 1977 to June 1977)

He was responsible for a wave and surge study for intake design. Mr. Crocker determined design parameters of an intake structure located on the Mediterranean Sea.

Indiana Power & Light Company (March 1977 to July 1977)

Mr. Crocker analyzed the hydrothermal characteristics of a cooling tower blowdown discharge into the Ohio River.

Millstone Unit No. 3, Northeast Utilities (May 1977)

Mr. Crocker conducted a hurricane surge and wave study for the design of a cooling water intake structure.

Long Island Lighting Company (January 1977 to April 1977)

Mr. Crocker participated in hurricane surge and wave analysis. He developed a computer model of intake screenwell surging in response to storm waves. He also calculated storm surge elevations caused by a modified probable maximum hurricane.

Koshkonong Units 1 and 2, Wisconsin Electric Power (January 1977 to March 1977)

He analyzed hydrothermal characteristics of a cooling tower blowdown discharge into the Rock River.

Mystic Station Unit No. 7, Boston Edison Company (August 1976 to January 1977)

Mr. Crocker conducted a hydrothermal field survey and data analysis. He was responsible for a temperature and dye field survey and subsequent analysis to determine the hydrothermal characteristics of a fossil power plant once through cooling system discharge and its effects on circulation in the Mystic River Estuary.

Jamesport Units 1 and 2, Long Island Lighting Company (July 1976 to August 1986)

Mr. Crocker conducted an analysis of wave forces in the interior of the cooling water intake structure.

Montague Units 1 and 2, Northeast Utilities (May 1976 to July 1976)

Mr. Crocker was responsible for the modification and verification of a cooling tower visible plume model. He incorporated upper air sounding data into the analysis of plumes.

State University of New York at Stony Brook (1975 to 1976)

As a RESEARCH ASSISTANT, Mr. Crocker developed computer models of tidal circulation in New York Harbor and the Peconic Estuary.

ATTACHMENT C

DIANE PALLAS DREIKORN
70 Eaton's Neck Road
Northport, New York 11768
Telephone: 516/754-4162

EDUCATION:

Rochester Institute of Technology, Rochester, New York
Major: Physics (Nuclear Medicine)
Degree: Bachelor of Science Cum Laude, June 1976

State University of New York, Agricultural and Technical College
Alfred, New York
Major: Medical Lab Technology
Degree: Applied Associate of Science, June 1974

ADDITIONAL TRAINING:

Health Physics & Radiation Protection - 5 Weeks - (February March 1985 - Oak Ridge Associated Universities, Oak Ridge, TN

Advanced Health Physics Topics (November 1984) - Oak Ridge Associated Universities, Oak Ridge, TN

Biological Effects of Ionizing Radiation (October 1985) - Harvard School of Public Health, Boston, MA

Teletherapy Calibration (June 1984) - M.D. Anderson Hospital, Houston, TX

Inspection Procedures (July 1982) - U.S. Nuclear Regulatory Commission

Medical Accelerator Course (April 1982) - New York State Health Department

Radiation Accident Assessment (November 1981) - Federal Emergency Management Agency

Licensing of Radioactive Material (September 1981) - U.S. Nuclear Regulatory Commission

Medical Use of Radioisotopes (May 1981) - U.S. Nuclear Regulatory Commission

WORK EXPERIENCE:

2/87 to present — Long Island Lighting Company
175 E. Old Country Road
Hicksville, New York 11801

Supervisor, Offsite Plans and Facilities (12/87 - present)

Duties: Supervise staff of approximately fifteen personnel in two functional groups to ensure maintenance of facilities and equipment to minimize equipment-related problems during drills and a FEMA-evaluated exercise, and maintenance of offsite emergency plans/procedures to satisfy FEMA and NRC requirements, maintain qualifications as a LERO Radiation Health Coordinator, provide litigation technical support, and function as company liaison on radiological issues to governmental agencies and medical facilities.

Senior Emergency Planner (2/87-12/87)
Duties: Assist in the development and maintenance of the onsite and offsite emergency preparedness program for the Shoreham Nuclear Power Station to ensure compliance with 10 CFR 50, NUREG-0396, NUREG-0654 and FEMA Guidance Memoranda, present emergency plan training on health physics related topics to members of the onsite and offsite emergency organization, act as company liaison with offsite medical facilities to secure letters of agreement and provide training for handling injured/contaminated members of the general public, serve in the capacity of Radiological Health Coordinator in the offsite emergency organization, performing dose projections and protective action recommendations, provide litigation support on radiological issues, and serve as an observer/controller for drills/exercises of the emergency plan and procedures.

10/85-2/87 Impell Corporation/Radiological Services
225 Broad Hollow Road
Melville, New York 11747

Senior Engineer
Duties: Provide consulting services to the nuclear power industry, conduct training sessions in radiological emergency preparedness for onsite and offsite organizations, perform audits of nuclear power electric generating plant radioactive material package and transport procedures and radioactive waste handling to determine compliance with 10 CFR and 49 CFR, and perform audits of onsite and offsite emergency preparedness procedures to determine compliance with NUREG-0654.

2/81-10/85 New York State Health Department
Bureau of Environmental Radiation Protection
Albany, New York 12237

Principal Radiological Health Specialist (10/84-10/85)
Duties: Responsible for the administration of the U.S. Nuclear Regulatory Commission (NRC)/ New York State Department of Health (NYSDOH) Agreement Program for licensing and compliance of radioactive materials use in medical and academic facilities, maintain compatibility between NRC regulations and NYSDOH Sanitary Code, coordinate response to radiological

emergencies and incident investigations through five regional offices, and provide technical support for emergency exercises involving nuclear power reactors.

Associate Radiological Health Specialist (4/83-9/84)
Duties: Reviewed and approved radioactive material license applications and amendment requests for limited and broad-scope programs, reviewed Investigational New Drug research protocols for completeness and coordinated review by Department's Radiological Health Advisory Committee members, reviewed proposed changes to NRC regulations and recommended Department reaction, proposed changes to NYSDOH Sanitary code to maintain compatibility with NRC regulations, provided assistance to regional personnel for inspection of complex licenses.

Senior Radiological Health Specialist (2/81-4/83)
Duties: Reviewed and recommended for approval radioactive materials license applications and amendments for medical and academic facilities with limited-scope programs, reviewed research protocols for Investigational New Drug usage for completeness, conducted inspections of limited-scope programs to assure compliance with NYSDOH Sanitary Code.

3/80-5/80 New York State Education Department
Bureau of Health Occupations Education
Albany, New York 12230

Consultant - Designed curriculum guidelines for a nuclear medicine apprenticeship program.

9/77-2/81 Nuclear Medicine Technologist

Various Medical Centers in New York State.

PROFESSIONAL AFFILIATIONS:

American Nuclear Society
Long Island Chapter

Health Physics Society
Northeastern New York Chapter

American Association of Physicists in Medicine
Upstate New York Chapter

ATTACHMENT D

PROFESSIONAL QUALIFICATIONS

EDWARD LIEBERMAN
President
KLD ASSOCIATES, LTD.

My name is Edward Lieberman and my business address is KLD Associates, Inc. 300 Broadway, Huntington Station, New York 11746. I am presently President of KLD Associates, Inc.

I received the Bachelor of Science degrees in Civil Engineering in 1951 from Polytechnic Institute of Brooklyn. I was granted the Master of Science degrees in Civil Engineering in 1954 from Columbia University and in Aero Engineering in 1967 from Polytechnic Institute of Brooklyn. I am currently working on a Doctorate degree in Transportation Planning at Polytechnic University. I am a member of Chi Epsilon Honorary Fraternity.

With over 30 years of professional experience, I have managed numerous major projects. I pioneered the development and application of traffic simulation models, making major innovations in the state-of-the-art in the Traffic Engineering profession. I have also been responsible for many engineering studies involving data collection, analysis, and design of traffic control systems to expedite traffic flow and relieve congestion.

I have developed simulation models to study traffic performance on urban networks, freeways, freeway corridors, and two-way rural roads. These programs include consideration of pedestrians' interacting with vehicular traffic, truck and bus operations, special turning lanes, and vehicle fuel consumption and emissions; both pretimed and actuated traffic signal controls are represented.

I was responsible to a large extent for the theoretical development of DYNEV, a Dynamic Network Evacuation model. The DYNEV model consists of two major

components: an equilibrium traffic assignment model and a macroscopic dynamic traffic simulation model designed for all types of roadway facilities (urban streets, freeways, rural roads).

DYNEV is designed to be used as a tool to assist in the development and organization of evacuation plans needed as part of general disaster preparedness planning, and for calculating evacuation routes and estimated evacuation travel time. DYNEV was used to analyze an existing evacuation scenario at the Con Edison Indian Point Nuclear Power Station and was used to develop an extensive evacuation plan for the LILCO Shoreham Nuclear Power Station on Long Island, New York.

Under contract with the Federal Emergency Management Agency (FEMA), I managed a project which extended and enhanced the DYNEV model, leading to the development of IDYNEV, which is a major model component of FEMA's Integrated Emergency Management Information System (IEMIS). The IDYNEV model has been extended to accommodate regional evacuation studies for hurricanes and other large scale emergencies. It is currently being extended to incorporate an integrated trip distribution and assignment model which will increase effectiveness and ease of use. This extension includes a new formulation and software which I developed.

In developing the evacuation plan for LILCO's Shoreham Nuclear Power Station, my activities included definition of evacuation scenarios, definition of the evacuation network, development of traffic control treatments and of traffic routing patterns, analysis of trip tables, analysis of simulation results, evaluation of evacuation strategies and the preparation of formal documentation. This effort included the development of evacuation time estimates (ETEs) for special facilities. Recently, the methodology was extended to include the calculation of ETEs for hosptials.

I was also responsible for the designs of the NETSIM microscopic urban traffic simulation model (formerly UTCS-1) and of the SCOT freeway traffic simulation model. The NETSIM microscopic traffic simulation model, developed for the Federal Highway Administration, enables agencies to evaluate traffic operations in urban environments. The SCOT model was developed for the Transportation Systems Center of the Department of Transportation. This program includes a dynamic traffic assignment algorithm which routes traffic over a network in response to changing traffic flow characteristics to satisfy a specified origin-destination table. In addition, I have developed advanced traffic control policies for urban traffic for the FHWA-sponsored UTCS Project, as well as a bus preemption policy to enhance the performance of mass transit operations within urban environs.

I designed and programmed the advanced "Third generation" area-wide, cycle-free control policies for moderate and congested traffic flow for computer-monitored real-time systems. I also developed a cycle-based, off-line computational procedure named SIGOP-II to optimize traffic signal timing patterns to minimize system "disutility."

I led a group of traffic engineers and systems analysts in developing a system of macroscopic traffic simulation models designed to evaluate Transportation Systems Management (TSM) strategies. This software system, named TRAFLO, consists of three macroscopic traffic simulation models named NEJFLO I, II, III, and includes an equilibrium traffic assignment model named TRAFFIC and a queue-theoretic intersection capacity model. This model has been distributed to other agencies including FEMA.

I designed an "Integrated Traffic Simulation System," named TRAF, which incorporates the best traffic simulation models available. Using structured programming techniques, TRAF integrates: NETSIM and TRAFLO.

I served as Principal Investigator on NCHRP Project 3-20 entitled, "Traffic Signal Warrants." This project involved both field data collection and the application of the NETSIM model to study intersection delay as a function of traffic volume, type of control, and geometrics. In turn, I developed and documented new signal warrants, some of which will be incorporated in the next version of the Manual on Uniform Traffic Control Devices (MUTCD).

Under NHTSA sponsorship, I directed a research study to evaluate a Driver Vehicle Evaluation Model named DRIVEM. This model simulates the response of motorists to hazardous events. The effort included analysis of the model formulation and software and sensitivity testing. A workshop was designed, organized, scheduled, and conducted by myself and other KLD professionals; experts from all over the U.S. were invited to recommend specific NHTSA reseach activities for the further development of the model. A recommended research program constituted the major output of the contract.

I supervised several studies performed by KLD in connection with developing evacuation plans and ETEs for other nuclear power stations including GINNA, Davis Besse, Pilgrim, and Seabrook.

I am currently Principal Investigator on two projects: (1) to explore the feasibility of applying Artificial Intelligence (AI) to address the problems of congested corridors for FHWA and (2) to develop traffic control strategies for oversaturated networks for NCHRP.

Over the years I have been involved in a number of other studies to evaluate traffic operations on large-scale road networks, using one or more of the models described above.

Prior to 1968 I applied my skills to the areas of stress analysis, vibrations, fluid dynamics, and numerical analysis of the differential equations. These analyses were programmed for the IBM 7090 and System 360, CDC 6600 and 7600, G.E. 625 and UNIVAC 1108 digital computers in assembly language, FORTRAN and PLI. I also designed the logic and real-time programming for a sonar simulator built for the Department of Navy and monitored by a PDP-8 process-control digital computer.

I am a member of the American Society of Civil Engineers, the Institute of Transportation Engineers, the Association of Computing Machinery and the Transportation Research Board (TRB). I am also a member of the Traffic Flow Theory and Characteristics Committee of the TRB. I am a licensed Professional Engineer in New York, Maryland, and Florida.

The following list comprises selected publications of my studies and findings:

"DYNET - A Dynamic Network Simulation of Urban Traffic Flow," Proceedings,Third Annual Simulation Symposium, 1970.

"Simulation of Traffic Flow at Signalized Intersections: The SURF System," Proceedings, 1970 Summer Computer Simulation Conference, 1970.

"Dynamic Analysis of Freeway Corridor Traffic," ASME paper, Trans. 70-42.

"Simulation of Corridor Traffic: The SCOT Model," "Highway Research Record No. 409, 1972.

"Logical Design and Demonstration of UTCS-1 Network Simulation Model," Highway Research Record No. 409, 1972 (with R.D. Worrall and J.M. Bruggerman).

"Variable Cycle Signal Timing Program: Volumes 1-4," Final Report of Contract DOT-FH-11-7924, June, 1974.

"Traffic Signal Warrants," KLD TR-51, Final Report on NCHRP Project 3-20/1, December 1976 (with G.F. King and R. Goldblatt).

"Rapid Signal Transition Algorithm," Transportation Research Record No. 509, 1974 (with D. Wicks).

"Subnetwork Structuring and Interfacing for UTCS Project-Program of Simulation Studies," KLD TR-5, January, 1972.

"Development of a Bus Signal Preemption Policy and a System Analysis of Bus Operations," KLD TR-11, April, 1973.

"SIGOP-II - Program to Calculate Optimal, Cycle-Based Traffic Signal Timing Patterns, Volumes 1 and 2," Final Report, Contract DOT-FH-11-7924, KLD TR-29 and TR-30, December 1974. Summary report in Transportation Research Record 596, 1976 (with J. Woo).

"Developing a Predictor for Highly Responsive System-Based Control," Transportation Research Record 596, 1976 (with W. McShane and R. Goldblatt).

"A New Approach for Specifying Delay-Based Traffic Signal Warrants," Transportation Research Special Report 153 - Better Use of Existing Transportation Facilities, 1976.

"Network Flow Simulation for Urban Traffic Control Systems," Vols. 1-5, PB230-760, PB230-761, PB230-762, PB230-763, PB230-764, 1974 (with R. Worrall). Vols. 2-4 updated 1977, KLD TR-60, TR-61, TR-62 (with D. Wicks and J. Woo).

"Extension of the UTCS-1 Traffic Simulation Program to Incorporate Computation of Vehicular Fuel Consumption and Emissions," KLD TR-63, 1976 (with N. Rosenfield).

"Analysis and Comparison of the UTCS Second and Third-Generation Predictor Models," KLD TR-35, 1975.

"Urban Traffic Control System (UTCS) Third Generation Control (3-GC) Policy," Vol. 1, 1976 (with A. Liff).

"Design of TRAFIC Operating System (TOS), KLD TR-57, 1977.

"Revisions to the UTCS-1 Traffic Simulation Model to Enhance Operational Efficiency," KLD TR-59, 1977 (with A. Wu).

"The Role of Capacity in Computer Traffic Control," in Research Directions in Computer Control of Urban Traffic Systems, ASCE, 1979.

"Traffic Simulation: Past, Present and Potential," in Hamburger, W.S. and Steinman, L., eds., Proceedings of the International Symposium of Traffic Control Systems. University of California, Berkeley, 1979.

"TRAFLO: A New Tool to Evaluate Transportation System Management Strategies," presented at the 59th Annual Meeting of the Transportation Research Board, 1980 (with B. Andrews).

"Determination of the Lateral Deployment of Traffic on an Approach to an Intersection," presented at the 59th Annual Meeting of the Transportation Research Board, 1980.

"Service Rates of Mixed Traffic on the Left-Most Lane of an Approach," presented at the 59th Annual Meeting of the Transportation Research Board, 1980 (with W.R. McShane).

"Development of a TRANSYT-Based Traffic Simulation Model," presented at the 5th Annual Meeting of the Transportation Research Board, 1980 (with M. Yedlin).

"Hybrid Macroscopic-Microscopic Traffic Simulation Model," presented at the 59th Annual Meeting of the Transportation Research Board, 1980 (with M.C. Davila).

"A Model for Calculating Safe Passing Distance on Two Lane Rural Road," presented at the 60th Annual Meeting of the Transportation Research Board, 1981.

"A Review of the Driver-Vehicle Effectiveness (DRIVEM) Model", KLD TR-119, February 1981.

"Addendum: A Review of the Driver Vehicle Effectiveness (DRIVEM) Model", KLD TR-119, November 1981 (with R. Goldblatt).

"The TRAF System, Creation of TRAF I.5", KLD TR-124, May 1982 (with B. Andrews, K. Sheridan and M. Yedlin).

"The TRAF System, Calibration of Netsim Enhancements", KLD TR-125, May 1982 (with K. Sheridan).

"The TRAF System - Analytic Formulation and Logical Design of the Roadsim Model," KLD: TR-129, June 1983.

"PREDYN User's Guide," KLD: TR-131, June 1983.

"The TRAF System - Technical Report", KLD: TR-136, August 1983 (with M. Yadlin, B. Andrews and K. Sheridan).

"Application of the I-DYNEV System to Compute Estimates of Evacuation Travel Time at Nuclear Power Stations -- Four Demonstration Case Studies", KLD: TR-142, December 1983.

"Users Manual for the Interactive Dynamic Network Evacuation Model: I-DYNEV", KLD: TR-144, February 1984.

"Formulations of the DYNEV and I-DYNEV Traffic Simulation Models Used in EESF", KLD: TR-154, March 1984.

"PREDYN/IDYNEV Training Guide", KLD: TR-155, April 1984 (with R. Goldblatt).

"Specifications of Recommended Interactive Graphics Hardware Configuration and Graphics Support Software for the Netsim Graphics Display Package", KLD: TM-93, July 1985.

"Metering of High-Density Sectors Comparison of Traffic Operations Along Fifth Avenue in Mid-Manhattan: Metering Control vs. Existing Control," KLD: TM-94, July 1985.

"Description of an Integrated Traffic Assignment and Distribution Model (TRAD) for the IDYNEV System", KLD: TR-187, April 1986.

"Updated User's Guide for the IDYNEV System including the TRAD Model", KLD TR-188, April 1986.

"Evacuation Plan Update (Robert G. Ginna Nuclear Power Station)", KLD: TR-189, May 1986 (with R. Goldblatt).

"Evacuation Plan Update (Davis Besse)", KLD: TR-190, July 1986 (with R. Goldblatt).

"Seabrook Station Evacuation Time Estimates and Traffic Management Plan Update", KLD: TR-174, August 1986.

"Capacity Analysis of Highways in the Vicinity of Reception Centers for Evacuees from within the Shoreham Station Emergency Planning Zone", KLD TR-192, August 1986.

"Reducing Traffic Congestion at Herald Square", ITE Journal, September 1986, pp. 27-31 (with A.K. Rathi).

"Congestion Based Traffic Control Scheme for High Traffic Density Sectors", Transportation Research Record No. 1057, TRB, National Research Council, Washington, D.C., 1986, pp. 49-57 (with A.K. Rathi and G.F. King).

"Overview of the Evacuation Plan and of the Evacuation Time Estimates for the Seabrook Nuclear Power Station", KLD: TM-98, October 1986.

"Overview of the Evacuation Plan and of the Evacuation Time Estimates for the Ginna Nuclear Power Station", KLD: TM-99, November 1986 (with R. Goldblatt).

"Overview of the Coastal Region within the Pilgrim Station Emergency Planning Zone", KLD: TM-100, November 1986.

"Enhanced Freflo Program: Simulation of Congested Environments", paper submitted for presentation at Transportation Research Board's 66th Annual Meeting, January 1987 (with A.K. Rathi and M. Yedlin).

"The Netsim Graphics System", paper submitted for presentation at Transportation Research Board's 66th Annual Meeting, January 1987 (with B. Andrews and A. Santiago).

"Capacity Analysis on Approach Routes to the Shoreham Nuclear Power Station Reception Centers", KLD TR-201, March 1987.

"Pilgrim Evacuation Plan Update", KLD TR-203, May 1987.

"Metering of High Density Sectors of the Central Business District", KLD TR-207, July 1987 (with A. Rathi).

"Report on the Vehicle Occupancy Rate (VOR) Survey Process", KLD TR-208, August 1987.

ATTACHMENT E

PROFESSIONAL QUALIFICATIONS

JOHN A. WEISMANTLE

Vice President
Research and Development
Corporate Studies

LONG ISLAND LIGHTING COMPANY

My name is John A. Weismantle and my business address is Long Island Lighting Company (LILCO), 175 E. Old County Road, Hicksville, New York 11801. I have been an employee of LILCO since 1965.

I was awarded my Bachelor of Arts degree with a Pre-Engineering major from Columbia College in New York City in 1963. I subsequently earned two degrees in Mechanical Engineering from Columbia School of Engineering in New York City -- a Bachelor of Science degree in 1964 and a Master of Science degree in 1965. In 1970, I was again awarded a Master of Science degree, this time in Nuclear Engineering Science, from Long Island University in Brookville, New York. I also attended the Public Utilities Executive Program at the University of Michigan in 1979.

I was employed by LILCO in 1965 as an Assistant Engineer. In 1969 I was named Section Head in the Power and Instrumentation division. I remained in this capacity through 1973. In this position, I assumed a wide range of responsibilities related to new and existing steam plants, a new nuclear plant and gas turbines. These responsibilities included acting as Project Coordinator for Northport Units 3 and 4 (two 400 MW oil-fired units) and lead mechanical engineer for these units. I also served as lead mechanical engineer on balance of plant for the 820 MW Shoreham Nuclear Power Station as well as Project Engineer for Holbrook Power Station (500 MW of gas turbines).

As Section Head in the Power and Instrumentation Division, my special assignments included acting as Chairman of the Engineering Productivity Task Force and a member of the Construction Manpower Task Force. In both of these positions the conclusions and recommendations I proffered were accepted.

In 1974, I served as Licensing Engineer for the Jamesport Nuclear Power Station. This was a full-time special assignment to direct completion of State Siting and NRC Construction Permit Applications which were behind schedule. I was responsible for direction and coordination of internal departments and numerous consultants. In this capacity, I saw to it that the lost time was made up and that applicants were submitted by the original deadline.

From 1974 to 1975, I was the Manager of the System Planning Division. As manager of this division, I was responsible for generation, bulk transmission and interconnection planning. I had direct supervisory responsibility over 12 graduate engineers plus support personnel.

In 1975, I assumed the position of Project Manager for the Jamesport Nuclear Power Station. I remained in this position until late 1976, assuming responsibility for two 1150 MW PWR nuclear units. At the time I assumed this position, the project was in the state and federal licensing stage with preliminary engineering and construction planning proceeding. Eventually, a single 800 MW coal unit received a State Siting Certificate.

From 1977 to 1978, I served as LILCO's first Research and Development Director. In addition to organizing a corporate Research and Development program, developing a five year plan, and establishing procedures, I represented LILCO on external research and development committees. One of my special assignments involved acting as Chairman of the LILCO Load Managment Task Force, where my conclusions and reommendations were accepted.

From 1978 to 1981, I was Manager of LILCO's Planning Department. In this capacity, I was responsible for short term and long range planning of LILCO's electric facilities and corporate research and development functions. The Planning Department

comprises three divisions -- System Planning (involving sub-transmission and interconnections), Area Planning (involving sub-transmission and distribution), and Research and Development. I had direct supervisory responsibility over a staff of 30 graduate engineers plus support personnel. Furthermore, I directed preparation of a wide range of technical and economic reports in addition to serving as a member of the LILCO ad hoc task force on coal.

As Manager of the Planning Department, I represented LILCO on the following industry committees: the EEI System Planning Committee, ESEERCO Adminstrative Committee, NYPP Generation Planning Advisory Subcommittee, and EPRI Avanced Power Systems Task Force (Chairman of Clean Gaseous Fuels Program Committee).

In 1981, I was named Manager of the Power Engineering Department. In this capacity, I was responsible for the Port Jefferson Coal Conversion conceptual design, cost estimate, and license applications, all of which is currently undergoing the state licensing process. In addition, I was responsible for all major capital (above $25,000) improvement projects for existing fossil plants. Other responsibilities included the fields of gas system planning and engineering, mechanical engineering -- Shoreham support, and direct supervisory responsibility for a staff of over 35 graduate engineers plus support personnel. I represented LILCO on the EEI Prime Movers Committee and the EPRI Fossil Fuel Power Task Force.

In June 1982, I became responsible for the satisfactory implementation of the Shoreham onsite and local emergency plans. In carrying out this assignment, I reported to the Vice President of Engineering who has corporate lead responsibility for emergency preparedness. In September 1983 I became full-time manager of the Local Emergency Response Implementing Organization, a group of over 30 professionals plus support personnel.

From 1983 to 1985 I was the Manager for the Local Emergency Response Organization (LERO). I directed the development and implementation of a unique-off site nuclear emergency plan which relies entirely on utility workers, private companies and volunteer organizations. An approved off-site plan is the final requirement for a full power license for Shoreham. My responsibilities included development and maintenance of the plan, preparation and administration of a training program for 2200 workers, establishing several emergency facilities and directing all preparations for a federally graded exercise held in February, 1986. I made presentations to senior management and the Board of Directors, presented testimony on more than 50 issues in a protracted and bitterly contested licensing hearing, and advanced LILCO's position at debates and before the media.

From 1984 to 1985 I was the Manager of the Facilities Planning Department. In March 1984 LILCO reorganized and I was appointed to fill this position in addition to continuing as Manager of LERO. I reported to the Vice President of Corporate Planning, and directed over 25 engineers with the responsibility for planning LILCO's electric facilities and corporate R & P program.

From 1985 to July 1987 I was Vice President of Engineering. In November of 1985 I was elected to this position. I reported to the Senior Vice President of Engineering and Operations. Five departments reported to me: Power Engineering, Electrical Engineering, Environmental Engineering, Engineering Design and Mapping, and Engineering Analysis. These departments contained over 200 personnel. My responsibilities included all engineering and design for improvements to LILCO's fossil generating stations. We were responsible for engineering and design of balance of plant improvements at the 800 MW Shoreham Nuclear Power Plant. Engineering also provided operating support for our entire electric system.

From July 1987 to the present I have been Vice President of Research and Development and Corporate Studies. I report to the president. My responsibilites include all R&D and corporate studies. In addition, the President gives me special assignments. Currently this includes corporate oversight responsibilities associated with LERO.

In connection with my professional experience and qualifications, I have prepared and presented testimony on a wide range of technical and economic issues at numerous proceedings, including the 1979 State Energy Master Plan hearings, in electric rate cases (involving corporate capital budget and Research and Development programs), and in hearings before the State Siting Board, the Nuclear Regulatory Commission, State Legislative Commissions (involving congeneration and research and development), and the Federal Energy Regulatory Commission.

I have been a licensed Professional Engineer in the State of New York since 1970. My professional affiliations include membership in the American Society of Mechanical Engineers (ASME), and past membership on the Power Test Code Committee -- Condensers and Feedwater Heaters, and the Executive Committee, Long Island Section. I am also a past member of EEI Prime Movers and System Planning Committees, EPRI Fossil Power Plant and Advanced Fossil Power Systems Task Force, and several NYPP and ESEERCO Committees.

ATTACHMENT F

LONG ISLAND LIGHTING COMPANY
SHOREHAM NUCLEAR POWER STATION
P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

JOHN D. LEONARD, JR.
VICE PRESIDENT - NUCLEAR OPERATIONS

SNRC-1420

JAN 22 1988

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

Shoreham Offsite Emergency Plan: Rev. 9
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Gentlemen:

Long Island Lighting Company hereby submits Revision 9 to LILCO's Local Offsite Radiological Emergency Response Plan for the Shoreham Nuclear Power Station. This letter describes the principal changes set forth in Revision 9 of the LILCO Plan.

As with previous revisions to the Plan, Revision 9 changes are marked in the right hand margin: vertical bars denote the addition or replacement of material in Revision 9; horizontal bars denote its deletion in Revision 9. LILCO has reproduced all pages of the Plan and Implementing Procedures, not just Revision 9 pages. This alleviates the tedious process of replacing each outdated page in the document with Revision 9 pages, and insures that each plan holder has an updated Plan. Because there are so few of them, only replacement pages for Appendix A have been included. Thus, while the Revision 9 package sent you includes all pages of the Plan and Implementing Procedures, plus Revision 9 pages for Appendix A, only pages marked "Rev. 9" in the bottom right corner with revision bars in the right margin have been changed. Instructions for handling the Revision 9 package are included as Attachment I to this letter.

The principal areas of change in Revision 9 respond to NUREG-0654, Rev. 1, Supp. 1 and the "best efforts" regulation; the Licensing Board's emergency planning decisions; the RAC comments on Revisions 7 and 8 of the Plan; FEMA Guidance Memorandum MS-1; and various ministerial updates to the Plan that are required from time to time. These areas of change are described generally below and in some detail in Attachment II to this letter.

1. NUREG 0654, Rev. 1, Supp. 1 (Nov. 1987) and "Best Efforts" Regulation, 10 C.F.R. paragraph 50.47(c), 52 Fed. Reg. 42078 (Nov. 3, 1987). Revision 9 reflects the regulatory requirements of the new NRC "best efforts" regulations. The legal authority sections of the plan have been revised to take into account the regulation; two Emergency Preparedness Advisors have been added at the EOC to liaison with State and County government representatives during an emergency, as required by NUREG 0654, Rev. 1, Supp. 1 (Nov. 1987); and implementing procedures for coordination between LERO and government representatives during an emergency have been revised. Because certain governmental facilities have not agreed to participate in planning, LILCO has relied upon governmental support in the Plan by naming certain entities that would provide support during an emergency. These entities are identified in sections 1.4 and 2.2 of the Plan as being relied upon pursuant to the "best efforts" regulation. They include such facilities as, for example, the Nassau County Coliseum and Nassau County Community College, which are identified in the Plan as school relocation centers. Letters are being sent to each non-LILCO entity named in the Plan reminding them of the existence of the Plan and their role in it, and offering to plan with them and to train them. Attachment II.1 lists the revised criteria in NUREG-0654, Supp. 1, and describes the response for each included in Revision 9.

2. Issues previously litigated. Revision 9 identifies special facility reception centers; evacuation time estimates, buses, drivers, and reception centers for school children; evacuation time estimates for hospitals; and an EBS station, as required by the Licensing Board's Partial Initial Decision and Concluding Partial Initial Decision on emergency planning. Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644 (1985); id. LBP-85-31, 22 NRC 410 (1985). These issues and the Plan revisions responding to them are listed in Attachment II.2.

3. Regional Assistance Committee (RAC) Comments. The December 15, 1987 FEMA RAC comments on Revisions 7 and 8 of the LILCO Plan identified inadequacies in the LILCO Plan. All these items have been resolved in Revision 9. The inadequacies identified by the RAC, and the LILCO responses in the Plan, are listed in Attachment II.3.

4. Hospitals for Contaminated Injured Public. FEMA Guidance Memorandum MS-1 requires identification of a primary and backup hospital for treatment of contaminated injured members of the public. Revision 9 contains a letter of agreement between LILCO and Brunswick Hospital in Amityville for use as the primary hospital during an emergency. In addition, LILCO has identified Nassau County Medical Center and Northport Veterans Administration Medical Center as backup hospitals.

The Nassau County Medical Center, a government-operated facility, would be available during an emergency pursuant to the "best efforts" rule and NUREG-0654, Rev. 1, Supp. 1 (Nov. 1987). Northport Veterans Administration Medical Center (is available under the Federal Radiological Emergency Response Plan (FRERP) and other Federal policies. All three hospitals have Nuclear Medicine/Radiology Departments and are therefore qualified to treat contaminated injured individuals. The identification of these three hospitals in Revision 9 satisfies the MS-1 requirements. This revision is listed in Attachment II.4 to this letter.

5. Ministerial updates. The remaining Revision 9 changes update information about personnel, facilities, or equipment, including such items as updated farm listings. These revisions are listed in Attachment II.4 to this letter.

Very truly yours,

John D. Leonard, Jr.
Vice President - Nuclear Operations

KEBM:ck

Attachment

cc: R. Lo/S. Brown
W. T. Russell
F. Crescenzo
Service List

ATTACHMENT 1

INSTRUCTIONS FOR INSERTING REVISION 9 PAGES INTO
PLAN, PROCEDURES, AND APPENDIX A

PLAN

A) Discard original pages in the plan, retaining tabs and the manila pocket.

B) Insert new pages into binder.

C) Place tabs at yellow pages.

D) Insert Original Figure 3.5.1 (Map in manila pocket) at yellow page.

PROCEDURES

New procedures are totally reproduced with tabs. Remove and discard original pages and replace with new pages and tabs in Volumes I, II and III.

APPENDIX A

Replace Pages:

List of effective pages 1-4, iii, II-10, II-10a, Figure 4, II-12, II-12a, Figure 5, II-18, II-20.

Insert Pages:

II-20a, II-20b

Replace Pages:

II-28, Figure 7.2, IV-3, IV-53, IV-69, IV-69a, IV-72a, IV-72b, IV-72c, IV-72d, IV-72e, IV-74c, IV-74e, IV-74h, IV-74r, IV-74ra, IV-74rb, Figure 16.1, IV-132, Figure 20.1, Figure 26.1, Figure 27.2, IV-166a, IV-166b, IV-167, IV-168.

Insert Pages:

IV-168a

Replace Pages:

IV-169, IV-170, IV-171, IV-172, IV-173, IV-175, IV-176, IV-177, IV-178.

ATTACHMENT 1

INSTRUCTIONS FOR INSERTING REVISION 9 PAGES INTO
PLAN, PROCEDURES, AND APPENDIX A

(continued)

Insert Pages:

IV-179, IV-180, IV-181, IV-182, IV-183, IV-184, IV-185, IV-186, IV-187, IV-188, IV-189, IV-190, IV-191, IV-192, IV-193.

Replace Pages:

V-7

Insert Page:

V-7a

Replace Page:

Table XV

II.1 NUREG 0654/FEMA-REP-1 Rev. 1 Supplement 1

	NUREG 0654 ITEM(S)	SUPP. 1, SEC. I.G. ISSUES	PLAN RESPONSE	SECTIONS AFFECTED
a.	A.2.a also A.1.b A.1.c	Identification of the functions which require State and Local authorization before implementing.	The Plan details which emergency response functions require gov'tal authorization before LERO may implement.	Plan Sec. 1.4, 2.1, 2.2 Figure 2.1.2 OPIP 3.1.1 Att. 1, 10
b.	C.5 also C.2.c	Provision for additional personnel to advise and assist State and Local officials in an emergency.	LERO has added two Emergency Preparedness Advisors (EPA) to the organization, to advise and assist the Suffolk and Nassau County Executives. In addition, LILCO's Albany Representative would proceed to the State EOC to act as a liaison until replaced by an off-shift Director or Manager of Local Response. At the LERO EOC, desks and phones have been allocated for various government officials as well as several specific LERO interfaces identified. In addition to the EPAs identified above, a Traffic Control Point Coordinator proceeds to the Suffolk County Police Headquarters to assist with dispatch of police to traffic control posts and key LERO positions are directed to interface with their County and State counterparts.	Plan Sec. 2.1, 4.1 OPIP 2.1.1 OPIP 3.1.1 Att. 1, 2, 3, 4, 10 OPIP 3.6.3 Att. 15 OPIP 4.1.1

II.1 NUREG 0654/FEMA-REP-1 Rev. 1 Supplement 1 (continued)

	NUREG 0654 ITEM(S)	SUPP. 1, SEC. I.G. ISSUES	PLAN RESPONSE	SECTIONS AFFECTED
c.	D.4 J.10.f also C.5	Provision for advising State and Local officials of emergency actions to be taken.	LERO Director of Local Response contacts the Suffolk County Executive prior to initiating any actions and advises him on the emergency situation.	See C.5 above also: Plan Sec. 3.6 OPIP 3.6.3
d.	E.8	Provision for coordinating emergency messages with State and Local governments.	The Director of Local Response obtains authorization from the Suffolk County Executive or Governor prior to issuing an EBS message. This coordination is reflected in the content of the EBS message.	Plan Sec. 3.3, 3.4 OPIP 3.8.2
e.	F.1	Provision for communications with non-participating State and Local emergency response facilities.	RECS (Radiological Emergency Communication System) dedicated phone lines are installed in several State and Local Offices. New York State has indicated that the RECS phone locations in the State offices have either been disconnected or the offices have moved. LERO maintains commercial 24-hour emergency phone numbers for both the State and County and would use these phone numbers if the RECS was not answered during an emergency.	Plan Sec. 3.3, 3.4 OPIP 3.3.4, 4.1.1

II.1 NUREG 0654/FEMA-REP-1 Rev. 1 Supplement 1 (continued)

	NUREG 0654 ITEM(S)	SUPP. 1, SEC. I.G. ISSUES	PLAN RESPONSE	SECTIONS AFFECTED
f.	G.1.e	Provision for public information describing the role of offsite response organization.	The following language has been added to the LERO Public Information Brochure: "At the present time, New York State and Suffolk County are not participating in planning for an emergency at Shoreham. So LILCO has created, equipped, and trained the Local Emergency Response Organization (LERO) to respond to an accident at Shoreham in order to protect the public. LERO is made up mostly of LILCO employees and contractors, working with people from Federal Government agencies like the Department of Energy and the U.S. Coast Guard and people from private organizations like bus and ambulance companies. LERO has enough resources and trained emergency workers to respond to an emergency even if Suffolk County and New York State could not. Although LERO could protect the public all by itself, it would never have to in a real emergency because New York State and Suffolk County would help. The Federal Government recognizes that the State and County will use their best (continued on next page)	The Public Information Brochure is a separate document from the Plan. It will be distributed prior to the FEMA REP-10 test.

II.1 NUREG 0654/FEMA-REP-1 Rev. 1 Supplement 1 (continued)

	NUREG 0654 ITEM(S)	SUPP. 1, SEC. I.G. ISSUES	PLAN RESPONSE	SECTIONS AFFECTED
			efforts to protect the public if an accident at Shoreham happens. Since Suffolk County does not have its own plan to respond to a Shoreham accident, it would generally follow LILCO's plan, which must be tested and approved by the Federal Government agencies that are responsible for the safety of nuclear power plants. LERO officials would stay in contact with officials from New York State and Suffolk County throughout any emergency, and would use the advice and resources of LERO, in cooperation with Federal, State, and County officials to help protect the public's health and safety."	
g.	H.3	Establishment of an emergency operations center for use in directing and controlling offsite response functions.	LERO had already established an EOC in the LILCO Brentwood facility prior to Revision 9.	Plan Sec. 4.1 OPIP 4.1.1
h.	E.6 J.9	Offsite response organization shall have the administration and physical means (even though they may not have the responsibility) for activating the alert and notification system.	The sirens in the Shoreham EPZ are activated from LILCO facilities in Brentwood, Shoreham and an electrical substation near Shoreham. This system was in place prior to Revision 9. The (continued on next page)	Plan Sec. 3.3, 3.4, 3.8 OPIP 3.3.4, 3.8.2

II.1 NUREG 0554/FEMA-REP-1 Rev. 1 Supplement 1 (continued)

	NUREG 0654 ITEM(S)	SUPP. 1, SEC. I.G. ISSUES	PLAN RESPONSE	SECTIONS AFFECTED
			EBS network is activated via a dedicated line from the Brentwood EOC to WPLR in Connecticut or via commercial phone line. In Revision 9 WPLR has been designated as the Common Point Control Station.	
i.	J.10.f	Recommendation of the use of potassium iodide (KI) for the general public.	It continues to be New York State policy not to issue KI to the general public. (New York State Radiological Emergency Preparedness Plan Part I, Section III, page III-44). LERO will, however, notify New York State when KI is recommended for use by emergency workers who have been trained in dosimetry and exposure control.	Plan Sec. 3.6, 3.9 OPIP 3.6.2
j.	N.2.a N.6	Provision for encouraging participation in exercises and drills by State and Local governments but not requiring it.	LERO will formally request the participation of County and State personnel in exercises and drills.	Plan Sec. 5.1, 5.2 OPIP 5.1.1
k.	O.4.k	Provision for training people in the utility's offsite response organization who will be responders.	LERO has previously maintained and continues to maintain a comprehensive training program for LILCO employees and support organizations.	Plan 5.1 OPIP 5.1.1

II.1 NUREG 0654/FEMA-REP-1 Rev. 1 Supplement 1 (continued)

	NUREG 0654 ITEM(S)	SUPP. 1, SEC. I.G. ISSUES	PLAN RESPONSE	SECTIONS AFFECTED
1.	Q.6	Provision for offering training to non-participating State and Local governments and other organizations.	LERO's policy has been and continues to be that training is offered to all emergency response support organizations.	Plan Sec. 5.1, 5.4 OPIP 5.1.1, 5.4.1
8.	P.11	Provision for providing copies of the offsite plan and its revisions to non-participating State and local government entities with which the offsite response organization identifies interfaces in its offsite plan.	LERO has in the past provided controlled copies of the plan and revisions to both New York State and Suffolk County, and continues to do so. Nassau County will receive a controlled copy of Revision 9 of the Plan and will be sent future revisions.	Plan Sec. 5.4

II.2 ASLB-03 PARTIAL AND CONCLUDING PARTIAL INITIAL DECISION: APPEAL RULINGS

	ISSUE	DECISION	PLAN RESPONSE	SECTIONS AFFECTED
a.	Evacuation Shadow Phenomenon 23	"The Board's ultimate finding on this contention strongly depends on their being clear non-conflicting notice and instructions to the public at the time of the accident...The lack of assurance of integrated action on the part of the state and local governments constitutes a substantive deficiency in the Board's confidence that the public health and safety could be protected by LILCO acting alone as by actions that were fully integrated with state and local governments." Long Island Lighting Company (Shoreham Nuclear Power Station, Unit 1), LBP-85-12, 21 NRC 644, 670 (1985) (hereinafter "PID").	The planning basis contemplated by the NUREG 0654 Supplement provides for a best effort response by the State and County. This includes the coordination of EBS messages and other public information during the emergency.	Plan Sec. 1.4, 2.1, 2.2, 3.8 OPIP 3.1.1 Att. 1, 10 OPIP 3.8.2
b.	Special Facility-Relocation Centers 24.N, 72.C, 72.D	"We agree with Staff that agreements do not necessarily have to be between LILCO and reception centers. Agreements between health care facilities and reception centers themselves would provide the requisite assurance that health and safety of residents will be protected. (continued on next page)	The LERO Plan identifies a relocation center for all EPZ special facilities. In those cases where the evacuating facility has not identified a reception center, LILCO has designated its own facilities. These facilities are wheelchair capable where needed.	Plan Sec. 3.6 OPIP 3.6.5 Att. 2, 3 App. A: IV-166b, IV-173 Table XIIIA

II.2 ASLB-03 PARTIAL AND CONCLUDING PARTIAL INITIAL DECISION; APPEAL RULINGS (continued)

	ISSUE	DECISION	PLAN RESPONSE	SECTIONS AFFECTED
		However, at this time relocation centers have not been designated and this constitutes a deficiency in the Plan." PID, 21 NRC at 840.		
c.	School Reception Centers 24.N	"[T]he fact remains that reception centers have not yet been identified. We therefore find for the Intervenors on the issue of the identity of reception centers for school children. We note that the record has been reopened on the matter of relocation centers for the public. However, the contentions concerning relocation centers for the public are separate from those concerning relocation centers for school children." PID, 21 NRC at 860.	Revision 9 of the Plan designates the Nassau Coliseum and Nassau Community College as a School Relocation Center for the public and private schools in the EPZ. The combined capacity of these facilities is adequate to hold all the students until they can be reunited with their parents.	Plan Sec. 3.6, 4.2 OPIP 3.6.5, 4.2.1 App. A: II-19-21

II.2 ASLB-03 PARTIAL AND CONCLUDING PARTIAL INITIAL DECISION; APPEAL RULINGS (continued)

	ISSUE	DECISION	PLAN RESPONSE	SECTIONS AFFECTED
d.	Time Estimates for Evacuation 71.B.1	"We find here that it is not possible to calculate how long an evacuation might take without knowing the location of reception centers. LILCO has admitted that the delay in evacuation may be extensive but claims that this will not endanger the children because they can shelter in the school buildings while awaiting the return of buses for evacuation. Cordaro et al. ff. Tr. 9154, Vol. II, at 63. We do not find this acceptable. We find that the lack of a reasonable estimate of the time to evacuate is a defect in the LILCO Plan." PID, 21NRC at 872.	Time estimates for the evacuation of the schools have been included in Revision 9. LERO will provide supplementary buses to the regular buses that transport the school children so that there is sufficient capacity for "one wave" transportation of the children. The Nassau Coliseum and Nassau Community College have been designated as the School Relocations Centers.	Plan Sec. 1.4, 2.2 3.6, 4.2 App. A: IV-179-180 Table XIII C OPIP 3.6.4, 3.6.5, 4.2.1

II.2 ASLB-03 PARTIAL AND CONCLUDING PARTIAL INITIAL DECISION: APPEAL RULINGS (continued)

	ISSUE	DECISION	PLAN RESPONSE	SECTIONS AFFECTED
e.	Buses for Evacuation 71.B.2	"LILCO has presented no evidence that buses committed to other uses will be released to LILCO in the event of an emergency at Shoreham. LILCO witnesses testified that they are "confident" that buses would be released. LILCO has failed to provide an adequate basis for a Board finding that an evacuation of school children could be accomplished within approximately the same time as a general public evacuation. We find that the subordination of LILCO's agreements for buses for use in an emergency to preexisting contracts for normal daily use by schools outside the EPZ constitutes a flaw in the LILCO Plan. This deficiency could be corrected by showing that multiple bus runs will accomplish evacuation of school children in approximately the same time as a general population or that LILCO has received commitments for release of buses from schools outside the EPZ, thus eliminating the need for multiple bus runs. However, on the record before us, we find that the LILCO Plan does not (continued on next page)	LILCO has obtained additional bus contracts for "first call" buses without prior commitments to other school districts. These buses are available at all times for evacuating EPZ school children. These "first call" buses with LERO School Bus Drivers will be used to supplement the regular buses contracted by the EPZ school districts, so that there is sufficient capacity to allow a "one wave" evacuation of the schools.	Plan Sec. 3.6 App. A: II-20-21 OPIP 3.6.4, 3.6.5, 5.3.1

II.2 ASLB-03 PARTIAL AND CONCLUDING PARTIAL INITIAL DECISION; APPEAL RULINGS (continued)

	ISSUE	DECISION	PLAN RESPONSE	SECTIONS AFFECTED
		provide reasonable assurance that adequate protective measures will be taken in the event of an evacuation of school children from the Shoreham EPZ." PID, 21 NRC at 874.		
f.	School Bus Drivers 24.M 25.C	"On the record now before us we cannot make a finding that a sufficient number of school bus drivers can be relied upon to perform their duties if an accident occurred at Shoreham. Therefore, we are remanding this matter to the Licensing Board for further exploration." Long Island Lighting Company, ALAB-832, 23 NRC 135, 154 (1986).	In addition to the LERO School Bus Drivers driving the LERO supplied supplementary buses, LILCO has provided sufficient LERO School Bus Drivers to back up regular school bus drivers. These LERO personnel will report directly to the school bus yards and make themselves available to drive the buses as needed.	App. A: II-20-21 OPIP 3.6.5
g.	Hospital Evacuation 72.D, E	"The Licensing Board should have required the applicant to fulfill the same planning obligations with regard to possible hospital evacuation as the Board imposed in connection with the nursing/adult homes. We therefore remand and direct the Board to rectify this error." Id. 23 NRC at 157.	Evacuation time estimates have been calculated for the evacuation of the hospitals. These time estimates are included in the plan.	OPIP 3.6.1, Att. 2A App. A: II-28, IV-178, V-7A Table XIIIA, XV

II.2 ASLB-03 PARTIAL AND CONCLUDING PARTIAL INITIAL DECISION; APPEAL RULINGS (continued)

	ISSUE	DECISION	PLAN RESPONSE	SECTIONS AFFECTED
h.	Legal Authority 1-10	"The Board finds that the Applicant cannot prevail because its pre-emption, realism, and immateriality arguments are without merit and cannot overcome the conclusion that the activities it seeks to perform as specified in Contentions 1-10 are unlawful." PID, 21 NRC at 919.	The "realism" planning basis is provided in Supplement 1 to NUREG 0654. This planning basis has been incorporated into the plan and procedures.	Plan Sec. 1.4, 2.1, 2.2 OPIP 3.1.1
i.	Emergency Broadcast System	"We grant the request to reopen on this matter [of the withdrawal of WALK radio]." Long Island Lighting Company (Shoreham Nuclear Power Station, Unit 1), CLI-87-05, 24 NRC ___ (June 11, 1987).	WALK as the Common Point Control Station has been replaced with WPLR. This station in Connecticut provides full 24-hour coverage of the EPZ.	Plan Sec. 2.2, 3.3, 3.8 OPIP 3.3.4, 3.8.2

II.3 REGIONAL ASSISTANCE COMMITTEE COMMENTS

	RAC ITEM (RATING)	ISSUE	PLAN RESPONSE	SECTIONS AFFECTED
a.	A.2.b (I)	Lack of legal authority.	The issue of legal authority is resolved by the planning basis for non-participating governments contained in NUREG 0654/FEMA REP. 1, Rev. 1 Sup. 1.	Plan 1.4, 2.1, 2.2
b.	A.3 A.4 (I) also	The following Letters of Agreement were either needed or in need of update and/or clarification:	The following letters have been added to Appendix B:	
	F.1.c	FAA - Need letter detailing direct contact by LERO.	A letter of understanding with the FAA has been added along with direct contact by LERO.	
		LIRR - Need letter detailing direct contact by LERO.	A letter of understanding detailing LERO's contact has been included.	
	J.10.h	American Red Cross Letter does not provide adequate assurance of Congregate Care availability.	By letter dated November 2, 1987, the Nassau County Chapter of the American Red Cross asked that specific references to it be deleted from the LERO Plan, and reiterated that, "in the event of a nuclear accident and evacuation, the Red Cross will provide mass care services to the extent of its abilities and will cooperate with public and private organizations to meet the needs. The American (continued on next page)	Plan Sec. 2.2, 3.7, 4.8 OPIP 3.7.1, 4.2.3

II.3 REGIONAL ASSISTANCE COMMITTEE COMMENTS (continued)

	RAC ITEM (RATING)	ISSUE	PLAN RESPONSE	SECTIONS AFFECTED
			Red Cross will open and operate Congregate Care Centers for long-term sheltering. The Red Cross maintains agreements with numerous facilities to provide congregate care, including LILCO facilities. A Letter of Agreement for the use of LILCO facilities is contained in Appendix B.	
		Teledyne Isotope - Contract does not detail availability of analysis services during an emergency.	Revised and updated contracts have been included in Appendix B with specific references to emergency services.	
c.	E.6 (A)	Recommendation to include "good neighbor" language in EBS message and brochure.	The recommended language has been included in both the brochure and EBS message.	OPIP 3.8.2
d.	F.1.c (I)	See A3-FAA		
e.	G.1.a-d (A)	Recommendation to include in the brochure radio channel information to boaters.	The recommended language has been added to the public information brochure.	
f.	G.4b G.4c (I)	The RAC expressed continued concern about lack of hard copy capability at the ENC.	The ENC has been moved to the LILCO Training Center in Hauppauge. Additional copying capability has been provided to ensure machines are not overloaded and to also provide backup capacity.	Plan Sec. 3.8 OPIP 3.8.1

II.3 REGIONAL ASSISTANCE COMMITTEE COMMENTS (continued)

	RAC ITEM (RATING)	ISSUE	PLAN RESPONSE	SECTIONS AFFECTED
g.	J.9 J.10g (I)	Delays in issuing dosimetry caused subsequent delays in dispatch of bus drivers.	At all three staging areas the issue of dosimetry has been expedited by the following means: * Additional Dosimetry Record keepers (DRKs) have been added to assist with dosimetry issue. * The location of dosimetry issue has been moved to a larger room so that more field workers can be accommodated simultaneously.	OPIP 3.9.1, 4.5.1, 4.7.1, 2.1.1, 5.3.1
h.	J.10.e K.3 K.4 (I)	Non-LERO workers (specifically school bus drivers) need to be informed that they need to initiate a request for dosimetry training.	LILCO has mailed letters to every non-LILCO organization mentioned in the LERO Plan that does not receive training. The role of the organization has been explained and the offer of training has been specifically made.	Plan Sec. 5.1 OPIP 5.1.1
i.	J.10.h (I)	See A.3 American Red Cross		

II.3 REGIONAL ASSISTANCE COMMITTEE COMMENTS (continued)

	RAC ITEM (RATING)	ISSUE	PLAN RESPONSE	SECTIONS AFFECTED
J.	J.10.k (I)	Snow Removal resources may be unavailable.	In accordance with the planning basis detailed in NUREG-0654 REP. 1 Sup. 1, "State and local officials that have declined to participate in emergency planning will: (a) Exercise their best efforts to protect the health and safety of the public; (b) Cooperate with the utility and follow the utility plan; and (c) Have the resources sufficient to implement those portions of the utility offsite plan where State and local response is necessary." Accordingly, snow removal has been identified in the Plan as a resource provided by Suffolk County and details of interfacing with the County to obtain this assistance are included.	Plan Sec. 1.4, 2.2 OPIP 3.6.3 Att. 16

II.3 REGIONAL ASSISTANCE COMMITTEE COMMENTS (continued)

	RAC ITEM (RATING)	ISSUE	PLAN RESPONSE	SECTIONS AFFECTED
k.	J.12 (I)	The monitoring of general population evacuees at the reception centers is inadequate since only the vehicle driver is regularly checked for contamination.	The monitoring procedure at the Evacuee Reception Centers have been modified so that all evacuees arriving at the Reception Centers will be monitored within 12 hours. In order to accomplish this, additional monitoring personnel have been added to the reception centers.	Plan Sec. 3.6, 3.9 OPIP 3.6.5, 3.9.1, 3.9.2, 4.3.1, 5.3.1
		Reception centers have not been designated, therefore, it is not possible to evaluate the adequacy of staffing to monitor these people.	Reception centers have been designated for all health care facilities in the EPZ. Evacuees would be brought to a LILCO facility for monitoring prior to proceeding to these reception centers. Sufficient personnel are available to monitor these evacuees, at approximately the same rate at which they arrive.	
l.	K.3.a K.3.b K.4 (I)	See Item J.10.e		

II.3 REGIONAL ASSISTANCE COMMITTEE COMMENTS (continued)

	RAC ITEM (RATING)	ISSUE	PLAN RESPONSE	SECTIONS AFFECTED
m.	0.4 (A)	Training in handling of contaminated injured people should be provided to additional personnel in the LERO organization.	The training program has been revised to provide the training to the recommended personnel.	OPIP 5.1.1

II.4 OTHER CHANGES (continued)

	ISSUE	LERO RESPONSE	SECTIONS AFFECTED
		Moved LERO Relocation Center, for families of emergency workers, from Hicksville to Brentwood.	OPIP 4.6.1
		Added and deleted personnel as necessary to ensure effective implementation of procedures.	Plan Sec. 2.1 OPIP 2.1.1
		Modified dose assessments and protective action computer program to reflect SNPS radiation monitor changes and new Radiological Emergency Data Form.	OPIP 3.5.2, 3.6.1

II.4 OTHER CHANGES

	ISSUE	LERO RESPONSE	SECTIONS AFFECTED
a.	FEMA Guidance Memorandum MS-1; This guidance details the need to have a primary and backup hospital for the treatment of contaminated injured members of the general public.	LILCO has obtained a letter of agreement with Brunswick Hospital in Amityville to be the primary hospital to satisfy the MS-1 requirement. In addition, Revision 9 of the Plan identifies the Nassau County Medical Center and Northport VA Medical Center to be backup facilities. The Nassau County Medical Center is County operated, and would therefore be available during an emergency under the planning basis provided in NUREG 0654, Rev. 1, Sup. 1. The Northport VA Medical Center is available through the FRERP. All these facilities have Nuclear Medicine and/or Radiology Departments and are therefore qualified to treat contaminated injured individuals.	Plan Sec. 2.2, 3.7 OPIP 3.1.1, 4.2.2
b.	LERO Pager Activation	In order to further expedite the mobilization of LERO emergency workers, the pager activation portion of the Plan has been revised. In Revision 9, the LERO pagers have been reoriented so that they activate simultaneously with the onsite SNPS pagers which are activated by the Control Room. Previously, the LERO pagers were activated by the SSO after the RECS message was received from the Control Room.	Plan Sec. 3.3 OPIP 3.3.5
c.	Updates due to personnel, facility or equipment changes.	The following ministerial changes were made in Revision 9:	
		Updated farmstand and farm listings.	OPIP 3.6.6
		Changed Transfer Point from Brookhaven Multiplex Cinema to King Kullen Shopping Center.	OPIP 3.6.4 Appendix A

ATTACHMENT G

ORGANIZATIONS OR OFFICIAL TITLES	EMERGENCY RESPONSE FUNCTIONS																			
	COMMAND AND CONTROL	ALERTING AND NOTIFICATION	COMMUNICATIONS	PUBLIC INFORMATION (NOTE 1)	ACCIDENT ASSESSMENT	PUBLIC HEALTH AND SANITATION	SOCIAL SERVICES CONGREGATE CARE	FIRE & RESCUE	TRAFFIC CONTROL SUFFOLK (NOTE 2)	TRAFFIC CONTROL NASSAU	EMERGENCY MEDICAL SERVICES	LAW ENFORCEMENT	TRANSPORTATION GEN. POPULATION	TRANSPORTATION HEALTH RELATED	TRANSPORTATION SCHOOLS	PROTECTIVE RESP. PLUME (NOTE 3)	PROTECTIVE RESP. INGESTION	RADIOLOGICAL EXPOSURE CONTROL	RECEPTION & RELOCATION CENTERS
SNPS (LILCO)		S	S		S											S	S		
DIRECTOR OF LOCAL RESPONSE (LERO)	P_A	P_A	P	P_A												P_A	P_A		P_A
SUFFOLK COUNTY EXECUTIVE	A	A	S	A		P_{SF}	S		A							A	A		
NASSAU COUNTY EXECUTIVE	S	S	S			P_{NAS}	S												A
EVACUATION COORDINATOR (LERO)			S						P_A				P		S				S_A
HEALTH SERVICES COORDINATOR (LERO)			S		P						P			P				P	S_A
SUFFOLK POLICE			S						S			P_{SF}							
NASSAU POLICE										P		P_{NAS}							S
STATE DEPARTMENT OF HEALTH (NOTE 4)	S			S	S	S	S									S	S	S	
SUFFOLK CTY. DEPT OF FIRE RESCUE & EMERG. SERVICES								P											
FEMA (NOTE 5)											S					S	S		
DOE					S											S	S	S	
LIRR/FAA COAST GUARD		S		S					S										
HOSPITALS (NOTE 6)											S							S	
PRIVATE AMBULANCE CO.											S			S					
SCHOOLS															P	S			S
BUS CO.													S	S	S				
CONNECTICUT																	P_{CON}		
AMERICAN RED CROSS						S	P				S								

FIGURE 2.1.2
ORGANIZATIONAL MATRIX
WITH GOVERNMENTAL INTERFACE

PAGE 1 OF 2
SEE PAGE 2 OF 2 FOR LEGEND AND NOTES

REV. 9

LILCHT110A

FIGURE 2.1.2
ORGANIZATIONAL MATRIX
(continued)

Legend:

A - Denotes government official with legal authority who provides authority/permission to LERO to implement the emergency response function.

P - Denotes person, by title, or organization with primary responsibility for actually implementing the emergency response fuction.

S - Denotes person, by title, or organization that either supports or performs only a portion of an emergency response function.

Subscript A - Denotes that implementation of the emergency response function requires the authority/permission of a governmental official.
i.e. P_A or S_A

Note 1: Public Information includes the activation of sirens and the issue of EBS messages.

Note 2: Traffic Control (Suffolk) includes: blocking roadways, directing traffic, posting traffic signs during an emergency, removing roadway obstacles, dispensing fuel and performing access control.

Note 3: Protective Response includes: the plume pathway, ingestion pathway, recovery and reentry and requesting Federal Assistance.

Note 4: Support Functions identified for New York State Department of Health are in accordance with the New York State Plan.

Note 5: FEMA coordinates additional federal response efforts as detailed in the Federal Radiological Emergency Response Plan.

Note 6: The hospital primarily providing treatment of contaminated injured is Brunswick with the V.A. Medical Center and Nassau County Medical Center as back up. Additional hospitals will provide relocation services for health care facility evacuees.

ATTACHMENT H

SUFFOLK COUNTY INTERFACE PROCEDURE

1. The Director of Local Response will contact the Suffolk County Executive at 360-4000 (working hours) or 911 (off hours). If calling 911, inform the police officer on duty who you are and that there is an emergency at Shoreham. Request that the Suffolk County Executive call you back immediately at your phone. Give the duty officer the phone number where you may be reached.

2. For an Unusual Event Classification:

   A. Inform the Suffolk County Executive of the incident at Shoreham, but tell him that it is not necessary to notify the public or take any emergency action at this time.

   B. Ask that he remain near a telephone. Tell him that he will be informed promptly of any change in the emergency classification.

3. For an Alert or higher classification:

   A. Advise the Suffolk County Executive of the status of the emergency. Briefly explain the emergency classification system as established by the NRC and read him the description of the applicable Emergency Classification Level (ECL). Tell the Suffolk County Executive that consistent with N.Y. Exec. Law Art. 2-B, LERO is placing its personnel and resources at the County's direction to assist in implementing the emergency response as set out in the offsite utility plan.

   B. At the Alert level, if no protective action recommendation is required at this time, proceed to step 3.F.2 of this procedure.

SUFFOLK COUNTY INTERFACE PROCEDURE

(Continued)

C. Explain that conditions at the plant, and meteorological considerations such as wind speed and direction, indicate that certain protective measures should be implemented. Describe the protective measures that need to be implemented, i.e.,

- Notifying the public of the emergency,
- Putting farm animals on stored feed,
- Contacting local schools and advising cancellation or early dismissal,
- Sheltering (specify zones),
- Evacuation (specify zones).

NOTE: A description of the evacuation keyholes are available in Attachment 5 of OPIP 3.8.2.

D. Obtain the Suffolk County Executive's approval of the protective action recommendation. Request permission to activate the Prompt Notification System and broadcast an EBS message containing the protective action recommendation.

NOTE: If the emergency classification is a Site Area Emergency or higher, also request that the Suffolk County Police begin to mobilize at least 165 uniformed officers in case they are needed for traffic control. Tell him that you will be calling back with additional information and that in the meantime the police should begin to report to police headquarters in Yaphank.

E. Immediately upon completing step D, above:

1. Ask the Suffolk County Executive to stand by while you initiate activation of the siren system and the EBS. Suggest that, if he prefers, he should proceed immediately to the LERO EOC in Brentwood. If the Suffolk County Executive does choose to go to the LERO EOC immediately, give him your mobile phone number. End the call.

2. Implement OPIP 3.3.4.

SUFFOLK COUNTY INTERFACE PROCEDURE

(Continued)

F. After completing step e, above:

1. Call the Suffolk County Executive back, if he has not already left for the LERO EOC.

2. Over the phone or at the LERO EOC, provide the County Executive with the following information:

a. Notify him that LERO will be sending a liaison to police headquarters. Explain that the liaison will provide the police with the locations and specific traffic control strategies for each of LILCO's 130 TCPs, requiring 165 officers.

b. Inform him that LERO will also be dispatching its own Traffic Guides to the TCPs to provide such equipment as traffic cones, flares, and flashing lights and to otherwise assist the police as necessary. Assure him that the Traffic Guides will monitor the police officers' possible exposure using the Traffic Guides' own dosimetry.

Important: Advise the Suffolk County Executive to give LERO Traffic Guides permission to direct traffic and implement traffic strategies before the police arrive.

c. Inform him that LERO has the capability to remove roadway impediments and dispense fuel to evacuating motorists using its own vehicles and trained emergency workers. Explain that LERO is (or will be) mobilizing these vehicles and that they will be prepositioned in the field.

Important: Advise the Suffolk County Executive to give LERO Road Crews permission to remove impediments and dispense fuel.

SUFFOLK COUNTY INTERFACE PROCEDURE

(Continued)

G. Advise the Suffolk County Executive that he, or his designated representative, should go to the LERO EOC in Brentwood to better coordinate the emergency response, if he has not already done so.

1. Inform the Suffolk County Executive that the State of New York has already been notified of the emergency. Tell him that at the LERO EOC he will be able to communicate with and get advice from the State Department of Health in Albany.

2. Explain that the onsite authorities and DOE RAP monitoring teams have been instructed to direct information about plant status and radiological conditions in the field to the LERO EOC.

3. Give the Suffolk County Executive your mobile phone number, if you have not already done so, so that he will be able to contact you if necessary before he or his representative arrives at the LERO EOC.

H. Tell the Suffolk County Executive that there are telephones and working space at the LERO EOC for County officials. Suggest that the following Suffolk County officials also come to the LERO EOC to better coordinate the emergency response.

1. The Commissioner of the Department of Fire, Rescue, and Emergency Services (or a designated representative),

2. The Commissioner of the Department of Health Services (or a designated representative),

3. The Commissioner of Police (or a designated representative). Note: The Commissioner of Police should be advised to bring a portable police radio with him to the LERO EOC in order to communicate with police headquarters, and

4. Any other official the Suffolk County Executive feels would be helpful to him in managing the emergency response.

SUFFOLK COUNTY INTERFACE PROCEDURE

(Continued)

I. Inform the Suffolk County Executive that you will be contacting the Nassau County Executive to request the following in case an evacuation is recommended.

1. Approval to conduct monitoring and decontamination of evacuees at LILCO facilities in Bellmore, Hicksville and Roslyn.

2. Use of both the Nassau Coliseum and Nassau Community College as school relocation centers if schools are evacuated.

3. Police support and assistance with traffic control around both the LILCO and Nassau facilities.

4. Use of the Nassau County Medical Center as a back up facility for treatment of contaminated injured evacuees.

J. If not at the EOC, end the call and continue with the Emergency Response Action Checklist. Upon reporting to the LERO EOC, be sure to coordinate emergency response activities with the Suffolk County Executive or his designated representative. Specifically, be sure to obtain permission before making recommendations to the public concerning ingestion exposure pathway, or implementing recovery and reentry activities and EPZ perimeter access control.

If other resources, vehicles or facilities that further aid the emergency response are identified, request that the Suffolk County Executive obtain them pursuant to Article 2B.

ATTACHMENT I

PARTICIPATION OF SUFFOLK COUNTY POLICE DEPARTMENT DURING A RADIOLOGICAL EMERGENCY

Traffic Control Point Coordinator

1. When directed, report to the Suffolk County Police Headquarters on Yaphank Avenue in Yaphank.

2. Take with you the Suffolk County Police dispatcher kit.

3. Upon arrival at the Suffolk County Police Headquarters identify yourself at the front desk. Request to see the Chief of Operations or the Duty Officer for Operations.

4. Contact the Traffic Control Coordinator in the LERO EOC and give him a phone number where you can be reached. Obtain a report of the emergency status.

5. Discuss the following with the Chief of Operations or the Duty Officer of Operations.

   a. Status of the emergency.

   b. The total number of police required to man all of the traffic control points and how they are assigned in a priority manner based upon an evacuation keyhole.

   c. Give them a copy of the evacuation route map and explain the overall traffic pattern.

   d. Explain that these routes have been described as the most rapid way out of the emergency planning zone in the emergency information brochure. These brochures have been provided to every household in the emergency planning zone.

   e. Explain details of one way traffic flow in Zone F.

   f. Show them a sample TCP intersection diagram and explain you have one available for each TCP and an extra set for use by Police Headquarters.

   g. Explain that you have maps to be given to the police officers that indicate the location of the TCP.

   h. Provide TCP maps and intersection diagrams to the police for use in their dispatch.

PARTICIPATION OF SUFFOLK COUNTY POLICE DEPARTMENT
DURING A RADIOLOGICAL EMERGENCY

(continued)

i. Maintain contact with the Traffic Control Coordinator in the LERO EOC and advise the police of changes in the emergency status and protective action recommendations. Notify the LERO EOC of any road impediments reported by the police in the EPZ vicinity.

j. Explain that trained LERO traffic guides will remain at the TCP to provide traffic assistance as requested and radiological information to the Suffolk County Police.

   - o LERO personnel are trained to leave the area prior to exceeding EPA protective action guides for radiation doses to the general public.
   - o Monitoring and decontamination if necessary will be provided at the Emergency Worker Decontamination Facility in Brentwood.

k. In case of a traffic impediment, coordinate police response with the traffic control group in EOC. Advise the police that the EOC will be issuing an EBS Message to notify the public.

ATTACHMENT J

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF DOUGLAS M. CROCKER IN SUPPORT OF LILCO'S MOTIONS FOR SUMMARY DISPOSITION OF CONTENTIONS 1-10

Douglas M. Crocker, being duly sworn, deposes and says as follows:

1. My name is Douglas M. Crocker. My business address is Long Island Lighting Company, 131 Hoffman Lane, Central Islip, New York 11722.

2. I am currently employed by Long Island Lighting Company ("LILCO") as Nuclear Emergency Preparedness Manager with the Nuclear Operations Support Department. My professional resume was introduced into the record in this proceeding at Tr. 17,421 as part of LILCO Exhibit 1, Attachment A-1. I have personal knowledge of the facts recited in this affidavit because I have supervised or been involved in LILCO's onsite and offsite emergency preparedness effort for the Shoreham Nuclear Power Station since June 1984.

3. These activities have included developing and maintaining facilities, plans, procedures, training, and drill programs to meet federal requirements for a Shoreham emergency response. I have also participated as an observer and a controller for drills and exercises of the offsite emergency plan and as a participant in drills and as an observer and a controller for exercises of the onsite plan. In addition, my staff at the Shoreham Nuclear Power Station is responsible for evaluating Shoreham's onsite response to emergencies.

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4. In 1987, several Unusual Events were declared at the Shoreham Nuclear Power Station. For each of these events, Shoreham's Emergency Plan Implementing Procedures were implemented. The facts for some of these emergencies are described in paragraphs 7-9 below.

5. During these events, Shoreham personnel were able to contact both Suffolk County and the State during Shoreham emergencies, and the State and County were able to respond during emergencies on a 24-hour basis by recording information given to them and by sending County and State people to Shoreham.

6. On March 18, 1987, at 0215 hours, the Emergency Director (LILCO Watch Engineer) declared an Unusual Event at Shoreham when it lost offsite power. All emergency equipment, including the emergency diesel generators, functioned properly in response to the event. The following events occurred:

a. At 0230 hours, the Communicator in the Control Room tried to notify the New York State and the Suffolk County Warning Points on the RECS lines. There was no response.

b. At 0242 hours, the Communicator contacted the New York State Warning Point on the Alternate #1 line (the backup number to the RECS line) in the Control Room and read the information in Parts I and II of the New York State Radiological Emergency Data Sheet to the State operator.

c. At 0250 hours, the Communicator called the Suffolk County Warning Point on the Alternate #1 line (911) in the Control Room and read the information in Parts I and II of the New York State Radiological Emergency Data Sheet to the County operator.

d. At 0308 hours, a representative of the New York State Health Department called the Communicator in the Control Room asking about the emergency.

e. At 0452 hours, the Emergency Director (LILCO Watch Engineer) declassified the emergency.

f. At 0510 hours, the Communicator in the Control Room called the New York State Warning Point on the Alternate #1 line and told the State operator that the emergency had been declassified.

g. At 0516 hours, the Communicator called the Suffolk County Warning Point on the Alternate #1 line (911) in the Control Room and told the County operator that the emergency had been declassified.

7. On July 4, 1987, at 0640 hours, a bomb threat was received by a Shoreham security officer. A second bomb threat was received at 0655 hours. The following events occurred:

a. At 0645 hours, Shoreham security notified the LILCO Watch Engineer that security had received the first bomb threat.

b. At 0657 hours, the Emergency Director (LILCO Watch Engineer) in the Control Room declared an Unusual Event.

c. At 0707 hours, the Communicator in the Control Room tried to notify the New York State and the Suffolk County Warning Points about the emergency on the RECS lines. The RECS system failed to operate.

d. At 0709 hours, the Communicator in the Control Room called the New York State Warning Point on the Alternate #1 line and read the information in Parts I and II of the New York State Radiological Emergency Data Sheet to the State operator who answered the telephone.

e. At 0716 hours, the Communicator called the Suffolk County Warning Point on the Alternate #1 line (911) in the Control Room. The Communicator read the information in Parts I and II of the New York State Radiological Emergency Data Sheet to the Suffolk County operator who answered the call.

f. At 0722 hours, the Communicator called the State and County Warning Points on the Alternate #1 lines in the Control Room and read the information in Part III of the New York State Radiological Emergency Data Sheet to the State and County persons who answer the calls.

g. At 0740 hours, a representative of the Suffolk County Police Department arrived at the Shoreham facility in response to Shoreham's call.

h. At 0800 hours, the Suffolk County Emergency Service Unit of the Suffolk County Police Department arrived at the Shoreham facility. A bomb search by the Emergency Service Unit was not conducted since the location of the bomb was not specific enough to use the police dogs.

i. At 0912 hours, the Suffolk County Police Department representatives left the Shoreham facility.

j. At approximately 1300 hours, the Emergency Director (LILCO Watch Engineer) declassified the emergency at Shoreham.

k. At 1308 hours, the Communicator in the Control Room called the New York State Warning Point on the Alternate #1 line and told the State person answering the telephone that LILCO had declassified the emergency.

l. At 1310 hours, the Communicator called the Suffolk County Warning Point on the Alternate #1 line (911) and told the County person answering the telephone that LILCO had declassified the emergency.

8. On December 4, 1987, at 0920 hours, the Shoreham NRC Inspector called Shoreham security about a bomb threat that his secretary had received against Shoreham. The following events occurred:

a. At 0928 hours, Shoreham security told the LILCO Watch Engineer about the bomb threat and that security was on standby.

b. At 0946 hours, the Emergency Director (LILCO Watch Engineer) declared an Unusual Event.

c. At 0948 hours, the Communicator tried to notify the New York State and the Suffolk County Warning Points on the RECS lines. There was no response.

d. At 1000 hours, the Communicator called the New York State Warning Point on the Alternate #1 line in the Control Room and read the information in Parts I, II, and III of the New York State Radiological Data Form to the State person who answered the call.

e. At 1001 hours, the Communicator called the Suffolk County Warning Point on the Alternate #1 line (911) in the Control Room and read the information in Parts I, II, and III of the New York State Radiological Data Form to the County person who answered the call.

f. At 1003 hours, the Communicator in the Control Room called the New York State EOC on the Alternate #1 line for the EOC and read the information on Parts I, II, and III of the New York State Radiological Emergency Data Sheet to the EOC person who answered the call.

g. At 1008 hours, a representative from the New York State Warning Point called Shoreham to verify that Shoreham had called them at 1000 hours.

h. At 1009 hours, the Communicator called the Suffolk County EOC on the Alternate #1 line in the Control Room and read the information in Parts I, II, and III of the New York State Radiological Emergency Data Sheet to the EOC person who answered the call.

i. At 1014 hours, the Communicator called the New York State Southern District Office on the Alternate #1 line and read the information in Part I, II, and III of the New York State Radiological Emergency Data Sheet to the District Office person who answered the call.

j. At 1020 hours, a representative of the Suffolk County Police Department arrived onsite.

k. At 1113 hours, the Emergency Director (LILCO Watch Engineer) declassified the emergency. The Communicator tried to notify the New York State and the Suffolk County Warning Points on the RECS lines in the Control Room. There was no response.

l. At 1118 hours, the Communicator in the Control Room called the New York State Warning Point on the Alternate #1 line and told the State person that the Shoreham emergency had been declassified.

m. At 1119 hours, the Communicator called the Suffolk County Warning Point on the Alternate #1 line in the Control Room and told the County person that the emergency had been declassified.

n. At 1121 hours, the Suffolk County Police Department representative left the Shoreham facility.

o. At 1150 hours, Investigator Daniel Regini with the Islip Headquarters of the New York State Police arrived at the Shoreham facility. He represented himself as the designated State Liaison for Shoreham emergencies. For further details on this contact see the Affidavit of James W. Devlin.

p. At 1210 hours, Investigator Regini left the Shoreham facility.

The foregoing facts are known by me to be true, of my own knowledge. I am competent to testify to such facts, and would so testify if I appeared as a witness in a public hearing on this matter.

Respectfully submitted,

Douglas M. Crocker

Subscribed and sworn to before me on ~~December 14~~ Dec 14 pm, 1987.

Notary

My Commission expires: 9/15/88

88

ATTACHMENT K

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF CHARLES A. DAVERIO ON LILCO RESPONSES TO REQUESTS BY LOCAL LAW ENFORCEMENT OFFICIALS FOR PUBLIC SAFETY ASSISTANCE

Charles A. Daverio, being duly sworn, deposes and says as follows:

I. Qualifications

1. My name is Charles A. Daverio and my business address is Shoreham Nuclear Power Station, P. O. Box 628, North Country Road, Wading River, New York 11792. I have been employed by LILCO since February, 1976.

2. I was awarded a Bachelor of Engineering degree in Mechanical Engineering in Feburary 1972 from Manhattan College, located in Riverdale, New York. In 1974, I attended a special summer program on "Nuclear Power Reactor Safety" at the Massachusett Institute of Technology in Boston, Massachusetts. In February 1975 I earned my Master of Science degree in Industrial Engineering from New York University, located in New York City.

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3. In 1972, I was employed by Cosentini Associates, located in New York, New York, where I was assigned to the Field Supervision Department. My primary functions included checking HVAC vendor equipment submittals against specifications.

4. From 1973 to 1974, I was employed by Ebasco Services, Inc., located in New York, New York. I served Ebasco Services, Inc., as a Project Coordinator with responsibility for contract administration and coordination of Ebasco Engineering and Design efforts.

5. In 1974, I joined Stone & Webster Engineering Corporation (S&W), located in New York, New York, where I was assigned the position of Licensing Coordinator on the Jamesport Project. In May of 1974, I was assigned to LILCO's office to assist them in their licensing effort on the Jamesport Project. I remained in this position until 1976.

6. From February 1976 to January 1979, I was assigned as an Associate Engineer in the Licensing Section of LILCO's Nuclear Engineering Division. I was responsible, except for the legal issues involved, for Jamesport's licensing under NRC regulations and rules. In this regard, I testified before the ASLB concerning compliance of the Jamesport site with 10 CFR 100 site suitability requirements.

7. In January 1979, I was appointed Section Supervisor of the Licensing Section. I remained in this position until November 1981. In this capacity, I was responsible for generic licensing issues as they might affect Shoreham. In January 1980, I was given the additional responsibility of Chairman of the Emergency Planning Task Force and testified before the Advisory Committee on Reactor Safeguards on Shoreham's Emergency Plan. In January 1981, I assumed yet another role as Lead Licensing

Engineer for the Shoreham Public Hearings. In this assignment, I was responsible for working with the licensing legal team in the particularization of contentions, discovery, and development of testimony for the forthcoming hearings.

8. From November 1981 to April 1982, I served as the full-time Chairman of the Emergency Planning Task Force, reporting to the Vice President, Engineering. I was responsible for the completion of the Shoreham Emergency Plan, including the detailed implementing procedures. Further, the Task Force was responsible for insuring proper training of all emergency personnel and for the overall coordination and review of state and local plans to insure that these personnel were prepared for the joint NRC/FEMA exercise.

9. In April 1982, I was assigned to the Nuclear Operations Support Department, where I remained until January 1983. In addition to assuming responsibility for special projects in the regulatory area, in this capacity I provided consultation to the Emergency Planning Task Force, particularly regarding the Company's coordination with federal, state, and local officials. I was furthermore responsible for hearing preparation on Emergency Planning.

10. In January 1983, I assumed the position of Supervisor, Emergency Planning and Regulatory Services. In this capacity, I acted as the Company's primary contact with industry groups. I was responsible for research and development programs within the Office of Nuclear Operations. I provided support for the functioning of the Nuclear Review Board. Furthermore, my responsibilities included the implementation of LILCO's Emergency Preparedness Program. This involved administering both the onsite and offsite preparedness program.

11. In March 1983, I received a special assignment, serving as Assistance Manager of the Local Emergency Response Implementing Organization. In this capacity, I provided supervision for thirty professional and four administrative staff personnel. The end product was the development and implementation of a Local Emergency Response Plan in which utility personnel performed offsite emergency preparedness functions.

12. From July of 1984 to April of 1986, I was Manager of the Nuclear Emergency Preparedness Division. In this position, I was responsible for maintaining the Shoreham onsite and offsite emergency preparedness programs. This included procedures development, training drills and exercises. Also, I was responsible for budget and schedule control. I had an approved staff of eleven professionals and three administrative support personnel. In addition, approximately ten to fifteen consultants were used to support the program.

13. From April to November 1986 I was the Assistant to the Vice President of Nuclear Operations. I provided direct support and assistance to the Vice President for a seven hundred person organization covering quality assurance, engineering, operations and all support for the Shoreham Nuclear Power Station. This position required a working knowledge of all facets of the nuclear program. I prepared special reports and studies as directed and advised the Vice President on matters requiring his personal attention. I maintained office continuity in the absence of the Vice President and represented the Vice President in both industry and in-company meetings. I managed many special projects for the Vice President and interacted directly with senior corporate management. I also provided policy clarification and advice to the personnel within the Office of Nuclear Operations.

14. In November of 1986 I assumed the position of Assistant Department Manager, Nuclear Operations Support Department. This Department is comprised of the following divisions: Security, Emergency Preparedness, Financial Services, Licensing and Contract Administration. In September of 1987 I became Manager of the Nuclear Operations Support Department.

15. My training also includes the Westinghouse Electric Corporation's PWR Systems Introduction Course and the Massachusetts Institute of Technology Special Summer Program on "Nuclear Power Reactor Safety."

II. LILCO's Responses to Requests by Local Law Enforcement Officials for Public Safety Assistance

16. Long Island law enforcement officials regularly call upon LILCO employees for assistance in the conduct of law enforcement and public safety duties. Following are specific instances in which LILCO employees have become involved in public safety activities at the request of local law enforcement officials.

A. Civilian Radio Motor Patrol

17. LILCO vehicles comprise one-quarter of the 1,600 radio-equipped vehicles in the Civilian Radio Motor Patrol (CRMP) coordinated by the Nassau and Suffolk County Police Departments. The CRMP is a neighborhood watch effort in which drivers of participating vehicles and their dispatchers relay emergency radio messages to police. LILCO has participated in the CRMP program since January, 1986.

18. In 1986, five of the eight CRMP awards in Suffolk County went to LILCO employees. William Smith, a LILCO gas service technician, was commended for informing police and a LILCO electric service crew of an accident in which an

ambulance struck a utility pole. While waiting for police to arrive, Mr. Smith blocked the accident scene with his vehicle and warned passersby to stay away from a fallen electric wire.

19. LILCO electric emergency serviceman William Coulter was commended for rendering first aid to a man suffering a seizure along a roadside in Sound Beach. Mr. Coulter radioed for medical assistance and then set out flares and began emergency first aid.

20. James O'Donnell, a LILCO gas serviceman, was commended for helping an injured jogger in Coram. Mr. O'Donnell covered the injured man with his jacket and directed traffic while an off-duty nurse assisted the victim until an ambulance arrived.

21. William Fredericks, another LILCO employee, was commended for stopping his overhead lines truck on the Montauk Highway in East Patchogue to assist at the scene of an automobile accident. Mr. Fredericks turned off the ignition of an overturned van leaking gasoline onto the highway and directed traffic away from the accident until police and fire units arrived.

22. The 1986 Suffolk County awards were presented by Suffolk County Executive Peter Cohalan during a ceremony in the Executive Offices of the County.

23. In Nassau County in 1986, two of six CRMP awards went to LILCO teams of field workers and their dispatchers. In 1987, three of nine awards went to Nassau County LILCO teams. LILCO lineman Robert Ennist received one award for pulling his truck in front of two homeless men lying in an intersection in East Meadow. Mr. Ennist turned on his flashing lights and set out flares to protect the men until the police arrived.

B. Electric Emergencies

24. In the following instances, LILCO employees worked with law enforcement officials to direct traffic and secure public safety around downed power lines:

a) On March 31, 1987, Suffolk County Police reported a service wire down and blocking Third Street in Huntington. A LILCO emergency service specialist was dispatched to the scene. The police remained at the scene until LILCO personnel arrived and then requested permission from their department to leave. The police left the scene before repairs were completed. LILCO personnel maintained public safety until the job was completed.

b) On October 7, 1987, Nassau County Police reported to LILCO a leaning utility pole and low hanging wires over Ludlam Avenue in Bayville. LILCO dispatched an emergency service specialist who determined that the wires had been caught by a passing truck, causing the pole to lean. The LILCO emergency service specialist temporarily elevated the wires using the bucket on his truck, set out traffic cones around the obstruction, and directed traffic while awaiting the arrival of a New York Telephone Company crew to replace the pole.

Two Nassau County police officers were at the scene when the LILCO emergency service specialist arrived. However, the officers left the area after traffic cones had been set out. The LILCO emergency service specialist continued to direct traffic around the obstruction until repair crews arrived.

c) At about 10:30 pm on December 2, 1987, LILCO received a report from a dispatcher at the Suffolk County Police Department that a vehicle had struck an electric utility pole on Oak Street west of Route 12 in Medford. LILCO dispatched an emergency specialist to the scene. The LILCO emergency service specialist arrived at the scene and reported that the pole was broken 20 feet above the ground and that telephone and cable television wires hung about 9 feet over the roadway.

The LILCO service specialist requested a repair crew and then assisted the Suffolk County Police in directing traffic around the downed lines. At about 1:00 am the police notified the LILCO service specialist that he (the policeman) had been ordered to leave the scene. The police officer placed flares around the scene and left. The LILCO service specialist continued to direct traffic around the downed lines until, at about 2:00 am, a LILCO repair crew arrived.

C. Ad Hoc Assistance

25. On February 13, 1986, the day of the Shoreham FEMA-graded off-site emergency planning exercise, two LILCO employees participating in the exercise were requested by the Suffolk County Sheriff's Department to assist in an emergency response unrelated either to the emergency planning exercise or to LILCO's normal course of business.

26. A road crew consisting of two Local Emergency Response Organization (LERO) workers in a LILCO wrecker truck had been dispatched from the Riverhead Staging Area to the intersection of Edwards Avenue and Route 25. Shortly after arriving at their assigned location, the LERO workers observed a trailer pulling a mobile home turning south onto Edwards Avenue. A tire on the trailer was on fire. The LERO workers used the fire extinguisher on the LILCO wrecker truck to put out the fire. The trailer driver then discovered that the trailer had become stuck in the mud. A Suffolk County sheriff's deputy accompanying the trailer asked the LERO workers to use the LILCO wrecker to extract the trailer from the mud. The LERO workers contacted the LERO Brentwood Emergency Operations Center and received permission to use the LILCO wrecker. However, the LERO workers were unable to free the trailer and the sheriff's deputy radioed for a larger wrecker truck.

The foregoing facts are known to me to be true and correct to the best of my knowledge and belief. I am competent to testify to such facts, and would so testify if I appeared as a witness in a public hearing on this matter.

Charles A. Daverio

Subscribed and sworn to before me this 16th day of December, 1987.

Notary Public

My commission expires: 9/30/88

ATTACHMENT L

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF JAMES W. DEVLIN IN SUPPORT OF LILCO'S MOTIONS FOR SUMMARY DISPOSITION OF CONTENTIONS 1-10

James W. Devlin, being duly sworn, deposes and says as follows:

1. My name is James W. Devlin. My business address is Long Island Lighting Company, Shoreham Nuclear Power Station, Wading River, New York 11792.

2. I am currently the Nuclear Site Security Division Manager for the Long Island Lighting Company. I have been employed in this capacity at the Long Island Lighting Company since October 1984. My responsibilities as Manager include supervising and directing the Shoreham security forces and program.

3. From 1966 to February 1982, I was Chief of Investigating and Security, Region I, for the Nuclear Regulatory Commission and the Atomic Energy Commission.[1/] In this position, I was responsible for supervising security inspections and investigations for Region I for NRC licensees. From February 1982 to October 1984, I was the President of James W. Devlin Associates, Inc. where I consulted with companies in the nuclear industry, including the Shoreham Nuclear Power Station, on nuclear security.

1/ In January 1975, the Atomic Energy Commission became the Nuclear Regulatory Commission.

4. On December 4, 1987, at 0920 hours, Shoreham security was notified by the Shoreham NRC Inspector of a bomb threat made against the Shoreham facility. As a result, an Unusual Event was declared.

5. When the bomb threat was received by Shoreham security, I was on duty at the Shoreham facility. I was involved in the decision to declare an Unusual Event, and I directed the bomb search.

6. At 1150 hours, Investigator Daniel Regini from the Islip Headquarters of the New York State Police arrived on site. Shoreham security directed him to my office.

7. Investigator Regini identified himself as the designated State Liaison for Shoreham. He stated that his supervisor had directed him to report to Shoreham to obtain further details on the bomb threat.

8. Investigator Regini had a teletype document from Albany with him. I saw the teletype document and was able to verify that it was from Albany.

9. Investigator Regini read certain portions of the teletype document to me and asked me to verify the information. The information read to me was the same information that Shoreham had transmitted to the New York State Warning Point.

10. After verifying this information for Investigator Regini, I then informed him that a search had been conducted and that no bomb had been found.

11. At 1210 hours, Investigator Regini left the Shoreham facility.

The foregoing facts are known by me to be true, of my own knowledge. I am competent to testify to such facts, and would so testify if I appeared as a witness in a public hearing on this matter.

James W. Devlin

Subscribed and sworn to before me on _____, 1987.

JAMES A. LITTLE
NOTARY PUBLIC, State of New York
No. [illegible] Suffolk County
[illegible]

Notary

My Commission expires: [illegible]

ATTACHMENT M

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF JAY RICHARD KESSLER ON DIRECTING TRAFFIC, TRAINING PUBLIC WORKERS FOR EMERGENCY RESPONSE, AND ORDERING EVACUATIONS

Jay Richard Kessler, being duly sworn, deposes and says as follows:

I. Qualifications

1. My name is Jay Richard Kessler. My business address is Long Island Lighting Company (LILCO), 175 East Old Country Road, Hicksville, New York 11801. I am the Vice President of Gas Operations at LILCO.

2. During World War II, I served with the U.S. Navy in the Pacific Theatre. I attended New York University where I received a Bachelor of Industrial Engineering degree in 1960. Subsequently, at the University of Michigan, I participated in the Public Utilities Executive Program.

3. My career at LILCO began in 1952 when I worked as a Technical Assistant for the Pipeline Construction Inspector in the Gas Street Department. In 1956, I was promoted to the position of Senior Gas Field Inspector within the same department. I went on to become a Staff Assistant in the Gas New Construction Department in 1957.

 LSAP.

4. From 1960 to 1970, I held several different titles in the Underground Lines Department. After earning my Bachelor degree in 1960, I was awarded the position of Staff Engineer. In 1963, I became District Supervisor, and in 1969 I was promoted to Division Manager. I moved to the Underground Distribution Department in 1970 where I was a Division Manager, but in 1973 I returned to the Underground Lines Department as Assistant Manager.

5. From 1981 to 1982, I managed the Transmission and Distribution Staff Services Department but was reassigned to the Underground Lines Department as Manager. Today I am the Vice President of Gas Operations at LILCO. I have held this position since 1984.

6. I have personal knowledge of the facts recited in this affidavit because of my experience in both the electric and the gas operations divisions of LILCO.

II. Directing Traffic

7. LILCO gas and electric personnel regularly conduct routine maintenance, repair, and improvement work on or near public roadways, causing some impairment of normal traffic flow.

8. Such work cannot be conducted without prior approval in the form of a permit from the owner of the right-of-way, i.e., the State, county, or other political subdivision. A separate permit must be obtained for each project proposed.

9. Such permits describe both the nature of the work to be undertaken and the permittee's affirmative obligations, including the permittee's responsibility to provide for the safety of pedestrian and motor vehicle traffic in the vicinity of the work site.

10. To ensure compliance with the various permit conditions concerning traffic safety around utility work sites, LILCO has compiled a Work Area Protection Manual which is distributed to all LILCO personnel involved in utility work affecting traffic safety. The LILCO Manual describes recommended work area protection procedures and gives numerous illustrations of specific work area protection strategies. The LILCO Manual is derived from the New York State Department of Transportation Manual of Uniform Traffic Control Devices.

11. In 1987, LILCO has obtained an estimated 200 highway work permits from the State of New York Department of Transportation for planned maintenance, repair, or improvement work on State-owned roads. These permits contain the following standard conditions regarding traffic safety at the work site:

> 7. TRAFFIC MAINTENANCE
>
> A plan detailing how the permittee intends to maintain and protect traffic shall be submitted with work plans. Traffic shall be maintained on the highway in a safe manner during working and non-working hours until construction is completed. The permittee is responsible for traffic protection and maintenance, including adequate use of signs, barriers, and flag persons during working and non-working hours until construction is completed.

New York State Permit Form 32g (2/87). These permits further provide that maintenance of traffic shall be in conformance with the New York State Manual of Uniform Traffic Control Devices. LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, on State-owned roads.

12. State Department of Transportation highway work permits may also impose the following additional conditions regarding traffic safety at the work site:

D. MAINTENANCE AND PROTECTION OF TRAFFIC

1. Traffic is to be maintained at all times during the progress of this work and adequate signs, barricades and lights shall be provided in accordance with the provisions of sub-chapter H of the N.Y.S. Department of Transportation's Manual of Uniform Traffic Control Devices. A maintenance and protection of traffic plan may be required. No lanes shall be closed without prior approval.

* * *

5. All open trench in the highway right-of-way shall be barricaded. There shall be conspicuously displayed bright red flags no less than 24" x 24" attached to such barricades and illuminated at night with flashing yellow lights. If in the judgment of the representative of the Commissioner of Transportation, flagmen are necessary, they shall be employed by the permittee and on duty at all times during the progress of the work so as to direct traffic and maintain yellow flashing lights, etc.

New York State Permit Form 41-1d (4/86). LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, on State-owned roads.

13. In 1987, LILCO has obtained an estimated 170 permits from the Suffolk County Department of Public Works for work on County-owned roadways. A number of these work permits include the following standard conditions regarding traffic safety:

7. TRAFFIC MAINTENANCE

> Traffic shall be maintained by the permittee on the highway, in a safe manner, during work and evening hours until its final completion. Suitable safeguards shall be provided in accordance with N.Y. State Manual of Uniform Traffic Control Devices by the permittee (including flagmen when requested by the department).

LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, on Suffolk County-owned roads.

14. In 1987, LILCO has obtained an estimated 300 permits from the Nassau County Department of Public Works for work on County-owned roads. These permits expressly provide that public travel over county roads should not be endangered by the authorized road work. LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, on Nassau County-owned roads.

15. Work permits issued to LILCO by the City of New York Department of Transportation provide for such specific instructions regarding traffic safety as the number and direction of lanes to be maintained for traffic, the width of roadway to be opened to traffic at the end of each day's work, and the pedestrian passageway(s) to be maintained. LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, on New York City-owned roads.

16. Roadway work permits issued to LILCO by villages and other political subdivisions on Long Island generally provide that the permittee must maintain traffic around the work site while work is in progress and until its final completion, and that proper barricades and flares must be maintained until the road is restored to its original

condition. LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, on roadways owned by towns and villages on Long Island.

17. LILCO also purchases annually "maintenance permits" from the State of New York and Suffolk County which allow LILCO to undertake emergency repair work without prior approval. However, the terms of the maintenance permits require LILCO to advise the appropriate authorities of emergency work within twenty-four hours of repairs undertaken. These permits or authorizations also require LILCO to maintain traffic safety around the emergency work site. LILCO employees routinely comply with these conditions and therefore regularly direct traffic, using flagmen when necessary, at such sites.

III. Training Public Workers for Emergency Response

18. LILCO currently trains local law enforcement personnel to respond to gas and electric emergencies.

19. In 1987, about 30 Nassau County police rescue people participated in two-day seminars on gas and electric emergencies.

20. LILCO sponsors training on natural gas emergencies for all Nassau and Suffolk County fire personnel. Until 1984, LILCO's firemen training program consisted of a slide presentation which LILCO presented at each fire company in Nassau and Suffolk County.

21. In 1984, LILCO undertook to improve its training program by training county fire academy instructors who in turn would train personnel at the Nassau and Suffolk County fire academies.

22. Currently, LILCO's natural gas emergency response training consists of a three-hour lecture and also practical training using natural gas distribution system mockups constructed by LILCO at both County fire academies. Nassau County requires that all such training be conducted at the Nassau County fire academy; Suffolk County fire officials conduct the lecture portion of the training at individual fire companies and then require all trainees to complete practical training at the Suffolk County fire academy.

23. LILCO also participates with Nassau and Suffolk County fire officials in a committee to ensure the ongoing effectiveness of training for response to natural gas emergencies.

IV. Ordering Evacuations

24. Response to reported natural gas leaks regularly requires the evacuation of individuals from homes and workplaces. In the period December 1, 1986 through December 9, 1987, 90 natural gas-related evacuations were reported in LILCO's service area.

25. According to procedures adopted by both LILCO and county fire officials, evacuation orders may be issued by the first party responding to the emergency.

26. The procedures for responding to a natural gas leak emergency are contained in LILCO Work Method No. 15,004. This procedure is reviewed and updated by LILCO management every five years and is filed with the New York State Public Service Commission. All LILCO gas service employees are required to review the procedure annually. A copy of Work Method No. 15,004 is attached.

27. According to Work Method No. 15,004, a LILCO gas service worker responding to a reported indoor gas leak first checks his vapor-tester to ensure that it is in working order. The service worker next enters the building or dwelling and takes readings of the gas-to-air mixture. If the service worker obtains any indication of natural gas in the air, he evacuates any occupants of the building to a safe distance. He then attempts to ventilate the building. The gas service worker will attempt to discontinue the supply of natural gas to the building. If warranted, the gas service worker will also attempt to discontinue telephone and electric service to the building.

28. If LILCO is the first to respond to a natural gas leak emergency and issues an evacuation order, LILCO reports its protective action to county fire officials.

29. In a majority of the natural gas leak evacuations in the past year (56 of 90), firemen or police were the first to respond and to issue the evacuation order. In the remaining instances, private individuals, such as landlords, homeowners, and contractors, were responsible for initiating an evacuation. In the following four instances, LILCO gas service workers were the first to respond and to issue an evacuation order:

1) On December 11, 1986, the Town of Babylon Highway Department, while installing a "No Parking" street sign, drove a hole in a 2-inch plastic gas main in front of a residence on

Little East Neck Road. A LILCO gas service worker found indications of gas at the foundation and in the basement of the house and evacuated four people.

2) On June 3, 1987, a trucking company reported that a forklift had struck and broken a gas line in the town of Lindenhurst. LILCO dispatched a customer service foreman and a serviceman to the location. The customer service foreman evacuated four people from an adjacent building while the curb valve was located and shut off.

3) On November 4, 1987, while a gas service worker was attempting to repair a slight leak on a gas service valve in the basement of a house in Hicksville, the meter valve core blew out causing a high pressure leak. The gas service worker evacuated one person from the house and shut off the gas at the curb valve.

4) On December 9, 1987, a LILCO gas service worker responded to a report of leaking natural gas at a house in Glenwood Landing. The LILCO worker detected natural gas in the house and evacuated 3 individuals. Fire officials subsequently evacuated 5 additional houses.

The foregoing facts are known to me to be true, of my own knowledge. I am competent to testify to such facts, and would so testify if I appeared as a witness in a public hearing on this matter.

Jay Richard Kessler
Jay Richard Kessler

Subscribed and sworn to before me this 14th day of December, 1987.

Notary Public

My commission expires: ______ 88

1. GENERAL

1.1 This procedure outlines the steps to be taken by Gas Customer Service Personnel when responding to gas leaks and/or odor calls. The procedure will cover the majority of the cases a Service person will encounter; however, situations may occur that do not fit the steps of the procedure. In these cases, the Service person must rely upon his judgment and experience and take action that is directed towards safety for the lives and property of the public.

1.2

a. The procedure has been designated as a corporate procedure.
b. Outside Notification - none required by this procedure.
c. The actions in this procedure are responsive to various state codes (16NYCRR).
d. This procedure shall be reviewed on an annual basis with all service personnel responsible for implementation.
e. This procedure will be reviewed and revised as necessary, every five (5) years.

1.3 For purposes of this procedures "make-safe" actions are defined as those actions taken to minimize or remove the potential danger to life or property or those investigative steps taken that indicate no potential danger exists.

1.3.1 The following are examples of "make-safe" actions that may be taken by the Service person; some situations may require that the Service person take one or more of these actions to "make-safe".

a. Shut off the source of escaping gas.
b. Evacuate buildings.
c. Ventilate buildings.
d. Determine that no potential danger exists by using a combustible gas indicator.
e. Temporary measures to substantially restrict the flow of escaping gas.
f. Remain at location to protect against actions of others that could cause an incident or accident.

g. Divert pedestrians and/or vehicular traffic.
h. Check all vent-connected gas utilization equipment draft hoods in accordance with Par. 8.6 of the National Fuel Gas Code ANSI Z223.1.for indication of improper flue draft.
i. Other actions as the situation warrants.

1.3.2 The make-safe actions of the Service person will vary with the conditions that exist when responding to a gas leak or odor call. Good judgment and experience shall be used to assess the seriousness of the situation. The Service person's primary responsibility is to take action that assures the safety of human life and property and yet minimizes the resulting inconvenience to the general public.

1.4 For the purpose of this procedure, a perimeter barhole survey is defined as barholing in a circular pattern and taking readings to determine if a gas leak is present, and if so, the limits to which the gas has traveled. The survey would consist of taking a reading at the foundation, mid-point, curb area and main of the origin of the call, the adjacent houses on either side of the reported leak, and the three houses directly opposite the reported leak. Barholes should be made at a depth of 18 inches for the service, and 24 inches for a main. A check should also be made of all available substructures in the area.

1.5 Some examples of substructures are:

a. Manholes
b. Catch Basins
c. Service Boxes
d. Valve Boxes
e. Vaults

1.6 The combustible gas indicator should first be set on the upper gas range scale, after purging with air. If there is a slight needle deflection or no movement, then switch to the lower LEL scale. These steps must be repeated when the probe is moved to a new barhole location.

2. FIELD INVESTIGATION

2.1 Blowing gas (seal blows excluded-refer to WM-11001).

2.2 Take appropriate "make-safe" actions. Report to the Gas Customer Service Dispatcher/Gas System Operator/Special Service Operator the suspected source of leaking gas and the details of the situation.

2.3 Check the buildings in the vicinity of the reported leak for the presence of gas with a pretested combustible gas indicator.

2.4 Ventilate and/or evacuate when the situation requires. Notify the Gas Customer Service Dispatcher/Gas System Operator/Special Service Operator of any evacuation, who ordered the evacuation, type of residence (apt., private home, store, etc.) and the approximate number of houses evacuated.

2.5 Perform a perimeter barhole survey. Make sure the foundations and points of entry of buildings within the perimeter that are CGI are checked.

2.6 Check substructures in the area.

2.7 Record all readings on barhole record (FC-9895) (See Attachment).

2.8 Report findings to the Gas Customer Service Dispatcher/Special Service Operator using the data on the barhole record form.

3. GAS LEAKS OR ODORS OUTSIDE CUSTOMERS PREMISES (Sealows Excluded - Refer to WM-11001

3.1 Check area for obvious source of leak or odor.

3.2 Take appropriate, "make-safe" actions, as required.

3.3 Check the buildings in the vicinity of the reported leak for the presence of gas with a pretested combustible gas indicator.

3.4 Perform perimeter barholing in the vicinity of the reported leak.

3.5. Check substructures in the area.

3.6 Record all readings on barhole record (FC-9895). The sketch is required even if a leak is not found.

3.7 Report findings to the Gas Customer Service Dispatcher/Special Service Operator using the data on the barhole record form.

4. FROST OR CONTINUOUS PAVEMENT CONDITIONS

4.1 In the event of frost or continuous pavement which may make barholing difficult, the Gas Customer Service person should attempt to make barholes and obtain readings at the foundation where the ground is normally soft, points of entry of other utilities, substructures in the immediate vicinity of the reported leak, cracks in pavement of seam joints where barholes can be made.

4.2 If it becomes impossible for an adequate barhole investigation, the Gas Customer Service person should notify the Gas Customer Service Dispatcher/Special Service Operator, who in turn, will notify the Gas Construction and Maintenance Department.

5. GAS LEAKS OR ODORS INSIDE CUSTOMER PREMISES

5.1 The safety precautions to be used when responding to reported inside gas leak calls are:

5.1.1 Knock on the door or window to attract the customer's attention. Do not ring the door bell.

5.1.2 Do not carry lighted cigarettes, pipes or cigars or light any matches. Caution all other persons in the area against doing so.

5.1.3 Use only Company approved vapor-proof flashlight.

5.2 If the Service person smells gas as he enters the premises, the inside air shall be checked for the presence of gas with a combustible gas indicator. This step should be performed in a tactful manner so as not to unduly alarm the customer.

5.3 If any reading is obtained, ventilate, and an evacuation should be ordered immediately. Take the appropriate make-safe actions as required. Notify the Gas Customer Service Dispatcher/Special Service Operator of the evacuation, who ordered the evacuation, type of residence (apt., private home, store, etc.) and the approximate number of houses evacuated.

5.3.1 Do not turn on or off, or permit anyone else to turn on or off any electric lights, switches, motors or other electrical equipment.

5.3.2 Avoid walking on rugs whenever possible, since static electricity can ignite combustible mixtures.

5.3.3 Turn off all open flames as soon as possible.

5.4 When the leak is minor or when the hazard is controlled by ventilation, proceed directly to the portion of the gas facilities that are suspected.

5.5 Locate the leak by using a combustible gas indicator and soap suds solution, checking all threads, joints and fittings.

5.6 If a leak is found and repaired inside the premises, a further investigation shall be made to determine that the leak repaired was the only source of escaping gas. This will include checking the wall piece, points of entry of other facilities, crawl spaces, and barholing the service. If a reading is obtained when barholing the service, follow section 3 of this procedure.

5.7 Examples of points of entry of other facilities are:

a. Sewer Trap
b. Gas Service Wallpiece
c. Electric Utility Box
d. Water Service
e. Telephone Duct

5.8 When gas is found to be entering the building, follow section 3 of the procedure.

5.9 Where no leak is found and the Service person suspects gas may be present that is not entering from the outside, perform a manometer test of the house line. Repair or make-safe any leaks found.

5.10 Where no leak is found or a leak is found and repaired, the Service person must still perform a check of all draft hoods in accordance with Par. 8.6 of the National Fuel Gas Code ANSI Z223.1.for improper flue draft. If spillage is found, the chimney shall be checked for obstructions.

5.11 Check for odors caused by impingement, food spillage, slow ignition or open household containers such as paint, cleaning fluid, gasoline, etc.

5.12 If no leak is found and no source of foreign odor is located, take a bottle sample of the atmosphere at the point of heaviest concentration.

5.13 Report findings to the Gas Customer Service Dispatcher/Gas System Operator/Special Service Operator.

5.14 In addition to our normal inside leak checks, the Service person must also barhole the service and check any substructures in the immediate area. If no readings are obtained, a barhole record form is prepared and the investigation is concluded. If a reading is found outside, follow section 3 of this procedure.

ATTACHMENT N

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

**AFFIDAVIT OF JOHN D. LEONARD, JR.
IN SUPPORT OF LILCO'S MOTIONS FOR
SUMMARY DISPOSITION OF CONTENTIONS 1-10**

John D. Leonard, Jr., being duly sworn, deposes and says as follows:

1. My name is John D. Leonard, Jr. My business address is Long Island Lighting Company, Shoreham Nuclear Power Station, Wading River, New York 11792.

2. I am currently Vice President, Nuclear Operations, for the Long Island Lighting Company. I have been employed in that capacity at the Long Island Lighting Company since May 1984. My combined civilian and naval nuclear experience amounts to 25 years.

3. In September 1974, I retired with the rank of Commander from the United States Navy, having commanded two nuclear-powered submarines in a career that spanned twenty years in various Navy duties. From September 1974 to January 1976, I organized the Operational Quality Assurance Division of the Virginia Electric Power Company. From January 1976 to April 1980, I served as a Resident Manager of the New York Power Authority's James A. FitzPatrick Nuclear Power Plant, a sister plant to Shoreham. During this time, the FitzPatrick facility was judged by the Nuclear

Regulatory Commission to be one of the twelve best-managed plants with respect to reactor safety. From April 1980 to May 1984, I was the Vice President and Assistant Chief Engineer for Design & Analysis in the New York Power Authority's Engineering Department. My staff supported two operating nuclear power plants, Indian Point 3 and the James A. FitzPatrick Nuclear Power Plant, as well as the engineering for the construction of new Power Authority facilities. During an interim period from August 1981 through December 1981 the New York Power Authority's president, Mr. George T. Berry, asked me to return to the FitzPatrick plant in order to solve some serious management problems that had developed there. I voluntarily complied with this request.

4. I graduated with a Bachelor of Science degree from Duke University in 1953 and earned a Master of Science degree in Physics from a nuclear engineering curriculum from the Naval Post Graduate School. I have also attended the Naval Nuclear Power School and the General Electric simulator training course on boiling water reactors at the Dresden Nuclear Power Station.

5. The Indian Point Nuclear Power Station has two operating nuclear units, one operated by the Consolidated Edison Company of New York, Inc. and the other by the New York Power Authority.

6. A portion of Rockland County, New York is within the 10-mile emergency planning zone for the Indian Point facility.

7. In 1982, during the time I was a Vice President at the Power Authority, Rockland County refused to continue planning for a radiological emergency at the Indian Point facility.

8. As a result, the New York State Disaster Preparedness Commission adopted an interim emergency response plan for Rockland County called the "Interim Radiological Emergency Response Plan for Implementing Compensating Measures for Rockland County."

9. In support of this interim plan, Consolidated Edison and the Power Authority recruited non-Rockland County emergency workers to be volunteer civil defense workers who would fill various emergency roles in the interim plan.

10. As Vice President of Engineering for the Power Authority, I was personally involved in recruiting Power Authority employees to fill these positions.

11. To the best of my knowledge, approximately 600 employees of the Power Authority and Consolidated Edison were recruited to be volunteer emergency workers in the State's interim plan.

12. These workers, recruited from the employees of Consolidated Edison and the Power Authority, replaced Rockland County personnel as bus drivers, traffic guides, health physics monitors, and relocation center workers according to the procedures in the State's interim plan.

13. In particular, the volunteer traffic guides were recruited to replace Rockland County police who were no longer participating in the planned emergency response and to direct evacuation traffic on public streets and roads, according to the interim plan, during drills, exercises, and during an actual emergency.

14. All volunteer emergency workers, recruited from the employees of Consolidated Edison and the Power Authority, were trained in their positions and participated in drills and in a federally graded exercise on August 24-25, 1983 of the State of New

York Radiological Emergency Response Interim Plan for Rockland County. For example, during the August 1983 exercise, the volunteer traffic guides worked with State and local police to man traffic control points according to the State interim plan. See FEMA Post Exercise Assessment Report of September 26, 1983 for the New York State Interim Plan for Rockland County, at 33.

15. I also personally participated in the State's interim plan for Rockland County as a health physics monitor from early 1982 until May 1984. As a health physics monitor, I participated in training and drills. I also participated in the October 24-25, 1983 exercise. However, sufficient health physics monitors were available from other trained employees so that I could perform engineering tasks during the exercise.

16. All volunteer emergency workers recruited by Consolidated Edison and the Power Authority were issued a New York State Disaster Preparedness Commission identification card and a "Utility Representative Pass" for military and/or police control points during radiological emergencies. Photocopies of my identification card and pass are attached to this affidavit.

The foregoing facts are known by me to be true, of my own knowledge. I am competent to testify to such facts, and would so testify if I appeared as a witness in a public hearing on this matter.

John D. Leonard Jr.

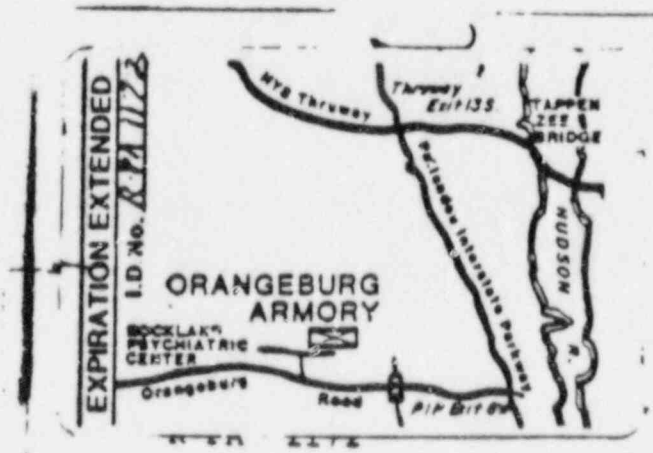
Subscribed and sworn to before me on Dec. 10, 1987.

Notary

LINDA A. CRAITY
NOTARY PUBLIC, State of New York
No. [illegible]
Qualified in [illegible]
My Commission Expires, March 30, 1988

My Commission expires: March 30, 1988

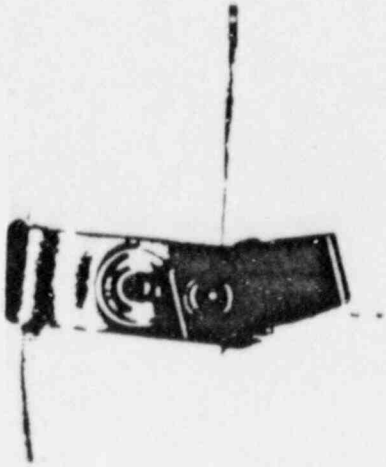
NEW YORK STATE
DISASTER PREPAREDNESS COMMISSION
This is to Certify
JOHN D.
PREVENTION MITIGATION
RESPONSE
RECOVERY
EDC
MILITARY and/or POLICE CENTRAL POINTS
NEW YORK STATE EXECUTIVE
Authorized by
Title
Date issued 8/2/83 Expiration Date DEC 31 1983

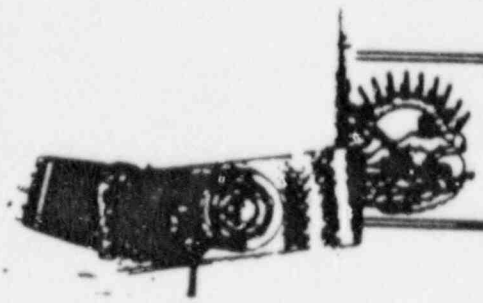


NEW YORK STATE
DISASTER PREPAREDNESS COMMISSION

UTILITY REPRESENTATIVE PASS for
MILITARY and/or POLICE CONTROL POINTS
during RADIOLOGICAL EMERGENCIES

001 NAME J. Leonard





POWER AUTHORITY
OF THE STATE OF NEW YORK
James A. FitzPatrick Nuclear Power Plant
P.O. Box 41
Lycoming, New York 13093

ATTACHMENT O

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-3
	)	(Emergency Planning)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF EDWARD B. LIEBERMAN IN SUPPORT OF LILCO'S MOTION FOR SUMMARY DISPOSITION OF CONTENTIONS 1, 2 AND 9 — IMMATERIALITY

Edward B. Lieberman, being duly sworn, deposes and says as follows:

1. I am President of KLD Associates, Incorporated which was retained by LILCO to develop a traffic plan and evacuation time estimates for the Shoreham EPZ. My professional qualifications are bound into the record in this proceeding at Tr. 17,421 as part of LILCO Exhibit 1, Attachment C. I have personal knowledge of the facts recited below because of my extensive involvement in the calculation of evacuation time estimates for the Shoreham EPZ.

2. The Shoreham Emergency Plan contains a variety of evacuation time estimates depending on the assumptions one makes about an evacuation of the Shoreham EPZ. These times estimates appear in OPIP 3.6.1, Attachments 2 and 7 and in Appendix A to the Plan.

8712290219 5pp.

3. One set of evacuation time estimates that appear in the Plan are premised on a "controlled" evacuation, that is, one in which Traffic Guides are in place at the time they are able to affect evacuation times. Another set of evacuation time estimates assumes an "uncontrolled" evacuation, that is, one of which all of the traffic control points remain unmanned throughout the evacuation. For both of sets of evacuation time estimates, it is normally assumed that all evacuees will comply with the routes they have been assigned in the Plan. However, sensitivity runs have been conducted for both the controlled and uncontrolled cases to determine the effect on evacuation times of 25% and 50% of the evacuees not following their assigned paths. The results of these runs are presented in OPIP 3.6.1, Att. 7.

4. During the emergency planning litigation, which centered on Revision 3 to the Shoreham Emergency Plan, I testified to the following evacuation time estimates (ETE) for an evacuation of the entire Shoreham EPZ under normal summer weather conditions:

Controlled/ Uncontrolled	% Non-Compliance	Evacuation Time Estimate (hours-minutes)
Controlled	0%	4-55
Uncontrolled	0%	6-30
Controlled	25%	4-55
Controlled	50%	5-30
Uncontrolled	25%	6-30
Uncontrolled	50%	6-30

From these estimates, one can see that the timely presence of Traffic Guides had the effect of reducing evacuation times by approximately 95 minutes. Only in the case of

50% non-compliance during a controlled evacuation did evacuees not following their assigned routes have any effect on evacuation times.

5. Subsequent to the close of the record in the emergency planning litigation, KLD was requested in November 1984 to help with the Revision 5 update of the LILCO Transition Plan. KLD was asked to calculate evacuation time estimates for a series of 90° keyholes (Revision 3 of the LILCO Plan contained evacuation time estimates for 67½° keyholes) and to develop traffic routing to the Nassau Coliseum (which at that time was the designated reception center). As a part of that update, the decision was made to model more explicitly those evacuees living in Zone Q. Prior to the Revision 5 evacuation time estimates, 690 cars had been modeled as evacuating Zone Q on the evacuation network; the remaining Zone Q evacuating vehicles were not explicitly modeled but were assumed to evacuate the EPZ on local roadways. For the Revision 5 time estimates, additional roads in Zone Q were represented as links in the evacuation network and additional origin centroids were defined to represent evacuating vehicles accessing those new links. As a result, approximately 2000 vehicles were explicitly modeled as evacuating from Zone Q on the evacuation network; about 300 cars from Zone Q were still assumed to evacuate by local roadways not represented as links in the evacuation network.

6. As in the case of the prior evacuation time estimates, the traffic assignment model of the DYNEV system was run to assign traffic to those paths of travel on the evacuation network which would minimize the travel time from each origin centroid to each associated destination node. The traffic simulation model of the DYNEV system was then used to calculate the evacuation time estimates.

7. The Revision 5 evacuation time estimates (which presently appear in the Plan) for the same six cases presented in Paragraph 4 above are as follows:

Controlled/ Uncontrolled	% Non-Compliance	Evacuation Time Estimate (hours-minutes)
Controlled	0%	5-05
Uncontrolled	0%	5-40
Controlled	25%	5-25
Controlled	50%	5-25
Uncontrolled	25%	6-00
Uncontrolled	50%	6-25

As can be seen from these results, the difference in evacuation time estimates from the timely presence of Traffic Guides and special traffic control treatments, such as one-way flow and lane blockages, is now 35 minutes instead of the prior 95 minutes. This difference is largely the result of different traffic assignments in two subzones in Zone F. Specifically, the addition of approximately 1300 vehicles to the evacuation network in Zone Q, described above, had the effect of diverting traffic demand from the section of roadway converted to one-way flow under the LILCO Plan to Route 25A and other roads to the south. One effect of this new assignment of traffic and the more explicit treatment of traffic in Zone Q is the lessening of the difference in ETEs between the controlled and uncontrolled cases.

8. Noncompliance with assigned routes affects the Revision 5 evacuation times for both controlled and uncontrolled cases.

The foregoing facts are known by me to be true, of my own knowledge. I am competent to testify to such facts, and would so testify if I appeared as a witness in a public hearing on this matter.

Edward B Teetsman

Subscribed and sworn to before me on December 15, 1987.

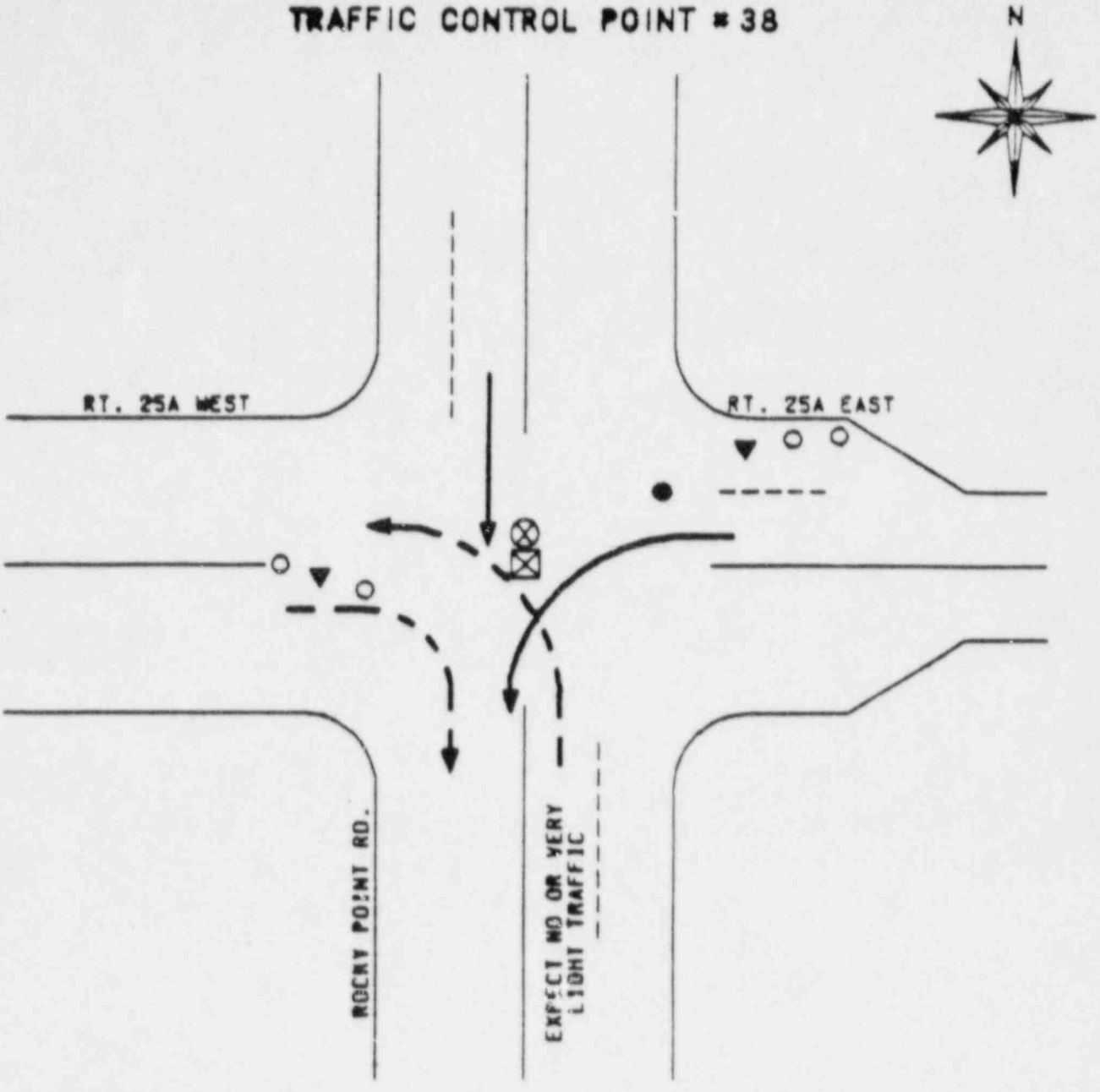
Notary Public

My commission expires

August 21, 1990

ATTACHMENT P

TRAFFIC CONTROL POINT # 38



LEGEND

- CONES
- FLASHING LIGHT ON TOP OF CONE
- TRAFFIC GUIDE
- TRAFFIC SIGNAL
- STOP SIGN
- YIELD SIGN
- ROAD SIGN
- EVACUATION ROUTE
- MOVEMENTS TO BE ACCOMMODATED

EVACUATION MOVEMENT TO BE FACILITATED		MOVEMENTS TO BE DISCOURAGED	
FROM	TO	FROM	TO
E	S	ALL	E
N	S	ALL	N

NOTES:

PLACE CONES TO ALLOW SUFFICIENT GAP FOR VEHICLES TO PASS THROUGH.

ATTACHMENT Q

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-5
	)	(EP Exercise)
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

CONTENTION EX 40 -- CALCULATION OF CHANGE IN TOTAL POPULATION DOSE AS A RESULT OF MOBILIZATION DELAYS

Pursuant to the Board's request, Tr. 2017-18 and 2022-28, LILCO has performed calculations to determine the change in total population dose resulting from the delay in the mobilization of Traffic Guides experienced during the February 13 Exercise. A description and the results of these calculations are attached, along with affidavits by Charles A. Daverio and Edward B. Lieberman. Basically, the calculations demonstrate that for the delays experienced during the Exercise, there is no significant change in total population dose.

Respectfully submitted,

Lee B. Zeugin

Lee B. Zeugin

Hunton & Williams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

DATED: May 4, 1987

8705120098 17pp.

Calculation of Effect of Delay in the Mobilization of Traffic Guides on Total Man-Rem Received by EPZ Population

Summary

A calculation to determine the change in dose received by the EPZ population as a result of the 50-minute delay in the mobilization of certain Traffic Guides during the February 13 Exercise has revealed that the delay had no effect on total population dose. This result is primarily due to two factors. First, the one-way flow treatment along a portion of Rocky Point Road and North Country Road was located on the very edge of or outside the plume, both before and after the wind shift that occurred during the Exercise. Thus, any delay in exiting the area serviced by the one-way flow would have had almost no effect on total population dose. Second, a sensitivity study using the DYNEV model revealed that delays in the implementation of the one-way flow treatment for periods up to two hours after a recommendation to evacuate would not influence evacuation times since the links downstream of the one-way section control the movement of traffic over that time frame. As a result, total population dose is insensitive to the types of mobilization delays experienced by the Traffic Guides during the Exercise.

Discussion

The calculation of total man-rem received by the EPZ population is made by assessing two factors: 1) population as a function of time, distance and direction from the Shoreham plant, and 2) dose rate from the plume, also as a function of time, distance and direction from the Shoreham plant. This calculational approach is displayed in chart form in Attachment 1 to OPIP 3.10.2, Total Population Dose. As can be seen from that chart, the dose to the EPZ population is evaluated on a zone-by-zone basis. For each zone, the average population and dose rate (rem/hr) are multiplied on an

hourly basis to produce dose values. A total man-rem dose for the EPZ is calculated by summing the hourly dose values to determine a total dose for each zone and then by summing those zone doses to produce a total EPZ dose.

In order to achieve a higher level of accuracy for these calculations, the OPIP 3.10.2 method was modified by dividing Zones F and K into five subzones each and by performing calculations at one-half hour intervals instead of one-hour intervals. The five subzones for Zones F and K are shown in Appendix A, Figures 14.1 and 19.1, respectively.

Dose Rate Determination

The scenario for the February 13, 1986 Exercise included detailed maps and charts that provide radiation information on whole body and child thyroid dose rates as a function of distance and time throughout the duration of the release and over the entire field of the plume (Section 6.5 of the Scenario).

In order to use Tables 6.5.2 and 6.5.3 A-F of the Scenario, each zone and subzone was assigned a distance from the plant and an isopleth. (An isopleth is a line of constant radiation concentration within a plume and is based on the dispersion characteristics of a release, given meteorology conditions and the point of plume origin.) Each isopleth is identified by a letter designation. For the downwind direction during the Exercise, the following assignments were made:

Zone	Distance	Isopleths
A	1 mile	C
B	3 miles	G
C	2 miles	I
F_1	2 miles	E
F_2	4 miles	G
F_3	6 miles	I
F_4	7 miles	I
F_5	6 miles	outside isopleths
G	5 miles	G
K_1	8 miles	H
K_2	7 miles	I
K_3	10 miles	I
K_4	8 miles	H
K_5	8 miles	I
Q	10 miles	I

The Section 6.5 tables were then used to obtain the dose rates for each zone and subzone at half-hour intervals. For calculational purposes, time zero was assigned to 10:45 with intervals running at each half hour (i.e., 11:15, 11:45, 12:15, . . .). The value for each half-hour segment was selected at the midpoint of the time interval. Thus, for the interval of 10:45 to 11:15, the whole body and child thyroid dose rates for 11:00 were used; similarly, for the 11:15 to 11:45 interval, the values for 11:30 were selected. Closed window, 4-foot measurements were used as the whole body dose rate.

Dose rate values that were not included in the Section 6.5 tables were assumed to be at background levels and accordingly, were set at zero. Dose rates of less than one mR/hr were set at one mR/hr.

Population Distribution

To determine the population distribution within the EPZ as a function of time, Appendix A to the LILCO Transition Plan was used. Appendix E to Appendix A contains the results of computer simulations of evacuation traffic as a function of time and distance from the Shoreham plant. The Appendix E results provide details about evacuating vehicles as they proceed through the 2, 5 and 10-mile boundaries. The

reported values are cumulative (i.e., the 10-mile values include vehicles within the 2 and 5-mile areas) and account for traffic as it exits the EPZ in a westerly direction. For example, if a vehicle begins its evacuation trip 7 miles to the east of the plant, it is added to the total for the 5-mile zone if its passes within that zone as it travels in a westerly direction out of the EPZ. The data from Appendix A were converted into a percentage of population remaining inside each boundary for use in these calculations.

Case 12 of Appendix A is a simulation of a full 10-mile, controlled evacuation under normal weather conditions. In order to use this case to calculate the population in each zone as a function of time, the zones were assigned to the 2, 5 and 10-mile boundaries as follows:

Zones	A-E	2 mile
	F-J	5 mile
	K-S	10 mile

The initial population in each zone was then multiplied by the population percentage remaining within that 2, 5 or 10-mile boundary at given time intervals. As with the dose rate calculation, half-hour intervals were selected, centering on the same times as the dose rate determination.

Total Man-Rem Calculation

The dose rate and population data were entered on a LOTUS Spreadsheet. Dose values were calculated as the product of the population times the dose rate divided by 2. It was necessary to divide the result by two since dose rates from Section 6.5 of the Scenario are reported in rem per hour instead of rem per half hour. Zones outside of the plume were not included on the spreadsheet since the dose rates in these areas were zero.

The summation of the individual zone doses showed that given a controlled evacuation and the Exercise release, the total thyroid dose was approximately 16,000 man-rem and the whole body dose was approximately 600 man-rem (Attachment 1).

Calculation of Dose Resulting from Delay in Implementation of One-Way Flow

In order to calculate the change in population dose resulting from delays in implementing the one-way flow treatment, it was necessary to perform dose calculations for the individual roadway links affected by the delays in the mobilization of Traffic Guides. Two DYNEV sensitivity runs were made for a normal weather, full ten-mile evacuation (Case 12). The first implemented one-way flow at one hour after the EBS evacuation recommendation -- a "controlled" evacuation; the second assumed implementation of the one-way flow at one hour and fifty minutes. By analyzing the detailed computer output of the DYNEV model, it was possible to determine the total number of vehicles associated with each link as a function of time. This included those vehicles still at home, those awaiting access onto the link and those on the link itself. By assuming 3 passengers per vehicle (see Appendix A, page III-35) and knowing the dose rate in the given area, it was possible to determine the change in dose received by the evacuating population.

The potentially affected roadway links and associated zone, distance and isopleth are as follows:

Link	Zone	Distance	Isopleth
(2,102)N	F_5	6 miles	outside plume
(2,102)S	F_3,F_4	6 miles	I
(102,1)N	F_5	7 miles	outside plume
(102,1)S	F_4	7 miles	I
(1,35)	K_5	8 miles	I
(1,103)	K_5	8 miles	I
(103,79)	Q	9 miles	I

Links (2,102) and (102,1), which include the entire one-way flow treatment, were divided into north and south components. This was done to account for evacuees who would have entered these links from the south and whose evacuation travel would potentially have put them within the plume for some period of time, and for those from north of the links who were outside the plume. An analysis of the results obtained from the two sensitivity runs shows that the only significant variation in traffic flow relative to time of implementation of the one-way flow was on link (2,102) (Attachment 3). A dose calculation was done for this link similar to the one for the entire population (Attachment 2). The results show that had Traffic Guides not been delayed in implementing the one-way flow treatment the doses to the persons using link (2,102) would have been 1.67 man-rem whole body and 62.6 man-rem thyroid. The doses resulting from a 50-minute delay were reduced to 1.58 man-rem whole body and 59.5 man-rem thyroid.

As can be seen from Attachment 3, the delay in implementation of the one-way flow did not cause additional back up in the vicinity of link (2,102) during the second hour when the Traffic Guides were not present. A slight reduction in population within the area serviced by link (2,102) occurred more than two hours after the start of evacuation. This reduction was due to the following factors:

- Delay in implementing one way flow on links (2,102) and (102,1) reduced the number of vehicles entering the downstream links (1,103) and (1,35) over the period of the delay (50 minutes).
- This reduced inflow permitted traffic on links (1,103) and (1,35) to operate at densities below the Level of Service F for a longer period of time than was the case had the guides been on time.
- Since capacity is reduced whenever density is at Level of Service F, the effect of lower density acts to increase capacity on links (1,103) and (1,35) relative to the case when the guides are on time.

- This increase in capacity allows the traffic on these downstream links to flush a little faster during the first two hours following an order to evacuate.
- The net effect is to improve slightly the subsequent throughput on the feeder links (2,102) and (102,1).

Had the delay in implementing the one-way flow treatment exceeded 1 hour and 50 minutes following the order to evacuate, the population in the area serviced by the feeder links would have been serviced at slower flow rates after the initial two hours. These slower flow rates are due to the associated lower capacities of the feeder links (one lane versus two lanes). These slower flow rates would also extend the evacuation time. Additional sensitivity studies conducted with DYNEV confirmed this fact. Specifically, a long term loss of capacity on the feeder links would outweigh any short term benefit of slightly increased capacity on the downstream links. Thus, the longer implementation of the one-way flow treatment is delayed past one hour and 50 minutes, the longer the evacuation time.

Thus, in the period from 3 hours to 5 hours after the order of evacuation when the plume reached the vicinity of the one-way flow, there were somewhat fewer evacuees remaining in their service areas when the guides are 50 minutes late, than in the case where the guides were on time, and the total dose received was slightly less than in a "controlled evacuation." When implementation of the one-way flow was delayed by 50 minutes the dose saving was 0.08 man-rem whole body and 3.2 man-rem thyroid. This is obviously an insignificant amount compared to the 600 man-rem whole body and 16,000 man-rem thyroid received by the entire evacuating population.

CERTIFICATE OF SERVICE

In the Matter of
LONG ISLAND LIGHTING COMPANY
(Shoreham Nuclear Power Station, Unit 1)
Docket No. 50-322-OL-5

I hereby certify that copies of CONTENTION EX 40 -- CALCULATION OF CHANGE IN TOTAL POPULATION DOSE AS A RESULT OF MOBILIZATION DELAYS were served this date upon the following by Federal Express as indicated by one asterisk (*), or by first-class mail, postage prepaid.

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U.S. Nuclear Regulatory Commission
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Atomic Safety and Licensing
Appeal Board Panel
U.S. Nuclear Regulatory Commission
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Lee B. Zeugin

Hunton & W[illi]ams
707 East Main Street
P.O. Box 1535
Richmond, Virginia 23212

DATED: May 4, 1987

Attachment 1

TOTAL POPULATION DOSE

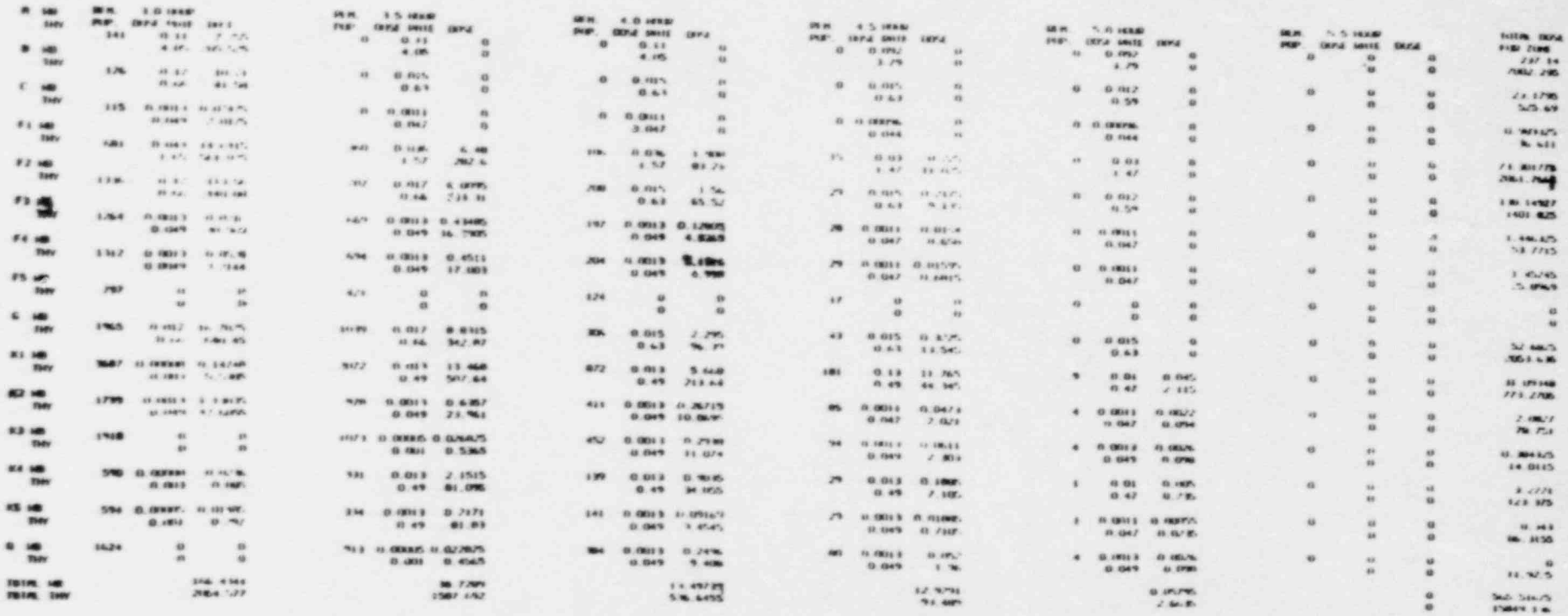
ZONE		TOTAL POP.	REM. POP.	0.5 HOUR DOSE	0.5 HOUR RATE	DOSE
A	MR		4719		0	0
	THY				0	0
B	MR	1750	1536		0	0
	THY				0	0
C	MR	3446	3250		0	0
	THY				0	0
F1	MR	2717	2574		0	0
	THY				0	0
F2	MR	5343	5053		0	0
	THY				0	0
F3	MR	5047	4782		0	0
	THY				0	0
F4	MR	5236	4961		0	0
	THY				0	0
F5	MR	1181	1114		0	0
	THY				0	0
G	MR	7844	7431		0	0
	THY				0	0
K1	MR	17269	16380		0	0
	THY				0	0
K2	MR	8146	7726		0	0
	THY				0	0
K3	MR	6944	6583		0	0
	THY				0	0
K4	MR	2767	2623		0	0
	THY				0	0
K5	MR	2704	2561		0	0
	THY				0	0
Q	MR	7695	6130		0	0
	THY				0	0
TOTAL	MR	86262				0
TOTAL	THY					0

REM. POP.	1.0 HOUR DOSE	1.0 HOUR RATE	DOSE
3046		0	0
		0	0
22		0	0
		0	0
2488		0	0
		0	0
2140		0	0
		0	0
4280		0	0
		0	0
3995		0	[illegible]
		0	[illegible]
4128		0	0
		0	0
2509		0	0
		0	0
6176		0	0
		0	0
15919		0	0
		0	0
6566		0	0
		0	0
7209		0	0
		0	0
2226		0	0
		0	0
2244		0	0
		0	0
6130		0	0
		0	0
			0
			0

REM. POP.	1.5 HOUR DOSE	1.5 HOUR RATE	DOSE
1000		0.13	122.2
		4.26	4004.4
1671		0	0
		0	0
1535	0.00005	0.038375	
	0.001	0.7675	
1657	0.00015	0.124275	
	0.009	7.4565	
3253		0	0
		0	0
3078		0	0
		0	0
3194		0	0
		0	0
1940		0	0
		0	0
4784		0	0
		0	0
10974		0	0
		0	0
5177		0	0
		0	0
5684		0	0
		0	0
1755		0	0
		0	0
1769		0	0
		0	0
4933		0	0
		3	0
			122.3626
			4012.624

REM. POP.	2.0 HOUR DOSE	2.0 HOUR RATE	DOSE
1105		0.13	71.825
		4.26	2353.65
983	0.017		6.3555
	0.66		324.39
903	0.0013		0.58695
	0.049		22.1285
1322	0.049		28.423
	1.65		1090.65
2595	0.00009	0.116775	
	0.004		5.19
2455		0	0
		0	0
2547		0	0
		0	0
1548		0	0
		0	0
3816		0	0
		0	0
8916		0	0
		0	0
3922		0	0
		0	0
4307		0	0
		0	0
1330		0	0
		0	0
1340		0	0
		0	0
3662		0	0
		0	0
			109.3072
			3796.003

REM. POP.	2.5 HOUR DOSE	2.5 HOUR RATE	DOSE
544		0.13	35.36
		4.26	1150.72
404	0.017		4.114
	0.66		159.72
445	0.0013		0.28925
	0.049		10.9025
[illegible]	[illegible]		21.5
	1.65		825
[illegible]	0.017		16.6[illegible]
	0.66		647.79
[illegible]	0.00005	0.046438	
	0.001		0.9288
[illegible]	0		0
	0		0
1171	0		0
	0		0
[illegible]	0.017		24.531
	0.66		952.38
[illegible]	0		0
	0		0
[illegible]	0		0
	0		0
[illegible]	0		0
	0		0
[illegible]	0		0
	0		0
[illegible]	0		0
	0		0
[illegible]			[illegible]
			[illegible]



Attachment 2

CHANGE IN POPULATION DOSE

NO DELAY OF T.G. LINE		TOTAL POP.	REM. POP. (0.5 HOUR)	DOSE RATE (0.5 HOUR)	DOSE (0.5 HOUR)	REM. POP. (1.0 HOUR)	DOSE RATE (1.0 HOUR)	DOSE (1.0 HOUR)	REM. POP. (1.5 HOUR)	DOSE RATE (1.5 HOUR)	DOSE (1.5 HOUR)	REM. POP. (2.0 HOUR)	DOSE RATE (2.0 HOUR)	DOSE (2.0 HOUR)	REM. POP. (2.5 HOUR)	DOSE RATE (2.5 HOUR)	DOSE (2.5 HOUR)
N12,10(?)	WB	4906	4490	0	0	4267	0	0	4267	0	0	4001	0	0	3726	0	0
	THY			0	0		0	0		0	0		0	0		0	0
S12,10(?)	WB	2641	2421	0	0	2297	0	0	2297	0	0	2155	0	0	1764	[illegible]	0.0441
	THY			0	0		0	0		0	0		0	0		0.001	0.002

DELAY OF T.G. LINE		TOTAL POP.	REM. POP. (0.5 HOUR)	DOSE RATE (0.5 HOUR)	DOSE (0.5 HOUR)	REM. POP. (1.0 HOUR)	DOSE RATE (1.0 HOUR)	DOSE (1.0 HOUR)	REM. POP. (1.5 HOUR)	DOSE RATE (1.5 HOUR)	DOSE (1.5 HOUR)	REM. POP. (2.0 HOUR)	DOSE RATE (2.0 HOUR)	DOSE (2.0 HOUR)	REM. POP. (2.5 HOUR)	DOSE RATE (2.5 HOUR)	DOSE (2.5 HOUR)
N12,10(?)	WB	4906	4490	0	0	4267	0	0	4267	0	0	[illegible]	0	0	3105	0	0
	THY			0	0		0	0		0	0		0	0		0	0
S12,10(?)	WB	2641	2421	0	0	2297	0	0	2297	0	0	2146	0	0	1306	[illegible]	0.04425
	THY			0	0		0	0		0	0		0	0		0.001	0.0925

Attachment 3

VEHICLES REMAINING IN AREAS SERVICED BY INDICATED LINKS

	LINK (2,102)		LINK (102,1)		LINK (1,103)		LINK (1,35)		LINK (103,79)	
TIME*	ON TIME	DELAYED	ON TIME	DELAYED	ON TIME	DELAYED	ON TIME	DELAYED	ON TIME	DELAYED
0:00	2516	2516	878	878	437	437	0	0	0	0
0:30	2306	2306	790	790	393	393	120	120	60	60
1:00	2188	2188	484	484	240	240	120	120	120	120
1:30	2188	2188	484	484	180	180	120	120	120	120
2:00	2052	2044	324	324	180	180	120	120	120	120
2:30	1680	1700	324	324	180	180	120	120	120	120
3:00	1302	1210	324	324	180	180	120	120	120	120
3:30	696	670	324	324	180	180	120	120	120	120
4:00	212	206	324	324	180	180	120	120	120	120
4:30	198	198	324	324	180	180	120	120	120	120
5:00	0	0	0	0	0	0	0	0	0	0

*Time 0:00 equals 20 minutes after order to evacuate.

On Time Traffic Guides presumed to arrive at time 0:40
Delayed Traffic Guides presumed to arrive at time 1:30.

LILCO, May 1, 1987

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-5
	)	(EP Exercise)
	)	
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF EDWARD B. LIEBERMAN

1. My name is Edward B. Lieberman. My professional qualifications have been admitted into evidence as part of LILCO Exercise Exhibit 1, entitled "Professional Qualifications of LILCO Witnesses on Exercise Contentions."

2. I have reviewed the attached document entitled, "Calculation of Effect of Delay in the Mobilization of Traffic Guides on Total Man-Rem Received by EPZ Population." The portions of that document which involve the calculation of traffic movement and evacuation times were prepared at my direction and under my supervision. They are true and correct to the best of my knowledge and belief.

Edward B. Lieberman
Edward B. Lieberman

Subscribed and sworn before me this 30th day of April, 1987.

My commission expires: March 30 1989.

ROCHELLE LANDSMAN
Notary Public, State of New York
No. 52-4742819
Qualified in Suffolk County
Commission Expires March 30, 19[illegible]

Rochelle Landsman
Notary Public

LILCO, May 1, 1987

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
LONG ISLAND LIGHTING COMPANY	)	Docket No. 50-322-OL-5
	)	(EP Exercise)
	)	
(Shoreham Nuclear Power Station, Unit 1)	)	
	)	

AFFIDAVIT OF CHARLES A DAVERIO

1. My name is Charles A. Daverio. My professional qualifications have been admitted into evidence as part of LILCO Exercise Exhibit 1, entitled "Professional Qualifications of LILCO Witnesses on Exercise Contentions."

2. I have reviewed the attached document entitled, "Calculation of Effect of Delay in the Mobilization of Traffic Guides on Total Man-Rem Received by EPZ Population." The portions of that document which involve the calculation of total population doses were prepared at my direction and under my supervision. They are true and correct to the best of my knowledge and belief.

Charles A. Daverio

Subscribed and sworn before me this 1st day of May, 1987.

My commission expires: September 15, 1988.

Joan M. Wiggins
Notary Public

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ATTACHMENT R

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
- -x

Before the Atomic Safety and Licensing Board : Docket :50-322-OL-3 :(Emergency Planning)

In the Matter of

LONG ISLAND LIGHTING COMPANY
SHOREHAM NUCLEAR POWER STATION
UNIT 1

- -x

April 26, 1988
9:36 a.m.

Deposition of RICHARD C. ROBERTS, taken by LILCO, pursuant to Notice and Board Order, at the Suffolk County Police Department, Yaphank Avenue, Yaphank, New York, before Robert E. Levy, a Certified Shorthand Reporter and Notary Public within and for the State of New York.

thought were relevant questions. If you are going to continue this line of questioning regarding training of the Suffolk County police, which I assume you will, in order to disrupt your time as little as possible, we will go back to my standing objection on relevancy grounds and if you get back to another relevant line of questions, I'll note that for the record.

MS. STONE: O.K.

Q. I believe my question was what was the nature of the training for police officers in Suffolk County with respect to traffic direction?

A. I know that it is part of their qualifying educational requirements which goes on for several months at the police academy.

Q. Where is the police academy?

A. It is at Westhampton, New York.

Q. Who is in charge of that?

A. Captain Charles Reisinger.

Q. Are there standard materials that are issued in connection with the training of police officers from this academy?

A. I'm sure that there are a lot of

classroom training as well as practical exercises that the trainees are put through over a period of time.

Q. To the best of your knowledge, does this training include the blocking of lanes on the roadway?

A. I would think it would.

Q. Controlling access to roads?

A. I would think it would.

Q. Turning a road into one-way flow?

A. I would think it would.

Q. Are there any materials relating to traffic direction located within the Police Department of Suffolk County?

A. You mean written materials?

Q. Written.

A. I don't really know.

Q. Is there a library -- I say that, obviously we are sitting in a law library?

A. Yes.

Q. Is there a library of police-related materials available to the police officers of Suffolk County?

A. Those adjuncts that the academy might

of unknown substance and it is giving you a good kick on the electronic device, that is site specific.

We are talking about, in my estimation, an area, depending on wind drift and other factors that come into play, that creates an imagery in my mind of a rather large, expansive area and I never have thought that the staffing provided for in the LERO plan was anywhere near appropriate and adequate to insure preparedness.

Q. O.K. But assuming your police officers were directed to provide access control along given geographical boundaries, would they understand the concept of access control?

A. I'm sure they would.

Q. If you were directed to do so by the commissioner of police, would you direct the police officers under your control to follow the LILCO plan with respect to its provisions for access control?

MR. MILLER: You are asking the witness to speculate, but with that understanding, Chief Roberts, you may answer.

Q. If you were directed to tell your police officers to act in compliance with the LILCO plan in other areas, would you also do so on the direction of your commissioner?

A. Yes, I would. And at the same time that I was doing it, you can rest assured that I would be telling him that I didn't believe it would work.

Q. But you would do it?

A. Yes, ma'am.

Q. Now, given the training that your police officers already have and the experience that they have, do you think that they could follow the directions in the LILCO plan? My question is not whether it would be effective or not, because you've given me your answer on that. My question is could your officers physically follow your order if you followed your commissioner's order and directed them to carry out functions under the LILCO plan.

MR. MILLER: That question is grossly overbroad. It is vague. It asks if officers could follow any kind of an order relating in any way to the LILCO

plan. It calls for speculation by the witness. I do not see how Chief Roberts can answer that question.

If he believes otherwise, he may answer.

A. I can attempt to answer it in my own way.

Q. Go ahead.

A. It is not a yes or no. The plan outlines certain actions on the part of LERO workers. It assumes a response by the public to those directions at all. Assuming that those circumstances co-exist, our people are trained, yes, they could do it.

Q. Assuming everything else in the LILCO plan --

A. Is true.

Q. -- went as outlined, your police officers would be able to respond in the manner described in the LILCO plan, is that your testimony?

A. That's right, but you know, the qualification to that answer is I haven't seen it. We have reviewed exercises conducted under the

jurisdiction?

MS. STONE: All 175 or so of the vehicles we have been discussing in the first few hours of this deposition, and by all I don't mean every one, but the substantial number of them.

Q. 150, 160 of them.

A. It has never been done. I really don't know.

Q. At his deposition yesterday, Commissioner Guido described a situation in Westchester County where there was a prison uprising and he was able to collect approximately 700 local police in a period of less than two hours.

Do you --

MR. MILLER: I think he said about two hours.

MS. STONE: I think he said about two hours. Sometimes he said an hour and a half to two, but for these purposes, we will say two hours.

Q. If you had a prison with an uprising here or some type of similar type of thing, would

you be able to match Westchester's response to that emergency?

MR. MILLER: Before you answer it, Chief, I want to make sure that the parameters of this hypothetical are clear.

Are you talking about getting 700 officers, are you including on-duty and off-duty? It is unclear what you are asking.

MS. STONE: I'm asking from any source, would he be able to match the response.

And I gather from his nodding of his head that he is aware of the response, the situation that Commissioner Guido described to me.

MR. MILLER: So you are including on-duty officers?

MS. STONE: On-duty and off-duty officers in that.

A. 600 officers in two hours? May not have them properly equipped or anything, but I could assent to that occurring.

Q. But you don't know exactly how long

it would take you to get the 165 on duty here in Suffolk County? Do I gather by your answer that it would not be a problem getting them here within two hours?

A. I can't -- that is a hypothetical, right?

Q. It is a hypothetical and we can only speak that way.

A. I can never imagine that occurring.

Q. I know you can't imagine it occurring.

A. To push a button and everybody is going to drop what they are doing and come out here to Yaphank? It -- I just can't image that occurring.

However, you are looking for a time frame in the event somebody said get them the hell out here, is that what you are saying?

Q. Yes.

A. Probably no more than 50 minutes.

MR. MILLER: Are we back to the 600 or down to the 175?

A. We are getting upwards of 175.

MS. STONE: We are talking about if

Suffolk County have for the removal of traffic impediments which occur within Suffolk County?

MR. MILLER: I assume you are limiting your question to the Suffolk County Police Department, not Suffolk County?

MS. STONE: My question was Suffolk County.

MR. MILLER: Chief Roberts can't speak for Suffolk County.

MS. STONE: I thought you were referring to the end of my question, not to the beginning of my question. I thought I -- I will restate the question just in case you are right about the way I first asked it.

MR. MILLER: I'm right.

Q. Does the Police Department have -- excuse me. Strike that.

What equipment or procedures does the Police Department have for the removal of traffic impediments in Suffolk County?

A. As a general rule, the Police Department, based on the licensing authorities

within the five townships that comprise the police district, use the services of private towers.

Q. Does the Police Department have any tow trucks of its own?

A. Some.

Q. Approximately how many?

A. I'm told 11.

Q. Is it the Police Department's practice and policy to use those 11 tow trucks for removing traffic impediments?

A. No.

Q. What are those tow trucks to be used for under the procedure of the Police Department?

A. For the purpose of picking up a disabled police unit, laterally to assist another county agency in taking one of their county vehicles off the roadway. Very few circumstances involved there.

By far, mostly their function is to respond and remove vehicles which are of an evidential nature.

Q. Where are these tow trucks located?

A. One or more may be satellite from the girage but we have two garages. One is in

want to change a transformer. They would have to call the local authorities.

Q. But there are circumstances under which a utility would be permitted to move an impediment.

MR. MILLER: Are you asking a question?

MS. STONE: Yes.

MR. MILLER: Now your question is whether a utility would be permitted.

Q. Do you envision circumstances under which a utility would be authorized under the law or practices of Suffolk County to remove a vehicle which was impeding its work?

MR. MILLER: Authorized by whom?

MS. STONE: Suffolk County Police Department.

A. Well, the police officer has, I guess it goes back to common law, he has the discretionary authority to remove impediments from a public roadway. I guess he can commandeer and direct utilization of appropriate equipment without maliciously or intentionally causing damage to a particular piece of equipment.

Q. Not my question. My question is if a water main has burst, and there is a car sitting over the manhole, does the company that is there trying to repair it have to seek permission or have there ever been circumstances in your 32 years in Suffolk County where the utility of its own initiative and at its own expense removed the car?

MR. MILLER: Excuse me, that was not your question before.

MS. STONE: That is my question now. I've reworded it.

MR. MILLER: Now you are back to permission and not authority.

MS. STONE: You may characterize it however you wish.

MR. MILLER: The words speak for themselves.

Chief Roberts?

THE WITNESS: I have the impression that I answered.

MR. MILLER: Don't talk to me.

Q. I'm listening.

A. I had the impression I answered it.

If the utility seeks the authority of a police officer, by the police officer's authority to exercise that authority in a discretionary manner, he can call upon other services, O.K., and direct them to do certain things.

Q. Right.

A. O.K.

Q. I follow that.

A. I would be very hard pressed to find that in the law but you asked has it been done.

MR. MILLER: It is nearly 1:30.

MS. STONE: I have about another, well, I'm going to try to squeeze what I've got into the remaining 20 minutes.

MR. MILLER: I don't think we have 20 minutes. I don't care if it is on the record or not but I wanted to start the deposition at 9:30 -- I wanted it to start at 9 o'clock. At your request, I agreed to start at 9:30 and we will continue the deposition until quarter of 2 and that is the latest.

In order to do that, plans will have to be changed. Quarter to 2 is the end of

ATTACHMENT S

EPC
Approved:
Manager NOSD
Plant Manager
Effective Date 1-27-88
TC

CONTROLLED COPY
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EPIP 1-5 NOTIFICATIONS

1.0 PURPOSE

To specify the means by which notifications are to be made to station personnel for all emergency levels and to expedite the notification of selected LILCO personnel to augment the emergency response organization.

2.0 RESPONSIBILITY

2.1 The Emergency Director/Response Manager is responsible for:

2.1.1 Making the decision to notify offsite agencies.

2.1.2 Approving all Radiological Emergency Data Forms prior to transmission to Suffolk County/New York State/LERO.

2.1.3 Approving the Supplementary Notifications Call List for requesting the commitment of non-LILCO resources.

2.2 The Emergency Director (Control Room)/EPA #1/EPA #2 is responsible for:

2.2.1 Ensuring the completion and obtaining approval of all Radiological Emergency Data Forms prior to transmittal.

2.2.2 Ensuring that the Group Tone pagers are activated for each Emergency Classification Level.

2.2.3 Completing and approving the Supplemental Notification Call Checklists not committing LILCO resources prior to transmittal.

CONTROLLED
JAN 25 1988

2.3 The Shift Production Assistant/Equipment Operator/TSC Communicators/EOF Communicators are responsible for Implementing notifications to site and corporate personnel, Suffolk County/New York State/LERO, and supplemental agencies.

2.4 The Control Room Communicator is responsible for directing the SNPS Central Alarm Station (CAS) and the Gas Systems Operator (GSO) to activate the Emergency Callout System (ECS) upon declaration of an Alert, Site Area or General Emergency classification, as needed.

2.5 A licensed Operator/Control Room Communicator, as assigned by the Emergency Director, is responsible for notifications to the NRC.

2.6 The Emergency Callers, if enlisted by the Control Room Communicator, are responsible for implementing the appropriate caller instruction.

2.7 The Manager, Nuclear Emergency Preparedness Division will ensure that the names and phone numbers in the Emergency Caller Instruction are updated on a quarterly basis.

2.8 The Manager, Nuclear Emergency Preparedness Division will ensure that all personnel who are issued pagers are adequately trained in their use.

2.9 The Manager, Nuclear Emergency Preparedness Division will ensure that all individuals responsible for beeper activation are properly trained.

3.0 PRECAUTIONS

3.1 Implementation of this procedure requires the specific approval of the Emergency Director/Response Manager.

3.2 The call to Suffolk County/New York State/LERO must be made within 15 minutes of each change of emergency classification.

3.3 The call to the NRC must be made within one (1) hour of each change in emergency classification.

3.4 The activation of the paging system must be made after each change in emergency classification.

3.5 Upon the Emergency Director (TSC) accepting communications responsibilities, notification responsibilities (excluding NRC notifications) shift from the Control Room to the TSC. Upon activation of the EOF, said notification responsibilities shift from the TSC to the EOF.

4.0 PREREQUISITES

4.1 An emergency has been classified in accordance with EPIP 1-0, Classification of Emergency Action Levels.

4.2 Approval of the Emergency Director/Response Manager.

5.0 ACTIONS

CONTROL ROOM COMMUNICATOR - PERFORM SECTION 5.1

TSC/EOF COMMUNICATOR - PERFORM SECTION 5.2

EMERGENCY DIRECTOR/EPA #1/EPA #2 - PERFORM SECTION 5.3

FOR NRC NOTIFICATIONS - PERFORM SECTION 5.4

5.1 Control Room Communicator, upon receiving responsibility for notifications from the Emergency Director:

5.1.1 Obtain the Control Room Communicator Emergency Position Book from the Emergency Plan Equipment Cabinet at the rear of the Control Room.

5.1.2 Obtain a Control Room Communications Checklist (Attachment 1) and review which notifications are required based on the event classification and time of day.

5.1.3 Obtain the appropriate attachments needed to perform the required notifications:

a. Onsite Emergency Call Checklist (Attachment 2)

b. New York State/Suffolk County/LERO Notification Call Checklist (Attachment 3)

c. GSO Call Sheet (Attachment 4)

d. CAS Call Sheet (Attachment 5)

5.1.4 Perform necessary notifications.

5.1.5 Activation of Group Tone 1/Group Tone 2 Pagers.

a. Obtain the Onsite Emergency Call Checklist (Attachment 2).

b. Using the SNPS Beeper/Conference Call Equipment Instructions posted next to the phone:

1. Set-up the Conference Bridge.

2. Activate the Group Tone 1/Group Tone 2 pagers.

CAUTION

FOR ALERT OR HIGHER CLASSIFICATION DURING NORMAL WORKING HOURS, ONLY THE RESPONSE MANAGER AND THE EMERGENCY COMMUNICATIONS DIRECTOR WILL RESPOND.

---

c. As the individuals call in, ask the names of the respondees and next to those names record the date, time of call and your initials on the Onsite Emergency Call Checklist (Attachment 2).

d. Inform each respondee of the following:

- current emergency classification;
- time declared;
- brief description of the initiating conditions.

Answer any questions, if you can.

e. Remain on the conference bridge until one individual has responded for each designated emergency position or 10 minutes have elapsed, whichever is sooner.

f. For Alert or higher classification during off-normal hours if no one has responded to fill one or more emergency positions within ten (10) minutes of paging, attempt to contact an individual designated for that position using the auto dialer/commercial phone.

5.1.6 **Notification of Suffolk County/New York State/LERO**

CAUTION

YOU MUST HAVE THE COMPLETED RADIOLOGICAL EMERGENCY DATA FORM BEFORE CALLING THE COUNTY, STATE AND LERO. IF NECESSARY, CONTINUE WITH OTHER NOTIFICATIONS UNTIL THE FORM IS RECEIVED. ALL PARTS CAN BE SENT VIA TELECOPIER CONCURRENT WITH VOICE TRANSMISSION

Obtain the New York State/Suffolk County/ LERO Notification Call Checklist (Attachment 3).

b. Activate the Radiological Emergency Communications System (RECS) by pushing the button and picking up the receiver; use backup communications, if necessary.

c. Make a roll call verification of all agencies on the line.

d. When you receive verification that an agency is on the line, obtain and record the name of that agency's representative on the New York State/Suffolk County/LERO Notification Call Checklist.

e. Upon completion of the roll call, ask individuals to obtain a copy of the Radiological Emergency Data Forms, Parts I, II and/or III.

f. Read all information.

g. Speak slowly and clearly.

h. Ask one agency of those on the line to read back the message.

   1. If New York State Warning Point /EOC is on the line, ask them to read back the form.

   2. If a New York State agency is not on the line, ask Suffolk County Warning Point/EOC to read back the form.

   3. If neither New York State nor Suffolk County agencies are on the line, ask LERO to read back the form.

   Correct any errors as the form is read back to you.

i. Record the time of contact and your initials next to the appropriate agency on the New York State/Suffolk County/LERO Notification Call Checklist (Attachment 3).

j. If Suffolk County Warning Point/EOC does not respond to the RECS call, you must:

1. Using the Auto-dialer phone, call one of the backup number(s) designated on the New York State/Suffolk County/LERO Notification Call Checklist.

2. Transmit the information on the Radiological Emergency Data Form.

k. If New York State Warning Point/EOC does not respond to the RECS call, you must:

1. Using the Auto-dialer phone, call one of the backup number(s) designated on the New York State/Suffolk County/LERO Notification Call Checklist (Attachment 3).

2. Transmit the information on the Radiological Emergency Data Form.

CAUTION

FOR A NOTIFICATION OF UNUSUAL EVENT, GO DIRECTLY TO SECTION 5.1.9

5.1.7 Notification of the Central Alarm Station (CAS) Operator

---

CAUTION

IMPLEMENT SECTION 5.1.7 ONLY DURING OFF-NORMAL HOURS.

CAUTION

TO EXPEDITE NOTIFICATION TO CAS, COMPLETED FORM, ATTACHMENT 5, SHOULD BE GIVEN TO POST 11 GUARD.

---

a. Obtain the CAS Call Sheet (Attachment 5)

b. Contact the CAS by Auto-dialer phone

c. Upon contact, state the following:

"This is (Your Name) the Control Room Communicator, A(n) (State Emergency Classification) was declared at the site at (Time). The Emergency Level for ECS is (2,3, or 4). Please implement EPIP 3-6, Onsite/Offsite Notifications."

d. Repeat the message a second time.

e. Obtain the name of the CAS/Post 11 and record on the CAS Call Sheet.

f. Record the date, time and your initials on the CAS Call Sheet.

5.1.8 **Notification of the Gas System Operator (GSO)**

a. Obtain the GSO Call Sheet (Attachment 4).

b. Contact the GSO by Auto-dialer phone.

CAUTION

IF CONTACT WITH THE GSO CANNOT BE MADE BY PHONE, GO TO SECTION 5.1.8.i

---

c. Upon contact, state the following:

"This is (your name), the Shoreham Control Room Communicator. A(n) (State emergency class) was declared at the site at (time). The emergency level for the Emergency Callout System is (2,3, or 4). Please implement EPIP 3-6, onsite/offsite Notifications."

d. If necessary, repeat the message a second time.

e. Obtain the name of the GSO and record on the GSO Call Sheet.

f. Record the date, time and your initials in the appropriate column of the GSO Call Sheet.

g. Upon receipt of a verification call from the GSO, record the time and your initials in the appropriate column.

h. Go to Step 5.1.9.

i. If contact cannot be made with the GSO:

1. Call the Electric Systems Operator (ESO) by Auto-dialer phone.

2. Upon contact, State the following:

"This is (your name), the Shoreham Control Room Communicator. We are unable to contact the GSO. Contact the GSO and pass on the following information:

A(n) (State emergency classification) was declared at the site at (time). The emergency level for ECS is (2,3, or 4). Please implement EPIP 3-6, Onsite/Offsite Notifications."

3. Repeat the message a second time.

4. Record date, time and your initials in the appropriate column.

5.1.9 **Notification of Supplemental Agencies**

a. Receive the completed and approved Supplemental Notification Call List (Attachment 6).

b. Call all designated agencies using Auto-dialer/commercial telephone.

c. When contact is made, transmit all information from the Message/Special Information Section.

d. Record the name of the person accepting the call, time of call, and your initials on the Supplemental Notification Call List.

e. If a verification call is received, record the time on the Supplemental Notification Call List.

5.1.10 Notification of Emergency Callers

CAUTION

IMPLEMENT SECTION 5.1.10 ONLY IF NOTIFIED BY CAS THAT THE ECS HAS FAILED

a. Obtain the Emergency Caller List (Attachment 7).

b. Call from the top name down.

c. Upon contact, state the following:

"May I speak to (name being called) ? This is (your name) the Shoreham Control Room. A(n) (state emergency class) has been declared at the site. You are emergency caller ( ) 1, ( ) 2, ( ) 3, ( ) 4. Please initiate the appropriate Emergency Caller Instruction.

d. Repeat the message a second time.

e. Record the time, caller number assigned and your initials next to the name of the callers enlisted on the Emergency Caller List.

f. Continue down the list until you have enlisted four (4) emergency callers.

g. After verification calls, record the times and your initials in the appropriate spaces of the Emergency Caller List.

5.1.11 Transfer of Communications

Upon receiving notification that the TSC/EOF is ready to accept communications responsibilities:

a. Continue with assigned notifications, if necessary.

b. Upon completion of assigned notifications:

1. Call the TSC/EOF Communicator at the number supplied.

2. Relate all agencies notified and time of contact.

3. Transfer Communications responsibilities to the TSC/EOF for all communications other than NRC communications.

5.2 TSC/EOF Communicators perform the following:

5.2.1 Transfer of communications

a. **TSC/EOF RECS Communicator, upon setup of the RECS Phone:**

1. Pick up the receiver and begin monitoring all calls.

2. When your facility assumes communications responsibilities, state the following:

"This is (your name), the TSC/EOF Communicator. The TSC/EOF is now assuming communications responsibilities."

3. Follow directions in Step 5.1.6 for notifications to Suffolk County/New York State/LERO.

b. **TSC/EOF Communicator, upon setup of communications equipment:**

1. Call the communicator having current communications responsibilities.

2. Upon contact, state the following:

"This is the TSC/EOF Communicator. The TSC/EOF Communications area is manned. Continue with your assigned notifications. Upon completion, call me at (your phone number) for formal transfer of responsibility."

3. Upon call back from communicator:

a. Determine the individual/agencies called and time of contact.

b. Accept notification responsibility.

4. Update Communications Status Board.

5. Begin notifications to Supplemental Agencies following directions in Step 5.1.9. Make other notifications as requested.

5.3 **Emergency Director(CR)/EPA #1/EPA #2**

5.3.1 Transmit information to Suffolk County/New York State/LERO if the emergency classification changes, if there is a substantial change in plant conditions, or on a periodic basis.

a. Obtain and complete the Part I - Radiological Emergency Data Form, General Information (Attachment 8).

b. Obtain the Part II - Radiological Assessment Data Form (Attachment 9) and/or Part III - Plant Parameter Form (Attachment 10) from the Radiological Assessment Coordinator/ Environmental Assessment Coordinator. Fill in any necessary information.

c. Obtain Emergency Director/Response Manager approval on the completed forms.

d. Hand approved forms to the RECS Communicator for transmittal.

CAUTION

ONLY EPA #1/EPA #2 IS TO IMPLEMENT STEP 5.3.2, GROUP TONE PAGER ACTIVATION

5.3.2 Group Tone Pager Activation

1. Obtain Paging System Instructions from position binder.

2. Activate Group Tone 1 and Group Tone 2 pagers.

5.3.3 Notify supplemental agencies, as required.

a. Obtain the Supplementary Notifications Call List (Attachment 6).

b. Check off all required notifications.

c. Fill in any Message/Special Information, as required.

d. Obtain Approval from the ED/RM.

CAUTION

EMERGENCY DIRECTOR/RESPONSE MANAGER APPROVAL IS REQUIRED WHEN REQUESTS ARE MADE FOR NON-LILCO RESOURCES.

---

e. Hand approved form to communicator for transmittal.

5.3.4 Securing From Emergencies

CAUTION

WHEN DECLASSIFICATION OCCURS, NOTIFICATIONS MUST BE MADE TO ALL AGENCIES NOTIFIED PREVIOUSLY

---

a. If an emergency has been declassified/downgraded in accordance with EPIP 1-0, Classification of Emergency Action Levels, such that a lower classification/or NO emergency exists, notify the site response organization and offsite agencies as directed by the Emergency Director/ Response Manager.

b. When long-term recovery actions have been initiated in accordance with EPIP 3-4, Recovery, notify offsite agencies that recovery has begun.

5.4 Licensed Operator/Control Room Communicator,

Notify the NRC as directed by the Emergency Director.

5.4.1 Obtain the Event Notification Sheet from SP 12.009.03, Report of Abnormal Conditions (RAC) and Limiting Conditions of Operations (LCOs).

5.4.2 Obtain the NRC Notification Call List (Attachment 11).

5.4.3 Use the ENS hotline as the primary mode of communications.

5.4.4 When the NRC Duty Officer answers the ENS phone, he will ask for information from the Event Notification Sheet. Use this form for guidance and be prepared to answer any questions asked by the NRC.

5.4.5 Record all information required on the NRC Notification Call List.

5.5 Emergency Callers

5.5.1 Upon notification from Control Room Communicator, obtain your emergency caller instructions.

5.5.2 Record all information given to you by the Control Room Communicator.

5.5.3 Follow your caller instructions.

5.5.4 After all calls are completed, contact the EPA #2/Control Room Communicator, as available, and inform him that your task is completed and any problems that were encountered.

5.5.5 Retain all completed documents.

6.0 REFERENCES

6.1 Developmental References

6.1.1 EPIP 1-0, Classification of Emergency Action Levels

6.1.2 EPIP 1-1, Notification of Unusual Event

6.1.3 EPIP 1-2, Alert

6.1.4 EPIP 1-3, Site Area Emergency

6.1.5 EPIP 1-4, General Emergency

6.1.6 EPIP 3-4, Recovery

6.2 Implementing References

6.2.1 EPIP 3-6, Onsite/Offsite Emergency Response Notifications

6.2.2 SP 12.009.03, Report of Abnormal Conditions (RAC) and Limiting Conditions of Operations (LCOs).

6.2.3 ANSI N45.2.9, Requirements for Collection, Storage, and Maintenance of Records for Nuclear Power Plants.

7.0 ATTACHMENTS

7.1 Control Room Communications Checklist, Attachment 1.

7.2 Onsite Emergency Call Checklist, Attachment 2.

7.3 New York State/Suffolk County/LERO Notification Call Checklist, Attachment 3.

7.4 GSO Call Sheet, Attachment 4.

7.5 CAS Call Sheet, Attachment 5.

7.6 Supplementary Notifications Call List, Attachment 6.

7.7 Emergency Caller List, Attachment 7.

7.8 New York State Radiological Emergency Data Form, Part I - General Information, Attachment 8.

7.9 New York State Radiological Emergency Data Form, Part II - Radiological Assessment Data Form, Attachment 9.

7.10 New York State Radiological Emergency Data Form, Part III - Plant Parameters, Attachment 10.

7.11 NRC Notification Call List, Attachment 11.

CONTROL ROOM COMMUNICATIONS CHECKLIST

Control Room Communicator
Use this checklist to ensure that you make all essential communications

1. Choose the appropriate event classification and working hour conditions.
2. When making notifications, always follow the referenced directions.
3. After completing a notification, check it off and indicate time.

UNUSUAL EVENT - ANY HOUR

-- Activate Group Tone 1.
Follow Section 5.1.5.

-- Call Suffolk County/
New York State/LERO
Follow Section 5.1.6

-- If needed, call Supplemental Agencies
Follow Section 5.1.9

ALERT/SITE AREA/GENERAL EMERGENCY
NORMAL WORKING HOURS

-- Activate Group Tone 1 and Group Tone 2. (Only Response Mgr. call-in req'd). Follow Section 5.1.5.

-- Call Suffolk County/New York State/ LERO Follow Section 5.1.6

-- Call GSO
Follow Section 5.1.7

-- Call designated Supplemental Agencies, Follow Section 5.1.9

-- When APPROPRIATE, transfer notification responsibility to TSC. Follow Section 5.1.11

ALERT/SITE AREA/GENERAL EMERGENCY
OFF-NORMAL WORKING HOURS

-- Call the CAS
Follow Step 5.1.7

-- Activate Group Tones 1 and Group Tone 2. Follow Section 5.1.5.

-- Call Suffolk County/New York State/ LERO. Follow Section 5.1.6.

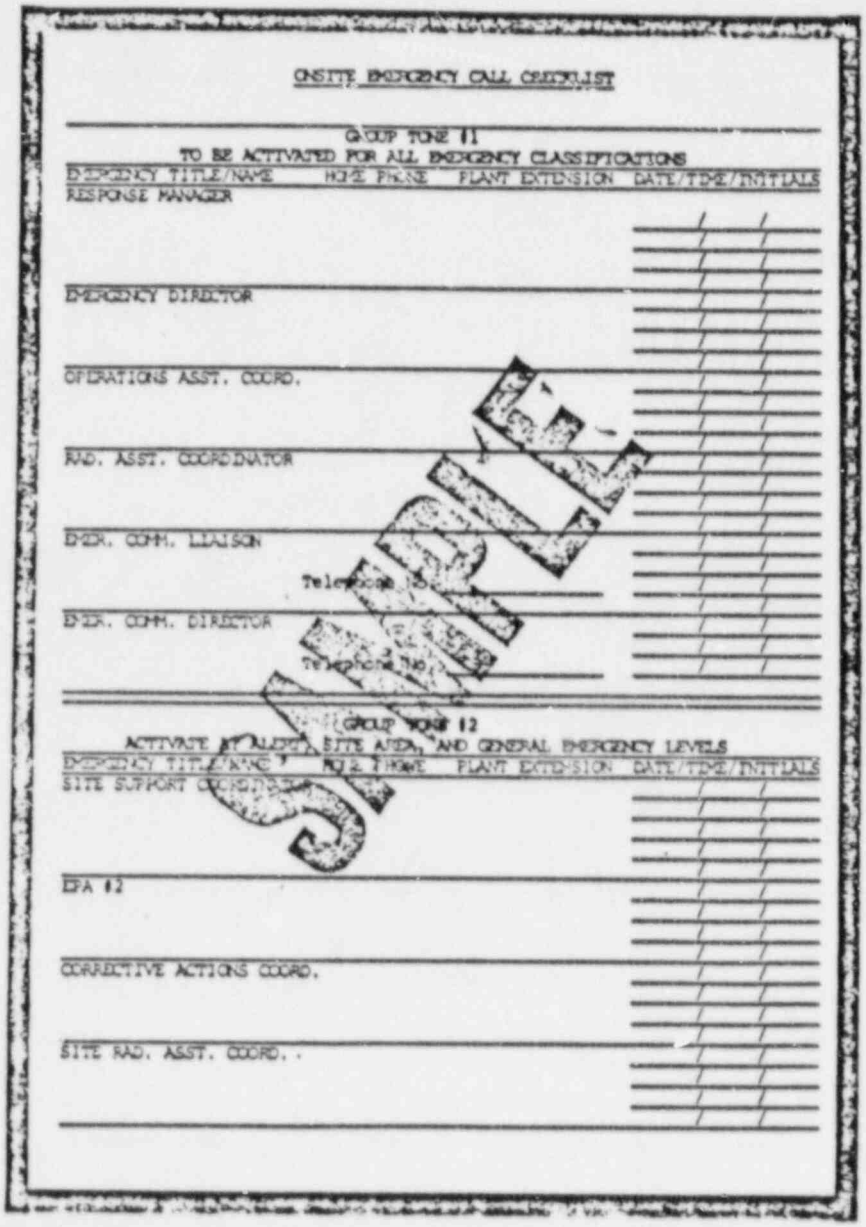
-- Call the GSO
Follow Section 5.1.8

-- Call designated Supplemental Agencies. Follow Section 5.1.9.

-- If notified by CAS that ECS has failed, enlist four Emergency Callers. Follow Section 5.1.10.

-- WHEN APPROPRIATE, transfer notification responsibility to the TSC. Follow Section 5.1.11

ONSITE EMERGENCY CALL CHECKLIST



ONSITE EMERGENCY CALL CHECKLIST

GROUP TONE #1
TO BE ACTIVATED FOR ALL EMERGENCY CLASSIFICATIONS

EMERGENCY TITLE/NAME	HOME PHONE	PLANT EXTENSION	DATE/TIME/INITIALS
RESPONSE MANAGER			
EMERGENCY DIRECTOR			
OPERATIONS ASST. COORD.			
RAD. ASST. COORDINATOR			
EMER. COMM. LIAISON			
EMER. COMM. DIRECTOR			

GROUP TONE #2
ACTIVATE AT ALERT, SITE AREA, AND GENERAL EMERGENCY LEVELS

EMERGENCY TITLE/NAME	HOME PHONE	PLANT EXTENSION	DATE/TIME/INITIALS
SITE SUPPORT COORDINATOR			
EPA #2			
CORRECTIVE ACTIONS COORD.			
SITE RAD. ASST. COORD.			

SAMPLE

NEW YORK STATE/SUFFOLK COUNTY/LERO NOTIFICATION CALL CHECKLIST

CAUTION

AT THE ONSET OF AN EMERGENCY, NOTIFICATIONS ARE COMPLETE AS LONG AS THE N.Y. STATE WARNING POINTS/SUPERVISING SERVICES OPERATOR (LERO) HAVE RESPONDED. THE EOCs WILL NOT IMMEDIATELY RESPOND.

THE EOCs ACTIVATE AT THE ALERT STAGE OR HIGHER. AFTER THEY ACTIVATE, THE WARNING POINTS MAY DROP OFF THE LINE.

N.Y. STATE/SUFFOLK COUNTY ORGANIZATION	COMMUNICATIONS MODE PRIMARY	ALTERNATE 1	ALTERNATE 2	NAME OF PERSON ACCEPTING CALL	TIME/INITIALS	VERIFICATION TIME/INITIALS
Suffolk County Warning Point	RECS Hotline				/	/
New York State Warning Point(s)	RECS Hotline				/	/
Supervising Services Operator (LERO)	RECS Hotline				/	/
New York State EOC	RECS Hotline				/	/
Suffolk County EOC	RECS Hotline				/	/
Local EOC RECS Communicator (LERO)	RECS Hotline				/	/
New York State Southern District Office	RECS Hotline				/	/
New York State Radiological Emer. Preparedness Group	RECS Hotline				/	/

GSO CALL SHEET

COMMUNICATIONS MODE:	NAME	DATE/TIME/INITIALS	VERIFICATION TIME/INITIALS
AUTO-DIALER			
PRIMARY:	_____	___/___/___	___/___
ALTERNATE:			

1. Contact the GSO by Auto-dialer.

CAUTION

IF GSO CAN NOT BE REACHED,
GO TO STEP 7.

2. Upon contact, state the following:

"This is _____ (Your Name), the Shoreham Control Room Communicator. A(n) _____ (State emergency class) was declared at the site at _____ (time). The emergency level for the Emergency Callout System is _____ (2,3 or 4). Please implement EPIP 3-6, Onsite/ Offsite Notifications."

3. Repeat the message a second time.
4. Obtain and record the name of the GSO.
5. Record the date, time and your initials.
6. Record the verification time and your initials.

CAUTION

IF GSO HAS BEEN CONTACTED, STOP HERE

GSO CALL SHEET
(Continued)

COMMUNICATIONS MODE: AUTO-DIALER	NAME	DATE/TIME/INITIALS	VERIFICATION TIME/INITIALS
PRIMARY:			
ALTERNATE:			

7. If the GSO can not be reached, contact the Electric Systems Operator (ESO) via Auto-dialer.

8. Upon contact, state the following:

"This is _____, the Shoreham Control Room Communicator.
(Your name)
We are unable to contact the Gas System Operator. Contact the GSO and pass on the following information:

A(n) _____ was declared at the site at _____.
(State emergency class) (time)

The emergency level for the ECS is _____.
(2,3 or 4)

Please implement EPIP 1-5, Onsite/offsite Notifications."

9. Repeat the message.

10. Obtain and record name of ESO.

11. Record date, time and your initials.

12. Record the verification time and your initials.

CAS CALL SHEET

COMMUNICATIONS MODE	CAS NAME	DATE/TIME/INITIALS
PRIMARY:	_____	__/__/__
ALTERNATE:		

1. Contact the CAS by commercial phone.
2. Upon contact, state the following:

   "This is _____ (Your name), the Shoreham Control Room Communicator. A(n) _____ (State emergency class) was declared at the site at _____ (Time). The Emergency Level for ECS is _____ (2, 3 or 4). Please implement EPIP 3-6, Onsite/Offsite Notifications."

3. Repeat the message a second time.
4. Obtain and record the name of the CAS.
5. Record the date, time and your initials.

SUPPLEMENTARY NOTIFICATIONS CALL LIST

Emergency Director/EPA #1/EPA #2

1. Check off each Supplemental Agency to be contacted

   A. For medical/radiological incidents

      1. Central Suffolk Hospital - CALL BOTH NUMBERS.
      2. RMC Corp.
      3. LILCO Health Services (Dr. Golden)

   B. For an Alert or higher classification

      1. St. Joseph's Villa (Information only)
      *2. ANI/NML
      *3. DOE/FRMAP
      *4. S&W Boston
      *5. GE
      *6. INPO

   C. Call the United States Coast Guard only if an airborne/ waterborne release is imminent or in progress AND you are notified by the Supervising Services Operator that the county EOC is not activated.

2. Fill in all information to be transmitted under the Message Information Section.

3. Sign the form.

   NOTE: Emergency Director/Response Manager approval is required when requests are made for a commitment of non-LILCO resources.

4. Hand signed form to the Communicator for notification of designated agencies.

   * CONTROL ROOM NOT REQUIRED TO MAKE THESE CALLS

SUPPLEMENTARY NOTIFICATIONS CALL LIST

SUPPLEMENTARY NOTIFICATION CALL LIST

1. Call all agencies indicated in the left hand column.
2. When contact is made, state: "This is ________ (Your name) from the Shoreham Nuclear Power Station. This ____ is ____ is not a drill. We declared a(n) ____________ (Emergency Classification) at ________ (24 hour clock). My phone # is ____________."
3. Transmit any assistance required/special information/description of injuries noted on the form.
4. Record name of person accepting the call, time of call and your initials. If a verification call is received, record the time.

CHECK REC'D CALL	AGENCY	TELEPHONE NUMBER	MESSAGE INFORMATION
	Central Suffolk Hospital	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	AMC Corp.	[illegible] [illegible] (24 hrs)	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	LILCO Health Services Dr. [illegible]	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	St. Joseph's Villa	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	[illegible]	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	[illegible]	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	[illegible]	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	General [illegible]	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	INPO	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	
	United States Coast Guard	[illegible]	
	Name of Person Accepting Call	Time/Initials Verification/Initials	

[illegible]

SAMPLE

EMERGENCY CALLER LIST

EMERGENCY CALLER LIST

CAUTION

ONLY IF NOTIFIED BY CAS THAT ECS HAS FAILED

NAME	HOME PHONE	PLANT EXT.	CALLER NO. ASSIGNMENT	DATE/TIME INITIALS	VERIFICATION TIME/INITIALS
				/ /	/
				/ /	/
				/ /	/
				/ /	/
				/ /	/
				/ /	/
				/ /	/
				/ /	/

EMERGENCY CALLER LIST
(Continued)

ENLIST FOUR (4) CALLERS. FILL IN REQUIRED INFORMATION ONLY FOR SUCCESSFULLY COMPLETED CALLS.

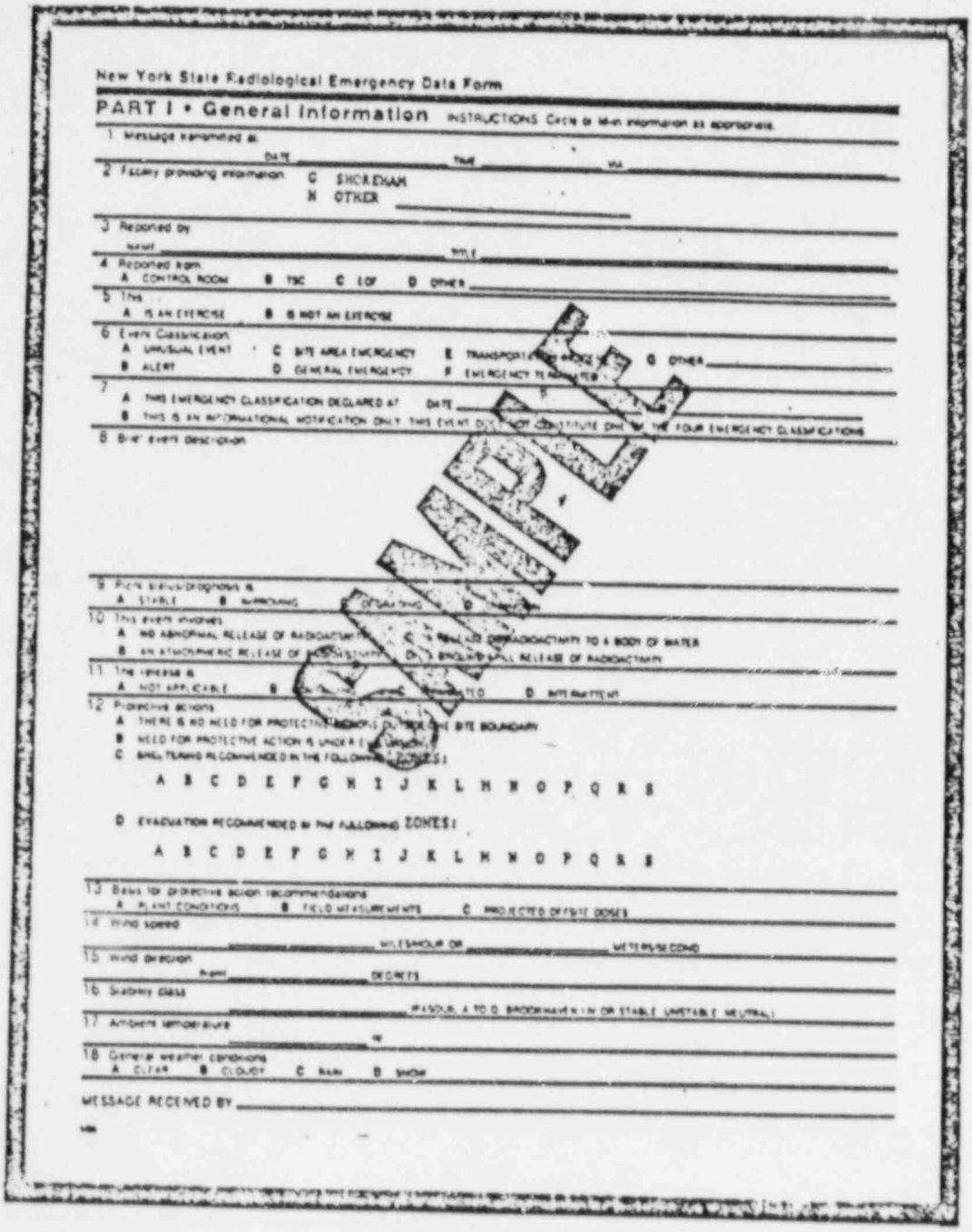
1. Call from the top name down.
2. Upon contact, ask to speak to the designated person.
3. State the following:

   "This is _____ the Shoreham Control Room Communicator.
   (Your name)

   A(n) _____ has been declared at the site. You are emergency caller ( )1, ( )2, ( )3, ( )4. Please initiate the appropriate Emergency Caller Instruction."

4. Repeat the message a second time.
5. Record the time, caller number assigned and your initials next to the name of the callers enlisted on the Emergency Caller List.
6. Continue down the list until you have enlisted four (4) emergency callers.
7. After verification calls, record the times and your initials in the appropriate spaces on the Emergency Caller List.

New York State
Radiological Emergency Data Form
Part I - General Information



New York State Radiological Emergency Data Form

PART I • General Information INSTRUCTIONS: Circle or fill in information as appropriate.

1 Message transmitted at:
DATE _____ TIME _____ VIA _____

2 Facility providing information: C SHOREHAM
N OTHER _____

3 Reported by:
NAME _____ TITLE _____

4 Reported from:
A CONTROL ROOM B TSC C EOF D OTHER _____

5 This:
A IS AN EXERCISE B IS NOT AN EXERCISE

6 Event Classification:
A UNUSUAL EVENT C SITE AREA EMERGENCY E TRANSPORTATION ACCIDENT G OTHER _____
B ALERT D GENERAL EMERGENCY F EMERGENCY TERMINATED

7
A THIS EMERGENCY CLASSIFICATION DECLARED AT DATE _____
B THIS IS AN INFORMATIONAL NOTIFICATION ONLY. THIS EVENT DOES NOT CONSTITUTE ONE OF THE FOUR EMERGENCY CLASSIFICATIONS

8 Brief event description:

9 Plant conditions:
A STABLE B IMPROVING C DEGRADING D UNKNOWN

10 This event involves:
A NO ABNORMAL RELEASE OF RADIOACTIVITY C A RELEASE OF RADIOACTIVITY TO A BODY OF WATER
B AN ATMOSPHERIC RELEASE OF RADIOACTIVITY D A GROUND LEVEL RELEASE OF RADIOACTIVITY

11 The release is:
A NOT APPLICABLE B ONGOING C TERMINATED D INTERMITTENT

12 Protective actions:
A THERE IS NO NEED FOR PROTECTIVE ACTIONS BEYOND THE SITE BOUNDARY
B NEED FOR PROTECTIVE ACTION IS UNDER EVALUATION
C EVACUATION RECOMMENDED IN THE FOLLOWING ZONES:
A B C D E F G H I J K L M N O P Q R S
D EVACUATION RECOMMENDED IN THE FOLLOWING ZONES:
A B C D E F G H I J K L M N O P Q R S

13 Basis for protective action recommendations:
A PLANT CONDITIONS B FIELD MEASUREMENTS C PROJECTED OFFSITE DOSES

14 Wind speed:
_____ MILES/HOUR OR _____ METERS/SECOND

15 Wind direction:
FROM _____ DEGREES

16 Stability class:
_____ (A=UNSTABLE, D=NEUTRAL, F TO G=MODERATELY STABLE)

17 Ambient temperature:
_____ °F

18 General weather conditions:
A CLEAR B CLOUDY C RAIN D SNOW

MESSAGE RECEIVED BY _____

New York State
Radiological Emergency Data Form
Part II - Radiological Assessment Data

New York State Radiological Emergency Data Form

PART II • Radiological Assessment Data

SAMPLE

19 Message transmitted at: DATE ______ TIME ______ FROM ______ Based on information available at: TIME ______

20 General release information.

A RELEASE STARTED AT DATE ______ TIME ______
B PROJECTED DURATION OF RELEASE ______
C TIME OF TERMINATION OF RELEASE ______
D REACTOR SHUTDOWN DATE ______ TIME ______
E WIND SPEED ______ MPH or ______ M/SEC
F WIND DIRECTION (FROM) ______ DEGREES
G STABILITY CLASS ______ (PASQUILL A-G, BROOKHAVEN ... OR STABLE, UNSTABLE OR NEUTRAL)

21 Atmospheric release information.

A EFFECTIVE RELEASE HEIGHT ______ FT
B IODINE/NOBLE GAS RATIO ______
C GROSS RELEASE RATE ______ Ci/SEC
D IODINE RELEASE RATE ______ Ci/SEC
E NOBLE GAS RELEASE RATE ______ Ci/SEC
F PARTICULATE ... ______ Ci/SEC

22 Waterborne release or surface spill information.

A VOLUME OF RELEASE ______ GALLONS
B CONCENTRATION ... ______ uCi/ml
C ... ______
D TOTAL ACTIVITY RELEASED ______ Ci

23 Dose/dose rate calculations

DATA IS BASED ON (check one): A IN-PLANT MEASUREMENTS B FIELD MEASUREMENTS C ASSUMED SOURCE TERM
TABLE BELOW APPLIES TO (check one): A ATMOSPHERIC RELEASES B WATERBORNE RELEASES

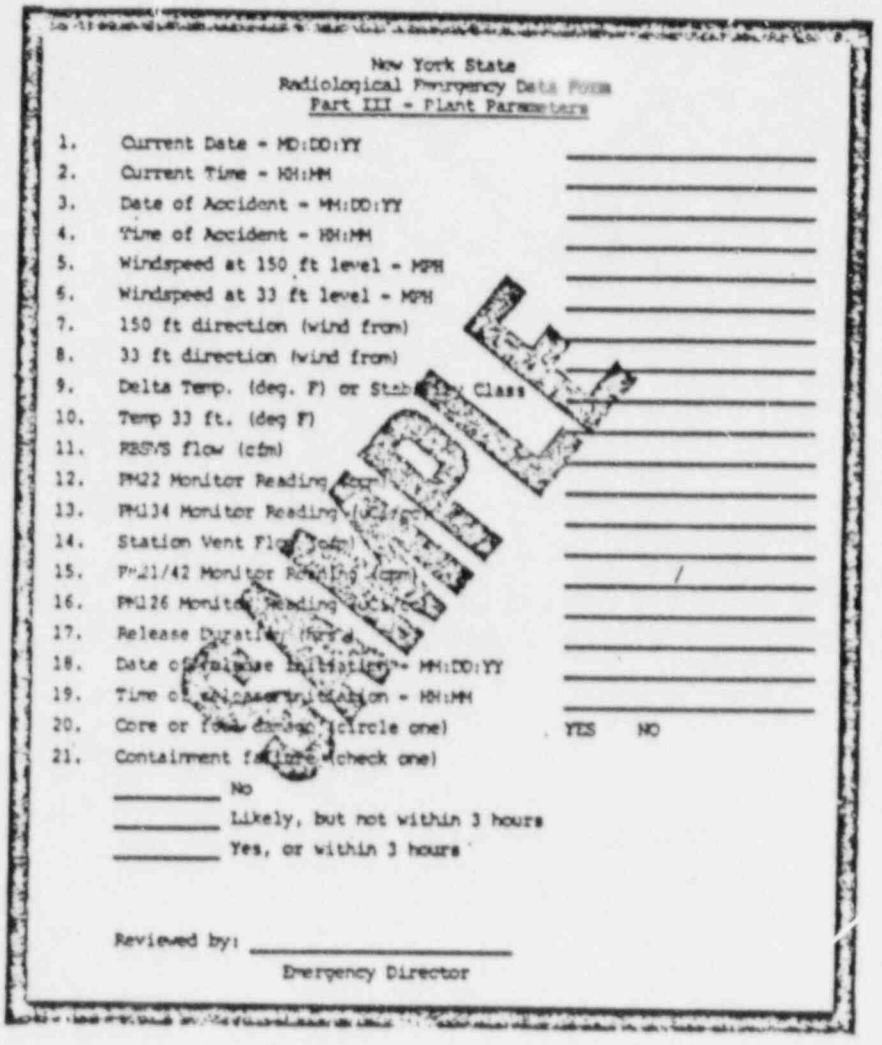
DISTANCE	X/Q* (DOSE RATES)	WHOLE BODY REM/HOUR (DOSE RATES)	CHILD'S THYROID REM/HOUR (DOSE RATES)	WHOLE BODY REM (INTEGRATED DOSE OVER THE COURSE OF THE ACCIDENT)	CHILD'S THYROID REM (INTEGRATED DOSE OVER THE COURSE OF THE ACCIDENT)
SITE BOUNDARY					
2 MILES					
5 MILES					
10 MILES					
____ MILES					

24 Field measurements of dose rates or surface contamination (deposition)

MILES/SECTOR OR MILES/DEGREES	LOCATION OR SAMPLING POINT	TIME OF MEASUREMENT	DOSE RATE (MR/HR) OR CONTAMINATION (Ci/M²)

REMARKS *X/Q are for whole body dose rates and based on a "finite cloud" model.
Child thyroid dose rates are based on a "semi-infinite cloud" model.

New York State
Radiological Emergency Data Form
Part III - Plant Parameters



New York State
Radiological Emergency Data Form
Part III - Plant Parameters

1.	Current Date - MO:DD:YY	_____
2.	Current Time - HH:MM	_____
3.	Date of Accident - MM:DD:YY	_____
4.	Time of Accident - HH:MM	_____
5.	Windspeed at 150 ft level - MPH	_____
6.	Windspeed at 33 ft level - MPH	_____
7.	150 ft direction (wind from)	_____
8.	33 ft direction (wind from)	_____
9.	Delta Temp. (deg. F) or Stability Class	_____
10.	Temp 33 ft. (deg F)	_____
11.	RBSVS flow (cfm)	_____
12.	FH22 Monitor Reading (cpm)	_____
13.	FH134 Monitor Reading (cpm)	_____
14.	Station Vent Flow (cfm)	_____
15.	FH21/42 Monitor Reading (cpm)	_____
16.	FH126 Monitor Reading (cpm)	_____
17.	Release Duration (hrs)	_____
18.	Date of release initiation - MM:DD:YY	_____
19.	Time of release initiation - HH:MM	_____
20.	Core or fuel damage (circle one)	YES NO
21.	Containment failure (check one)	

_____ No
_____ Likely, but not within 3 hours
_____ Yes, or within 3 hours

Reviewed by: _____
Emergency Director

NRC NOTIFICATION CALL LIST

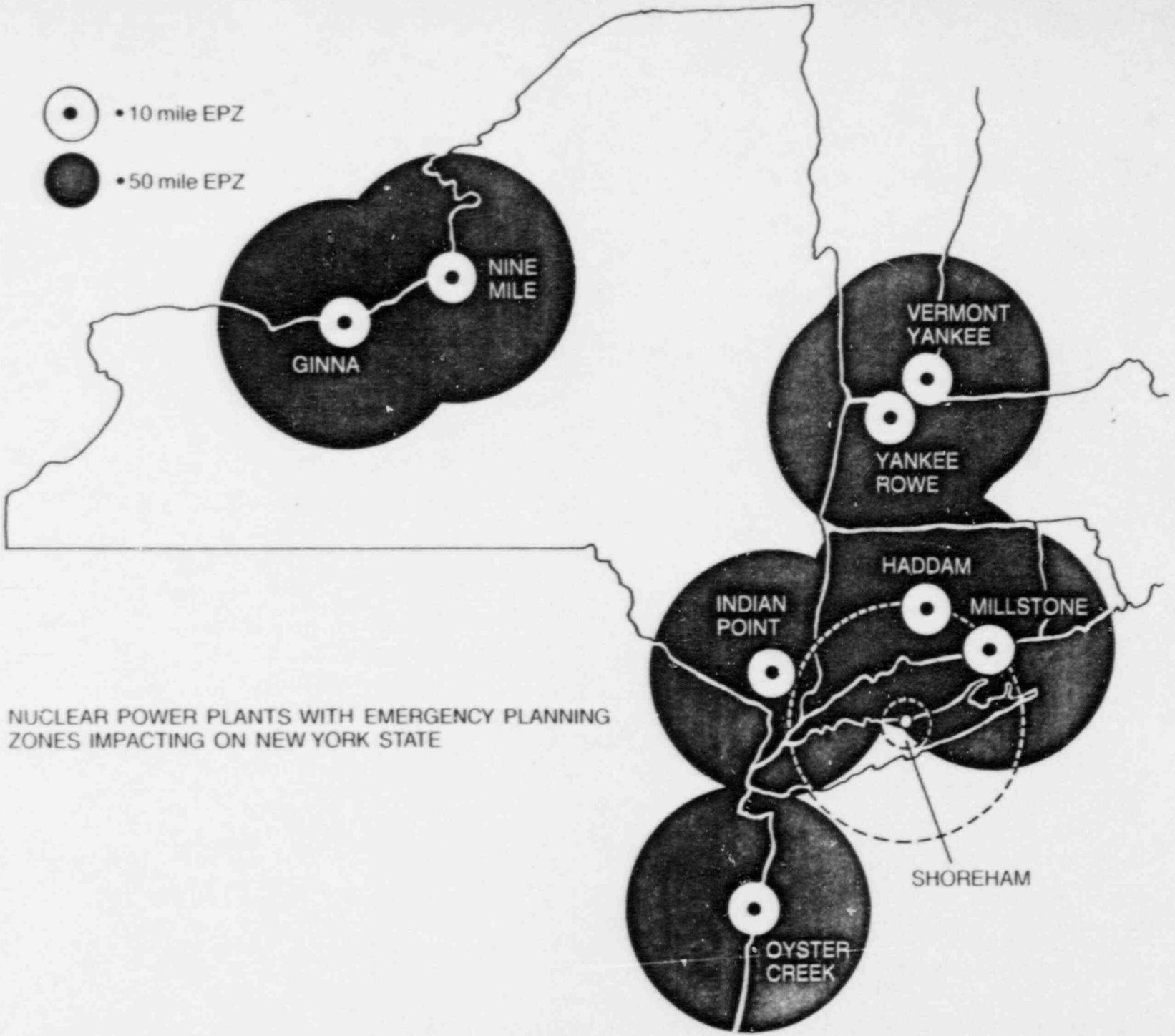
NRC NOTIFICATION CALL LIST

CAUTION

NRC NOTIFICATIONS TO BE MADE WITHIN ONE (1) HOUR OF EMERGENCY DECLARATION

NRC OFFICE	COMMUNICATIONS MODE PRIMARY/ALTERNATE	TIME/INITIALS	MESSAGE VERIFIED TIME/INITIALS
1. Washington Office, Bethesda, MD	Primary: Emergency Notification Systems (ENS)	/	
	Alternate: Auto-dialer	/	/
	Commercial Telephone Phone to NRC Operator		

ATTACHMENT T



NUCLEAR POWER PLANTS WITH EMERGENCY PLANNING ZONES IMPACTING ON NEW YORK STATE

ATTACHMENT U

SUFFOLK COUNTY DIVISION

OF

EMERGENCY PREPAREDNESS

EMERGENCY DIRECTORY

COUNTY STAFF
COUNTY SERVICE CHIEFS
COUNTY AND TOWN OFFICIALS
EMERGENCY MEDICAL SERVICES

SUFFOLK COUNTY DIVISION OF EMERGENCY PREPAREDNESS

YAPHANK AVENUE, YAPHANK, NEW YORK

SUFFOLK COUNTY
DEPARTMENT OF FIRE, RESCUE & EMERGENCY SERVICES

Herbert W. Davis, Commissioner
Box 85 - Yaphank Avenue
Yaphank, N.Y. 11980-0085
(516) 286-5350

DIVISION OF EMERGENCY PREPAREDNESS

William E. Regan, Director
Box 127 - Yaphank Avenue
Yaphank, N.Y. 11980 - 0127
(516) 924-4400 X311

Please note that the enclosed copy of the updated Directory is RESTRICTED. In addition to the general information provided, there are listed certain confidential telephone numbers. Therefore, THIS DIRECTORY IS NOT FOR GENERAL DISTRIBUTION.

REVISED AUGUST 1987

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OFFICE OF THE COUNTY EXECUTIVE
H. LEE DENNISON BUILDING
VETERANS MEMORIAL HIGHWAY
HAUPPAUGE, NEW YORK 11788
(516) 360-4000
77-4000

MICHAEL A. LoGRANDE
County Executive
360-4000 77-4000

Riverhead Office
548-3100 77-215-3100

GREGORY W. MUNSON
Chief Deputy County Executive
360-4813 77-4813

292 Sunrise Avenue
Sayville, New York 11782
589-5555

LOUIS SOLEO
Deputy County Executive
360-4013 77-4013

32 Samuels Path
Miller Place, New York 11764
928-7195

LAURE C. NOLAN
Deputy County Executive
360-4004 77-4004

19 Mar-Kan Drive
Northport, New York 11768
261-2193

WARREN GREENE
Assistant Deputy County Executive
360-4005 77-4005

286 Feller Drive
Central Islip, New York 11722
582-6147

DENNIS McCARTHY
County Executive Assistant
360-5008 77-5008

11 Hillside Avenue
Blue Point, New York 11715
363-2823

ERIC KOPP
County Executive Assistant
360-4020 77-4020

22 Howe Road
Coram, New York 11727
736-5695

FRANK PETRONE
County Executive Assistant
360-4016 77-4016

3 Buckingham Drive
Dix Hills, New York 11746
462-9166

SUFFOLK COUNTY LEGISLATURE

LEGISLATOR	DISTRICT	ADDRESS & TELEPHONE NUMBE
BLASS, GREGORY Presiding Officer	1	11 West 2nd Street Riverhead, 11901 727-7200 722-8191 Home
ROMAINE, EDWARD	2	640 Montauk Highway Shirley, 11967 399-0500 878-8127 Home
FOLEY, JOHN J.	3	31 Oak Street Patchogue, 11772 475-5800 363-6195 Home
CARACAPPA, ROSE	4	Coram-Selden Office Building 248-260 Middle Country Road Building 1, Suite 3 Selden, 11784 732-2000 732-0442 Home
ENGLEBRIGHT, STEVEN	5	149 Main Street Setauket, 11733 689-8500 751-1309 Home
BLYDENBURGH, DONALD	6	180 Main Street Smithtown, 11787 724-4888
D'ANDRE, MICHAEL	7	49 Landing Avenue Smithtown, 11787 724-5705 979-7579 Home
LEVY, STEVEN	8	26 Railroad Avenue Sayville, 11782 567-0460 472-9468 Home
RIZZO, JOSEPH	9	3250 Sunrise Highway East Islip, 11730 581-3621 581-1994 Home
NOLAN, PHILIP	10	2000 Brentwood Road Brentwood, N.Y. 11717 231-3110 581-8518 Home
MAHONEY, PATRICK	11	4 Udall Road West Islip, 11795 661-1800 661-8387 Home
BACHETY, SONDRA M.	12	655 Deer Park Avenue N. Babylon, 11703 661-3425 667-5712 Home
GLASS, GERARD	13	146 N. Wellwood Avenue Lindenhurst, 11757 226-1340 957-6145 Home

SUFFOLK COUNTY LEGISLATURE
(continued)

LEGISLATOR	DISTRICT	ADDRESSS & TELEPHONE NUMBE
HOWARD, LOUIS	14	147 Broadway Amityville, 11701 691-4488 264-3636 Home
PROSPECT, WAYNE	15	1789 E. Jericho Turnpike Huntington, 11743 499-5886 499-6744 Home
BULLOCK, ANTHONY	16	425 Country Road 39A, Suite 104 Southampton, 11968 287-1655 324-6931 Home
DEVINE, JANE	17	256 Main Street Huntington, 11743 673-9393 673-0973 Home
O'DONOHOE, MICHAEL	18	124 Laurel Road E. Northport, 11731 754-8288 757-3704 Home

DEPARTMENT OF FIRE, RESCUE & EMERGENCY SERVICES

HERBERT W. DAVIS, Commissioner
286-5347 77-217-5347
County Control Radio FC-1
Car Phone 243-9020

Raimond Street
Yaphank, N.Y. 11980
924-6342

DIVISION OF EMERGENCY PREPAREDNESS
PO BOX 127 - YAPHANK AVENUE
YAPHANK, N.Y. 11980 - 0181
(516) 924-4400

WILLIAM E. REGAN, Director
Ext. 311, 312 77-214-311, 312 (924-4400) (924-3253)

County Control Radio CD-1

1160 Route 25A
Stony Brook, N.Y. 11790
689-8134 (after hours)

JOHN V. BILELLO, Deputy Director
Ext. 307 77-214-307
County Control Radio CD-2

1330-12th Street
West Babylon, N.Y. 11704
888-1053

G. BERKLEY BENNETT, Operations Officer
Ext. 310 77-214-310 (924-8191)
County Control Radio CD-3

Apaquogue Road
East Hampton, N.Y. 11937
324-1697

RICHARD W. JONES, Radiological Defense Officer
Plans and Training Officer
Ext. 300 77-214-300
County Control Radio CD-13

60 Charles Road
East Patchogue, N.Y. 11772
286-2567

RICHARD BOUGHTON, Resources Management Officer
Ext. 308 77-214-308
County Control Radio CD-8

23 Aloma Road
Rocky Point, N.Y. 11778
744-8927

LIAISON STAFF

NICHOLAS P. HAYDEN, SGT. #585
Police Liaison Ext. 304 77-213-304 (924-4343)
County Control Radio CD-9

24 Stratler Drive
Shirley, N.Y. 11967
924-0728

MICHAEL L. ABBATE, POLICE OFFICER
Police Liaison Ext. 303 77-213-303 (924-4343)

270 Bayport Avenue
Bayport, N.Y. 11705
472-4824

DEPARTMENT OF FIRE, RESCUE & EMERGENCY SERVICES
(continued)

ROBERT SHEPPARD, Radiation Control
Health Services Liaison Ext. 306
County Control Radio CD-12

767 Paulanna Avenue
Bayport, N.Y. 11705
472-0099

FRANK GOEHLE, Welfare Liaison Officer
Social Services Liaison Ext. 306/302
County Control Radio CD-4

59 Stony Hill Path
Smithtown, N.Y. 11787
265-2448

SECRETARIAL STAFF

JOAN LOVETT, Senior Stenographer
Ext. 311, 312 (924-4400) 77-214-311, 312

1 Baiting Hollow Lane
Baiting Hollow, N.Y. 11933
369-2307

MICHELE PELLERITO, Senior Clerk Typist
Ext. 295 (924-4400) 77-214-295

87 Patchogue Avenue
Patchogue, N.Y. 11772
289-3591

SUFFOLK COUNTY

DIVISION OF THE FIRE MARSHAL

STAFF

DAVID H. FISCHLER
CHIEF FIRE MARSHAL
279 4th Avenue
Saint James, N.Y. 11780
Home Phone: 584-7047
Business Phone: 286-5359
Radio Call: FM-1

WARREN HORST
ASSISTANT CHIEF FIRE MARSHAL
83 Tyler Avenue
W. Sayville, N.Y. 11796
Home Phone: 589-8671
Business Phone: 286-5358
Radio Call: FM-2

MYLES P. QUINN
CHIEF OF COMMUNICATIONS
338 Jamaica Avenue
Medford, N.Y. 11786
Home Phone: 475-4486
Business Phone: 286-5349
Radio Call: FC-13

RONALD STANGER, FIRE MARSHAL
1707 Central Blvd.
Bay Shore, N.Y. 11706
Home Phone: 231-7924
Business Phone: 286-5342
Radio Call: FM-6

ERNEST LANZER, FIRE MARSHAL
71 Berg Avenue
Kings Park, N.Y. 11754
Home Phone: 269-4565
Business Phone: 286-5343
Radio Call: FM-5

PETER DIGILIO, FIRE MARSHAL
57 Hemlock Lane
Bay Shore, N.Y. 11706
Home Phone: 665-1908
Business Phone: 286-5343
Radio Call: FM-4

JOHN COEN, RESOURCE
MANAGEMENT OFFICER
3 Tilden Avenue
Selden, N.Y. 11784
Home Phone: 732-7494
Business Phone: 286-5344
Radio Call: FC-8

ALEXIS SMITH, FIRE MARSHAL
504 Deer Park Avenue
Babylon, N.Y. 11702
Home Phone: 587-3104
Business Phone: 286-5341
Radio Call: FM-7

RADIO ROOM SUPERVISOR
286-5350
924-4400 X552

STATE EMERGENCY MANAGEMENT OFFICE
N.Y.S. DIVISION OF MILITARY & NAVAL AFFAIRS
BLDG. #22, STATE CAMPUS
ALBANY, N.Y. 12226-5000
24 Hour Emergency Number - 518-457-2200

DONALD A. DE VITO - Director	518-457-2222
ANTHONY GERMANO - Deputy Director	518-457-9994

RADIOLOGICAL EMERGENCY PREPAREDNESS GROUP

BRUCE MCQUEEN - Planning	518-473-3394

NEW YORK STATE EMERGENCY MANAGEMENT OFFICE (SEMO)
SOUTHERN DISTRICT OFFICE
CREEK ROAD
POUGHKEEPSIE, NEW YORK 12601
(914) 454-0430/8100

McDonald Godfrey	Regional Director
Luciano Salamone	NYC/LI Liaison
Barbara A. Porter	Regional Program Administrator
Pauline Shapiro	Senior Stenographer

AFFILIATED EMERGENCY OPERATING CENTERS (EOC)

NASSAU COUNTY, Police Bureau of Emergency Services/Civil Preparedness, 104 - 15th St. Mineola, N.Y. 11501.

Deputy Inspector John Blankenhorn, Director	516-535-7527
Sgt. John G. McGullam, Deputy Director	516-535-7524
Thomas Gulotta, Nassau County Executive	516-535-3131
Samuel J. Rozzi, Commissioner of Police	516-535-7100

WESTCHESTER COUNTY, Office of Disaster and Emergency Services, Michaelian County Office Building, Sub Basement - EOC, 148 Martine Ave. White Plains, N.Y. 10601

Edward J. Mullett, Director	914-285-3026
William A. Murphy, Acting Deputy Director	914-285-3026
Andrew O'Rourke, Chief Executive	914-285-2900
Anthony M. Mosca, Commissioner of Public Safety	914-285-3045

NEW YORK CITY, Office of Emergency Management
N.Y. City Police Department, Bureau of Operations
One Police Plaza - 8th Floor
New York, N.Y. 10038

Benjamin Ward, Police Commissioner, CD Director	212-374-5410
Inspector Archie Love, Deputy Director	212-374-5500
Edward Koch, Chief Executive (Mayor)	212-566-1300

STATE HEADQUARTERS STAFF

Executive

Donald A. DeVito (518) 457-2222

Administration

John A. Agostino (518) 457-9996

Disaster Administration

Charles Gault (518) 457-9955

Communications & Warning

Bruce Houston (518) 457-9933

Planning

Richard Herskowitz (518) 457-9969

Technical Resources

Lee Battes (518) 457-9940

Radiological Instruction Facility

H. Kennedy Bergmann (518) 457-9972

Training

Les G. Radford 518) 457-9987

State Police Emergency Management Liaison

Sgt. Anthony Strallo (518) 457-3258

BERP Staff

Karim Rimawi (Office Number) (518) 457-2846, 3613, 3434, 3621
(Home Number) 439-0865

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(IMA)

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Bus: (516) 364-0400 x 2804

KEVIN T. CONNELLY, Lt/Col, USAR
53 Paquatuck Avenue
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BRUCE GOULD, Major, USAFR
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Smithtown, NY 11787
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Farmingdale, NY 11735
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THOMAS J. STEIGLER, MSGT, USAR
367 Pacific Street
Massapequa Park, NY 11762
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Bus: (212) 412-4060

WILLIAM F. CONBOY, TSGT, USAFR
89 Garnett Drive
Commack, NY 11725
Home: (516) 543-7099
Bus: (516) 473-0808

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RADIOLOGICAL DEFENSE

JAMES ROESLER
Brookhaven National Laboratory
Upton 11973
282-5051
12 Medford Road
Ridge 11961
924-4290

RADIO

VAN R. FIELD
County Radio Officer
17 Inwood Road
Center Moriches 11934
878-1591

DAVID POTTER
County Radio Officer
Brookhaven National Laboratory
Upton 11973
282-4234
51 Bayport Avenue
Bayport 11705
472-2394

RESCUE

SALVATORE FALOTICO
Floral Glass & Mirror
895 Motor Parkway
Hauppauge 11788
234-2200
95 Liberty Avenue
N. Babylon 11702
669-9378

FIRE

DAVID FISCHLER
Chief Fire Marshall
Dept. of Fire, Rescue & Emergency Services
Yaphank Avenue
Yaphank 11980
286-5359; Radio Room 286-5350/924-5252 - 24 Hours
279 4th Avenue
St. James 11780
584-7047

CIVIL AIR PATROL

COL. JOHN MAREK
575-6152
15 Marc Street
Lake Ronkonkoma 1177
751-7049

TRAFFIC CONTROL & ENGINEERING

RICHARD STRANG
Director
Dept. of Public Works
Yaphank Avenue
Yaphank 11980
924-4400 x 389
Dispatcher: 360-6702 (days)
378-3552 (evenings)
17 View Road
Setauket 11733

FOOD SUPPLY

JOE GERGEOA
USDA Stability & Conservation Services
176 Old Country Road
Riverhead 11901
727-2732

US COAST GUARD

LT. D.P. PEKOSKE
Group Shinnecock
728-0343 / 728-0078

SCHOOLS

BOCES I

Dr. Raymond DeFeo
District Superintendent

215 Old Riverhead Road
Westhampton Beach 11978
288-6400

Carmine Antonelli
Assistant Superintendent

263 Liberty Street
Deer Park 11729
586-7906

BOCES II

James Hines
District Superintendent

201 Sunrise Highway
Patchogue 11772
289-2200

Stanley Packman
Director of Administrative
Services

15 Prince Charming Roa
Nesconset 11767
979-9184

BOCES III

Dr. Edward Murphy
District Supervisor

507 Deer Park Road
Dix Hills 11746
549-4900

Dr. Paul Salvione, Coordinator
Assistant Superintendent

6 Windover Lane
Coram 11727
331-1732

COUNTY DEPARTMENTS

BUILDINGS AND GROUNDS, 45 Mall Drive, Commack 11725

WILLIAM SUCKOW, Deputy Commissioner
266-4000 219-4000

92 Palmer Drive
Sayville 11782
589-5302

WILLIAM ARTHUR, Building Maintenance Manager
924-4400 x 420 - 77-214-420

327 5th Street
Greenport 11944
477-0876

BILL PREIS, Maintenance Mechanic
EOC/ASG - Probation Building, Yaphank
924-4400 x 271 - 77-214-271

Bayberry Lane
Middle Island 11953
732-4639

TELECOMMUNICATIONS, 10 Oval Drive, Central Islip 11722

JOHN RANDOLPH, Director
348-4182 - 77-213-4182

14 Foxcroft Lane
East Patchogue 11772
654-3333

DEPARTMENT OF PUBLIC WORKS, Yaphank Avenue, Yaphank 11980

A. BARTON CASS, Commissioner
924-4300 x 340
Radio: SC #2 KEB 767 Freqency 37.98

148 South Fairview Ave.
Bayport 11705
472-1722

ROBERT E. WEBBER, Chief Deputy Commissioner
924-4300 x 341 - 77-214-341
Radio: SC #2 KEB 767 Frequency 37.89

35 Chappel Avenue
Brookhaven 11719
286-1113

Radio Room: 924-4300 x 388 (days) - 924-4713 (evenings)

DEPARTMENT OF AUDIT AND CONTROL, H. Lee Dennison Building,
Veterans Memorial Highway, Hauppau

JOSEPH R. CAPUTO
Comptroller
360-5040/5038 - 77-5040/5038

66 North Country Road
Shoreham 11786
821-1826

BOARD OF ELECTIONS, Yaphank Avenue, Yaphank 11980

GEORGE WOLF, Commissioner
924-4300 x 447 - 77-214-447

125 Burlington Avenue
Deer Park 11729
586-0654

WILLIAM CANARY, Commissioner
924-4400 x 446 - 77-214-446

88 Whalers Cove
Babylon 11702
669-0964

COUNTY DEPARTMENTS
(Continued)

PROBATION DEPARTMENT, Yaphank Avenue, Yaphank 11980

EDWARD N. DRAFFIN, Director
924-4400 X200/201 - 77-214-200/201

167 Ocean Avenue
Bayport 11705
472-0999

DEPARTMENT OF LABOR, 222 Middle Country Road, Smithtown 11787

RAYMOND C. ALMENDINGER
Commissioner
348-2200 - 77-213-2200

808 Carlton Road
West Babylon 11704
587-0681

DEPARTMENT OF LAW, H. LeeDennison Building, Veterans Memorial Highway, Hauppauge 11788

MARTIN ASHARE, Esq.
360-4066 - 77-4066

405 Clubhouse Court
Coram 11727
698-6723

DEPARTMENT OF SOCIAL SERVICES, 10 Oval Drive, Central Islip 11722

ALICE AMRHEIN, Commissioner
348-2305 - 77-230-2305

10 Salt Meadow Lane
Bayport 11705
472-9740

HOME ENERGY ASSISTANCE PROGRAM (HEAP) Hot-Line 666-0284

Emergency Fuel - 666-0267 (Days) - 348-4010 (Evenings)

ROBERTA WEISINGER
666-2600 X300

NOREEN HAYDEN
348-4153

For Emergency Situations: HAUPPAUGE - 10 Oval Drive, Building 2
348-4308
HUNTINGTON - Big "H" Shopping Center
673-3031, 673-3000
NORTH AMITYVILLE - Great Neck Road
and Albany Avenue - 842-9522
RIVERHEAD - County Center Building
548-3644

OFFICE OF THE AGING, 65 Jetson Lane, Hauppauge 11788

FRANK C. TROTTA, Director
348-5313 - 77-226-5313

64 Bieselin Road
Bellport 11713
283-2006

JOAN RINDE
348-5316 - 77-226-5316

11 Cooke Street
Kings Park 11754
269-9151

JOHN BIANCHET
348-5315 - 77-226-5315

28 Brookhaven Boulevard
Port Jefferson 11777
473-8249

Senior Citizens Hotline: 234-2525 (West) - 548-3333 (East)

OFFICE OF THE HANDICAPPED, 65 Jetson Lane, Hauppauge 11788

BRUCE BLOWER, Director
348-5340

2 Meroke Court
Huntington Station 11746
271-3087

Telecommunications for the DEAF (TDD): 582-6616
Access for Deaf in Emergencies: 924-8311 (24 hours)

PARKS, RECREATION AND CONSERVATION, Box 144, Montauk Highway
West Sayville 11796

JOHN D. CHESTER, Commissioner
567-1700

17 Myrtle Lane
East Patchogue 11772
475-4006

SMITH POINT PARK RANGER, Communications 281-4277 (24 hours)

POLICE DEPARTMENT, Police Headquarters, Yaphank Avenue, Yaphank 11980

JAMES A. CAPLES, Commissioner
286-5077 - 77-217-5077

26 Belmont Court
Amityville 11701
691-5878

WILLIAM McBRIDE, Deputy Commissioner
286-5077 - 77-217-5077

12 Seacliff Lane
Miller Place 11764
928-6397

JOHN BISCARDI, Chief Inspector
286-5490 - 77-217-5490

Jayson Lane
East Hampton 11937
324-9235

RICHARD DORMER, Deputy Chief Inspector
286-5490 - 77-217-5490

22 Louisa Court
Northport 11768
757-8885

Duty Officer:	286-5410/5413	
First Precinct:	957-4418	Inspector Blomberg
Second Precinct:	351-4418	Inspector Stewart
Third Precinct:	435-4418	Inspector Meyer
Fourth Precinct:	360-4418	Inspector Hayden
Fifth Precinct:	654-4418	Inspector Regensburg
Sixth Precinct:	451-4418	Inspector Sommer

NYS POLICE, Troop "L", 3045 Sunrise Highway, Islip Terrace 11752

MAJOR JOHN J. BIRMINGHAM
277-6190

Barracks: Hampton Bays 728-3000

COUNTY DEPARTMENTS
(Continued)

SHERIFF'S DEPARTMENT, Center Drive, Riverhead 11901
(Radio: WYW 912 - West End; WYW 913 East End;
Frequency 155.415)

EUGENE T. DOOLEY, Sheriff
548-3206 - 77-215-3206
Radio Car #20
446 Yaphank/Middle Island
Yaphank 11980
924-1172

GABRIELLE RENDE, Under Sheriff
548-3208 - 77-215-3208
Radio Car #21
183 Franklin Road
Oakdale 11769
589-5719

ALAN CROCE, Under Sheriff
548-3208 - 77-215-3208
Radio Car #22
500 Wavecrest Lane
Mattituck 11952
298-5190

DEPARTMENT OF HEALTH SERVICES, 225 Rabro Drive East, Hauppauge 11788

DAVID HARRIS, MD, MPH, Commissioner
348-2702 - 77-233-2702
438 Woodbury Road
Huntington 11743
367-9226

PAUL D. O'BRIEN
Deputy Commissioner for Administration
348-2707 - 77-233-2707
1 Oldfield Woods Road
Setauket 11733
689-7828

Division of Emergency Medical Services

ROBERT L. DIETRICHSON
Director
348-2825 - 77-233-2825
10 Eagle Lane
Hauppauge 11788
265-9048

ARNOLD M. BECKER
Chief Training Officer
348-2827 - 77-233-2827
276 Blue Point Road West
Holtsville 11724
472-0832

JOSEPH MARINO
Training Officer
348-2823 - 77-233-2823
3 Algonquin Lane
Commack 11725
543-3010

WILLIAM LARKIN
Ambulance Rescue Services
348-2826 - 77-233-2826
3 Patrician Street
Holbrook 11741
585-9128

Division of Environmental Health Services

ALDO ANDREOLI
Director
348-2781 - 77-233-2781
Box 48 - South Country Road
Remsenberg 11960
325-0581

POLLUTION CONTROL: 451-4633
Horseblock Place, Farmingville 11738
(Evenings, Weekends, Holidays)

DEPARTMENT OF HEALTH SERVICES _ Continued

Division of Forensic Sciences & Medical-Legal Investigations

CHARLES S. HIRSCH, MD, Chief Medical Examiner
Building CO77, Veterans Memorial Highway, Hauppauge 11788
360-5555 - 77-5555

LEO DAL CORTIVO, PHD, Chief Tox.
360-5575 - 77-5575

Miller Place Road
Miller Place 11764
928-5923

24 HOUR EMERGENCY NUMBER: 360-5555
(Office of the Medical Examiner)

POISON CONTROL: 542-2323

Division of Public Health - Disease Control & Epidemiology

MAHFOUZ ZAKI
Director
348-2758 - 77-233-2758

61 Beaumont Drive
Melville 11746
643-7793

Health Liaison

ROBERT SHEPPARD
348-2780 - 77-233-2780

167 Paulanna Avenue
Bayport 11705
472-0099

RICHARD SANDSTROM
348-2756 - 77-233-2756

204 Sebonac Road
Southampton 11968
283-4360

Division of Community Mental Health Services

RICHARD DALY
Director
348-2816 - 77-233-2816

23 Baymen's Court
Sayville 11782
567-8548

Division of Patient Care Services

WILLIAM STEIBEL, DDS, MPH
Director
348-2713 - 77-233-2713

16 Lee Avenue
Babylon 11702
421-3705

Division of Human Resources

JOHN LIGUORI, 65 Jetson Lane, Central Islip 11722
348-5385 - 77-233-5385

NYS DIABETIC ASSOCIATION LONG ISLAND CHAPTER
401 Broad Hollow Road, Melville 11746 752-1752

DIVISION OF PURCHASING, 10 Oval Drive, Building #1, Hauppauge 11788

PAUL STEVENS, Chief Purchasing Agent
348-4116 - 77-213-4116

43 Lorin Lane
E. Northport 11731

WILLIAM GAGNON, Prin. Purchasing Agent
348-4085 - 77-213-4085

LIGHTER, AMPHIBIOUS, RECONNAISSANCE CRAFTS

LARCS

SHERIFF

Sheriff's Office
Riverhead, N.Y. 11901

Duty Officer
548-3215
77-215-3215

BROOKHAVEN

Department of Public Safety
3233 Route 112
Medford, N.Y. 11763

Tom Liguori, Commissioner
Business Phone: 698-4400
Home Phone: 289-8155

Location: Brookhaven Landfill Site
Radio CD-14 Emergency Preparedness (Civil Defense) Frequency
Equipment: Portable Pump, 7.5KW Generator, First Aid, Fire Fighting Equipment, Grappling Hooks.

SOUTHAMPTON

Department of Fire Prevention
116 Hampton Road
Southampton, N.Y. 11968

Kenneth Jones
Business Phone: 283-6000 X235
Home Phone: 728-4444

TOWN SUPERVISORS & CIVIL DEFENSE COORDINATORS

BABYLON
200 E. Sunrise Highway
Lindenhurst, N.Y. 11757
957-3000

ANTHONY NOTO, Supervisor
957-3072
661-3429 (residence)

GILBERT HANSE, JR. Coordinator
957-3069/957-3133 (24 hours)
587-7044 (residence)

HUNTINGTON
Town Hall
100 Main Street
Huntington, N.Y. 11743
351-3000

JOHN O'NEILL, Supervisor
351-3014/3030

HENRY MURER, Coordinator
351-3074
266-3047 (residence)

ISLIP
Town Hall
655 Main Street
Islip, N.Y. 11751
224-5500

FRANK R. JONES, Supervisor
224-5500
589-5297 (residence)

JOHN MUUSS, Director, Public Safety
224-5302/277-3363
277-6613 (residence)
ALFRED WERNER, Commissioner
Aviation & Transportation
588-8062
472-0912 (residence)

SMITHTOWN
Town Hall
99 West Main Street
Smithtown, N.Y. 11787
360-7512

PATRICK VECCHIO, Supervisor
360-7600
269-4263 (residence unlisted)

MICHAEL J. LINKLETTER
360-7590
864-1334 (residence)

TOWN SUPERVISORS
(continued)

BROOKHAVEN
Town Hall
South Ocean Avenue
Patchogue, N.Y. 11772
654-7800

HENRIETTA ACAMPORA, Supervisor
654-7806
588-3479 (residence)

TOM LIGUORI, Commissioner Public Safety
698-4400 -- 736-0440 - 0593
Code Enforcement Headquarters
3233 Route 112
Medford, NY 11763

RIVERHEAD
Town Hall
100 Howell Avenue
Riverhead, N.Y. 11901
727-3200

JOSEPH JANOSKI, Supervisor
727-3200
727-3208 (night emergency)

JOSEPH GRATTAN, Sgt.
Riverhead Police Department
210 Howell Avenue
Riverhead, NY 11901
727-4500

SOUTHAMPTON
Town Hall
116 Hampton Road
Southampton, N.Y. 11968
283-6000

MARTIN LANG, Supervisor
283-6055
728-1042 (residence)
728-6918 (unlisted)

KENNETH JONES, Coordinator
283-6000 X235
653-9340 (residence)
288-5820 Command Post
728-3400 Police Department

SOUTHOLD
Town Hall
53095 Main Road
Southold, N.Y. 11971
765-1800

FRANCIS J. MURPHY, Supervisor
765-1800
298-4975 (residence)

FRANK A. KUJAWSKI, JR.
Marratooka Road
Mattituck, N.Y. 11952
765-1800 - 298-8471 - 8440
298-9146 (residence)

TOWN SUPERVISORS
(continued)

FISHERS ISLAND
PO Box 485
Fishers Island, N.Y. 06390

JUDGE RAYMOND EDWARDS
788-7646
788-7890 (residence)

EAST HAMPTON
Town Hall
159 Pantigo Road
East Hampton, N.Y. 11937
324-4142

JUDITH HOPE, Supervisor
324-4140
324-6174 (residence)

RICHARD MCGOWIN, Coordinator
Westlake Drive
Montauk, N.Y. 11954
668-5990
668-5620 (residence)

SHELTER ISLAND
Town Hall
44 North Ferry Road
Shelter Island, N.Y. 11964
749-0291

JEFFREY SIMES, Supervisor
749-0015
749-1413 (residence)

L. GEORGE FERRAR
749-0600
749-1125

TOWNSHIP POLICE DEPARTMENTS

EAST HAMPTON	THOMAS L. SCOTT, CHIEF	324-0024
RIVERHEAD TOWN	LAWRENCE GRATTAN, CHIEF	727-4500
SHELTER ISLAND TOWN	LEONARD G. FERRER, CHIEF	749-0600
SOUTHAMPTON TOWN	CONRAD TELLER, CHIEF	728-3400
SOUTHOLD TOWN	H. DANIEL WINTERS, CHIEF	765-2600

VILLAGE POLICE DEPARTMENTS

AMITYVILLE	KENNETH GREGUSKI, CHIEF	264-0400
ASHAROKEN	HENRY C. BROOKS, CHIEF	261-7400
BELLE TERRE	DONALD HINES, CHIEF	928-5785
DERING HARBOR	NO DEPT. (SHELTER ISLAND)	749-0600
EAST HAMPTON	GLEN F. STONEMETZ, CHIEF	324-0777
GREENPORT	ROBERT WALDEN, CHIEF	477-0160
HEAD OF HARBOR	PETER J. LOUGHLIN, CHIEF	584-7878
HUNTINGTON BAY	HENRY TURNER, CHIEF	427-2020
LLOYD HARBOR	JOHN MARTIN	549-8220
NORTHPORT	ROBERT A. HOWARD, CHIEF	261-7500
NISSEQUOGUE	THOMAS J. LYNCH, CHIEF	584-5300
OCEAN BEACH	JOSEPH C. LOEFFLER, CHIEF	583-5866
OLD FIELD	ROBERT E. CUMMINGS	941-9412
QUOGUE	JOHN W. KALMUS, CHIEF	653-4175
SAG HARBOR	JOSEPH IALACCI, CHIEF	725-0058
SALTAIRE	ROCKWELL NORRIS, CHIEF	583-5572
SOUTHAMPTON	JAMES SHERRY, CHIEF	283-0056
WESTHAMPTON BEACH	JAMES R. DOYLE, CHIEF	288-3444/3445

TOWN HIGHWAY SUPERINTENDENTS

BABYLON	JAMES HARRINGTON 1023 N. Indiana Ave. Lindenhurst, N.Y. 11757	957-3161 669-3613 (residence)
HUNTINGTON	HENRY MURER 30 Rofay Drive Huntington, N.Y. 11743	351-3074 351-3289 226-3047 (residence)
ISLIP	JOHN P. PETITO Comm. Public Works Islip, N.Y. 11751	224-5600/5610 231-8424 (residence)
SMITHTOWN	JAMES E. DOWLING Smithtown Bypass Smithtown, N.Y. 11787	360-7500 584-6754 (residence)
BROOKHAVEN	HAROLD H. MALKMES Old Town Road Coram, N.Y. 11727	732-3571 751-0409 (residence)
RIVERHEAD	CHARLES BLOSS Osborne Avenue Riverhead, N.Y. 11901	727-5620 (24 hour) 722-4786 (residence)
SOUTHAMPTON	THOMAS LAVELLE 20 Jackson Avenue Hampton Bays, N.Y. 11946	728-3600/3606 288-6267 (residence)
SOUTHOLD	RAYMOND L. JACOBS Peconic Lane Peconic, N.Y. 11958	734-5211 765-3140 477-1567 (residence)
EAST HAMPTON	ROBERT MEINKE 258 Springs-Fireplace Rd. East Hampton, N.Y. 11937	324-0925 267-3585 (residence)
SHELTER ISLAND	FRANK KLENAWICUS 112 South Ferry Rd. Shelter Island, N.Y. 11964	749-1090 749-0415 (residence)

CHIEF FIRE INSPECTOR OF THE TEN TOWNS OF SUFFOLK COUNTY

BABYLON	GILBERT HANSE, JR. 200 E. Sunrise Highway Lindenhurst, N.Y. 11757	957-3069 587-7044 (residence)
BROOKHAVEN	JOSEPH F. SAUERWEIN 3233 Route 112 Medford, N.Y. 11763	732-3600 363-2001
EAST HAMPTON	DAVID A DISUNNO 159 Pantigo Road East Hampton, N.Y. 11937	267-8585 267-6441 (residence)
HUNTINGTON	ROBERT EARLY, SR. 100 Main Street Huntington, N.Y. 11743	351-3138 423-5080 (residence)
ISLIP	THOMAS GREENE 1 Monitton Court Islip, N.Y. 11751	224-5477 669-9327 (residence)
RIVERHEAD	JOHN SAMOCKO	727-3202
SHELTER ISLAND	NONE	
SMITHTOWN	AL ANDERSON 99 W. Main Street Smithtown, N.Y. 11787	360-7562
SOUTHAMPTON	KENNETH JONES 116 Hampton Road Southampton, N.Y. 11968	283-6000 653-9340 (residence)
SOUTHOLD	CURTIS HORTON Chief Building Inspector Town Hall Southold, N.Y. 11971	765-1800 298-8702 (residence)

VILLAGE MAYORS

AMITYVILLE	EMIL PAVLIK 21 Green Avenue Amityville, 11701	264-0400 (24 hours) 264-6000
ASHAROKEN	WILLIAM H. KELLY 1 Asharoken Avenue Asharoken, 11768	261-7098 598-3859 (residence)
BABYLON	B. Donald Conroy 153 West Main St. Babylon, 11702	669-1212
BELLE TERRE	VINCENT BOVE PO Box 457 Port Jefferson, 11777	928-0020 928-2325 (residence)
BELLPORT	FRANK TROTTA 144 S. Country Rd. Bellport, 11713	286-0327 286-2006
BRIGHTWATERS	GREGORY M. GIBSON 40 Sececa Drive Brightwaters, 11718	665-1280 666-4466 (residence)
DERING HARBOR	ESTHER N. HUNT PO Box K Shelter Island, 11964	749-0200
EAST HAMPTON	KEN WESSBERG 27 Main Street East Hampton, 11937	324-4150 324-0603 (residence)
GREENPORT	GEORGE W. HUBBARD 236 Third Street Greenport, 11944	477-2385 477-0288 (residence)
HEAD OF HARBOR	EDWARD W. HOFFMANN 103 Harbor Road St. James, 11780	584-5550 584-5158 (residence)
HUNTINGTON BAY	ROBERT P. MILLSPAUGH PO Box 144 Halesite, 11743	427-2843 423-2495 (residence)
ISLANDIA	JOHN FLANAGAN 1767 Veterans Memorial Hgwy. Islandia, 11722	348-1133
LAKE GROVE	LILLIAN B. GRIFFIN Drawer H Lake Grove, 11755	585-2000 585-8290 (residence)

VILLAGE MAYORS
(continued)

LINDENHURST	THOMAS H. KOST 430 S. Wellwood Ave. Lindenhurst, 11757	957-5700 226-4970 (residence)
LLOYD HARBOR	RICHARDSON PRATT 32 Middle Hollow Rd. Huntington, 11743	423-9044 692-8308 (residence)
NISSEQUOGUE	GORDON HALL PO Box 352 St. James, 11780	862-7400 584-5307 (residence)
NORTH HAVEN	LESTER DEMLER PO Box 1198 Sag Harbor, 11963	725-1378 725-2129 (residence)
NORTHPORT	PETER NOLAN 224 Main Street Northport, 11768	261-8338/7502 261-2193 (residence)
OCEAN BEACH	THOMAS J. SCHWARZ PO Box 457 Ocean Beach, 11770	583-5940 583-8128 (residence)
OLD FIELD	JEAN DARROW PO Box 724 Setauket, 11733	941-9412 751-5089 (residence)
PATCHOGUE	NORMAN LECHTRECKER Village Hall 14 Baker St. Patchogue, 11772	475-4199 654-4344 (residence)
POQUOTT	OTTO SEEBURG PO Box N East Setauket, 11733	751-4199 473-2967 (residence)
PORT JEFFERSON	HAROLD SHEPROW 121 W. Broadway Port Jefferson, 11777	473-4724 473-0603 (residence)
QUOGUE	T. DECKER ORR PO Box 926 Quogue, 11959	653-4498 653-6622 (residence)
SAG HARBOR	GEORGE E. BUTTS JR. Main Street Sag Harbor, 11963	725-0222 725-2190 (residence)
SALTAIRE	L.P. KING PO Box P 551 Bay Shore, 11706	583-5566 583-8396 (residence)

VILLAGE MAYORS
(continued)

SHOREHAM	JIM JEHLE PO Box 389 Shoreham, 11786	744-0405 744-2013
SOUTHAMPTON	WILLIAM J. HATTRICK 23 Main Street Southampton, 11968	283-0247 283-0787
THE BRANCH	JOHN LENIHAN PO Box 725 Smithtown, 11787	265-1883 265-5895 (residence)
WESTHAMPTON BEACH	ARMA E. ANDON PO Box 991 Westhampton Beach, 11978	288-1654 288-1826 (residence)

FEDERAL AGENCIES

FAA- AIR CONTROL, N.Y. Center, Islip MacArthur Airport, Ronkonkoma, N.Y. 11779

ADDISON REYNOLDS, Facility Chief	737-3401-3402
FELTON LANGASTOR, Deputy Facility Chief	737-3402
G. BIGGIO, Assistant Chief	737-3432/3457
TOUR SUPERVISOR, 24 hour coverage	737-3432

FAA- AIRWAY FACILITY OPERATIONS

V. LARENTINO, Sector Manager	737-3502

FEDERAL BUREAU OF INVESTIGATIONS, Crossroads Executive Center, Veterans Memorial Highway, Hauppauge, N.Y. 11788

JOHN F. GOOD, Supervisor Senior Resident Agent	234-1166

If no answer, cal 212 - 553-2700

FIRE ISLAND NATIONAL SEASHORE, 120 Laurel Street, Patchogue, N.Y. 11772

NOEL PACHTA, Supervisor	289-4810/4811
DON WEIR, Chief Ranger	289-4810/4811 758-7572 (after hours) 654-2077 (residence)

SUFFOLK COUNTY USDA EMERGENCY BOARD, FOOD & AGRICULTURAL COUNCIL

FOOD AND AGRICULTURAL COUNCIL
BOARD MEMBERS

OFFICE	HOME
ASCS Joseph Gergela, Chairperson 176 Old Country Rd. Riverhead, N.Y. 11901 516-727- 2732	Box 66 Aquebogue, N.Y. 11931 516-722-3845

FOOD AND AGRICULTURAL COUNCIL
BOARD MEMBERS

SCS
Allan Connell, Vice Chairperson
176 Old Country Rd.
Riverhead, N.Y. 11901
516 727-2732

50 South Harbor Rd.
Southold, N.Y. 11971
516 765-1923

CES
William Sanok, Regular member
246 Griffing Ave.
Riverhead, N.Y. 11901
516 727-7850

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Mattituck, N.Y. 11952

FMHA
Janet Wehrenberg
160 Old Country Rd.
Riverhead, N.Y. 11901
516 727-5666

Box 322, Manor Lane
Jamesport, N.Y. 11947
516 722-3925

APHIS
Richard O. Ransom
1 Stewart Ave.
Westhampton, N.Y. 11977
516 288-1191

5 Columbus Ave.
Brentwood, N.Y. 11717
516 231-6958

DEP
G. Berkley Bennett
Box 127 Yaphank Ave.
Yaphank, N.Y. 11980
516 924-4400

Apaquoque Rd.
East Hampton, N.Y. 11937
516 324-1697

NEW YORK STATE AGENCIES

NEW YORK STATE ARMORIES

BAY SHORE	Co A 1st Battalion 21 Infantry NYARNG 70 Brentwood Rd. Bay Shore, 11706	Lt. William Cline 665-0267
HUNTINGTON	Co C 242 Sign. Batt NYRANG 100 East Fifth St. Huntington Station, 11746	Cynthia Benton 423-7070
NESCONSET	CSC 4th Battalion 242 Infantry NYARNG 148 Smithtown Blvd. Nesconset, 11767	George Paront 265-3622 Rory Hood 667-0585
PATCHOGUE	71st Infantry NYARNG 100 Barton Avenue HHC & COC Patchogue, 11772	Capt. Albino Maj. Acebo 475-0551
RIVERHEAD	Co F 42 Maint. Batt. Route 58 Riverhead, 11901	Capt. Catani 727-1213
FEDERAL	U.S. Army Reserve 136 Field Service Co. Rocky Point, 11778	Michael Angland, 1st Sg 929-4345

AIR NATIONAL GUARD

Col. Fenimore	106th Rescue & Recovery Group Suffolk County Airport Westhampton Beach, N.Y. 11978	288-4200 X288
MSG Eugene Kleeman	Disaster Preparedness Office	288-4200 X288 751-1589 (residence)
LTC Stratemeier		288-4200 653-8708 (residence)
	Army Aviation Supp. Fac. Hanger A. MacArthur Airport Ronkonkoma, 11779	588-2552
Maj. Michael Walters		588-2552 736-4583 (residence)
Maj. Frank Intini, Jr.		588-2552 698-5293 (residence)

NEW YORK STATE AGENCIES
(continued)

NEW YORK STATE POLICE - TROOP L 756-1170

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

DISPATCHER MAIN 360-6702 NIGHT 378-3552

UTILITIES

NEW YORK TELEPHONE	400 W. Main St. Riverhead, N.Y. 11901	J. RISTUCCIA 727-9951/3/5
LONG ISLAND RAILROAD	93-59 183 St. 4th Floor Hollis, N.Y. 11423	CAPT. OBREMSKI 718-217-3311 718-217-3318 661-0025 (residence)
LILCO	1650 Islip Ave. Brentwood, N.Y. 11717	SARS TURLEY 348-6190 563-4860 (residence) JOHN BAYHA 348-6818

District Offices:

Huntington:	427-4000
Babylon:	667-4300
Islip:	582-3000
N. Brookhaven:	473-0250
S. Brookhaven:	475-3000
Riverhead:	727-2250

General Emergency Numbers:

Gas:	Brentwood	582-9085
	Riverhead	727-8300
Electric:	Islip	582-9085
	Riverhead	727-8400

WATER AUTHORITY		589-5200
	157 N. Clinton Ave. Bay Shore, N.Y. 11706 665-0662	BOB BLOWMAN 106 Vanderbilt Oakdale, N.Y. 11769
	Sunrise Highway/Pond Rd. Oakdale, N.Y. 11769 589-5200	STEVE BURNS 51 Burgess Ave. Huntington, N.Y. 11743 421-4841

SERVICE ORGANIZATIONS

RED CROSS	66 South Street Patchogue, N.Y. 11772 475-6202 (24 hours)	PATRICIA NOCHER Executive Director Suffolk County Chapter 39 Meloday Lane Huntington, N.Y. 11743 421-1736 JANET VONBERG Director of Disaster Services Colgate Drive Smithtown, N.Y. 11787 361-4817 Mrs. Winona Emergencies Only 694-1081
SALVATION ARMY	Service Extension Bureau 211 Blue Point Ave. Blue Point, N.Y. 11715 363-6100/6102	PAUL VINCENT, Director 310 Maplewood St. Islip Terrace, N.Y. 11752 277-5291 RICHARD LEWIS, Welfare Coordinator 215 Ludlam Avenue Flanders, N.Y. 11901 369-1430 PATRICIA MATEJCECK Office Manager 730 Old Medford Ave. Medford, N.Y. 11763 654-1085
	East Northport Extension 368-1170	CAPT. MICHAEL SHARPE Director of East Northport 319 Clay Pits Road East Northport, N.Y. 11731 368-8186

SUFFOLK COUNTY AIRPORTS

BROOKHAVEN	Grand Avenue Shirley, N.Y. 11967	John Rauh, Mgr. 281-5100 924-3743 (residence)
EAST HAMPTON	East Hampton, New York 11937	Charles Smith, Manager 537-1130
GRUMMAN AEROSPACE	Grumman Blvd. B 20-07 Calverton, N.Y. 11933	George Rose, Chief 369-7188
MACARTHUR	100 Arrival Ave. Ronkonkoma, N.Y. 11779	Lee Rosche, Assistant Mgr. 588-8062
MATTITUCK	Airway Drive Mattituck, N.Y. 11952	Palmer Schade, Manager 298-8330
MONTAUK	East Lake Drive Montauk, N.Y. 11954	L. Dick, Mgr. 668-2233
REPUBLIC	E. Farmingdale, New York, 11735	Bruce Lawson, Manager 752-7707
SUFFOLK COUNTY	Westhampton Beach, New York 11978	Joseph LaTrenta, Manager 288-3600
	Air National Guard	Col. Fenimore 288-4200 X200/202

SUFFOLK COUNTY HOSPITALS

BABYLON	BRUNSWICK HOSPITAL CENTER 366 Broadway Amityville, New York 11701	B. Stein, Director 789-7000
	Security: Al Iazzetta Safety: Tom Walsh	789-7005 789-7442 (Disaster)
BROOKHAVEN	BROOKHAVEN MEMORIAL HOSPITAL 101 Hospital Road Patchogue, N.Y. 11772	Francis G. Fosmire Administrator 654-7100
	Security: George Brown	654-7100
	JOHN T. MATHER MEMORIAL HOSPITAL North Country Road Port Jefferson, N.Y. 11777	Kenneth Roberts, Administrator 473-1320
	Security: William Els	473-1320 X4170
	ST. CHARLES HOSPITAL 200 Belle Terre Rd. Port Jefferson, N.Y. 11777	A. Santilli, Administrator 473-2800
	Security: Robert Burns	473-2800 X6200
	UNIVERSITY HOSPITAL-STONY BROOK SUNY at Stony Brook Nicols Road Stony Brook, N.Y. 11794	679-8333
	Security: Herbert Petty	246-3333
HUNTINGTON	Huntington Hospital 270 Park Avenue Huntington, N.Y. 1743	Elwood A. Opstad Administrator 351-2200
	Security: Jim Lang	351-2323
	VA HOSPITAL Northport, N.Y. 11768	William Hodson, Administrator 261-4400
	Security: Henry Schemitz	261-5328
ISLIP	GOOD SAMARITAN HOSPITAL 1000 Montauk Highway West Islip, N.Y. 11795	Daniel P. Walsh, Administrator 957-4000
	Security: Anthony Rizzo	957-4068

SUFFOLK COUNTY HOSPITALS
(continued)

ISLIP (continued)	SOUTHSIDE HOSPITAL Montauk Highway Bay Shore, N.Y. 11706	Theodore A. Jospe President 435-3001
	Security: Anthony Rizzo	957-4068
RIVERHEAD	CENTRAL SUFFOLK HOSPITAL 1300 Roanoke Ave. Riverhead, N.Y. 11901	Robert Ecroyd Administrator 548-6000
	Security: Gary Dinizio	548-6000
SMITHTOWN	ST. JOHN'S EPISCOPAL HOSPITAL Route 25A Smithtown, N.Y. 11787	George Pozgar, Administrator 360-2000
	Security: Arthur Johnson	360-2250
	COMMUNITY HOSPITAL OF WESTERN SUFFOLK Smithtown Bypass Smithtown, N.Y. 11787	Glenn Hirsch Administrator 979-9800
	Security: Arthur Johnson	361-4127
SOUTHAMPTON	SOUTHAMPTON HOSPITAL 240 Meeting House Lane Southampton, N.Y. 11968	John Pfister, Jr. Administrator 283-2600
	Security: Patrick Long	283-2600
SOUTHOLD	EASTERN LONG ISLAND HOSPITAL Manor Place Greenport, N.Y. 11944	Ann Dixon Administrator 477-1000
	Security: Lester Walsh	477-1000

ATTACHMENT V

Map of the Traffic Control
Points for the Shoreham EPZ

(provided separately -
served on Board and parties only)

Voiume I

Suffolk County Radiological Emergency Response Plan

November 1982

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Assessments for the Shoreham Nuclear Power Station
Future Resources Associates

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Social Data Analysts, Inc.

Further Analysis and Interpretation of the Shoreham [illegible]ation Survey
James H. Johnson, Jr. and Donald J. Zeigler

Responses of Emergency Personnel to a Possible Accident
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Social Data Analysts, Inc.

DISCUSSION OVERVIEW OF THE

RADIOLOGICAL EMERGENCY RESPONSE PLAN

of the

County of Suffolk

Prepared for the

Suffolk County (NY) RERP Steering Committee

November 29, 1982

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Prepared by

Philip B. Herr & Associates
261 Newbury Street
Boston, Massachusetts 02116

INTRODUCTION

This report summarizes the key policy choices, operating arrangements, and estimated effectiveness of the proposed Suffolk County Radiological Emergency Response Plan. That Plan, prepared pursuant to directives of the Suffolk County Executive and Legislature[1], covers areas potentially affected by a possible accident at the Shoreham Nuclear Power Station at Wading River in the Town of Brookhaven, Suffolk County, New York. The plant is owned and to be operated by the Long Island Light Company (LILCO). It contains a General Electric boiling water reactor with potential electrical output of approximately 849 megawatts. The plant is now near completion following nearly a decade of construction (construction permit issued in April, 1973).

The intent of this Plan is to provide the County population with the highest level of protection attainable in the event of a health- or safety-threatening incident at the Shoreham station. Implementing that intent has entailed going beyond the established norms of emergency response planning[2] to fully reflect the particulars of the Shoreham plant and Suffolk County's geography, social characteristics, and institutional structure. The County's objective has been preparation of the best possible plan. To that end, the County did the following.

a) Established an Emergency Response Plan Steering Committee, chaired by Frank R. Jones, Deputy County Executive, to give policy guidance to staff and consultant efforts[1].

b) Commissioned a study of the Shoreham station to review earlier LILCO-sponsored studies of the possible ways in which that specific plant's safety systems might conceivably fail, the likelihood of various failure possibilities, and the nature and timing of radiological release which could result (a review of "probabilistic risk assessment" or "PRA", directed by Dr. Robert Budnitz or Future Resources Associates, Inc.).[3]

c) Commissioned a study of how that release might be transported and deposited considering this site's meteorology, and what the health consequences of that would be in light of Suffolk County's population distribution, sheltering possibilities, and evacuation potential ("consequence analysis", prepared by Dr. Fred Finlayson of F.C. Finlayson & Associates).[4]

d) Commissioned a survey and analysis of Long Island residents to probe their likely response to a possible nuclear emergency, in particular the extent to which those told to evacuate would do so and the

extent to which residents not told to evacuate would stay in place rather than spontaneously evacuating ("shadow phenomenon", study organized by Dr. Kai Erickson of Yale University, survey by Dr. Stephen Cole of Social Data Analysts, Inc., analysis by Dr. James H. Johnson, Jr. of U.C.L.A. and Dr. Donald J. Zeigler of Old Dominion University).[5]

e) Commissioned a survey of Long Island emergency personnel to probe their likely handling of conflict between family and public responsibilities in the event of a nuclear incident (study organized by Dr. Kai Erickson, survey by Dr. Stephen Cole).[6]

f) Engaged a number of other consultants, including Dr. Edward P. Radford of the University of Pittsburgh regarding health effects, Professor Susan Saegert of CUNY regarding behavior under stress, and Philip Herr of Herr Associates and MIT regarding planning matters.

g) Commissioned P.R.C. Voorhees of McLean, Virginia, to integrate all of the above studies plus more conventional analyses into an emergency response plan sensitive to the particulars of this place and time.[7]

The Plan has two aspects:

1) a plan of actions to be taken in response to any possible accident which might occur at the Shoreham facility, and

2) a plan for further developing and maintaining the County's response capability over the next several years.

This plan is designed to operate in conjunction with a number of other plans, two of which have special importance. First is a separate plan for on-site emergencies, with plan preparation being the responsibility of LILCO.[25] Second is a plan for dealing with radiation hazard through ingestion from such sources as the food chain and water supplies, with plan preparation being the responsibility of New York State. The County plan deals with off-site emergency response and with hazard resulting from direct plume consequences.

DEFINING THE PLANNING ZONE

The original planning objective was to include within the detailed planning area ("Emergency Planning Zone" or "EPZ") all locations where, in the event of a major safety failure at the Shoreham plant, there would be significant possibility of serious health effects as a result of direct exposure to the plume. An EPZ of approximately 20 miles, fitted to local features, was selected based on the following considerations. (See Exhibit A).

a) Given a core melt accident[9], there is only about a 1% likelihood that the nature of the accident and weather will result in irradiation dose levels outside the 20 mile EPZ exceeding the threshold which results in early injuries, taken here to be 30 rems to the whole body.[10]

b) In the majority of cases of possible core melt accident, irradiation dose levels outside the EPZ are unlikely to exceed about 5 rems, an upper bound of the dose range at which the EPA recommends undertaking protective actions.[12]

c) Again, given a core melt accident, a dose of 200 rems (whole body) is almost certain not to occur outside that area[10], which is understood to mean that short-term fatalities are also almost certain not to occur outside that area.

d) The zone is large enough to include a major portion of the households likely to spontaneously evacuate in the event of ordered evacuation to five or ten miles from the plant.[11]

e) The zone boundaries conform to identifiable physical features and avoid dividing major population centers.

There is <u>some</u> possibility of adverse health effects far outside that EPZ. For example, one accident possibility studied could result in irradiation doses of 1 rem 100 miles away[8], 1 rem being the dose threshold at which EPA suggests taking protective action. However, that possibility is so remote that it was judged by the Steering Committee and its consultants not to justify a larger and less manageable EPZ. Data prepared for the NRC by Sandia Laboratories indicates the possibility of early injuries as distant as 50 miles from the Shoreham plant. However, that finding does not reflect the actual facility at Shoreham but rather a "standard" pressurized (rather than boiling) water reactor.[26]

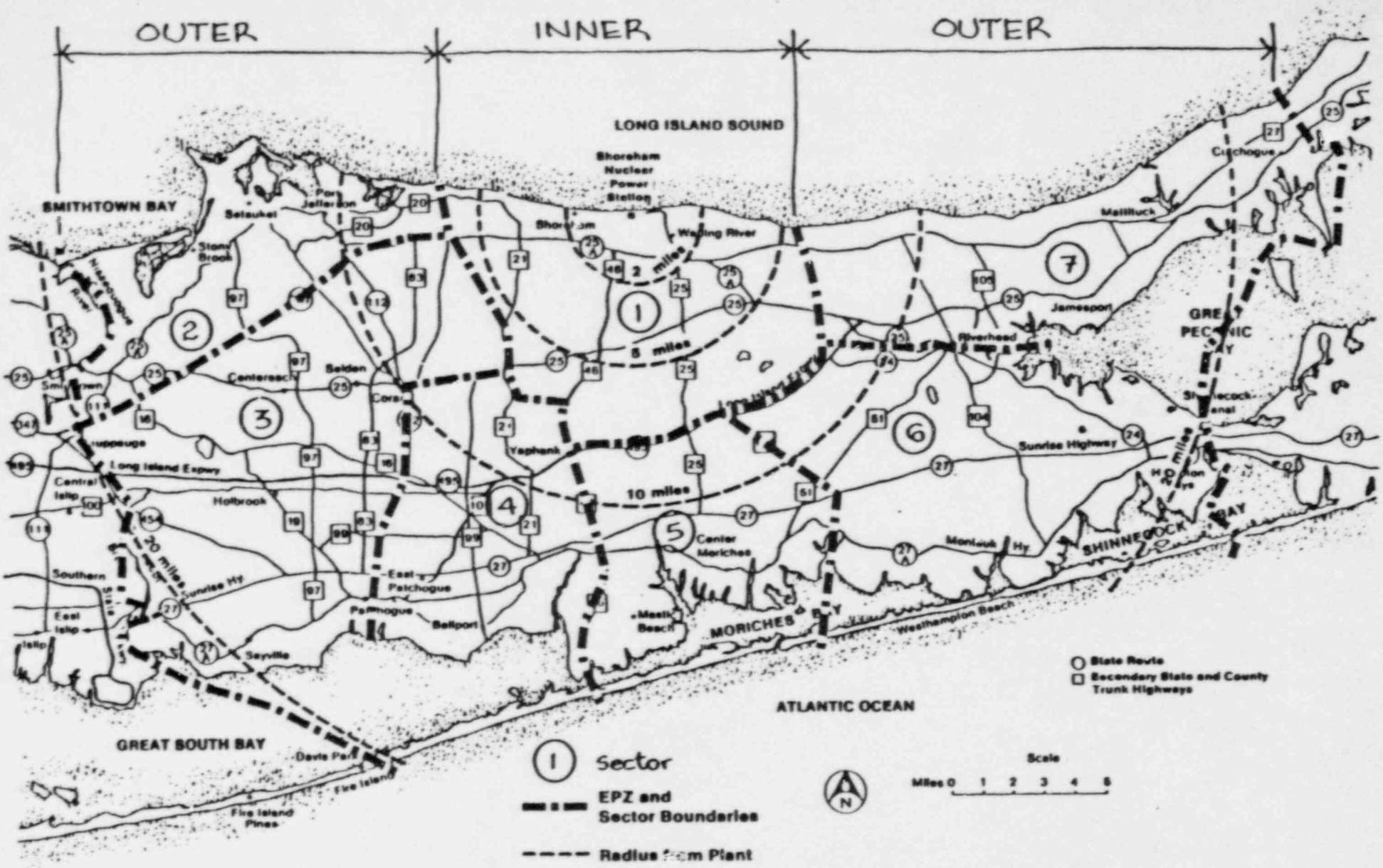


Figure 1-1. Emergency Planning Zone Map

EXHIBIT A
From PRC Voorhees
Reference 7

EMERGENCY RESPONSES

Consistent with emergency planning at other nuclear plants across the nation, this plan categorizes emergencies into four levels, each calling for different sets of responses.[13]

1. Unusual event (no radioactive releases requiring off-site response): notification of Department of Emergency Preparedness, no other actions.

2. Alert (only very small off-site radioactivity): further agency notifications, field monitoring of radioactivity.

3. Site emergency (radioactive releases leading to health consequence only near site boundaries): public information, rumor control, radiation exposure control, medical preparations, transient population advised to leave, traffic control at key points to manage "shadow phenomenon" evacuation, sirens operated.

4. General emergency (core degradation or melting, radioactive releases threatening to health beyond immediate site area): all above activities, plus siren notification, recommendation to evacuate or to shelter, perimeter control (advising against entering area), security control, and reception center operation.

It is only at the general emergency level that protective actions are required for the general public. Three alternative protective actions have been considered:

1. immediate evacuation from the risk area; or

2. sheltering within homes, schools, etc., until normal activity is again healthful within the area; or

3. interim sheltering until the radioactive plume passes, followed by relocation from the area for a period of days until ground radiation levels in the evacuated area fall to acceptable levels.

In the event of an accident, radiation effects would move outward from the plant via an air-borne plume, not instantaneously, but at approximately the speed of the wind. No damaging health effects would be experienced by residents who are upwind of the plant or who, although in the plume trajectory, manage to evacuate before the plume reaches them.

If it is infeasible to evacuate before arrival of the plume, as it might be in many cases, the choice of the best protective action becomes more complex. Sheltering indoors in a typical Long Island home provides far greater protection than does being in an automobile. Therefore, for those persons who cannot escape before plume arrival, there is a trade-off between, on the one hand, the exposure resulting from being "outside" in an automobile while evacuating, and on the other hand, the more gradual exposure resulting from remaining "sheltered" for an extended period within the impacted area. When prompt movement is feasible, analysis indicates that evacuation is almost always the better choice.[16] When prompt movement is not feasible, sheltering will sometimes be the better choice, especially if followed by relocation after the plume has passed, ground radiation levels have fallen, and travel speeds have returned to normal.

An inner ring of 5 to 7 miles from the plant has been defined, using easily identifiable boundaries (See Exhibit A). It is referred to as "inner ring" or "sector 1". Protective action recommendations would be made for the whole of that area any time they were deemed appropriate for any part of it, rather than for just the downwind area, since Long Island winds are unpredictable, and it is vital that evacuation or sheltering begin as early as possible relative to plume arrival. In the most serious cases, evacuation of that whole area would be ordered. Given the planned management system, sector 1 evacuation time is projected for the households with autos at between 3 3/4 and 5 1/4 hours, depending upon weather conditions (see Exhibit B)[14] That is quick enough to accomplish substantial irradiation dose reduction below that resulting from sheltering.[15]

The remainder of the EPZ, or "outer ring", has been divided into six sectors. In certain cases, evacuation or sheltering might be ordered for both the inner ring (sector 1) plus one or more downwind outer sectors (sectors 2 through 7), creating a keyhole-shaped evacuation "wedge". Evacuation time for the inner ring plus sector 7, the east sector, is nearly as rapid as for the inner ring alone, so for sector 7 evacuation is sometimes a clearly beneficial action. For the southeast sector (sector 6) that is also true except in the summer, when seasonal population swells time for evacuating that plus sectors 1 and 7 to more than twelve hours. For all other outer sectors, evacuation times (when combined with inner ring evacuation) are from 10 to 20 hours.[14]

Those evacuation times may prove to be optimistic. The traffic model used doesn't reduce road capacity to allow for breakdowns (running out of gas in a ten-hour traffic jam will be commonplace), for aberrant

EVACUATION SCENARIO

Sectors Recommended For Evacuation	1 1985 Summer Population	2 1985 Winter Population	3 1985 Winter Population (Adverse Conditions)	4 Restricted North & South Fork Traffic 1985 Winter Population	5 100% of Sectors Recommended 0% of Others 1985 Winter Population	6 20% Population Increase Winter Non-Adverse Conditions	7 Shadow Test 100% Inner + Shadow Summer (Winter)	8 Shadow Test 100% Inner Only 0% Others Summer (Winter)
Inner Only	4:30	3:45	5:15	3:45	4:15	4:30	5:15 (4:30)	5:00 (4:15)
Inner + Western	14:30	13:45	22:15	13:45	14:15	16:15		
Inner, Western & WSW	19:15	17:30	28:30	17:30	20:30	20:45		
Inner, Western WSW & SW	21:15	19:45	30:00	19:45	24:45	23:30		
Inner, WSW, SW & S	21:15	19:45	30:00	19:45	24:45	23:30		
Inner, SW, S & SE	17:30	10:45	17:15	9:45	12:15	12:45		
Inner, S, SE & East	15:00	10:45	17:15	9:45	12:15	12:45		
Inner, SE & East	12:30	4:30	6:45	3:45	5:00	5:00		
Inner & East	6:30	4:30	6:45	3:45	5:00	5:00		

EXHIBIT B
From PRC Voorhees reference 14.

TABLE 10. SUMMARY OF EVACUATION TIMES

behavior (drivers may not behave in an orderly fashion after several hours in what they believe to be a life-threatening queue, in need of gasoline, water, food, or toilets), or for demand in excess of free-flow capacity (some similar models reflect reduced capacity or through-put when demand greatly exceeds capacity). On the other hand, the model also assumes no increased flows attributable to people using break-down lanes, shoulders, and opposite-direction lanes. It also assumes that everyone evacuates westward, which for some persons is irrational, and which therefore is probably over-conservative.[24]

Evacuation times of 10 or more hours are a composite of many things: a certain number of people exiting the area very quickly, others moving slowly away from the plant, perhaps exactly under and keeping pace with the plume, a few possibly moving the opposite way hoping for evasion, some moving relatively rapidly on expressways, and many stopped for hours in queues. Some of those queues would be close to the plant and in the plume trajectory, others could be outside of the trajectory and distant from the plant. As a result, the irradiation dose consequences of evacuating will have large variations among potential accident scenarios, and within any scenario will have large variations among individuals.

It appears clear that in some cases, for the outer ring (sectors 2 through 7) the radiation dose exposures resulting from being caught in travel delays will be larger than those resulting from sheltering, so initiating evacuation should be discouraged: the best that can be hoped for is the irradiation dose level received through staying in place. In other cases recommending evacuation will be appropriate, because it will appear that dose savings can be achieved by that action.

Prospects for evacuation time reduction aren't good. Preventing spontaneous evacuation from the North and South Forks reduces evacuation time by no more than an hour, and raises serious issues of practicality and ethics. Inner ring (sector 1) evacuation time is reduced only 15 minutes by assuming there is no "shadow" spontaneous evacuation. The congestion points which increase evacuation times are chiefly within the EPZ, so controlling ramps to highways outside the EPZ would be of only minor help. Only major expansion of Sunrise Highway capacity seems capable of achieving major time savings under a variety of scenarios.

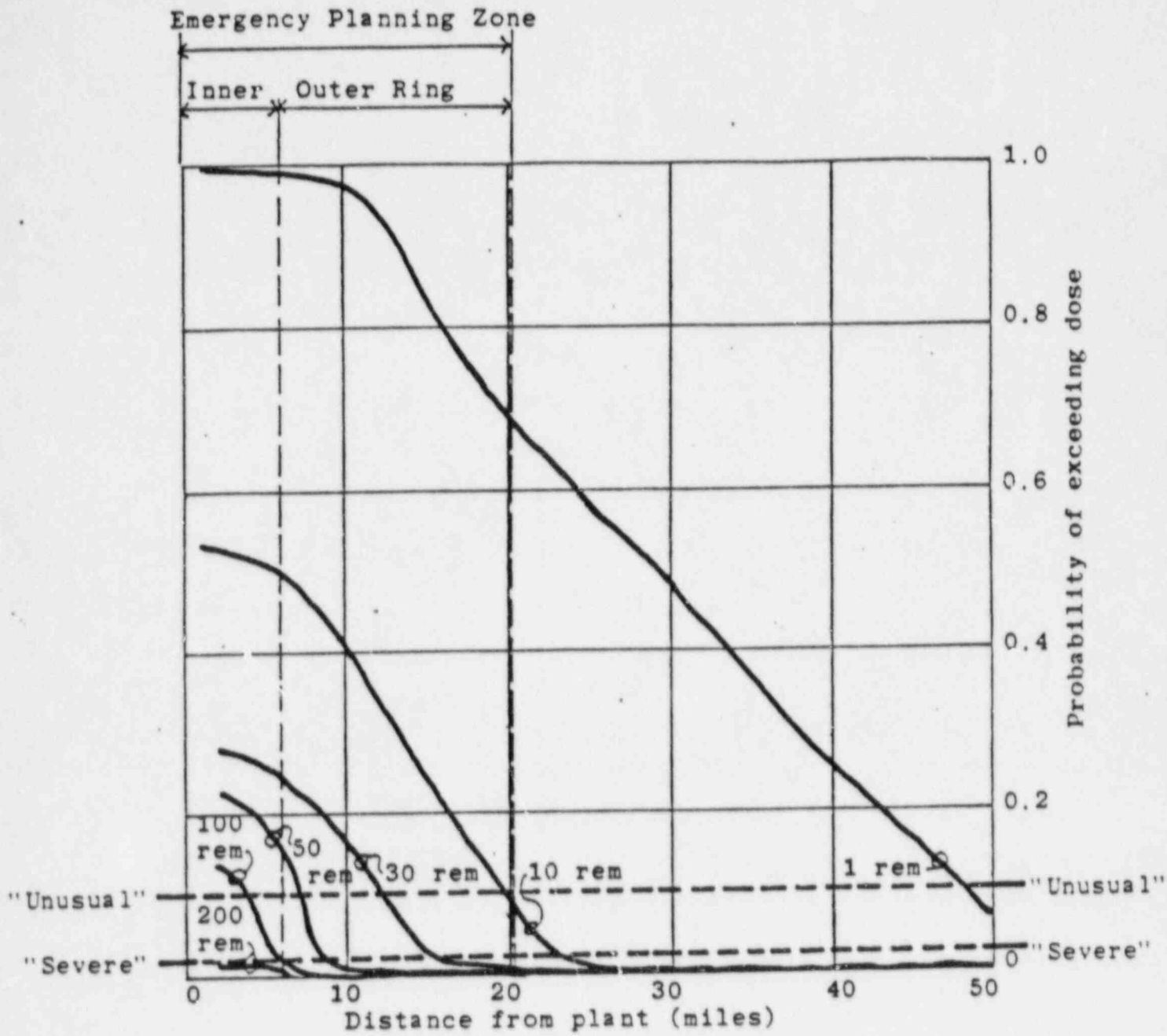
While evacuation involves broad areas in order to guard against unpredictable wind patterns, post-sheltering relocation involves only the much smaller numbers of persons in areas actually affected by the plume. Affected locations are readily identified after plume passage. Relocation to avoid dose build-up could last from a number of days to a number of weeks.

CONSEQUENCES

There is not a "standard" plant incident which would lead to emergency responses. Rather, there are a huge number of possibilities, varying in severity and other characteristics depending upon the nature of the plant failure, the weather, and the season of occurance. An accident such as a core melt involving failures unanticipated in plant design and location has an estimated likelihood of about 1 in 5,000 in any given year[3] (compared with, for example, a likelihood of 1 in 100 for severe coastal flooding). Most possibilities for those rare accidents would have only minor off-site health consequence, if any at all. This emergency response planning is designed to serve the minority of those rare cases which <u>might</u> entail serious off-site consequences. Table 1 illustrates three possibilities. The "unusual" scenario is for cases less likely than nine out of ten core melt accidents[17] (see Exhibit C). The "severe" scenario is for cases less likely than 99 out of 100 of those rare cases[18] (Exhibit C), and the "worst" scenario considered is for a theoretical case less likely than 99,999 out of 100,000 such cases [19] (Exhibit D). As likelihood goes down, severity goes up.

Two sets of large-scale computer models are involved in the estimating of consequence. One is the evacuation model, "EVACPLAN", created and used by PRC Voorhees to estimate evacuation times (see Exhibit E and reference 24). It models evacuation times given the population and road network of the area under a range of assumptions about year, time of year, and population compliance with orders. The second is "CRAC2", a model provided by the NRC and used by Finlayson Associates. It models irradiation doses and health consequences when given area population and meteorology, and the failure possibilities of the Shoreham plant, under a range of assumptions about speed of evacuation or lack thereof.

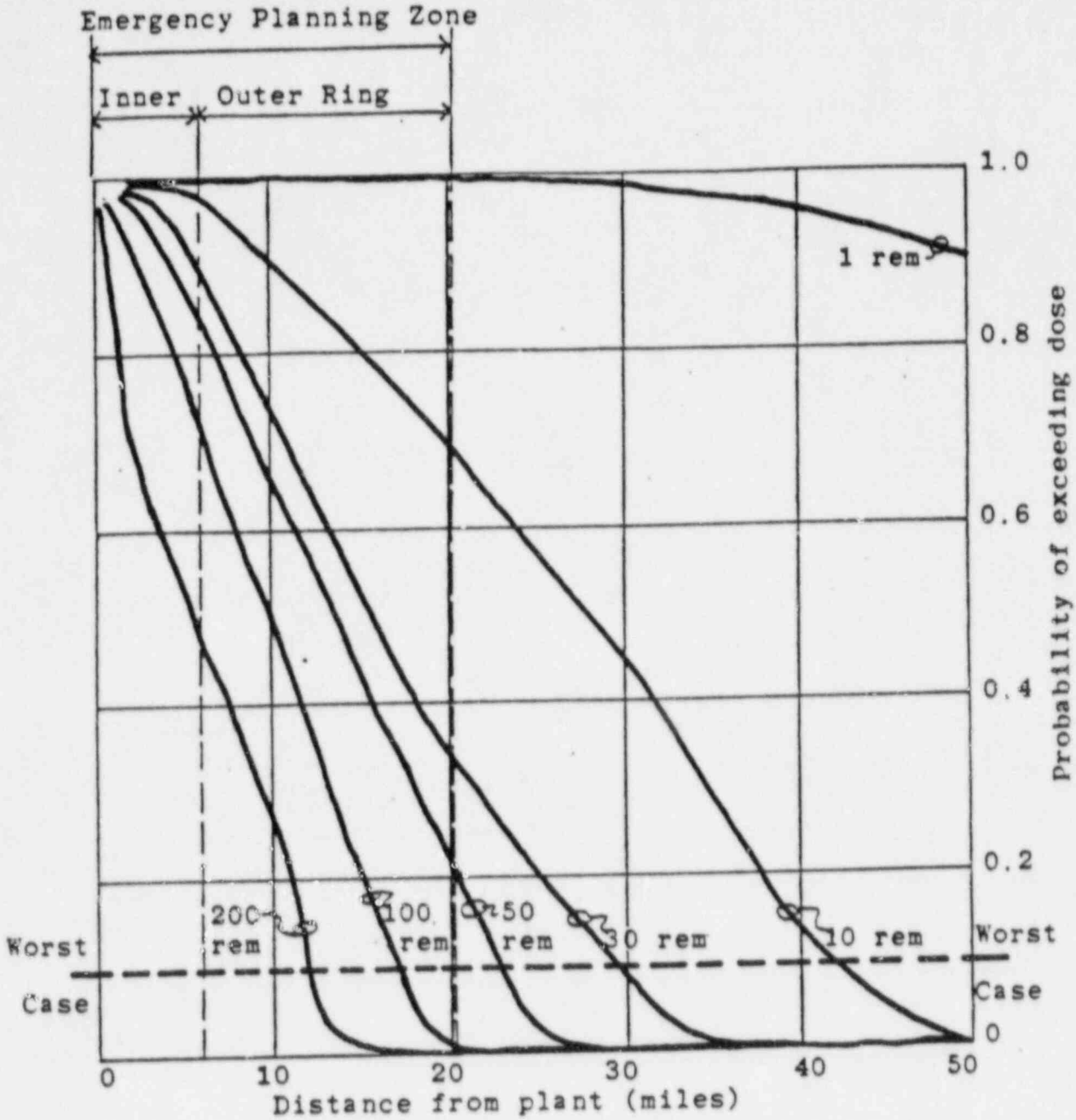
In the "unusual" case, persons located in the middle of sector 1 ("inner ring") downwind from the plant, if taking no protective action, would experience an irradiation dose level of as much as 100 rems. By sheltering, they could reduce that to 50 rems. A 100 rem exposure has substantial implications for long-term health effects: about an 8% likelihood of induced cancer attributable to that exposure, with half of those cancers eventually leading to mortalities. In the short run, there might be some illness such as respiratory impairment and vomiting, but little likelihood of illness requiring treatment, and virtually no likelihood of precipitate death. By sheltering to reduce the irradiation dose level to 50 rems, there would be barely detectable effects on even blood chemistry, no visible short-term health effects, and half the long-term cancer threat of a 100-rem exposure.[20]



Modified by Herr from Finlayson, reference 4.

EXHIBIT C

Dose-distance relationship - Integrated Accident Scenario



Modified by Herr from Finlayson, reference 4.

EXHIBIT D

Dose-distance relationship - Accident Category 5U

Table 1
SCENARIOS, ACTIONS, AND DOSES

	SCENARIO		
	Unusual[17]	Severe[18]	Worst[19]
Likelihood, given core melt	1/10	1/100	1/100,000
No-action dose (rems, whole-body)			
Inner ring	100	200	600
Outer ring	50	100	200
Beyond	10	25	50
Sheltering dose (rems, whole-body)			
Inner ring	50	100	300
Outer ring	25	50	100
Beyond	5	10	25
Minimum action to preclude early fatalities[a]			
Inner ring	-	Sheltering	Evacuation
Outer ring	-	-	Sheltering
Beyond	-	-	-
Minimum action to preclude early illness[b]			
Inner ring	Sheltering	Evacuation	Evacuation
Outer ring	-	Sheltering	Evacuation
Beyond	-	-	-
Maximum probability of fatal latent cancer given no protective action[c]			
Inner ring	0.04	0.08	0.24
Outer ring	0.02	0.04	0.08
Beyond	0.004	0.01	0.02

a: based upon 200 rems as the threshold dose for early fatalities.
b: based upon 100 rems as the threshold dose for early illness.
c: based upon 400 deaths/million person-rem. Applies to actually affected population only.

Source: P. Herr based on reference 4 and unreproduced Finlayson data.

In the "severe" case the dose levels are doubled to 200 rems unsheltered, 100 rems sheltered for the middle of sector 1, the inner ring. In such a case, sheltering would be necessary to avoid the possibility of a dose that might be lethal to some in the short run, and only evacuation could assure avoidance of short-term illnesses. Even with sheltering, induced cancer would be expected for 8% of the inner ring population actually exposed to the plume, and resultant mortality for half that number.

In the "worst" case dose levels for the inner ring (sector 1) are increased to 600 rems unsheltered, and to 300 rems even given sheltering. Within the inner ring only evacuation could assure avoidance of doses lethal to some in the short run and to as many as one quarter of those affected in the long run.

In the outer ring (sectors 2 through 7, roughly between 6 miles and 20 miles from the plant) dose levels are approximately half those of the inner ring. Sheltering is the appropriate action to avoid injury in the "severe" case. In the "worst" case, evacuation is necessary to avoid the possibility of early injury, but is subject to the caveat earlier raised: if wind direction or season or weather make evacuation slow and subject to queues within high-hazard areas, sheltering and accepting the risk of injury may be wiser than attempting to evacuate and risking an even more serious exposure while locked in a traffic back-up. Only for sector 7 (the eastern sector of the outer ring) is there assurance that evacuation results in lower dose levels than sheltering.

Beyond the EPZ, even in the "worst case", dose levels would not rise above about 50 rems, a level with potential long-term health consequence but with no likelihood of visible short-term consequence. In that extraordinary worst case, sheltering advisories would be appropriate even beyond the EPZ in order to reduce latent cancer impacts (which would be experienced by as much as 2% of the affected population). The several hours or more that the plume would likely require to reach the EPZ boundaries would provide time for making such advisories.

A county-sponsored attitude survey of Long Island residents indicates that as many as 20% of those ordered to evacuate may not do so, and that in some areas <u>not</u> ordered to evacuate half or more of the residents may evacuate anyhow (see Exhibit E).[5] Those expectations profoundly affect emergency planning. The County has a responsibility to those persons who plan not to evacuate, since in cases such as the "severe" and "worst" scenarios that could lead to fatalities.

Spontaneous evacuation means a need for traffic control at times and in locations when evacuation isn't ordered: a ten-mile evacuation order will spark large-scale movement even outside the EPZ, potentially resulting in congestion and confusion. Such an order would direct 31,000 persons to evacuate.[29] Survey results indicate 430,000 might respond. Evacuation beyond that ordered adds somewhat to evacuation times for those who <u>are</u> ordered to evacuate, though traffic modelling produces the counter-intuitive result that perfect compliance with evacuation orders would increase rather than decrease overall evacuation times (because of increased numbers evacuating from the designated areas).

To estimate the number of persons potentially injured or killed in the event of an accident at Shoreham, the consequence of the more severe of the two likeliest (1 in 10,000 years) core melt accident categories[27] was estimated by simulating 100 such accidents under different contingencies of release characteristics and weather. In most of the simulated cases, there were no early fatalities at all, in a few cases there were 400-600 early fatalities, in one case 1,600 early fatalities. Averaged over all of the simulated accidents, 25 early fatalities resulted if no protective action were taken, and 15 early fatalities if the entire affected population were to shelter themselves. Similarly, there were early injuries affecting up to 2,600 persons without sheltering, 1,300 persons with it, with an average of 67 persons injured if no protective action is taken, 18 persons if the population takes shelter.[31]

Longer term health consequences result from latent cancer induced by radiation exposure, even at very low irradiation dose levels. For that same category of accident and assuming a "worst case" wind towards New York City, accident-induced latent cancer fatalities within the 20-mile zone range from none at all, given sufficiently rapid evacuation (more rapid than feasible here), to 1,800 fatalities, based on a 3-hour departure delay and 20 travel hours to clear the zone,[32] a performance which this plan should be able to improve upon. Beyond the EPZ the dose levels and resulting incidence rates are much lower, but the potentially affected population is much higher. The result is 7,000 latent cancer deaths if outside the EPZ such an accident occurs, added to whatever number results from protective actions or their lack within the EPZ.[32]

Within this planning effort we have not studied either protective actions or consequences related to accident impacts on the food chain, water supplies, or water bodies (such as Long Island Sound), so these consequence estimates are independent of any effects which might result from that "ingestion pathway". This analysis also doesn't include

TABLE 4.2

PERCENT INTENDING TO EVACUATE BY DISTANCE FROM PLANT

Distance	I	II	III[a]
0-5	39.9	56.8	77.1
6-10	42.8	53.7	81.7
11-15	39.3	49.5	73.3
16-20	33.8	46.2	62.2
21-25	28.1	36.7	48.8
26-30	18.8	28.4	52.4
31-35	23.9	38.4	49.4
36-40	18.7	25.9	38.2
41-45	26.6	31.8	45.3
46-50	19.1	26.2	42.3
51+	14.8	20.6	37.4
Long Island	25% (217,000)	34% (290,000)	50% (432,000)

Source: Compiled by authors from the Shoreham Evacuation Survey, June, 1982.

[a]
I = recommendation to shelter
II = recommended 5-mile evacuation
III = recommended 10-mile evacuation

Modified by Herr from Johnson and Zeigler, reference 5B.

EXHIBIT E

health consequences of stress or of vehicle accidents (rough calculations indicate that an ordered 10-mile evacuation, with its spontaneous voluntary expansion, would likely result in one auto fatality and about 100 injuries at "usual" accident rates[28]).

ORGANIZATION

Responsibility for emergency planning and response is assigned to Suffolk County by New York State Executive Law Article 2-B.[22] As a result, the County Executive makes the key strategic decisions in emergency response, such as whether and where to evacuate, and the County Department of Emergency Preparedness provides operational control for the emergency response effort. Implementation depends upon the integrated actions of many agencies at all levels of government and upon coordination with LILCO.

The emergency response would operate from an Emergency Operations Center (EOC) at Yaphank, where a multifunctional communications network has been established by the Department of Emergency Preparedness (DEP). LILCO initiates the response sequence by determining that an emergency exists, by classifying it (Unusual Event, Alert, Site Emergency, General Emergency), and by notifying County Police, who in turn notify the DEP. The DEP then contacts appropriate County agencies and assembles an interdepartmental response team at the EOC.

In the most serious events, General Emergencies, the County Executive would decide upon the public response to be ordered, with advice from the State, County agencies, and LILCO. The complexity of that decision is as great as its importance. The "right" decision for ordered protective actions depends upon the magnitude, constituents, and timing of the releases from the plant, the likely amount and direction of wind and rain over the next day or so, the ability of transportation systems to timefully move the population, and whether people would move with or against the cloud direction. A better decision support system than is now available is a prerequisite to competent emergency decision-making.[23] New York State emergency officials are said to be readying such a system.

Upon that decision, sirens would be sounded to alert the public, and evacuation or sheltering instructions would be broadcast over the Emergency Broadcast System. Residents would have previous instructions on evacuation routes, supplemented at the time of alert based on projected doses, weather, and traffic. Generally evasion will be the best

strategy. For example, for some persons moving eastward (despite the "dead-end") when the plume is moving westward will be the best option, though the "standard" will generally be westward movement.

State, county, and local police would help smooth traffic flow at key intersections (but not dictate its direction), would divert non-essential traffic from high-risk areas, and would provide area security following evacuation. The County DPW would be mobilized to try to keep roads cleared of disabled vehicles.

Arrangements for school-time evacuation of pupils are being developed with each potentially affected school district, the basic recommendation being that the children be evacuated together to relocation centers outside the EPZ by school buses rather than being returned home. Availability of bus drivers is a potential problem. In a County-commissioned personal survey, only one quarter of the present bus drivers indicated that in such a nuclear emergency they would resolve the conflict between family and bus driving responsibilities by first reporting to work for bus driving.[6] Special recruitment and incentives for drivers are essential if reliance on school buses is to eventually prove feasible.

Others without use of cars (auto-less households, institutional population, handicapped) are to be evacuated by school bus and special vehicles, with assistance by volunteer fire departments. Again, there is no present assurance of availability of an adequate pool of drivers for the buses. There also is no assurance of the response capacity of the fire departments. Only one in five present firemen, when personally surveyed, indicated that in a radiological emergency their first response would be to report to the fire station. Barely more than half of the firemen gave answers indicating that they would get to the station relatively quickly.[21]

Reception centers outside the high-risk zone would be set up by the County Department of Health Services at locations not yet determined. Lodging, food and water, reuniting families, and decontamination would be provided. Some medical services would be provided at those centers, but major reliance is being placed on special facilities at Central Suffolk Hospital. Paradoxically, Central Suffolk Hospital is deep within the EPZ, only ten miles east of the plant, so will require "hardening" or patients and staff might, in the worst case, risk exposure to illness-causing levels of radiation. Capacity is also a concern: its radiological unit can handle only one or two persons at a time, so a more extensive network of back-up facilities will have to be developed.

DEVELOPMENT

The following additional actions must be taken in order to establish an effective emergency response system for Suffolk County.

1. Preparation of Standing Operating Procedures (SOP's) detailing for each agency the response actions to be taken consistent with the broad directions of the Plan, and the implementing of necessary preparatory steps (e.g. obtaining and positioning communications devices).

2. Execution of written agreements with cooperating organizations to assure consistent relations regardless of changes in personnel over time.

3. Preparing to carry out training, exercises, and drills for emergency workers both at County and local levels.

4. Installation of sirens in those areas of the EPZ not now so equipped.

5. Resolution of the problem of potentially unavailable bus drivers, volunteer firemen, and other emergency workers. For example, a team of specially recruited, trained, and motivated "emergency response drivers" might be assembled, and the necessary contracts with bus owners negotiated to allow those drivers to operate the buses. This, as with several other problem resolutions, may depend for its practicality upon joining radiological emergency response efforts with other emergency response efforts: the drivers would be recruited to perform in <u>all</u> emergencies, not just rare radiological ones.

6. Development of a decision-support information system, possibly that being readied by New York State, to allow competently informed decision-making in the face of extraordinary stress coupled with complexity.

7. Resolution of how to deal with having the key hospital facility within a potentially impacted zone.

Over a somewhat longer run, further efforts are called for.

8. Organization of a permanent policy advisory group on emergency planning. The Shoreham controversy has temporarily assured high-level attention to emergency planning issues. In the future there needs to be an established focus to assure continuing attention to this issue.

9. Public education. Surveys and the TMI experience make clear that in an emergency people are unlikely to act in their own best interest unless better educated than they are as to what that best interest is. Part of that "education" involves persuading the public of County competence at giving reliable advice, so that recommendations to evacuate or not will be given substantial weight in individual decision-making.

10. Integration with other emergency planning. Some connections are now being made: the EOC communications network and use of the Emergency Broadcast System, for example. Much more should be done. County radiological emergency planning needs to be fully integrated with that of the State and that of LILCO. Within the County, there should be comprehensive emergency response systems, such as shared use of the siren system, a multi-emergency driver team, integrated public education, and development of a "buddy-system" for the auto-less to reduce emergency dependence on public transport.

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2. (2A) U.S. NRC/FEMA, "Criteria for Preparatin and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants", NUREG 00654/FEMA-REP-1 (Rev. 1), Nov., 1980; (2B) NUREG 0396, EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December, 1978.

3. Budnitz, R.J.; Davis, P.R.; Fabic, S.; & Lambert, H.E., "Review and Critique of Previous Probablistic Accident Assessments for the Shoreham Nuclear Power Station", Future Resources Associates, Inc., (in two Volumes) 17 September 1982.

4. F.C. Finlayson and J.H. Johnson, Jr., "Basis for Selection of Emergency Planning Zones for the Shoreham Nuclear Power Plant, Suffolk County, New York", (Draft), October, 1982, F.C. Finlayson & Associates, Cerritos, CA.

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6. Social Data Analysts, Inc., "Responses of Emergency Personnel to a Possible Accident at the Shoreham Nuclear Power Plant", October, 1982, prepared for Suffolk County.

7. PRC Voorhees, "Suffolk County Radiological Emergency Response Plan," Working Draft Report, November, 1982, prepared for Suffolk County RERP Steering Committee.

8. A Category 5U accident, and a conditional probability of 0.1. See reference 4, figure 11.

9. Here and following, "core melt accident" means a category 1 through 5 accident, as defined in reference 3, pg. 15.

10. Reference 4, page 48.

11. Reference 5B, page 39.

12. Reference 4, figure 12 and Table 1.

13. Reference 2A, Appendix A.

14. PRC Voorhees, "Preliminary Evacuation Time Estimates for the Shoreham EPZ", November 1982, Table 10.

15. Reference 4, figure 17.

16. Reference 4, figures 16-21.

17. Integrated accident scenario, doses having a probability of 10^{-1} of being exceeded. See Ref. 4, fig. 12.

18. Integrated accident scenario, doses having a probability of 10^{-2} of being exceeded. See Ref. 4, fig. 12.

19. Category 5U accident, doses having a probability of 10^{-1} of being exceeded. See Ref. 4, fig. 11.

20. Reference 4, figure 2, plus phone conversation Herr/Finlayson, 11/23/82.

21. Reference 6, page 9.

22. Reference 7, page 25.

23. An example of such aid is given in S. Belardo, A. Howell, R. Ryan, and W.A. Wallace, "A Microcomputer-Based Emergency Response System for Public Officials", paper given at 1981 ANS Winter Meeting, San Francisco, CA.

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27. Category IU accident. See Reference 4, page 34.

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31. Reference 4, pp 34-37, plus phone conversation Herr/Finlayson, 11/23/82.

32. Reference 4, table 8, plus phone conversation Herr/Finlayson, 11/23/82.

SUFFOLK COUNTY
RADIOLOGICAL EMERGENCY RESPONSE PLAN

Working Draft Report

Prepared for:

SUFFOLK COUNTY
RERP STEERING COMMITTEE

by

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November 1982

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1. INTRODUCTION

BASIS FOR THIS PLAN

This document is a plan for the Suffolk County response to a radiological emergency (that is, an accident in which there is an actual or projected release of radiation) at the Shoreham Nuclear Power Station.

This plan defines the responsibilities of the county, its departments, and local agencies during a radiological emergency at Shoreham. The emphasis in this plan is on the required actions and the responsiblity for performing these actions.

This plan is to be supplemented by a set of Standing Operating Procedures (SOP's). These are detailed instructions, addressed to the local agencies throughout the county, which detail each of the response actions.

All individuals having responsibilities in the plan are to be trained in their actions. Regular field exercises of various response activities are to be conducted to maintain the local ability to implement the plan.

The Office of the Suffolk County Executive and the County Legislature, under their normal responsibilities for the safety of residents, have the authority to direct county agencies in an emergency. Under New York State Executive Law Article 2-B, Suffolk County has the authority to coordinate the emergency responses of the various towns within the county.

The role of the Suffolk County Department of Emergency Preparedness as lead agency in the coordination of a disaster response is detailed in this plan.

Participating agencies from local subdivisions (cities, villages, and towns) carry out their activities in a radiological emergency well within their normal authority for

protecting the public safety. A coordinated response effort between these local agencies and the county, while not coerced by any extraordinary authority, is assured by:

- Prior understanding by local agencies of their role in this overall response plan
- Exercises and drills which include local agencies and prepare them for their planned response in an actual emergency

Figure 1.1 shows the EPZ for the Shoreham Nuclear Power Station. For more detailed descriptions of the criteria by which the EPZ was developed, see Finlayson and Radford, "Basis for Selection of Emergency Planning Zone for the Shoreham Nuclear Power Plant" (Supporting Document 2) and Herr, "Discussion Overview of the Suffolk County Emergency Response Plan."

SEQUENCE OF EVENTS IN A RADIOLOGICAL EMERGENCY

The Nuclear Regulatory Commission (NRC), in order to standardize emergency procedures, has defined a series of emergency action levels associated with nuclear power plant operations (NUREG 0654 Appendix A). These levels are:

- Unusual event
- Alert
- Site emergency
- General emergency

The first two levels of emergency are to provide early and prompt notification of minor events which might lead to more serious consequences given operator error or equipment failure, or they might be indicative of more serious conditions which are not yet fully realized.

The site emergency level reflects conditions where some significant releases are occurring or are likely. A site emergency is a level where any releases are not expected to exceed Protective Action Guide levels, except near the site boundary. Under a site emergency, sirens within the EPZ will be sounded to assure that the

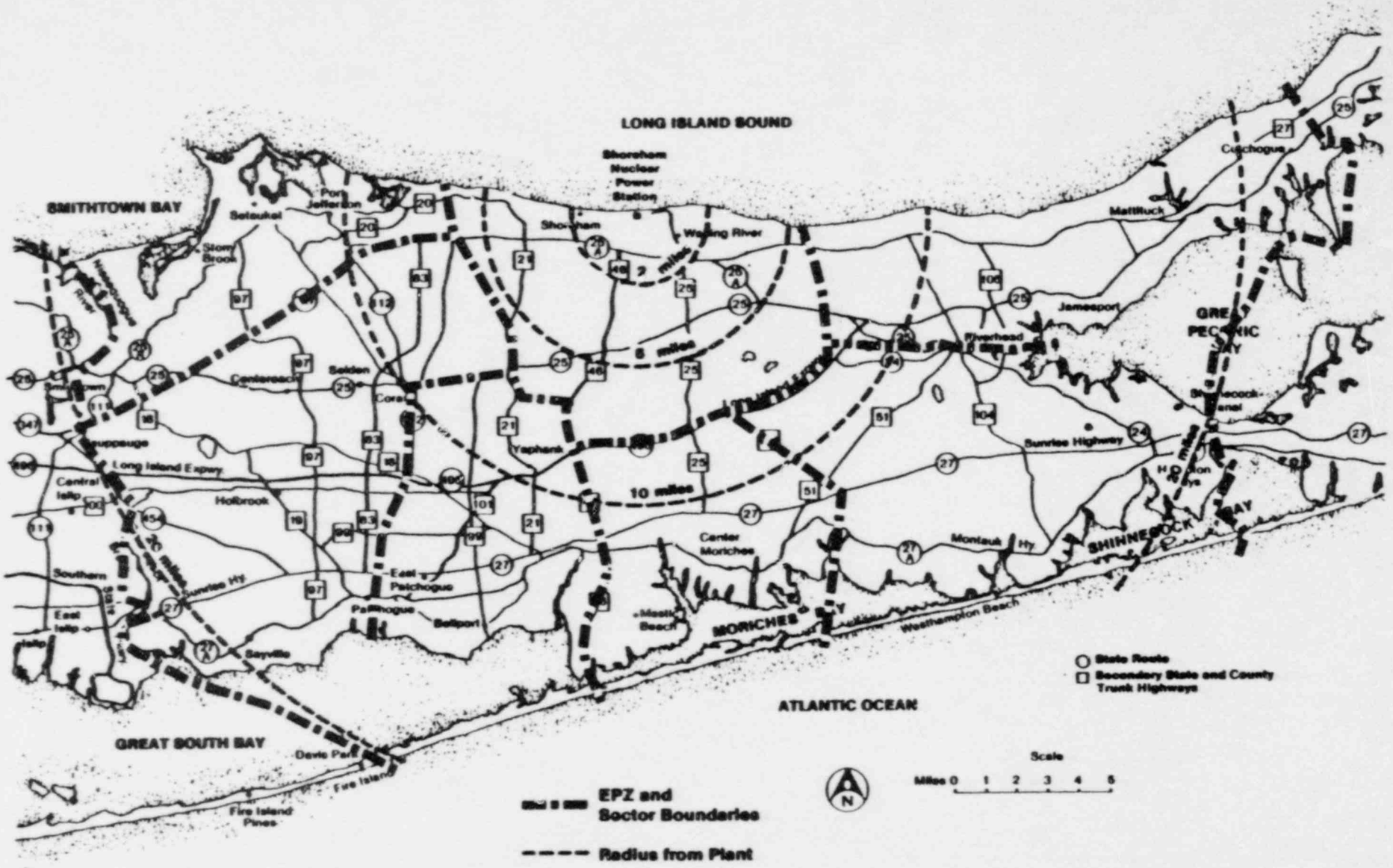

Figure 1.1. Emergency Planning Zone Map

public will be made aware of the existing emergency condition. Full mobilization of emergency personnel in the near site environs and dispatch of monitoring teams is required. Also, at this level the county may recommend to the public certain precautionary actions, such as closure of public parks and other major sports and recreational facilities.

At the general emergency level, actual or imminent substantial core degredation or melting with the potential loss of containment is involved. It is under general emergency conditions that the public within the EPZ may be required to take protective actions. These actions, ordered by the County Executive, may consist of:

- Individual Protective Actions – Remaining indoors with doors and windows closed and using readily available household products to protect against inhaling radioactive material.

- Evacuation – Leaving the area, wherever possible, evacuees will drive out of the EPZ in their own private vehicles, taking the most direct route available. Persons not having a vehicle available will be transported in school buses by public agencies.[1] Evacuees may go to reception centers for temporary lodging. Alternatively, evacuees may go to other destinations of their own choosing, such as homes of relatives or friends.

Figure 1.2 shows the action sequences involved during differing levels of emergency.

FUNCTIONS OF RESPONSE AGENCIES

The complete nature of evacuation procedures requires involvement from a broad range of functional organizations in order that all aspects of the plan can be achieved. The following agencies will be involved in an evacuation.

- The County Executive
- The Department of Health Services

[1] As described in a study conducted for Suffolk County by Social Data Analysts, Inc., entitled "Responses of Emergency Personnel to a Possible Accident at the Shoreham Nuclear Power Plant," (Supporting Document 6) bus drivers may be unwilling to drive buses during a radiological emergency because of conflicting duties. Suffolk County is examining methods to assure that a sufficient number of drivers will be available during an emergency.

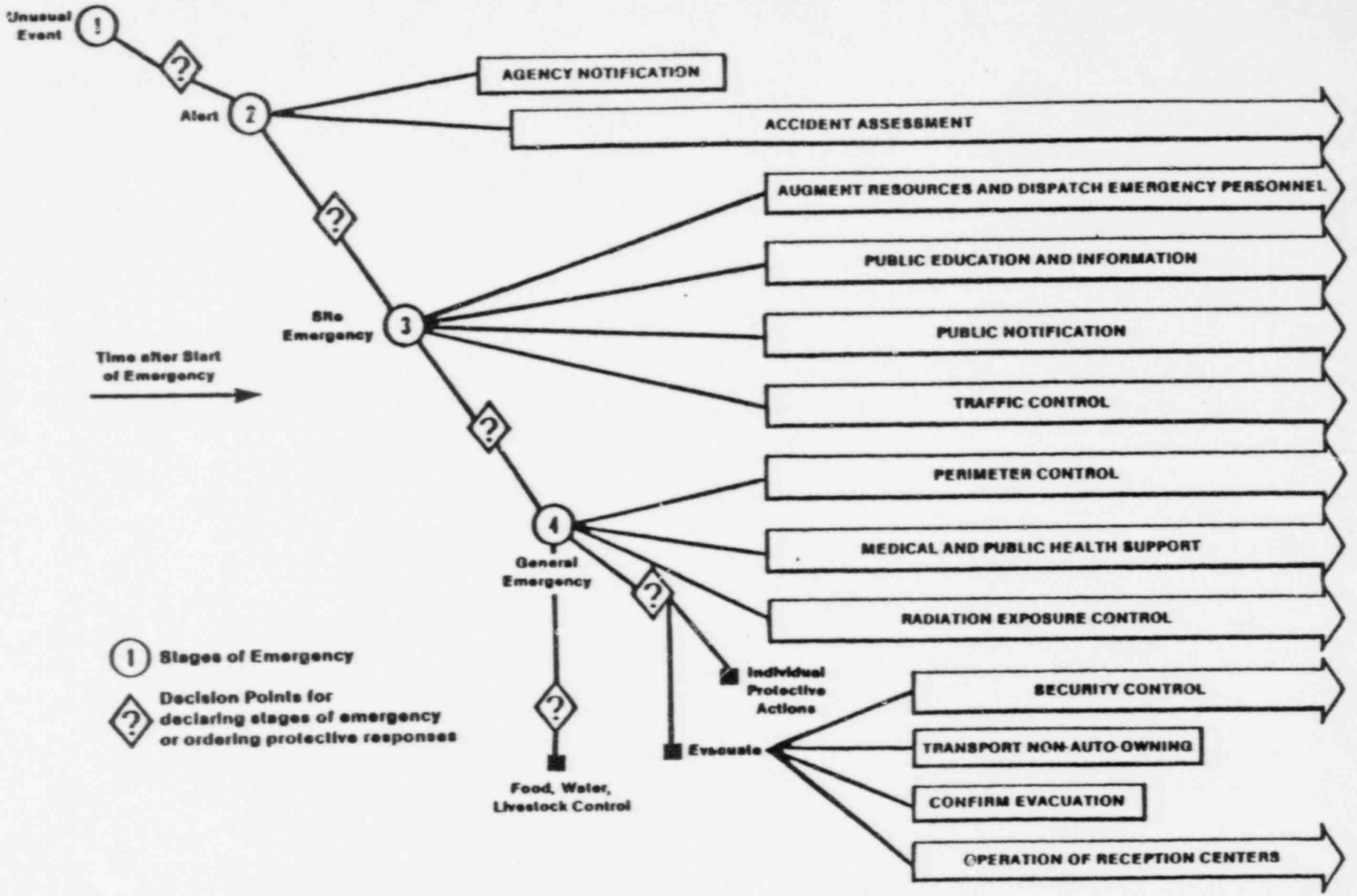

Figure 1.2. Summary of Emergency Response Sequence

- Department of Emergency Preparedness
- Department of Fire Safety
- Department of Social Services
- Department of Public Works
- Suffolk County Police Department
- Town and Village Police Departments within Suffolk County
- New York State Police
- Long Island Lighting Company
- All County Volunteer Fire Departments
- American Red Cross and the Salvation Army
- New York National Guard
- United States Coast Guard
- New York State Department of Transportation
- Emergency Broadcast System
- Suffolk County School District Superintendents
- Suffolk County Ambulance Services
- Area Hospitals

A detailed breakdown of the functional responsibilities of each agency is contained in subsequent chapters.

2. OPERATIONAL CONCEPT

SEQUENCE OF EVENTS DURING AN EMERGENCY

The uniform definitions of the differing levels of emergency as described in NUREG 0654 are shown below:

Unusual Event:	Unusual events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.
Alert:	Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guide exposure levels.
Site Emergency:	Events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed EPA Protective Action Guide exposure levels except near site boundary.
General Emergency:	Events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guide exposure levels off-site for more than the immediate site area.

Generally, an emergency at the Shoreham Plant will unfold over time, and may progress through several or all of the levels described. The participating agencies have differing functions to perform at each level. These functions, drawn from NUREG 0654, are outlined in Table 2.1.

TABLE 2.1. STATE AND/OR LOCAL OFF-SITE AUTHORITY ACTIONS BY EMERGENCY LEVEL

Unusual Event	Alert	Site Emergency	General Emergency
Provide fire or security assistance if requested	Provide fire or security assistance if requested	Provide any assistance requested	Provide any assistance requested
Escalate to a more severe class, if appropriate	Augment resources and bring primary response centers and EBS to standby status	Activate siren system Initiate traffic control	Activate immediate public notification of emergency status and provide public periodic updates
Standby until verbal closeout	Alert to standby status key emergency personnel including monitoring teams and associated communications	Provide public with periodic updates on emergency status	Recommend sheltering for for all or part of EPZ; consider advisability of evacuation (projected time available vs. estimated evacuation times)
	Provide confirmatory off-site radiation monitoring and ingestion pathway dose projections if actual releases substantially exceed technical specification limits	Augment resources by activating primary response centers	Augment resources by activating primary response centers
	Escalate to a more severe class, if appropriate	Dispatch key emergency personnel including monitoring teams and associated communications	Dispatch emergency personnel including monitoring teams and associated communications
	Maintain Alert status until verbal closeout or reduction of emergency class	Alert to standby status other emergency personnel (e.g., those needed for evacuation) and dispatch personnel to near-site duty stations	
		Provide off-site monitoring results to licensee, DOE and others, and jointly assess them	Provide off-site monitoring results to licensee, DOE and others and jointly assess them
		Continuously assess information from licensee and off-site monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources	Continuously assess information from licensee and off-site monitoring with regard to changes to protective actions already initiated for public and mobilizing evacuation resources
		Recommend placing milk animals within risk area on stored feed and assess need to extend distance	Recommend placing milk animals within risk area on stored feed and assess need to extend distance
		Provide press briefings, perhaps with licensee	Provide press briefings, perhaps with licensee
		Escalate to General Emergency class, if appropriate	Maintain general emergency status until closeout or reduction of emergency class
		Maintain Site Area emergency status until closeout or reduction of emergency class	

At any declaration of an Unusual Event the Shoreham Nuclear Power Station control room will notify the Suffolk County Police Department Communications Center using a dedicated phone line. The Communications Center is manned 24 hours per day with dispatchers who have the capability of reaching response agencies (state, county, or local). The primary agency with responsibility for coordination is the Department of Emergency Preparedness, which will be contacted by the Police Department; however, no significant response action will be required at this level.

Upon declaration of an Alert, two principal activities are initiated:

- Agency Notification – The County Department of Emergency Preparedness will activate the Emergency Operations Center (EOC) and will, through the County Police Department, notify all (county, local, and state) response agencies to prepare for possible action.

- Accident Assessment – County field monitoring teams are mobilized from the Department of Health Services. State monitoring teams, operating under the direction of the New York State Office of Disaster Preparedness and in coordination with the Department of Health Services, are also dispatched.

At the Site Emergency stage, actions are taken to prepare the general public within the EPZ for responses that may be required should a higher level of emergency occur. At this level, the following functions are performed:

- Public Notification and Information – Sirens within the EPZ will sound to alert the public of the emergency condition, directing the public to tune to local radio stations for further information. The Suffolk County Department of Emergency Preparedness will provide information bulletins for broadcast over the local radio stations. At this point, only information is provided and no instructions are given for an emergency response.

- Radiation Exposure Control – Measures are taken to protect all response workers from excessive exposure to radiation. Emphasis is given to monitoring the dosage and reassigning workers such that excessive doses are avoided.

- Medical and Public Health Support – Preparations are made for the handling and treatment of persons who may be contaminated or exposed to radiation.

- Initiate Precautionary Protective Measures – Significant transitory populations are advised to leave the area. These may include sporting events, county fairs, major recreation areas, etc.

- Initiate Traffic Control – In anticipation of a portion of the population evacuating prior to the General Emergency stage, county police will direct traffic at key locations.[1]

At the General Emergency stage, protective actions will be ordered for the population within the EPZ. At this stage a decision has to be made by the Suffolk County Executive after considering recommendations from the Governor's Office and from the local government departments. One (or both) of the following protective responses will be ordered for the public within the EPZ:

- Sheltering – Under this alternative the public takes shelter in their immediate location (within homes, schools, offices, factories, or wherever they are at the time). The public will be advised to use readily available household products, such as towels and paper tissues, for protection against inhalation of radioactive materials.

- Evacuation – Under this alternative the population within specified sections of the entire EPZ evacuates beyond the EPZ boundary. The majority will travel in their own cars, taking the most direct route available. Those without cars will be transported beyond the EPZ boundary by public agencies using school buses or other public support vehicles.[2]

Under this General Emergency condition there is a range of functions which the response agencies will perform:

- Public Notification and Information – Activating the siren system again to alert the public that a state of emergency exists and indicating that they should tune to radio broadcasts for further information.

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[1] A survey conducted on behalf of Suffolk County suggests that significant portions of the population may evacuate prior to or without any recommendation to do so. See Social Data Analysts, Inc. "Attitudes Towards Evacuation: Reactions Of Long Island Residents To A Possible Accident At The Shoreham Nuclear Power Plant" (Supporting Document 4); and Johnson and Zeigler," Further Analysis and Interpretation of the Shoreham Evacuation Survey" (Supporting Document 5).

[2] See Footnote 1 on Page 4.

- Perimeter Control – Advising drivers entering the EPZ that a General Emergency exists and only those drivers going home to join their families within the EPZ should continue.

- Traffic Control – Maintaining of orderly traffic flow at critical locations, where large volumes of evacuating traffic are expected. Traffic control is handled by local and state police agencies.

- Security Control – Patrolling of the evacuated area by local police to help remaining residents evacuate and to provide security.

- Transport Non-Auto-Owning Population – Using the school and public bus fleet to transport those persons not having a private vehicle available for evacuation. This category also includes school students and persons in institutions. Loading of the non-auto-owning persons into buses is supervised by local fire departments.[1]

- Confirm Evacuation – Sampling of households, through telephone calls from the Emergency Operations Center (EOC) to establish the extent to which the public has evacuated.

- Operate Reception Centers – Activation of reception centers. Screening of incoming evacuees for contamination and decontaminating when necessary. Provision of food and temporary lodging for those evacuees remaining at the reception centers.

PLAN ACTIVATION

For the first three stages of emergency, actions on the part of county and local agencies are triggered automatically by an Alert from Shoreham Nuclear Power Station and no county or local decision is needed. Actions on the part of the public are not necessary for these stages although, to accommodate voluntary actions by the public[2] the traffic control function will be initiated at the Site Emergency stage.

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[1] As described in a study conducted for Suffolk County by Social Data Analysts, Inc., "Responses of Emergency Personnel To A Possible Accident At The Shoreham Nuclear Power Plant" (supporting Document 6), some volunteer firemen may be unavailable to respond promptly to aid in evacuation because of conflicting family duties. Suffolk County will examine methods to assure that a sufficient number of volunteer firemen will be available during an emergency.

[2] See Footnote 1 on Page 10.

At the General Emergency stage, protective actions are required for the public since radiation is escaping (or projected to escape) from the plant site. These actions are ordered by the County Executive, who will be guided by:

- Advice from the group assembled at the Emergency Operations Center (EOC). This includes county department heads, the Director of Emergency Preparedness, and the Director of Health Services, as well as other advisors.
- Recommendations from LILCO.
- Recommendations from the state, in particular, guidance and support from the Governor.

The County Executive then conveys orders to the Director of Emergency Preparedness, who notifies the response agencies to proceed with their preplanned emergency response activities.

COMMAND AND CONTROL OF EMERGENCY RESPONSE

When a radiological emergency occurs at Shoreham Nuclear Power Station, the command and control functions rest with:

- The County Executive
- The Director of the Department of Emergency Preparedness

Each of these agencies has been given the responsibility of a distinct area of control.

- The County Executive – Strategic Control – Decisions on major responses to be made, approve state recommendations for emergency responses, decisions on major adjustments to planned responses already underway.
- The Director of the Department of Emergency Preparedness – Operational Control – Responsible for the execution of the emergency response plan, starting, modifying, stopping individual emergency actions.

EMERGENCY OPERATIONS CENTER (EOC)

The Emergency Operations Center for Suffolk County, situated on Yaphank Avenue, is the headquarters for the county response to an emergency at the Shoreham Nuclear Power Station. The EOC provides extremely high shielding against radioactivity. On a daily basis, it serves as the headquarters of the Department of Emergency Preparedness. Upon declaration of an Alert, a Site Emergency, or a General Emergency, designated representatives of the response agencies would report to the EOC.[1] Countywide communication would, at this time, begin originating from the EOC.

All activities occurring during an emergency response will be coordinated from the EOC. Communications from all agencies participating in the emergency response will be directed through the EOC.

The Suffolk County Department of Emergency Preparedness maintains the EOC at all times, both during normal (non-emergency) periods and times of radiological emergency. This operating of the EOC involves: assuring security, providing communication, supplying staff needs including food, water, clerical support, display materials, dormitories, and showers.

Decisions on the protective responses to be taken by county residents will be made in the EOC. All public information on the county's response will be issued from the EOC. Public information bulletins for broadcast over the Emergency Broadcast System (EBS) will originate from the EOC.

SUMMARY OF NOTIFICATION

When an Unusual Event occurs, LILCO will inform the police of the situation via a dedicated phone line and advise them of who is to meet any fire or security

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[1] Potential role conflicts of persons assigned to the EOC, as described in Social Data Analysts, Inc., "Responses of Emergency Personnel To A Possible Accident At The Shoreham Nuclear Power Plant" (Supporting Document 6), suggests that the county take measures to assure that the EOC is adequately staffed.

requirements. The police will remain on standby until informed that the Unusual Event condition is over. This action is primarily to ensure that the first step has been made if the situation should deteriorate. Following an Unusual Event, LILCO will provide a written summary of the occurrence to both the Police and Emergency Preparedness Departments within 24 hours.

In the case of an Alert, LILCO informs the Suffolk County Police via dedicated phone line. The police will notify the County Executive and the Department of Emergency Preparedness, which will activate the EOC, alert those agencies with a response function, and place them on standby. This includes the monitoring teams and associated communications personnel.

County agencies and local fire and police departments will be notified by radio. The notification message will describe the stage of emergency at the plant, and will instruct the recipient of the message to start their operating procedures in response to that stage of emergency.

At the Site Emergency stage, the siren system is activated from the EOC and residents of the county kept informed of the emergency through bulletins over the Emergency Broadcast System (EBS) radio stations. The broadcasts describe the nature of the emergency. At this stage, no protective responses are ordered for the public and EBS broadcasts are informational only.

At the General Emergency stage, the siren system is again sounded, alerting the listeners to tune to EBS broadcasts for further information and instructions. The siren system is used immediately after protective responses for the public have been determined and ordered by the County Executive. Instructions for carrying out these responses are relayed immediately to the EBS for broadcast to the public.

ACCIDENT ASSESSMENT

Accident assessment—the determining of the potential radiation hazard to population of the EPZ—is the basis for the decision on protective actions ordered for the

population. Accident assessment considers: (1) the nature of the release of radioactivity, (2) weather conditions and, (3) population distribution in the projected pathway of the released radiation.

Under the state plan, the New York Office of Disaster Preparedness has the primary responsibility for the accident assessment. The county's decision on protective actions to be ordered depends heavily on this state assessment.

For the first three stages of emergency: Unusual Event, Alert, and Site Emergency, local response agencies will begin activities automatically with no decision required on the part of any county official.

At the General Emergency stage, a decision is required by the County Executive on the protective responses to be ordered for the public at large. Possible actions are:

- Sheltering
- Evacuation
- A combination of the above, for example, evacuation within the inner sector, combined with sheltering in the remainder of the EPZ

The County Executive will order the protective response after considering the available information and recommendations from:

- The State Disaster Preparedness Commission
- The representatives at the EOC
- County sources – principally the Department of Health Services monitoring team
- LILCO

As soon as a public protective response is ordered by the County Executive, further activities by the individual response agencies are initiated. These activities start automatically, and no further decisions on the part of the County Executive are needed for their execution.

IMPLEMENTING THE EMERGENCY RESPONSES

Even in the event of a major accident at the plant, it is expected that the seriousness of the potential hazard will evolve through a series of escalating stages of emergency. At the initial stages of emergency, no protective actions are ordered for the public at large. However, the public response agencies begin several activities in anticipation of a more serious emergency:

- Notifying all agencies participating in the emergency response
- Monitoring the levels of radiation throughout the county and assessing the hazard posed to the population by this radiation
- (Site Area Emergency Stage) Sounding of siren system
- Notifying the public, through radio broadcasts, of the emergency at the plant
- Preparing for the treatment of persons contaminated by, or exposed to, radiation
- Traffic control in anticipation of voluntary evacuation

At the most serious stage of emergency—General Emergency—the County Executive will order that protective responses be taken by the public at large.

Implementing these responses calls for additional actions by the public response agencies, as well as actions by the population at large.

Sheltering

The siren system is sounded to alert the public to the state of emergency at the plant and to indicate that they should tune to EBS broadcasts for further information and instructions. Instruction in these broadcasts will tell the public to stay inside and close doors and windows. In the event that an actual release requires additional safety measures to be taken, supplemental emergency instructions will be issued, detailing additional protective measures to be taken, such as sealing off cracks and other openings, turning off ventilation systems, and other

forms of improvised protection. Similar measures are to be taken within institutions (schools and health care facilities) according to institutional plans.

The public response agencies begin several further functions in carrying out the Individual Protective Actions response:

- The Suffolk County Department of Emergency Preparedness will activate the siren system that will alert the general public. The siren system indicates to the public that they should tune their radios to the Emergency Broadcast System.
- Local and state police departments will initiate perimeter control procedures to advise traffic not to enter the EPZ.
- Local police departments man critical intersections within their respective municipalities to ensure orderly traffic flow in the event that population of the area begins to evacuate on their own initiative.

Evacuation

The sole purpose in evacuation is to relocate the population of the EPZ (or parts of it) as rapidly as possible to locations beyond the health hazard limits of the plant. For planning purposes, four categories of evacuating population are considered:

1. Auto-owning population rides out of the area in their private automobiles. This population segment includes all members of car-owning households (except school students, if at school).
2. School population, defined as all students at school. It is recommended that this population be evacuated directly from school, in school buses,[1] under the control of school staff. Nevertheless, it will be left to each school district to develop, in cooperation with the county, standing operating procedures for evacuation of its schools.[2]

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[1] See Footnote 1 on Page 4.

[2] It should be noted that a majority of surveyed Suffolk County residents displayed a preference that their children be kept at school until picked up by their parents or bused home before evacuation, thus indicating a desire that the family evacuate as a unit. See Social Data Analysts, Inc. "Attitudes Towards Evacuation: Reactions of Long Island Residents To A Possible Accident At The Shoreham Nuclear Power Plant" (Supporting Document 4).

3. Non-auto-owning population includes all persons in households where a car is not available for evacuation. Some of this population is transported by friends and relatives. The remainder assemble at designated collection points and are evacuated by bus. Local Fire Departments will maintain lists of persons requiring assistance.

4. Population in institutions, primarily hospitals and nursing homes. This population is evacuated directly from the institutions by bus or ambulance. Loading of passengers at the institutions is supervised by local fire departments.[1]

Auto-Owning Population – Families (except children in school) are expected to evacuate as units.[2] On weekdays, most family members will return home from their jobs, shopping, etc., secure their homes, and leave the area. On weekends, a higher proportion of families is already assembled and can prepare to leave home directly. Generally, most non-resident families (for example, beach or State Park visitors) are already assembled and, therefore, will evacuate with less preparation.

After households are secured, families from auto-owning households will drive out of the potential hazard area by the most direct routes available. They will drive either to reception centers established beyond the EPZ or to other destinations (homes of friends or relatives) of their own choosing.

Public agencies will give routing advice for this travel by the following means:

- Information brochures distributed areawide on a regular basis (for example, annually)
- Information in the local telephone directory
- Instructions broadcast prior to and during an evacuation
- Police officer control at key locations on the road system to guide traffic out of the area

During the evacuation, normal traffic operations will generally be maintained. Specifically, two-way streets will continue two-way operation, traffic signals will continue to function (apart from critical intersections under police control).

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[1] See Footnote 1 on Page 10.

[2] See Footnote 2 on Page 17.

School Population – Following a decision to evacuate, the Department of Emergency Preparedness will notify schools directly of the need for evacuation. This notification will be accomplished primarily through radio alert systems directly to the school districts, followed by confirmatory telephone calls.

It is recommended that the school population will be transported directly by bus from school to designated reception centers outside the EPZ.[1] Generally, an entire school will be transported to the same reception center. Unless decided otherwise by a school district, school children will not generally be released to go home prior to evacuation, however, parents who wish to pick up their children at school may do so.[2] High school students who drive to school in their private cars are permitted to drive home or out of the area if prior written authorization has been given to the school administrator.

Non-Auto-Owning Population – It is expected that a significant fraction of the non-auto-owning population will be evacuated as passengers in private cars driven by family, neighbors, or friends. The evacuation procedure for this group would follow that of the car-owning population.

Persons from non-auto-owning households who do not evacuate as passengers in private cars will assemble at locations designated as collection points. From these collection points, buses will transport them to reception centers outside the EPZ.[1]

Most of the non-auto-owning population in built-up areas lives near a collection point and the majority of this population will walk there. Local fire departments will maintain lists of persons requiring transportation from their homes to the collection points. Rural non-auto-owning population not within walking distance of a collection point will be taken there in vans or automobiles.

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[1] See Footnote 1 on Page 4.

[2] See Footnote 2 on Page 17.

School buses, when no longer required for school evacuation, and buses obtained from outside the EPZ, will pick up the evacuees who have assembled at the collection points and take them to reception centers outside the EPZ.

Population in Institutions – Following the decision to evacuate, the Suffolk County Department of Emergency Preparedness will notify institutions of the need to evacuate. The institutional population will be instructed to evacuate by the staff of that particular institution in accordance with the institution's SOP's.

School buses will pick up ambulatory hospital patients, nursing home residents, and other persons not requiring ambulance transportation.[1] These passengers will be transported directly to reception centers or to other medical facilities.

Non-ambulatory persons will be transported directly from institutions by ambulance. These vehicles will be drawn from local fleets and from adjacent counties.[2]

CONFIRMATION OF EVACUATION

Confirmation of evacuation will take place both during an evacuation for the purpose of judging the progress, as well as at the end in order to ensure completion. Surveys indicate that over 20 percent of the population of Suffolk County may not evacuate.[3]

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[1]See Footnote 1 on Page 4.

[2]See Footnote 1 on Page 11. Ambulance service in Suffolk County is generally provided by volunteer fire departments. Thus, the results of the role conflict study of volunteer firemen conducted by Suffolk County "Responses of Emergency Personnel To A Possible Accident At The Shoreham Nuclear Power Plant" (Supporting Document 6), has implications as well for the availability of ambulance drivers during a radiological emergency.

[3]Social Data Analysts, Inc., Attitudes Toward Evacuation: Reactions of Long Island Residents To A Possible Accident at The Shoreham Nuclear Power Plant" Supporting Document 4).

In confirming the evacuation of the general public, phone calls will be placed periodically from the Emergency Operations Center (EOC) to a statistically selected number of households to determine if they have evacuated. Based upon the telephone survey results, additional advisories may be released over Emergency Broadcast System stations. Also, patrol cars with public address equipment may be dispatched to areas identified as not evacuated, in order to encourage more complete evacuation.

RECEPTION CENTERS

In the event that residents are evacuated, temporary lodging will be required until reentry is authorized. Past experience in evacuations indicates that most families will stay with relatives and friends or seek lodging in hotels and motels. For those who do not wish to use these alternatives, public accommodations will be operated at locations outside the emergency zone. Designation of specific reception centers has not yet been completed.

Services that will be provided at the reception centers are:

- Registration of evacuees
- Information and assistance in reassembling families that were separated during the evacuation
- Food and lodging
- Public telephones
- First aid
- Radiological monitoring
- Decontamination of persons and vehicles

The Suffolk County Department of Social Services will coordinate activities at the reception centers. Most of the services at reception centers (excluding radiological screening and decontamination) are expected to be provided by the Red Cross and Salvation Army. Radiological screening and decontamination are provided by the Department of Health Services. At later stages in the evacuation, the New York National Guard may be requested to support all phases of operation of the reception centers.

Table 2.2 summarizes the emergency levels and the asociated response functions of agencies.

TABLE 2.2. EMERGENCY LEVELS AND ASSOCIATED RESPONSE FUNCTIONS

Emergency Level Declared	Response Function Started
Unusual Event	LILCO informs the Suffolk County Police Department.
Alert	The EOC is activated and all agencies and their staff participating in the emergency plan are notified. Private organizations are notified. Field radiological monitoring teams are deployed to support the state assessment teams.
Site Emergency	Sound siren system. Broadcasting begins over the EBS system giving information on the nature of the emergency. This is to prepare the general population for required responses in a general emergency.
	Issue personnel monitoring devices to all emergency workers in the EPZ. Read and record readings of devices.
	Provide for the treatment of the radiologically injured. Transport radiologically injured to the designated treatment facilities outside the EPZ.
	Traffic control is initiated at key locations.
General Emergency	Sound the siren system. Instruct the public, through EBS broadcasts, on the appropriate protective responses to be taken.
	Limit the entry of vehicular traffic into the EPZ.
	Patrol evacuated areas to maintain law enforcement and to assist persons having difficulty in evacuating.
	Use school bus fleet to transport those persons in the EPZ not having a private vehicle available for evacuation.[1] Non-auto-owning persons include school populations and persons in health care institutions.
	Sample households, through telephone calls from the EOC, to establish the extent to which population has evacuated.
	Activate reception centers in schools in the western part of the county. Screen evacuees for contamination and decontaminate when necessary. Provide food and temporary lodging for those evacuees remaining at reception centers.

[1] See Footnote 1 on Page 4.

PART A. ASSIGNMENT OF RESPONSIBILITY
(Organizational Control)

"Primary responsibilities for emergency response by the nuclear facility licensee, and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis."[1]

AGENCIES PARTICIPATING IN SUFFOLK COUNTY EMERGENCY RESPONSE

Figure A.1 lists those agencies which have a role to play in the event of a radiological emergency. The word agency, throughout this plan, denotes governmental entities, quasi-public, and private organizations. All agencies performing any response act are included in this plan.

FUNCTION/RESPONSIBILITY MATRIX

Figure A.2 lists the agencies involved in an emergency response and identifies the necessary functions. The major and supporting agencies for each function are identified.

COMMAND AND CONTROL OF THE EMERGENCY RESPONSE

The command and control function during an emergency response lies in the hands of:

- The County Executive
- The Director of the Department of Emergency Preparedness

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[1] "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (NUREG 0654, FEMA-REP-1, REV. 1, hereinafter referred to as NUREG 0654).

FIGURE A.1 AGENCIES PARTICIPATING IN AN EMERGENCY RESPONSE

Agency	Activities
County Executive	Exercises strategic and decisionmaking control over the emergency response effort. Decides on major responses to be made.
Department of Health Services	Coordinates response actions by accident assessment and radiological monitoring teams. Ensures sanitation at reception centers. Monitors radiological exposure of emergency workers.
Department of Emergency Preparedness	Directs overall emergency response effort. Coordinates actions by other agencies. Acts as liaison between agencies.
Department of Fire Safety	Coordinates response by agencies providing fire and rescue services and assisting in the evacuation of the non-auto-owning population.
Department of Social Services	Supervises operation of reception centers.
Department of Public Works	Ensures maximum traffic flow in highway construction areas. Assists in clearing disabled vehicles from evacuation routes, and is responsible for snow removal.
Police Department	Receives first notification of emergency. Notifies primary response agencies of emergency. Patrols evacuated areas. Directs traffic.
Sheriff's Office	Directs emergency response in penal institutions.
Riverhead Police Department	Patrols evacuated areas; directs traffic; confirms evacuation.
Southampton Police Department	Patrols evacuated areas; directs traffic; confirms evacuation.
Southold Police Department	Patrols evacuated areas; directs traffic; confirms evacuation.
Local Police Departments within the EPZ	Patrols evacuated areas; directs traffic; confirms evacuation.

- Belle Terre Village
- Old Field Village
- Head of the Harbor

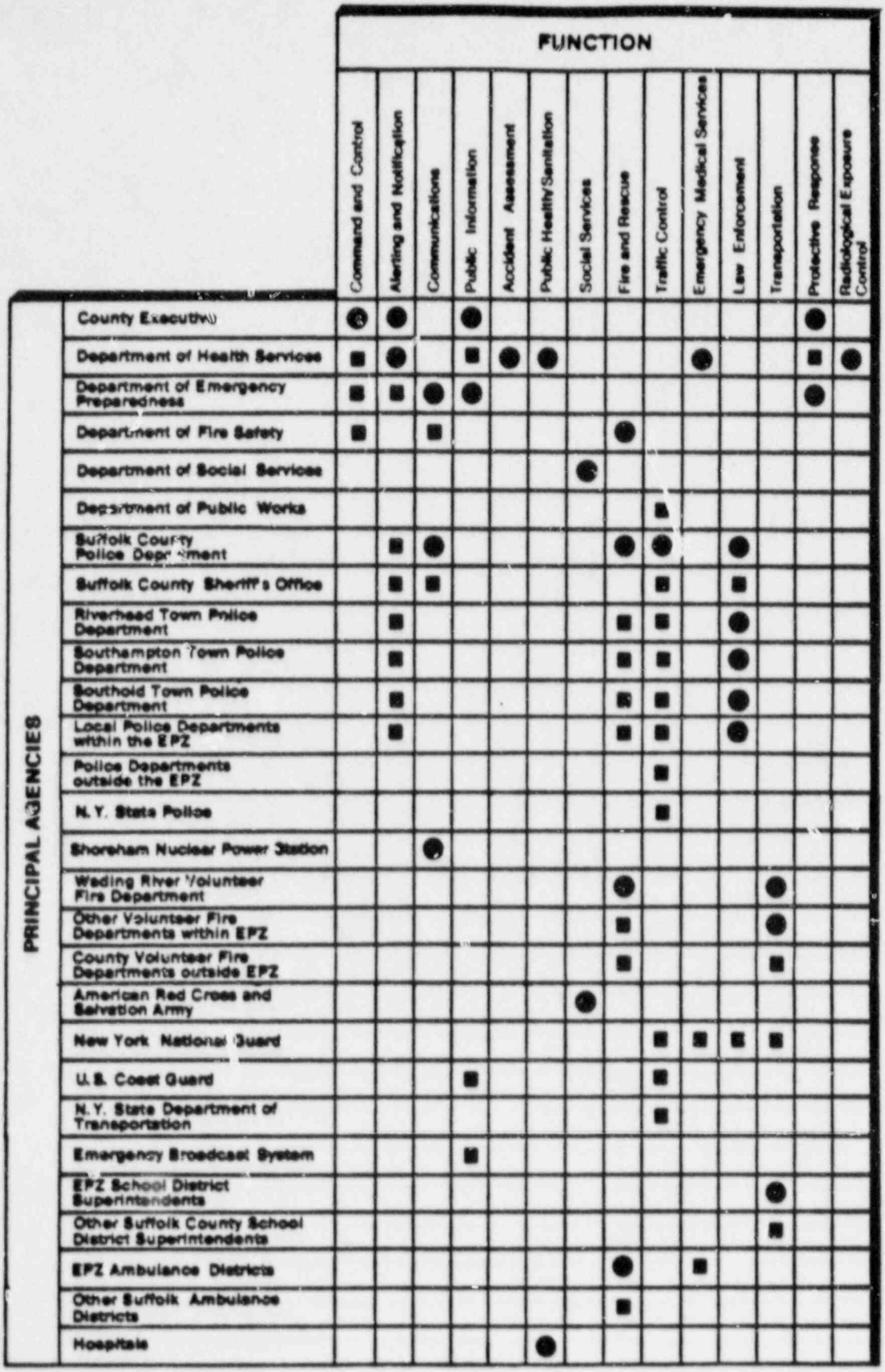
Figure A.1, Continued

Agency	Activities
• Nissequogue • Quogue • Westhampton • Parkway Police	
Police Departments Outside EPZ	Provide traffic control and support functions.
Wading River Volunteer Fire Department	Responds to any fires resulting from emergency at the power plant. Collects non-auto-owning evacuees and supervises their loading onto buses.[1], [2]
County Volunteer Fire Departments in the EPZ	Collect non-auto-owning evacuees and supervise their loading onto buses.[1]
County Volunteer Fire Departments Outside EPZ	Provide support functions to fire departments within EPZ.[2]
Red Cross	Supports operation of reception centers.
Salvation Army	Supports operation of reception centers.
National Guard	Supports transportation and law enforcement requirements.
U.S. Coast Guard	Advises boat traffic to evacuate the EPZ.
School Districts Within EPZ	Direct evacuation of the school population. Provide buses and drivers for evacuation of the non-auto-owning population.[1]
School Districts Outside EPZ	Provide buses and drivers in support of evacuation of school and non-auto-owning population within EPZ.[1]
Ambulance Services	Provide vehicles and personnel in support of evacuation of non-ambulatory persons.[3]

[1] See Footnote 1 on Page 4.

[2] See Footnote 1 on Page 11.

[3] See Footnote 3 on Page 20.



● Major Responsibility
■ Supporting Role

Figure A.2. Emergency Response Functions of Principal Agencies

Decisionmaking and strategic control are to be exercised by the County Executive, who will decide upon the major responses to be made. This decisionmaking will include responsibility for the execution of the plan.

The operational and tactical control will rest with the Director of the Department of Emergency Preparedness. This will involve directing the individual emergency actions, coordinating all agencies involved with the response, and verifying that the individual actions are being performed.

The block diagram in Figure A.3 summarizes the command and control structure of the Suffolk County response to a radiological emergency.

CONTINUOUS MANNING OF COMMUNICATION LINES

The Suffolk County Police Department Communications Center maintains a 24-hour capability for radio dispatching and telephone notification and will be responsible for relaying information from the plant to the County Department of Emergency Preparedness. The emergency notification sequence is described in detail in Part E of this plan.

LEGAL AUTHORITY FOR THE DEVELOPMENT AND IMPLEMENTATION OF THIS EMERGENCY PLAN

Section 20 (Natural and Man-Made Disasters, Policy, Definitions) of New York State Law, Article 2-B, State and Local Natural and Man-Made Disaster Preparedness, establishes the responsibility of the County Executive for the development and implementation of local disaster preparedness plans for reacting to a radiological emergency. This responsibility is specified further, in part, by the following sections of Article 2-B:

- Section 23. Local Disaster Preparedness Plans
- Section 24. Local State of Emergency; Local Emergency Orders by Chief Executive
- Section 25. Use of Local Government Resources in a Disaster
- Section 26. Coordination of Local Disaster Preparedness Forces and Local Civil Defense Forces in Disasters

In addition, the County Executive is authorized to coordinate the responses of the various political subdivisions of the county during a disaster, as set forth in Article III of the Suffolk County Charter.

The New York State Disaster Preparedness Plan (4/1/80) further establishes the county as the local unit of government to assist in enacting Public Health Law, Section 206, which provides broad authority for protecting the health and lives of the people of New York State.

Local Political Subdivision Response Activities

The participating agencies from the local political subdivisions carry out their activities in a radiological emergency well within their standing authority for protecting the public safety. Response by local political subdivisions, in accordance with the direction of the county, is assured as fully as possible by:

- Prior understanding of roles by the local agencies involved.
- Agreement (formal or implicit) that the assigned functions will be carried out by the local agencies involved.
- Mutual aid agreements between political subdivisions, if any.

State of New York Response Activities

New York State Sanitary Code, Part 16, implements the Public Health Law. It requires actions to be instituted by the state to correct and prevent unnecessary exposure exceeding acceptable dose limits due to the release of any radiation from installations having radiation sources or materials.

Environmental Conservation Title 6, Chapter IV, Subchapter C – Radiation, Part 380, provides for the prevention and control of environmental pollution by radioactive materials.

State Defense Law, Article 6, Section 9160 – Closing or Restricting Use of Highways; Posting of Properties–provides the Commissioner of Transportation with the authority to open or close highways, waterways, railroads, etc.

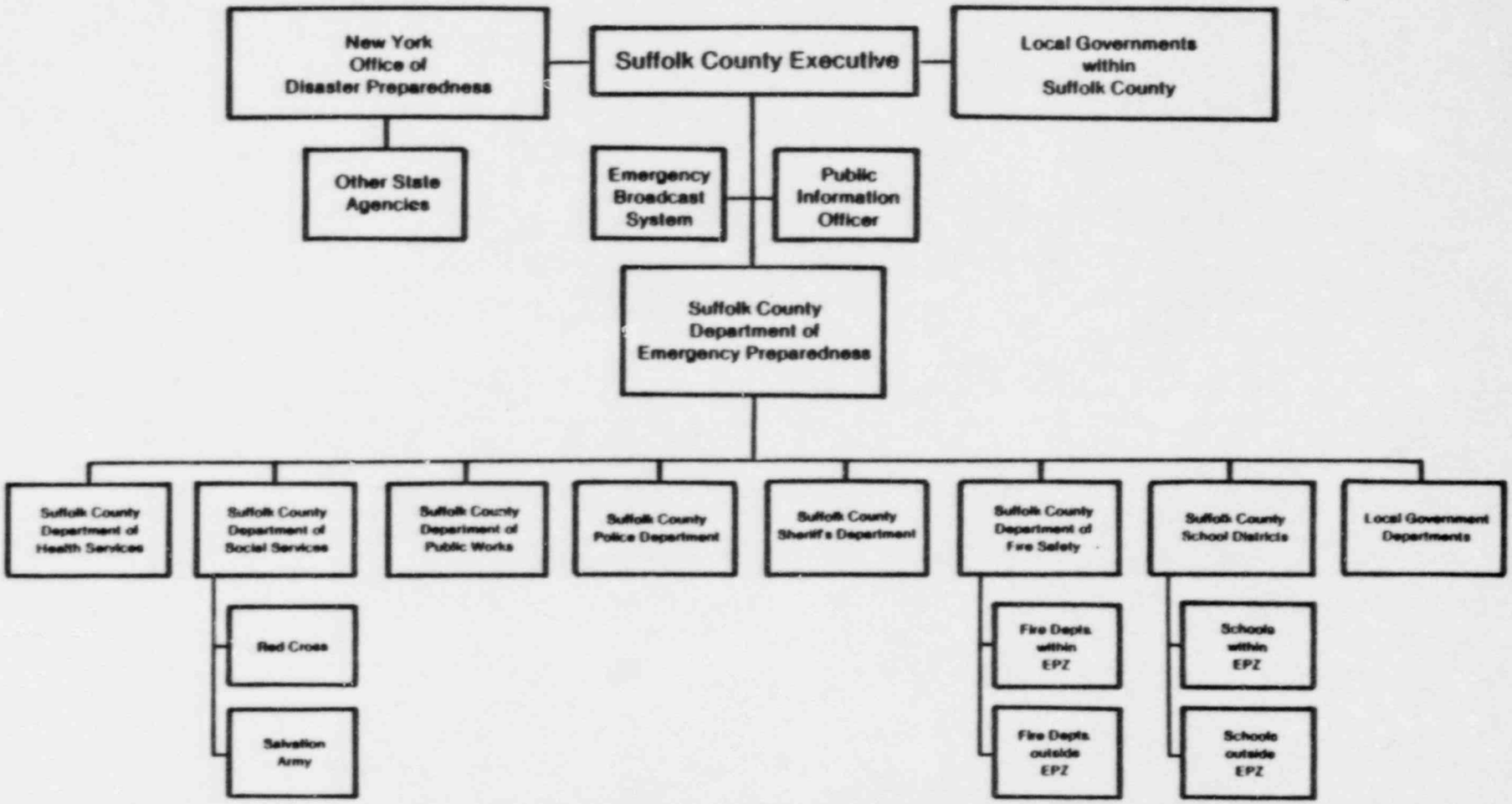


Figure A.3. Command & Control Structure of Suffolk County Emergency Response

Quasi-Public and Private Response Agency Activities

Responsibilities of these agencies during a radiological emergency are defined in Letters of Agreement with the county.

AGENCY COMMAND AND CONTACT

Figure A.4 lists the primary contact for each of the agencies involved in the Suffolk County response to a radiological emergency at the Shoreham Nuclear Power Station.

PART B of this plan document is omitted intentionally. This document follows the outline format set forth in the Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants (NUREG 0654, FEMA-REP-I, Rev. 1), however, there are no requirements or responsibilities for local plan elements in "Section B, Onsite Emergency Organization."

FIGURE A.4 CONTACTS FOR AGENCIES PARTICIPATING IN EMERGENCY RESPONSE IN SUFFOLK COUNTY

Agency	Primary Contact/Alternate Contact
Department of Emergency Preparedness	Director/Communications Officer
Sheriff's Department	Sheriff/Chief Deputy
County Executive	Executive
Suffolk County Board of Cooperative Educational Services	Director/Designated Alternate
Department of Health Services	Director/Designated Alternate
Public Works Department	County Engineer/Designated Alternate
Department of Fire Safety	Director/Designated Alternate
Suffolk County Police Department	Chief/Designated Alternate
American Red Cross	Director/Designated Alternate
Salvation Army	Director/Designated Alternate
Department of Social Services	Director/Designated Alternate
Wading River Volunteer Fire Department	Chief/Designated Alternate
Other County Volunteer Fire Departments	Chief/Designated Alternate
Southampton Police Department	Chief/Designated Alternate
Southold Police Department	Chief/Designated Alternate
Riverhead Police Department	Chief/Designated Alternate
Local Police Departments Within EPZ	Chief/Designated Alternate
Police Departments in the Rest of the County	Chief/Designated Alternate
EPZ School District	Superintendent/Designated Alternate
Other County School Districts	Superintendent/Designated Alternate
Ambulance Services	
U.S. Coast Guard	
National Guard	
State Agencies	

PART C. EMERGENCY RESPONSE SUPPORT AND RESOURCES

PLANNING STANDARD

"Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate state and local staff at the licensee's near-site Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified."[1]

EMERGENCY SUPPORT ACTIONS BY FEDERAL, STATE, AND PRIVATE ORGANIZATIONS

Table C.1 summarizes the actions by federal, state and private organizations which will supplement the response of Suffolk County agencies.

The activities summarized in Table C.1 are not always under the direct command of the county. However, they are coordinated with the activities of county agencies through:

- The Suffolk County EOC
- The near-site EOF

As indicated in Table C.1, the principal areas of support from federal, state, and private organizations are:

- Accident assessment – particularly the monitoring of radioactivity in the county and the decision as to recommended protective responses
- Security control – maintaining law enforcement within evacuated areas of the county
- Perimeter control – preventing entry into evacuated areas of the county

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[1]NUREG 0654.

TABLE C.1. FEDERAL, STATE, AND PRIVATE AGENCIES SUPPORTING THE RESPONSE TO A RADIOLOGICAL EMERGENCY

Agency	Function	Actions
Federal Emergency Management Agency	Accident Assessment	Advises on protective responses
Department of Energy (Brookhaven National Laboratory)[1]	Accident Assessment	Field monitoring. Advises on protective responses
Nuclear Regulatory Commission	Accident Assessment	Responsible for all technical aspects of on-site response
National Oceanic and Atmospheric Administration	Agency Notification, Public Notification	Activates NOAA tone-alert radios
US Coast Guard	Public Notification	Notifies commercial marine traffic and boaters on Long Island Sound and the southern (Great South, Moriches, and Shinnecock) bay areas.
US Department of Agriculture US Department of Commerce US Department of Defense US Department of Transportation US Department of Labor Health, Education and Welfare Postal Service Interstate Commerce Commission		Available for assistance as specified in the Federal Radiological Monitoring and Assessment Plan (FRMAP). Agencies will modify services or operations of facilities within the EPZ as required by the emergency responses.

[1] Letters of Agreement will be prepared during development of Standing Operating Procedures.

Table C.1, Continued

Agency	Function	Actions
New York Office of Disaster Preparedness	Overall coordination of the state response	
New York National Guard	Security	Assists in maintaining law enforcement in evacuated areas of the EPZ
	Operation of Relocation Centers	Assists in screening, decontamination, providing food, water, lodging
New York State Highway Patrol	Perimeter Control	Operates roadblocks at perimeter of evacuated area
New York State Department of Health	Accident Assessment	Monitors radiation levels in EPZ
New York State Department of Agriculture and Markets	Accident Assessment	Advises on protective response for food, water, and livestock
New York State Office of General Services New York State Department of Transportation New York State Department of Environmental Conservation	Available for assistance as specified in the State Radiological Emergency Preparedness Plan. Primary activities are advice to the Suffolk County Department of Emergency Preparedness and modification of services (or facility operations) within the EPZ as required by the emergency responses	
New York Division of Military and Naval Affairs		
American Red Cross Salvation Army	Operation of Reception Centers	Register evacuees; screen evacuees; assist in operation of Reception Centers; provide social services; provide aid in rejoining families

Table C.1, Continued

Agency	Function	Actions
Hospital (To be determined)	Medical and Public Health Support	Decontaminate injured persons; provide diagnostic services for exposed persons; provide shelter for persons evacuated from hospitals in the EPZ.
Hospital (To be determined)	Medical and Public Health Support	Decontaminate injured persons; provide shelter for persons evacuated from hospitals in the EPZ.

- Operation of reception centers – registering of evacuees, provision of necessary food, shelter, and sanitary services, as well as aid in rejoining families

COUNTY RESOURCES AVAILABLE TO SUPPORT ACTIONS BY FEDERAL, STATE, AND PRIVATE ORGANIZATIONS

The federal, state and private activities supporting the emergency response within Suffolk County are largely self-contained; that is, they are done mainly with manpower and equipment of the supporting agency. However, in some instances these federal, state and private organizations' responses will require supporting activities by the county.

The county resources needed to support federal, state, and private organizations' activities during an emergency at the Shoreham Plant may include:

- Use of the county airport
- Office space at or near the EOC
- Local ground transportation for personnel
- Clerical support
- Lodging arrangements
- Use of some county pool vehicles

The state will designate a liaison officer to update the county on federal support requirements, airfields, command posts, etc.

COUNTY REPRESENTATIVES AT THE EMERGENCY OPERATIONS FACILITY

The county will assign a representative of the County Executive to the near-site Emergency Operations Facility (EOF). For extended durations of emergency, additional county representatives may be designated.

PART D. EMERGENCY CLASSIFICATION SYSTEM

PLANNING STANDARD

"A standard emergency classification and action level scheme, the basis of which includes facility system and effluent parameters, is in use by the nuclear facility licensee, and state and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures."[1]

EMERGENCY CLASSIFICATIONS

Four categories are established for description of emergencies at the Shoreham Nuclear Power Station:

1. Unusual Event – This indicates that an unusual plant condition has occurred or is in progress. This plant condition could lead to a potential degradation in the overall level of safety margins. Inherently, however, this is a situation in which time is available to take precautionary and constructive steps to prevent a more serious event or to mitigate any consequence that may occur. No significant release of radioactive material is expected in this category of emergency.

2. Alert – This indicates that events are in progress or have occurred which involve an actual or potential degradation of the level of plant safety margins. Limited releases of radioactive effluents may require off-site monitoring.

3. Site Emergency – This indicates that events are in progress or have occurred involving actual or likely major failures of plant functions needed for protection of the public. Limited releases are expected (similar to the Alert stage) except that exposure levels are expected to be higher near the plant site boundary.

4. General Emergency – This indicates that events are in progress or have occurred which involve the actual or imminent core degradation or melting with potential for loss of containment integrity. Releases can be expected to cause higher exposure levels off-site for more than just those areas within the plant site boundary.

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[1] NUREG 0654.

EMERGENCY RESPONSE ACTIONS

Figure D.1 summarizes the emergency response actions which will be taken by Suffolk County agencies in response to the levels of emergency as classified above. Determination of the appropriate initial offsite response measures by the county will rely upon information provided by the Shoreham Nuclear Power Station.

At the Unusual Event stage, no actions are required on the part of Suffolk County agencies. The police department will be notified by the Shoreham Nuclear Power Station and will, in turn, notify the Department of Emergency Preparedness.

At the Alert stage, the agency notification function is put into effect (Part E of this plan), and all agencies within Suffolk County participating in the emergency response will be notified of the state of alert. Also, the accident assessment function (Part I of this plan) is started within the county. This function involves field monitoring of radiation, and the reporting and interpretation of these results.

At the Site Emergency stage, the Suffolk County response will be a continuation of the responses started in the preceeding (Alert) stage; that is, the agency notification and accident assessment functions. In addition, the radiation exposure control function begins, as does the public education and information function. To assure that the public is kept informed, the siren system will sound, alerting the population to tune to local radio stations. In anticipation of voluntary evacuation, the traffic control function is initiated.

Immediately upon the notification of a General Emergency, the following additional functions are started within Suffolk County:

- Public Notification (Part E of this plan)
- Perimeter Control (Part J of this plan)
- Medical and Public Health Support (Part L of this plan)

The protective responses to be ordered within Suffolk County will be determined at the time of declaration of the General Emergency, or immediately thereafter.

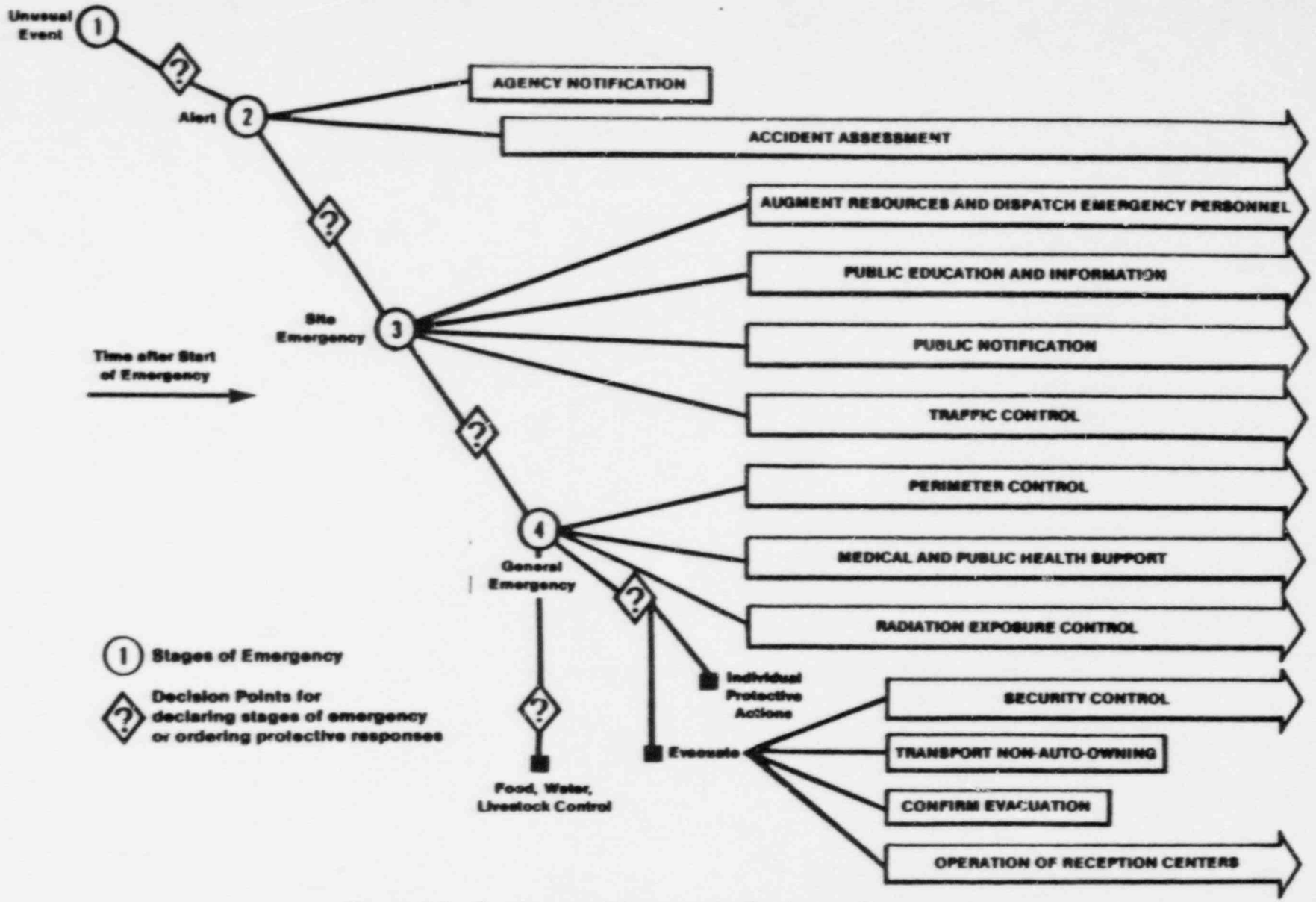

Figure D.1. Summary of Emergency Response Sequence

Depending on the type of protective responses ordered, some (or all) of the following functions are begun:

- Security Control (Part J of this plan)
- Transport Non-Auto-Owning Population (Part J of this plan)
- Confirmation of Evacuation (Part J of this plan)
- Operation of Reception Centers (Part J of this plan)

Table D.1 summarizes the emergency response functions that will be initiated at the various stages of emergency.

TABLE D.1. EMERGENCY LEVELS AND ASSOCIATED RESPONSE FUNCTIONS

Emergency Level Declared	Response Functions Initiated
Unusual Event Declaration	Agency Notification – Shoreham Nuclear Power Station (SNPS) will notify Suffolk County Police Department. The police department notifies the Department of Emergency Preparedness.
Alert Declaration	EOC is Activated Agency Notification – The EOC will notify all agencies participating in the emergency response. Notify the staff and auxiliaries of these agencies. Notify private organizations. Accident Assessment – Deploy county field monitoring teams to support the state assessment teams. Report monitoring data to the Suffolk County EOC.
Site Emergency Declaration	Continue Agency Notification – (Above) Continue Accident Assessment – (Above) Public Education and Information – Sound sirens. Begin broadcast, over EBS system, of information on the emergency at SNPS. Prepare general population for responses that could be required in a general emergency. Radiation Exposure Control – Issue personnel monitoring devices to all emergency workers in the EPZ. Read and record readings of devices. Rotate worker locations to avoid exceeding allowable exposures. Traffic Control – Direct traffic at key locations.
General Emergency Declaration	Continue Agency Notification – (Above) Continue Accident Assessment – (Above) Continue Public Education and Information – (Above) Continue Radiation Exposure Control – (Above) Perimeter Control – Restrict the entry of vehicular traffic into the EPZ. Block roads at the perimeter of the EPZ.

Table D.1, Continued

Emergency Level Declared	Response Functions Initiated
General Emergency (continued)	Medical and Public Health Support – Provide for the treatment of the radiologically injured. Transport radiologically injured to the designated treatment facilities outside the EPZ. Public Notification – Sound the siren system. Instruct the public, through EBS broadcasts, on the appropriate protective responses to be taken. Security Control[1] – Patrol evacuated areas to maintain law enforcement and to assist persons having difficulty in evacuating. Transport Non-Auto Owning Population[1] – Use school bus fleet to transport those persons in the EPZ not having a private vehicle available for evacuation.[2] Non-auto-owning persons include school populations and persons in health care institutions. Confirm Evacuation[1] – Sample households, through telephone calls from the EOC, to establish the extent to which population has evacuated. Operation of Reception Centers[1] – Activate reception centers in schools in the western part of the county. Screen evacuees for contamination and decontaminate. Provide food and temporary lodging for those evacuees remaining at reception centers.

[1]Function performed under the Evacuation response following declaration of a General Emergency. This function is not performed for other responses.

[2]See Footnote 1 on Page 4.

PART E. NOTIFICATION METHODS AND PROCEDURES

PLANNING STANDARD

"Procedures have been established for notification, by the licensee of state and local response organizations and for notification of emergency personnel by all response organizations; the content of initial and followup messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established."[1]

AGENCY NOTIFICATION

All agencies (county or otherwise) with a responsibility for emergency response in Suffolk County are notified in the following sequence of actions:

- Notify Suffolk County Police Department – The Shoreham Nuclear Power Station Shift Supervisor will notify the Suffolk County Police Department whenever an Unusual Event (or more serious emergency) is declared at the plant. This notification will be made on a dedicated telephone line. The police department will notify the Department of Emergency Preparedness of an Unusual Event; however, it will notify the Suffolk County Executive and the Suffolk County Department of Emergency Preparedness of any Alert or more serious emergency.

- Notify Local Response Agencies – The Suffolk County Department of Emergency Preparedness will notify all local response agencies when an Alert or more serious emergency is declared. These agencies, along with the agency contact and mode of communication, are listed in Table E.1. Agencies will verify their notification by return message to the EOC.

  Most of the local public safety agencies (police, fire, rescue) are notified by radio. However, telephone will also be used for notification of agencies such as county agencies, state agencies, Red Cross, Salvation Army, hospitals, etc.

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[1] NUREG 0654.

TABLE E.1. SUMMARY OF AGENCY NOTIFICATION

Agency Notified	Agency Contact	Notified by	Method of Notification
Suffolk County Police Department	Police Commissioner	Shoreham Plant Shift Supervisor	Dedicated Phone
Suffolk County Executive's Office	County Executive	County Police Department	Telephone
Suffolk County Department of Emergency Preparedness	Director	County Police Department	Telephone/ Dedicated Phone
Department of Health Services	Commissioner	EOC	Telephone
Department of Fire Safety	Director	EOC	Radio
Department of Social Services	Commissioner	EOC	Telephone
Department of Public Works	Commissioner	EOC	Radio
Suffolk County Sheriff's Office	Sheriff	EOC	Radio
Suffolk County Audit & Control	Comptroller	EOC	Telephone
Suffolk County Cooperative Extension Service	Administrator	EOC	Telephone
N.Y. State Police		EOC	Radio
American Red Cross	Director	EOC	Telephone
Salvation Army	Director	EOC	
N.Y. National Guard		EOC	Telephone
U.S. Coast Guard		EOC	Telephone
N.Y. State Department of Transportation		EOC	Telephone
N.Y. Division of Military and Naval Affairs		EOC	Telephone

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
FIRE DEPARTMENTS	Fire Chief	Department of Fire Safety (unless otherwise noted)	Radio
Within 20-Mile EPZ			
Rocky Point	↕	↕	↕
Wading River			
Ridge			
Sound Beach			
Miller Place			
Mount Sinai			
Coram			
Middle Island			
Gordon Heights			
Yaphank			
Manorville			
Port Jefferson			
Terryville			
Riverhead			
Bellport			
Bayport			
Blue Point			
Brookhaven			
Centereach			
Center Moriches			
East Moriches			
East Quogue			
Hagerman			
Holbrook			
Hauppauge			
Hampton Bays			

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
Lakeland	Fire Chief	Department of Fire Safety (unless otherwise noted)	Radio
Mattituck			
Mastic			
Mastic Beach			
Medford			
Nesconset			
Miller Place			
Nesconset			
Farmingville			
Cutchogue			
Flanders			
Ocean Bay Park			
Fire Island Pines			
Fair Harbor			
Davis Park			
Cherry Grove			
Eastport			
Bohemia			
Great River			
Jamesport			
Holtsville			
West Sayville			
Westhampton			
Stony Brook			
Smithtown			
Setauket			
Selden			
St. James			
Sayville			
Ronkonkoma			
North Patchogue			

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
Outside 20-Mile EPZ	Fire Chief	Department of Fire Safety (unless otherwise noted)	Radio
Bayshore			
Bridgehampton			
Brentwood			
Copiague			
Central Islip			
Deer Park			
Commons			
East Brentwood			
East Islip			
Dix Hills			
East Northport			
Cold Spring Harbor			
Center Port			
Northport			
Fishers Island			
Islip			
Halesite			
Islip Terrace			
Kismet			
Montauk			
Huntington			
Orient			
North Sea			
Springs			
Shelter Island			
Kings Park			
Southold			
Shelter Island Heights			
West Babylon			
West Islip			
Greenlawn			
Amagansett			
Melville			
East Marion			

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
POLICE DEPARTMENTS		Suffolk County Police Department	Radio
Within 20-Mile EPZ			
Riverhead	Chief		
Southampton	Chief		
Southold	Chief		
Belle Terre Village	Chief		
Old Field Village	Commissioner		
Head of the Harbor Village	Chief		
Nissequogue	Office in Charge		
Quogue	Officer in Charge		
Westhampton Village	Chief		
Parkway Police			
Outside 20-Mile EPZ			
East Hampton	Chief		
Shelter Island	Chief		
Amityville			
East Hampton Village	Chief		
Sag Harbor Village	Chief		
Asharoken Village	Commissioner		
Huntington Bay Village	Chief		
Lloyd Harbor Village	Chief		
Northport Village	Captain		
North Haven Village			
Southampton Village	Chief		
Greenport Village	Chief		
Ocean Beach Village	Chief		
Saltaire			

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
ELECTED OFFICIALS			
Within 20-Mile EPZ			
Suffolk County Legislature	County Executive	County Police	Telephone
Brookhaven Town Board	Supervisor	County Police	Telephone
Belle Terre Trustees	Mayor	Belle Terre Police	Telephone
Bellport Trustees	Mayor	County Police	Telephone
Lake Grove Trustees	Mayor	County Police	Telephone
Old Field Trustees	Mayor	Old Field Police	Telephone
Patchogue Trustees	Mayor	County Police	Telephone
Poquott Trustees	Mayor	County Police	Telephone
Port Jefferson Trustees	Mayor	County Police	Telephone
Shoreham Trustees	Mayor	County Police	
Islip Town Board	Supervisor	County Police	
Riverhead Town Board	Supervisor	Riverhead Police	
Smithtown Town Board	Supervisor	County Police	
Head of the Harbor Trustees	Mayor	Head of the Harbor Police	
Nissequogue Trustees	Mayor	Nissequogue Police	
The Branch Trustees	Mayor	County Police	
Southampton Town Board	Supervisor	Southampton Police	
Quogue Trustees	Mayor	Quogue Police	
Westhampton Beach Trustees	Mayor	Westhampton Police	
Southold Town Board	Supervisor	Southold Police	
Outside 20-Mile EPZ			
Babylon Town Board	Supervisor	County Police	
Amityville Trustees	Mayor	Amityville Police	
Babylon Trustees	Mayor	County Police	
Lindenhurst Trustees	Mayor	County Police	
Easthampton Town Board	Supervisor	Easthampton Police	
Easthampton Trustees	Mayor	Easthampton Village Police	

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
Sag Habor Trustees	Mayor	Sag Harbor Police	
Huntington Town Board	Supervisor	County Police	
Asharoken Trustees	Mayor	Asharoken Police	
Huntington Bay Trustees	Mayor	Huntington Bay Police	
Lloyd Harbor Trustees	Mayor	Lloyd Harbor Police	
Northport Trustees	Mayor	Northport Police	
Brightwaters Trustees	Mayor	County Police	
Ocean Beach Trustees	Mayor	Ocean Beach Trustees	
Saltaire Trustees	Mayor	Saltaire Police	
Shelter Island Town Board	Supervisor	Shelter Island Police	
Dering Harbor Trustees	Mayor	Shelter Island Police	
North Haven Trustees	Mayor	North Haven Police	
Southampton Trustees	Mayor	Southampton Police	
Greenport Trustees	Mayor	Greenport Police	
SCHOOL DISTRICTS	Superintendent	EOC	Radio/ Telephone
Within 20-Mile EPZ			
Shoreham - Wading River Central			
Little Flower Union Free			
Rocky Point Union Free			
Middle Island Central			
Miller Place Union Free			
Mount Sinai Union Free			
Port Jefferson Union Free			
Comsewogue Union Free			
Three Village Central			
Middle Country Central			
Patchogue - Medford Union Free			
South Country Central			
South Manor Union Free			
Eastport Union Free			
Riverhead Central			
Bayport-Blue Point Union Free			

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
Center Moriches Union Free	Superintendent	EOC	Radio/ Telephone
Connetquot Central S.D. of Islip			
East Moriches Union Free			
Eastport Union Free			
East Quogue Union Free			
Hampton Bays Union Free			
Hauppauge Union Free			
Laurel Common			
Mattituck-Cutchogue Union Free			
Quogue Union Free			
Remsenburg-Speonk Union Free			
Sachem Central			
Sayville Union Free			
Smithtown Central			
Westhampton Beach, Union Free			
Union Free			
West Manor			
William Floyd Union Free			
School District of Mastic, Moriches, and Shirley			
Outside 20-Mile EPZ			
Amagansett Union Free			
Amityville Union Free			
Babylon Union Free			
Bayshore Union Free			
Brentwood Union Free			
Bridgehampton Union Free			
Central Islip Union Free			
Cold Spring Harbor Central			
Commack Union Free			
Copiague Union Free			
Deer Park Union Free			
East Hampton Union Free			

Table E-1, Continued

Agency Notified	Agency Contact	Notified by	Method of Notification
East Islip Union Free	Superintendent	EOC	Radio/ Telephone
Elwood Union Free			
Fire Island Union Free			
Fishers Island Union Free			
Greenport Union Free			
Half Hollow Hills Central			
Harborfields Central			
Huntington Union Free			
Islip Union Free			
Kings Park Central			
Lindenhurst Union Free			
Montauk Union Free			
New Suffolk Common			
North Babylon Union Free			
Northport-East Northport Union Free			
Oysterponds Union Free			
Sagaponack Common			
Sag Harbor Union Free			
Shelter Island Union Free			
Southampton Union Free			
South Huntington Union Free			
Southold Union Free			
Springs Union			
Tuckahoe Common S.D. at Southhampton			
Wainscott Common			
West Babylon Union Free			
West Islip Union Free			
Wyandanch			
Suffolk State School			

- Notify Response Personnel – The individual agencies participating in the emergency response will notify their personnel. The primary means will be by telephone; however, those agencies having other alerting devices (for example, tone alert devices or pagers) will use them for notification of agency personnel. Fire department personnel normally dispatched by the Department of Fire Safety will be notified directly by it.

- Notify Population in Health Institutions – Health institution administrators are notified by local fire departments of the district in which they are located. Administrators will then immediately notify their respective populations in accordance with the institution's operating procedures. Health institutions are listed in Table E.2.

- Notify Population in Prisons – Penal and correctional institutions are notified by the Sheriff's Department by telephone and instructed on further actions to be taken.

- Notify School Districts – The superintendents of individual school districts will be notified by radio alert systems and telephone by the Department of Emergency Preparedness. They, in turn, will alert individual schools in their districts. The staff of each school will notify the students and instruct them on further actions to be taken.

- Notify Elected Officials – The County Executive will be notified by the Suffolk County Police Department. Local police departments will notify town supervisors and other designated elected officials. The Suffolk County Police Department will notify a designated elected official from each municipality not served by a local police department.

Message Content for Agency Notification

The message from the Shoreham Plant to the Police Department will describe the type of emergency, types and severity of release, emergency actions required, and the likelihood that further actions will be required. The format of this message is given in Figure E.1.

The message and format used by the Department of Emergency Preparedness for notifying agencies of an emergency at the plant is shown in Figure E.2. A record of the agencies notified will be made on the Disaster Message forms as maintained by the Department of Emergency Preparedness.

TABLE E.2. HEALTH INSTITUTIONS WITHIN THE EPZ
REQUIRING SPECIAL NOTIFICATION

HOSPITALS

Within 20-Mile EPZ

St. Charles Hospital
John T. Mather Memorial Hospital
Brookhaven Memorial Hospital
Brookhaven National Laboratory
Medical Research Center
Central Suffolk Hospital

Outside 20-Mile EPZ

Huntington Hospital
Good Samaritan Hospital
Pilgrim State Hospital
Veterans Administration Hospital
Central State Hospital
Kings Park State Hospital
Eastern Long Island Hospital
Southampton Hospital
Brunswick Hospital Center
Deborah Heart and Lung Center
Freeport Hospital
St. Johns Episcopal Hospital
South Oaks
Southside Hospital

ADULT NURSING HOMES WITHIN EPZ

Ridge Rest Home
Country Life Rest Home
Woodhaven Manor Nursing Home
Woodhaven Home for Adults
Constance Moore Home
Oak Hollow Nursing Center
Crest Hall Health Related Facility
Lane Home
Grimes Home
Millcrest Rest Home
Suffolk Home and Infirmary
Riverhead Nursing Home & Health Related Facility
Sunrest Nursing Home & Health Related Facility
Lincoln Rest Home

Table E-2, Continued

NURSING HOMES (LESS THAN 20 MILES)

Bell Haven Rest Home
Cedar Lodge Nursing Home
Colonial Arms Rest Home
Gables Adult Home
Lutheran Nursing Home Center for the Aging
Maple Brook Adult Home
Patchoque Nursing Center
Pleasant Gardens Convalescent Home
Port Jefferson Nursing Home
St. James Nursing Home

INSTITUTIONAL HOMES

Cedar Grove
Echo Anmo
St. Josephs Childrens Services
Timothy Hil Children's Ranch

FIGURE E.1. FORM FOR RECORDING ESSENTIAL INFORMATION SUPPLIED BY THE SHOREHAM NUCLEAR POWER STATION

PART I:

A. Date: _____ Time: _____ Sheet No: _____
B. Time release started or is expected to start: _____
C. Wind direction: _____ to the _____
D. Wind speed: _____ m/sec
E. Noble gas release rate: _____ Ci/sec
F. Unit vent flow: _____ cc/sec
G. Stability class: _____
H. Expected duration of release: _____
I. Radioiodine release rate: _____ Ci/sec

PART II:

A. Sector(s) _____ are involved out to _____ miles
B. Wind direction persistance: _____
C. Projected: whole body dose _____
thyroid dose _____

Note: Before acting upon the above information, re-verify the information and ensure that all assumptions being made are known by the utility, State, and local officials.

D. Classification of emergency (unusual event, alert, site emergency, or general emergency): _____
E. Facility recommendations (take shelter or evacuate; recommended distance): _____
F. Weather condition: _____

PART III:

A. Plant condition: _____
_____
B. Cause of emergency: _____
_____

Note: When disseminating information during an actual event, if a space is skipped, insert "will follow" to indicate there has not been a mistake and that the information will be forwarded as soon as possible.

FIGURE E.2. FORMAT FOR AGENCY NOTIFICATION MESSAGES

ALERT – NO ACTION NECESSARY BY THE GENERAL PUBLIC

An Alert has been declared at the Shoreham Nuclear Power Station. Proceed according to your Standing Operating Procedures for response to an Alert condition. An Alert condition does not require any response actions by the general public.

SITE EMERGENCY – NO ACTION NECESSARY BY THE GENERAL PUBLIC

A Site Emergency has been declared at the Shoreham Nuclear Power Station. Proceed according to your Standing Operating Procedures for response to a Site Emergency. A Site Emergency does not require any response actions by the general public.

GENERAL EMERGENCY – INDIVIDUAL PROTECTIVE ACTIONS REQUIRED BY THE GENERAL PUBLIC

A General Emergency requiring protective actions by the general public has been declared at the Shoreham Nuclear Power Station. Proceed according to your Standing Operating Procedures for a General Emergency requiring individual protective actions by the general public.

GENERAL EMERGENCY – EVACUATION REQUIRED BY THE GENERAL PUBLIC

A General Emergency requiring evacuation by the general public has been declared at the Shoreham Nuclear Power Station. Proceed according to your Standing Operating Procedures for a General Emergency requiring evacaution by the general public.

PUBLIC NOTIFICATION

In the event of a Site Area or General Emergency at Shoreham, the population within the EPZ will be notified of the emergency, kept informed of the progress of the emergency, and instructed as to their appropriate response.

The primary means of public notification is through the siren [illegible]ich alerts listeners to tune to the EBS for further information. Boaters an[illegible]ns in parks and recreation areas will be notified through mobile public addre[illegible]s circulating throughout those areas.

The primary message, as broadcast by EBS, focuses on instructing the listener in the proper actions (Figure E.3).

Public notification includes the following actions:

- Alert General Public – Immediately upon notification that a Site Area or General Emergency has been declared at the plant, the Department of Emergency Preparedness will sound the siren system. This alerts listeners to tune to the Emergency Broadcast System (EBS) for information and/or instructions.

  The siren alerting will be complemented by radio broadcasts over EBS and by NOAA weather radio alerting.

- Inform Public with EBS Broadcasts – EBS stations are notified by the Department of Emergency Preparedness upon declaration of an Alert or more serious emergency at Shoreham. The Department of Emergency Preparedness provides EBS stations with messages to be broadcast. The range of possible messages is given in Figure E.3. Message updates are provided by the Department of Emergency Preparedness.

- Notify Rural Population Beyond Siren Range – The population outside the range of the siren system will be notified by mobile public address units from fire departments.

  Areas to be covered by this type of notification, if any, will be established after design of the siren system is completed.

- Notify Population in Parks and Recreation Areas – The population in parks and campgrounds will be notified by the staff of these locations in person or by means of public address units. Facility managers will

FIGURE E.3. FORMAT FOR PUBLIC NOTIFICATION MESSAGES

1. ALERT – NO ACTION NECESSARY

At _____ today, an ALERT was declared at the Shoreham Nuclear Power Station. At this time, no precautionary or protective actions are necessary on the part of the public. State and local disaster and health service personnel are monitoring the situation. Further information will be provided by this station as it becomes available.

There is no immediate risk of radiation exposure or contamination.

Please stay tuned to this station for further information or instructions.

2. SITE EMERGENCY – NO ACTION NECESSARY

At _____ today, a SITE EMERGENCY was declared at the Shoreham Nuclear Power Station. At this time no precautionary or protective actions are necessary on the part of the public. State and local disaster and health service personnel are monitoring the situation. Further information will be provided by this station as it becomes available.

There is no immediate risk of radiation exposure or contamination.

Please stay tuned to this station for further information or instructions.

Figure E.3, Continued

3. GENERAL EMERGENCY – INDIVIDUAL PROTECTIVE ACTIONS REQUIRED (To Be Used For All General Emergencies Unless An Evacuation Is Ordered By The County Executive or Designee.)

This is an important emergency bulletin.

At _____ today, a GENERAL EMERGENCY was declared at the Shoreham Nuclear Power Station. Presently, all efforts are being made by the plant staff to correct the malfunction. However, some releases of radioactive material did, or are expected to occur.

The Suffolk County Executive recommends that residents living in the following areas take protective actions:

-
-
-
-

The protective actions to be taken are:

- Close all windows and doors and remain indoors.
- Turn off all air conditioners and fans which draw air from outside.
- If you must go outside, you should wear outer garments such as a rain or overcoat, boots, hat and gloves. Upon re-entering your home, these garments should be removed and stored. As an added measure, you may wish to wash or shower off parts of your body that were exposed.
- Wash all locally- or home-grown fruits and vegetables before eating them.
- Shelter grazing animals and put them on stored feed.

State and local disaster and health service personnel are monitoring the situation.

Please stay tuned to this station for further information or instructions.

Figure E.3, Continued

4. GENERAL EMERGENCY – EVACUATION NECESSARY

This is an important emergency bulletin.

At _____ today, a GENERAL EMERGENCY was declared at the Shoreham Nuclear Power Station. Presently, all efforts are being made by the plant staff to correct the malfunction. However, there is a possibility that some radioactive material may be released into the environment.

The Suffolk County Executive has ordered all residents of the following areas to evacuate:

-
-
-
-

Evacuation routes and reception center locations are outlined in the Emergency Book sent to you by the Long Island Lighting Company.[1] This information is also in your local telephone directory.[1]

(Repeat entire evacuation message as it appears in those sources.)

Please stay tuned to this station for further information or instructions.

[1] This information is to be developed in cooperation with the Long Island Lighting Company.

notify population in parks and recreation areas immediately upon receipt of notification that a General Emergency has been declared at the Shoreham Plant.

- Notify Boaters – Boaters will be notified by the U.S. Coast Guard and County Police Marine Unit using mobile public address units. The Coast Guard and police will make this notification immediately upon being informed that a General Emergency has been declared.

- Notify Large Companies – Large companies (Table E.3) are notified of a General Emergency by special tone alert. These employers will immediately relay this notification to their employees by using their public address systems, paging systems, whistles, and similar methods. The employers will relay the message, plus any further instructions relating to closing of workplaces and departure from the premises.

- Conduct Special Notification – Fire departments will notify those persons (for example, deaf persons) assumed to be unreachable by other notification methods. Previously prepared lists will be used as the basis for this notification.

ACTION/RESPONSIBILITY SUMMARY

Figure E.4 summarizes the actions relating to agency notification and public notification. This figure identifies agencies with primary or supporting responsibilities for carrying out each action.

TABLE E.3. LARGE COMPANIES WITHIN THE EPZ REQUIRING SPECIAL NOTIFICATION

Name	Address	Phone
Grumman		
Brookhaven National Laboratory		
Peerless Photo Products		
Hazeltine		

FURTHER LARGE COMPANIES REQUIRING SPECIAL NOTIFICATION WILL BE IDENTIFIED DURING THE DEVELOPMENT OF STANDING OPERATING PROCEDURES

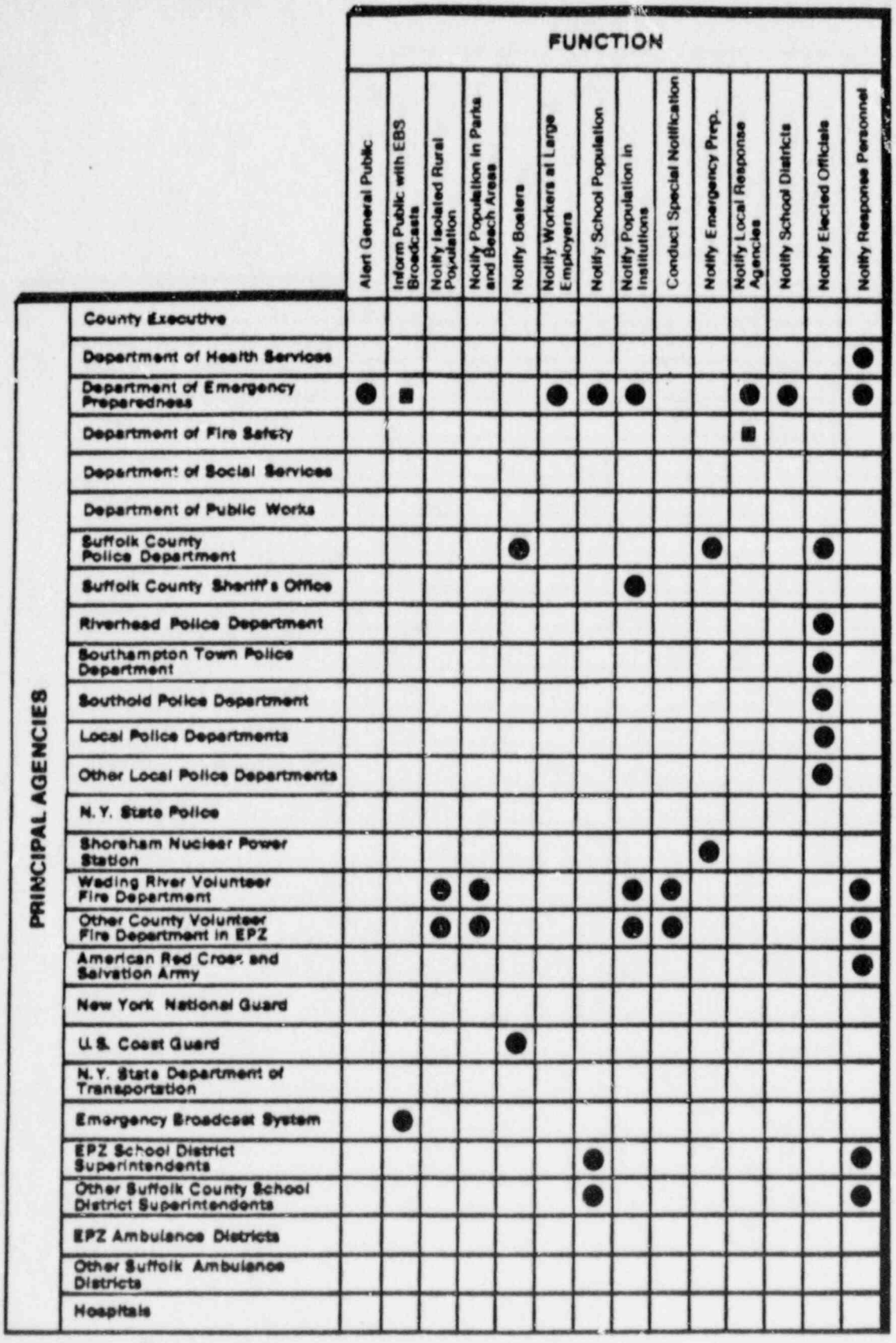

Figure E.4. Principal Agency Responsibilities for Alerting and Notification

PART F. EMERGENCY COMMUNICATIONS[1]

PLANNING STANDARD

"Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public."[2]

SUMMARY

Preparations

The Operations Officer, within the Department of Emergency Preparedness, who currently doubles as the Communications Officer (CO) will arrange the communications capabilities needed in response to a radiological emergency. Generally, communications equipment will be obtained from two sources:

- Equipment owned and regularly used by county agencies which will, in the event of an emergency, be used under the direction of the Department of Emergency Preparedness.
- New equipment installed primarily in anticipation of response to a radiological emergency.

Emergency Response

During an emergency at the Shoreham Nuclear Power Station, the CO will control the allocation of available communication resources. He will be involved in organizing the flow of communication, policing the system, troubleshooting, and generally directing the communications effort.

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[1]This section identifies communications needs and requirements. Detailed provisions and procurement requirements will be studied during development of Standing Operating Procedures for each agency.

[2]NUREG 0654.

Each agency participating in the emergency response will designate a communications contact to serve as liaison between that agency and the county EOC. The communications contact at each of the agencies participating in the emergency response is given in Figure A.4.

COMMUNICATION LINKS AND MODES

The CO will assure that all communication links needed in a full, protective response to an emergency are provided (Figure F.1); although, other than police, fire, and ambulance services, few of these links currently exist. These will include links between all county agencies having responsibilities in the emergency response. In addition, communication links are designated between the county and agencies inside, as well as outside the county involved in the emergency response. These agencies include:

- Local police and fire departments linked to the Suffolk County EOC by radio.
- Hospitals and ambulance services linked to the county EOC by radio.
- School districts linked to the Suffolk County EOC by telephone and tone alert.
- State of New York agencies linked to the Suffolk County EOC by (a) dedicated telephone line from the EOF, and (b) telephone from other locations.
- Federal response agencies, including Brookhaven National Laboratory, linked to the Suffolk County EOC by (a) dedicated telephone line from the EOF, and (b) telephone from other locations.
- Near-site EOF for the Shoreham Nuclear Power Station, linked to the Suffolk County EOC by dedicated telephone line.
- State EOC, linked to the Suffolk County EOC by dedicated telephone line.
- Monitoring teams, linked to the Suffolk County EOC by radio.
- Red Cross, linked to the Suffolk County EOC by telephone.

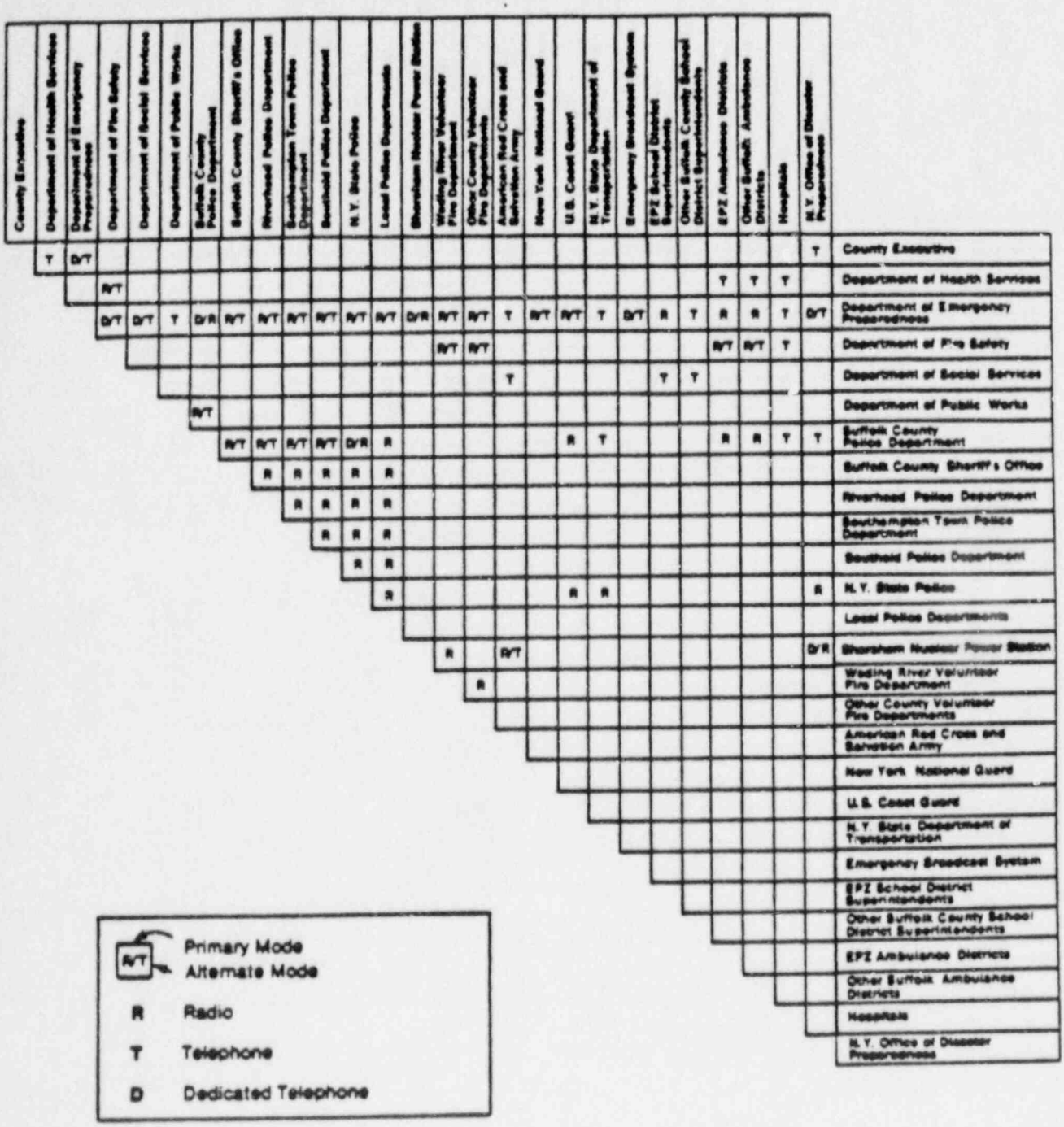

Figure F.1. Communication Links and Modes

Two methods of communication will be available between mobile medical units and fixed medical facilities (hospitals): (a) radio between mobile and fixed facilities; and (b) radio between mobile units and EOC, with EOC relaying messages by telephone to fixed facilities.

Communication between emergency response agencies and their workers (for initial alerting) is summarized in Figure F.2. For most public safety agencies, this personnel notification is by pager, telephone, or siren.

The communications system, as shown in Figure F.1, will be manned at all times to the extent necessary for emergency notification of the agencies participating in emergency response.

Some communications modes (for example, pagers, tone alert devices) are used only for notification, and do not constitute a means of two-way communication during the emergency response. These modes are not included in this part of the plan, but are discussed in Part E, Notification Methods and Procedures.

COMMUNICATIONS EQUIPMENT

Communications between county agencies will be by one or more of the following modes: dedicated telephone, regular telephone service, and radio.

Dedicated Telephone

Dedicated telephones, installed in the county EOC, will link the EOC with the plant and the near-site EOF as well as the Suffolk County Police Department.

Regular Telephone

Regular telephone lines will be installed in the county EOC. All agencies participating in emergency response can be reached through regular telephone either as the primary or alternate mode of communications.

Agency	Method of Notification
County Executive	Pager/Telephone
Department of Health Services	Pager/Telephone
Department of Emergency Preparedness	Pager/Telephone
Department of Fire Safety	Pager/Telephone/Radio
Department of Social Services	Telephone
Department of Public Works	Radio/Telephone
Suffolk County Police Department	Pager/Telephone
Suffolk County Sheriff's Office	Telephone
Riverhead Police Department	Telephone
Southampton Town Police Department	Telephone
Southold Police Department	Telephone
New York State Police	Pager/Telephone
Local Police Departments	Telephone
Shoreham Nuclear Power Station	Pager/Telephone
Wading River Volunteer Fire Department	Radio/Telephone/Siren
Other County Volunteer Fire Departments	Radio/Telephone/Siren
American Red Cross and Salvation Army	Telephone
New York National Guard	Telephone
U.S. Coast Guard	Telephone
New York State Department of Transportation	Telephone
Emergency Broadcast System	Pager/Telephone
EPZ School District Superintendents	Telephone/Tone Alert
Other Suffolk County School District Superintendents	Telephone/Tone Alert
EPZ Ambulance Districts	Telephone
Other Suffolk Ambulance Districts	Telephone
Hospitals	Telephone/Pager

Figure F.2. Notification of Individual Emergency Workers

Radio

Radio will be the primary mode of communication between the EOC and a number of agencies, as indicated in Figure F.1.

DISPATCHING

The Communications Officer will ensure communications links exist between the EOC and agencies in the field. Dedicated telephone and regular telephone messages will be placed by EOC staff directly from the EOC. Radio traffic will be routed through the Department of Emergency Preparedness dispatcher. Disaster Message forms will be used after activation of the EOC.

MANNING OF COMMUNICATIONS SYSTEMS

The Suffolk County Police Department is the primary agency in Suffolk County notified by the Shoreham Plant Operator when an unusual event (or more serious emergency) has been declared. After this notification and until the activation of the county EOC, emergency communications will be handled through the Suffolk County Police Department.

The police department's communications center is manned at all times, ensuring that (1) notification of the emergency is received from Shoreham Nuclear Power Station, and (2) an interim means of communication exists in the time interval between notification and the activation of the county EOC.

Once the county EOC begins to function, communications will be directed by the Department of Emergency Preparedness Communications Officer.

PERIODIC TESTING OF COMMUNICATIONS SYSTEM

All communication links and modes used in the emergency response (Figure F.1), down to (but not including) notification of individual workers, will be tested monthly. This testing shall include the understanding and verification of messages.

PART G. PUBLIC EDUCATION AND INFORMATION

PLANNING STANDARD

"Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established."[1]

SUMMARY

The public information function will consist of two distinct efforts:

- Preparation for an Emergency at the Shoreham Nuclear Power Station – The Suffolk County Department of Emergency Preparedness will assure that educational materials are provided to the public, on a continuing basis, to prepare all population within the EPZ for an emergency at the plant. Information will be circulated through direct mail; for example, utility bills, telephone books, and mailouts. A supplemental source of information will be the various media reporting on the emergency planning, and their publishing or broadcasting of pertinent information. The media will be provided with details of the emergency plan.

- Information During an Incident at the Shoreham Nuclear Power Station – The Department of Emergency Preparedness, through the Public Information Officer (PIO), will provide information and instructions to the public at the time of an incident at the plant. Information will focus on the nature of the incident and the response (if any) that individuals should be making. At this point, the primary means of communication is the EBS network.

PREPARATION FOR AN EMERGENCY AT SHOREHAM

The County Department of Emergency Preparedness is responsible for providing educational materials to the public on a continuing basis, to prepare all population

[1] NUREG 0654.

within the EPZ for an emergency at the plant. Figure G.1 indicates the principal agency responsibility for public information.

Intended Audience

It is intended that educational information relating to an emergency at the Shoreham Nuclear Power Station reach all persons who would be in the EPZ at the time of an emergency. This includes residents of the EPZ as well as transients (workers, travelers, vacationers).

Educational Materials

Some of the material to be provided (for example, educational information on radiation) will be provided by the state, and simply relayed through the Department of Emergency Preparedness. Other materials, particularly concerning specific emergency responses in Suffolk County, will be prepared under the guidance of the Department of Emergency Preparedness.

Materials will cover:

1. Long-term preparations for an emergency at Shoreham; background information on radiation; meaning of sirens, the EBS stations.

2. Possible protective responses that may be called for at the time of an emergency at the plant, including individual protective actions (respiratory, etc.,) sheltering and evacuation. Evacuation routes and reception centers for the EPZ population will be specified.

3. Measures that apply specifically to the handicapped and persons without access to an automobile.

4. The continuing availability of the Department of Emergency Preparedness for answering questions and providing further information.

Methods of Circulating Information

Educational information will be circulated through the following means:

- Releases to local news media.

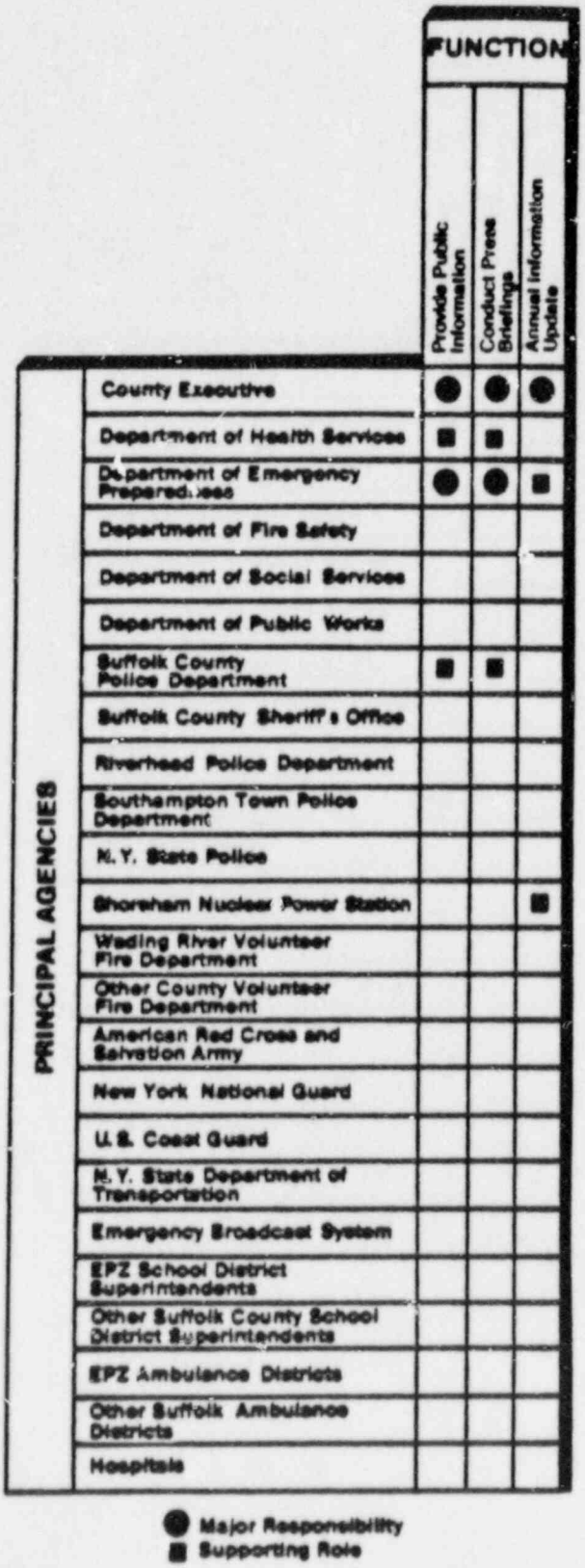

Figure G.1. Principal Agency Responsibility for Public Information

- A section in the emergency information part of local telephone directories.
- Inclusion of material into residential bills for LILCO customers.
- Distribution of handouts at all schools. This material will emphasize the protective response measures applicable to the school population should an emergency occur during school hours, but will also reiterate the information applicable to the EPZ population in general.
- Posted notices at all concentrations of transient population, such as: motels, gas stations, restaurants, beaches, and other recreation areas.
- Posted notices at local institutions (nursing homes, hospitals, etc.).
- Posted notices on public bulletin boards (post offices, libraries, places of employment, etc.).

Frequency of Information

Public educational information will be reviewed and updated on an annual basis. The PIO will brief news media on all updates and mailouts.

PUBLIC INFORMATION DURING AN EMERGENCY AT SHOREHAM

The state, county, and utility spokesmen will coordinate the release of information to the media. They will be located, respectively, in the State EOC, the County EOC, and the EOF, all of which will be connected by dedicated phone lines. A coordination is essential to avoid misleading the general public.

The provision of public information during an emergency at the plant involves two distinct actions:

- Provide Public Information – This public information effort informs the population of Suffolk County of the state of emergency at the plant, and instructs the public in the proper course of action. The Suffolk County Public Information Officer, in coordination with the state and utility Public Information Officers, will transmit information to the Emergency Broadcast System.

- Conduct Press Briefings – This public information effort, also conducted by the Public Information Officer (PIO), informs the news media of the response, within Suffolk County, to an emergency at the plant. Press briefings will be held at a designated briefing room located in the EOC.

Correcting Misinformation

The County Public Information Officer will monitor broadcast information originating in Suffolk County or relating specifically to the county. The PIO will take steps to correct erroneous information, particularly through press briefings. When the problem persists, the PIO will prepare advisories for EBS which emphasize the correct information. Rumor control actions will be closely coordinated with state and utility Public Information Officers; any misinformation regarding the status of the plant will be brought to the attention of the LILCO Public Information Officer.

PART H. EMERGENCY FACILITIES AND EQUIPMENT

PLANNING STANDARD

"Adequate emergency facilities and equipment to support the emergency response are provided and maintained."[1]

SUFFOLK COUNTY EMERGENCY OPERATIONS CENTER (EOC)

The EOC for Suffolk County is a radiologically shielded facility in the basement of Building C110 in Yaphank. It is the permanent location of the county's Department of Emergency Preparedness. Figure H.1 shows a floor plan of the EOC and Figure H.2 shows, in more detail, the layout of the operations command and assessment area.

When no emergencies exist, the EOC is manned during normal office hours. Outside normal working hours, the EOC will begin operation following the alerting of the Director of Emergency Preparedness by the Police Department of any emergency stage other than an Unusual Event. Both the Director of Emergency Preparedness and his designated alternate can be alerted by pager or telephone. Since the activation of the EOC is a crucial first step in an emergency response, if neither the Director nor his alternate is available, the Department of Fire Safety will have the responsibility of activating the EOC. The Department of Fire Safety is manned 24 hours per day and is located within 50 yards of the EOC.

Activation of the EOC will begin with the full mobilization of its staff. Upon arrival at the EOC they will begin their operations according to the current level of emergency.

The dedicated communications system between the county and the Shoreham Plant is located in the EOC. The EOC will be the headquarters of the Suffolk County response. The representatives of county agencies in the EOC are shown in Table H.1.

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[1] NUREG 0654.

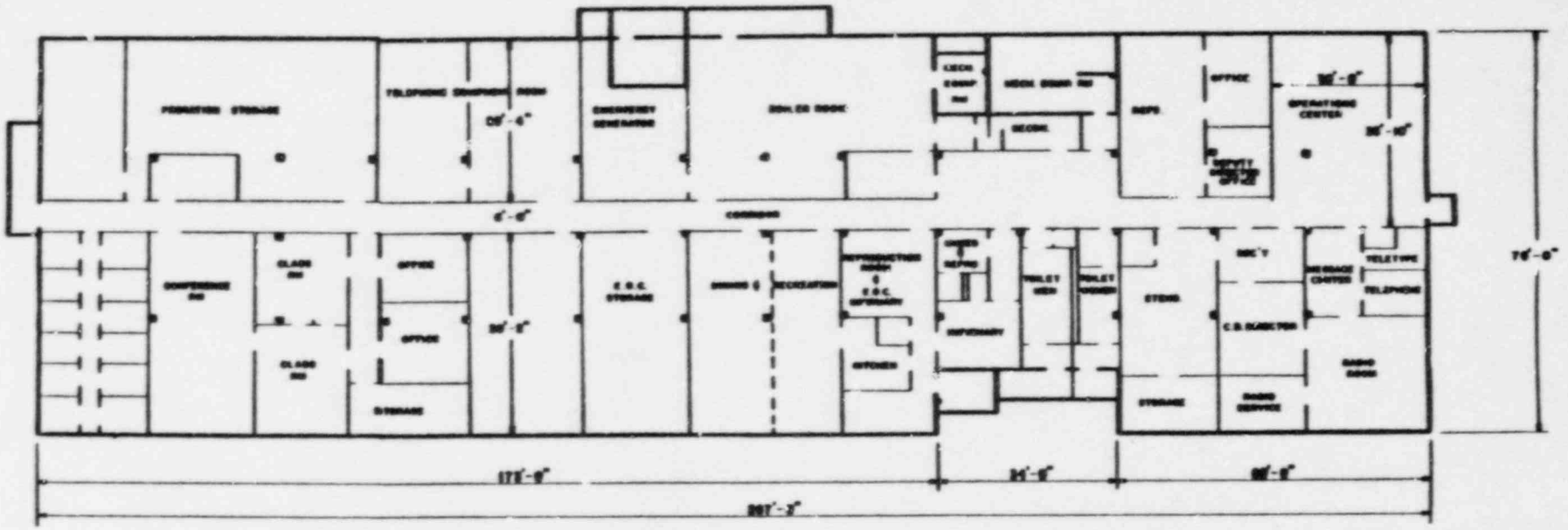

Figure H.1. Plan of the EOC

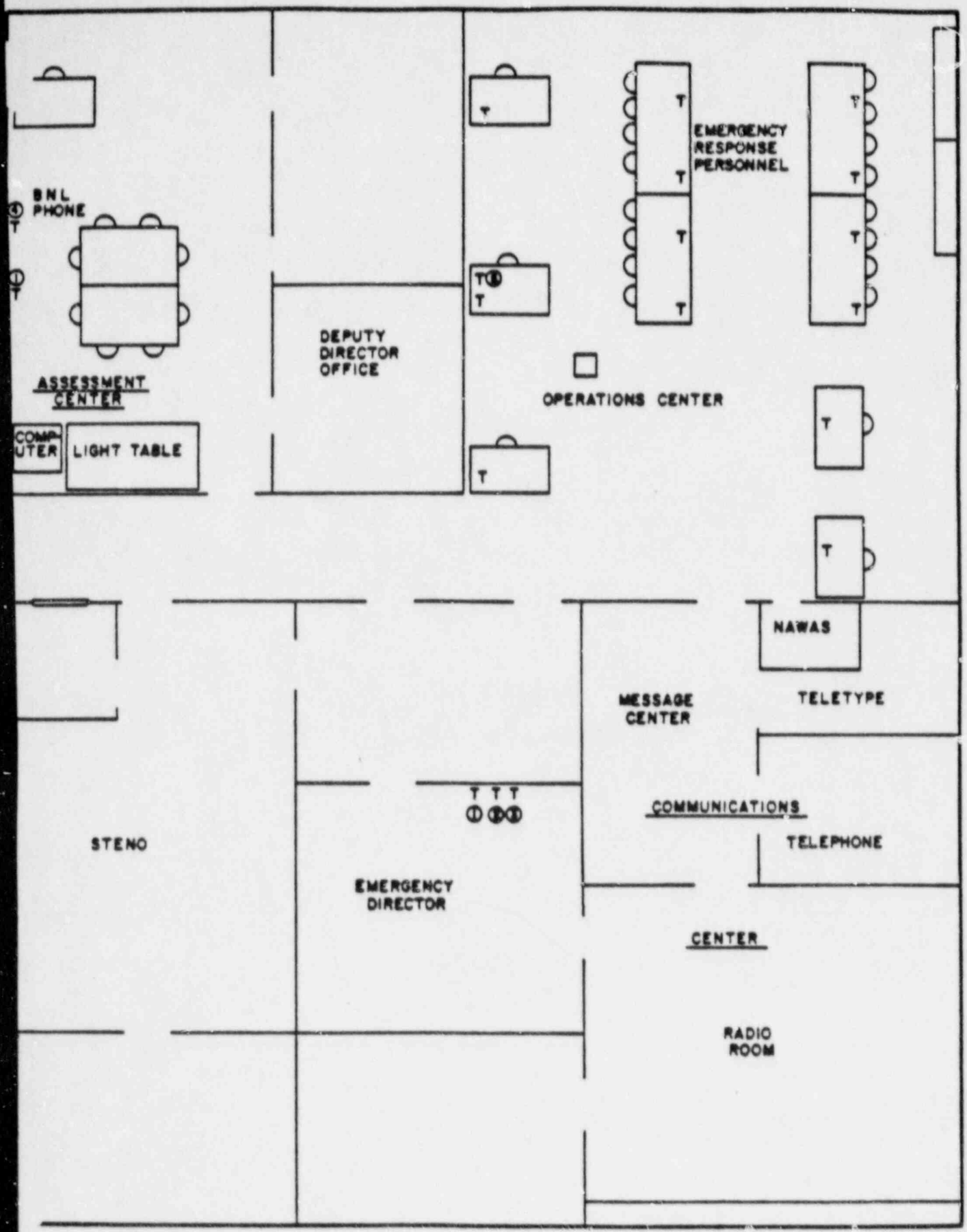

Figure H.2. Command, Assessment and Operations Area (EOC)

TABLE H.1. REPRESENTATION AT COUNTY EOC

Agency	Representative
County Executive	County Executive
Department of Health Services	Director
Department of Emergency Preparedness	Director
	Communications Officer
	Community Emergency Evacuation Coordinator
	Operations Officer
	Plans and Training Officer
	Resources Management Officer
Department of Fire Safety	Director
Department of Social Services	Director
Department of Public Works	Director
Suffolk County Police Department	Liaison
New York State Police	Liaison
Salvation Army	Director
Red Cross	County Coordinator
New York State Office of Disaster Preparedness	Field Officer
New York National Guard	Liaison

EMERGENCY EQUIPMENT

The radiological monitoring equipment that will be issued to (or owned by) agencies within the county will be resolved during the development of Standing Operating Procedures. Most of this equipment will be stored and maintained at the individual agencies to which it is issued. Monitoring equipment will be distributed in accordance with the procedures for the accident assessment function (Part I of this plan) and the radiological exposure control function (Part K of this plan).

Protective equipment to be issued to or belonging to agencies within the county will be resolved during the development of Standing Operating Procedures. In general, this equipment will be stored and maintained at the individual agencies. Protective equipment will be distributed in accordance with procedures for the radiological exposure control function (Part K of this plan).

LOCATION FOR RECEIVING FIELD MONITORING DATA

The primary local reception point for field monitoring data is the Emergency Operations Facility (EOF), which serves as an off-site base for LILCO's operations during an emergency. All measurements taken by the state monitoring teams will be reported to the EOF in accordance with the state plan. The county radiological monitoring teams will report their findings to the EOC. There will be a dedicated telephone line between the EOF and the EOC to ensure that relevant data can be transferred between the two facilities.

LOCAL ACTIONS

The operation of the emergency facility function involves two actions:

- Activate EOC – The Department of Emergency Preparedness will activate the EOC at the Alert stage of emergency. Agency representatives will report to the EOC at the Site Emergency stage of a radiological response.

- Operate EOC – The EOC will serve as the headquarters for the county's emergency response effort. Decisions on the adoption of

protective responses will be made in the EOC, according to the command/control sequence outlined in Part A of this plan. All participating agencies as designated in Part A of this plan will be directed from the EOC. All public information on the county's response will be issued from the EOC. The Department of Emergency Preparedness will be responsible for operating the EOC; specifically, providing security, communications, and supplies for the EOC staff.

ACTION/RESPONSIBILITY SUMMARY

Figure H.3 summarizes the actions relating to the operations of the EOC. The figure shows which agencies have primary responsibilities and which provide support for each action.

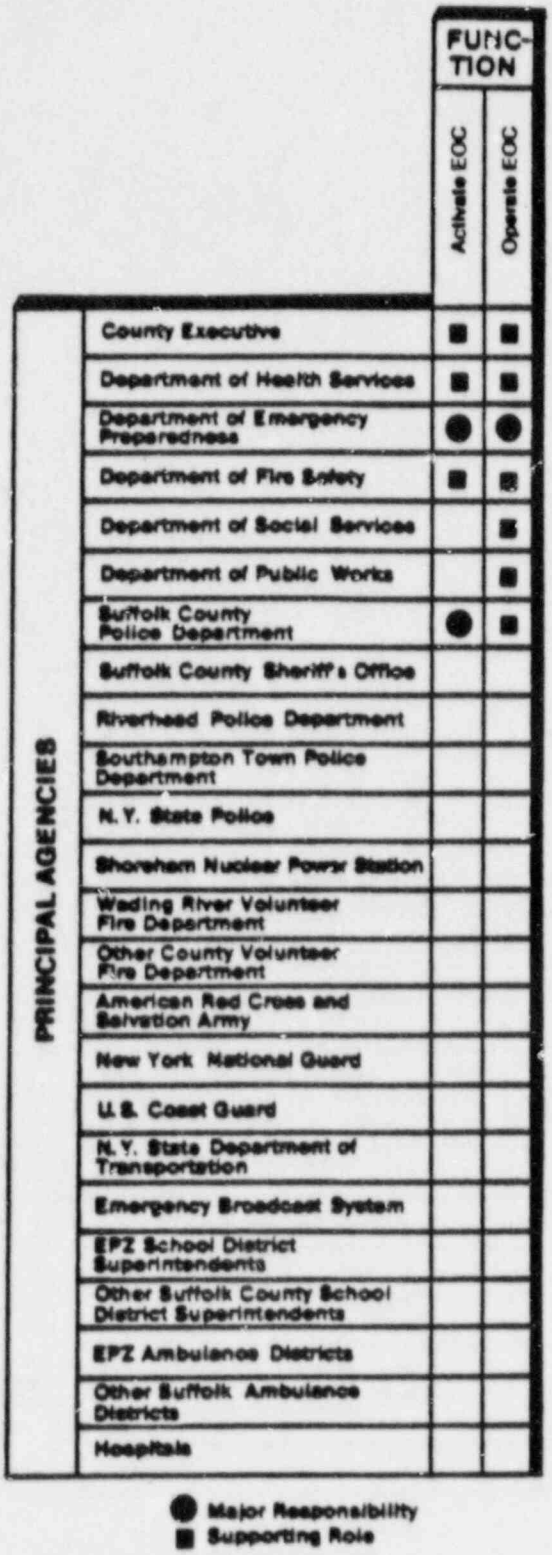

Figure H.3. Responsibility of Principal Agencies for Operation of EOC

PART I. ACCIDENT ASSESSMENT

PLANNING STANDARD

"Adequate methods, systems and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use."[1]

SUMMARY

The assessment of severity of a radiological accident at the Shoreham Nuclear Power Station is a state, as well as a county, function.

State Role in Accident Assessment

The New York Office of Disaster Preparedness and the State Department of Health will send field monitor teams, equipped with all necessary field monitoring equipment, to the EPZ upon declaration of an Alert. These teams will arrive by air or highway and will report to a staging area designated by the state. Monitor teams will then be deployed to designated field monitor locations.

State monitoring teams will take air, water, and vegetation samples and will report these readings, by radio, to (1) the State EOC in Albany, (2) the EOF adjacent to the plant, and (3) the Suffolk County EOC.

Based on state monitoring, as well as data from the Shoreham Plant, the State EOC will assess the hazardous consequences of the radiological releases. This assessment will guide the decisionmaking group at the State EOC on the protective responses to be recommended for Suffolk County.

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[1]NUREG 0654.

State recommendations will serve as inputs for the County Executive's decision on the county response.

County Role in Accident Assessment

Suffolk County will provide monitoring teams as well as make manpower available to the state monitor teams.

Brookhaven National Laboratory will provide support to the Suffolk County Department of Health Services. The location of the laboratory, about four miles from the Shoreham Plant, provides for a rapid response. Brookhaven support will consist of field monitoring teams and accident assessment personnel within the EOC.

DETAILED LOCAL ACTIONS

Accident assessment activities begun by Suffolk County agencies at the Alert stage of emergency, include four actions:

- Obtain Equipment – County monitoring personnel will report to the equipment storage location at the Department of Emergency Preparedness headquarters at the EOC, and will be issued monitoring equipment, protective clothing, and personnel monitoring devices. Brookhaven personnel have their equipment on a permanent standby basis at their offices.

- Assemble and Deploy Field Monitors – County field monitors will assemble at the County EOC. The Department of Emergency Preparedness will assign them to one or more of the following activities:

  - Accompanying state monitors, providing local ground transportation for state monitor teams, assisting in locating the sampling sites, reporting monitoring results to the near-site EOF and the County EOC, and otherwise supporting the state monitoring efforts

  - Manning supplemental monitoring stations

  - Monitoring at the designated state sampling locations, in the event that the state does not field all its planned monitoring teams

- Take Measurements – The field monitoring teams will support state monitor teams at locations to be determined during the development of Standing Operating Procedures. Transportation for the field monitoring teams will be provided by county pool cars. Field monitoring teams will communicate by portable radio with the state communications van near the EOF. Portable radio equipment is supplied by the State Office of Disaster Preparedness.

- Report Monitoring Results – All field monitoring teams will maintain records of field measurements as specified in the State Radiological Emergency Preparedness Plan. Data from the state field monitoring teams within Suffolk County are received at the near-site EOF and are then transmitted to the New York Department of Health at the State EOC. These data are analyzed by staff having capabilities in accident assessment. The data from county field monitoring teams are reported to the County EOC. The data will be relayed by dedicated telephone to the EOF for transmittal to the New York Department of Health for analysis. The Department of Health will report its assessment of radiological impacts to the Suffolk County EOC.

ACTION/RESPONSIBILITY SUMMARY

Figure I.1 summarizes the actions, on the part of local agencies, that would be involved in the accident assessment function. Figure I.1 also shows the agencies having the primary responsibilities for these actions.

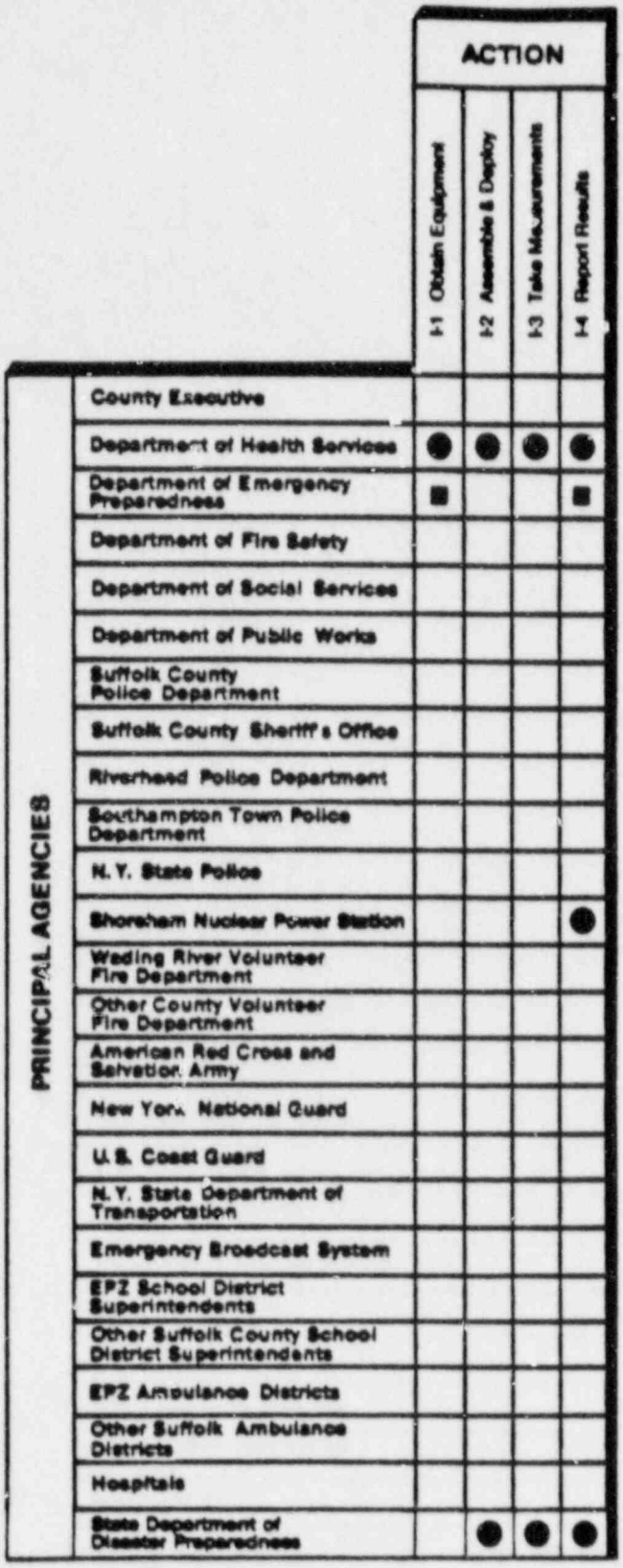

Figure I.1. Accident Assessment Responsibility of Principal Agencies

PART J. PROTECTIVE RESPONSE

PLANNING STANDARD

"A range of protective actions have been developed for the plume exposure pathway EPZ for emergency workers and the public. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed."[1]

SUMMARY

Certain emergency response activities started by county agencies will be triggered automatically as various stages of emergency are declared at Shoreham. Protective responses for the general population within the 20-mile radius of the plant (the EPZ) will be recommended by the County Executive following the declaration of a General Emergency. The County Executive will be advised by the County Department of Emergency Preparedness, and the New York State Office of Disaster Preparedness.

The protective responses that could be recommended for the general population are:

1. Individual protective actions – For example, the use of readily available household products for respiratory protection, and sheltering at immediate locations (home, school, place of work).
2. Evacuation of population from part or all of the EPZ.
3. Control of food, water, and livestock feed.

The EPZ may be divided into areas with, for example, evacuation being recommended for one area, while sheltering is recommended for the remainder of the population.

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[1] NUREG 0654.

DEFINITION OF TERMS USED IN THIS SECTION

The following terms, used throughout this part of the plan, are defined below:

- Protective Responses are measures taken by the general population of the EPZ to reduce their exposure to radioactive releases resulting from an emergency at the plant. Protective responses are ordered by the County Executive. The Executive will act on the advice of the County Department of Emergency Preparedness which, in turn, bases its recommendations on data from the plant, as well as data from state and county monitors. Protective responses are ordered after the declaration of a General Emergency at the plant; that is, an incident projected to release radioactive material beyond the plant site.

- Functions are groups of related activities which occur during a response to an emergency at Shoreham. For example, the Traffic Control Function consists of a number of actions related to the direction of traffic during an evacuation.

- Actions are the detailed steps needed to carry out a function. The responsibility for each action can be assigned to one of the agencies participating in the emergency response. Actions are the basis for detailed Standing Operating Procedures (SOP's). An SOP will need to be written for each action and responsible agency.

SEQUENCE OF EVENTS DURING AN EMERGENCY AT SHOREHAM

Unusual Event

When an Unusual Event is declared at Shoreham, the Suffolk County Police Department will be notified, but no actions will be taken by county agencies. The Department of Emergency Preparedness will be notified by the police department.

Alert Stage

When an Alert is declared at the plant, the Suffolk County Police Department will be notified and will, in turn, notify the County Executive and the Department of Emergency Preparedness. The Department of Emergency Preparedness will activate the EOC and notify all agencies participating in the emergency response (Part E of this plan).

An Alert stage will trigger the Accident Asessment Function. Assessment team members (designated in Part H of this plan) will report to the EOC and work at the direction of the Department of Health Services.

Site Emergency Stage

At the Site Emergency stage, the Suffolk County agencies will continue the functions (Agency Notification and Accident Assessment) started at earlier stages of emergency. In addition, at the Site Emergency stage the Public Information Function (Part G of this plan) will be initiated. The Suffolk County Department of Emergency Preparedness will sound the siren system and provide messages to be broadcast on Emergency Broadcast System (EBS) stations. The Public Information Officer will prepare news releases for media and will brief media representatives at the designated location near the Suffolk County EOC.

Radiation exposure control (Part K of this plan), which consists of measures to protect emergency response workers from excessive doses of radiation, will also begin at the Site Emergency stage.

In addition, to accommodate the anticipated voluntary evacuation, the traffic control function will be initiated at the Site Emergency stage.

General Emergency Stage

Immediately upon the notification of a General Emergency, the following functions are started within the county:

- Public Notification (Part E of this plan).
- Perimeter Control (Part J of this plan); the restriction of vehicular traffic into the vicinity of the plant.
- Medical and Public Health Support (Part L of this plan); measures to assure that medical services are maintained and that radiologically injured persons are treated properly.

The functions started at previous stages of emergency are continued at the General Emergency stage. Following the declaration of a General Emergency, protective responses will be ordered for the general population within the 20-mile vicinity of the plant. Possible protective responses are:

- Individual Protective Actions – In this response, population in the EPZ (or part of it) will be advised to take shelter inside their present locations, i.e,schools, offices, etc.

  For limiting whole body exposures, large structures such as office buildings, multistory apartment complexes, department stores, etc., typically provide more shelter than smaller structures such as single-family dwellings.

- Evacuation – In this response, the population of the EPZ (or parts of it) will be advised to evacuate. Most of the evacuating population will travel in their own automobiles, driving out of the EPZ by the most direct route available. Public agencies will transport persons not having an automobile available for evacuation.[1]

- Control of Food, Water, and Livestock Feed – In this response, food products within a 50-mile radius of Shoreham that may have been contaminated by radioactive materials are detected and removed from use.

DETERMINATION OF PROTECTIVE RESPONSES TO BE TAKEN

The local responsibility for ordering protective actions rests with the Suffolk County Executive, advised by the State Office of Disaster Preparedness and the Governor's Office, and the Suffolk County Department of Emergency Preparedness, which will coordinate input from the plant, and from the state and local field monitors (Department of Health Services and Brookhaven National Laboratory).

The Suffolk County Department of Emergency Preparedness and the New York State Office of Disaster Preparedness, in making their recommendations for protective actions, will be guided by these criteria:

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[1] See Footnote 1 on Page 4.

1. Protective Action Guides (PAG's) as developed by the "Protective Action Guides and Protective Actions for Nuclear Incidents," EPA-520/1-75-001 (an EPA document).

2. Protective action guides as developed by the Food and Drug Administration for the ingestion of food, water and milk.

PROTECTIVE RESPONSES AND THEIR COMPONENT FUNCTIONS

Each protective response is made up of some combination of functions (groups of related activities). Carrying out the functions does not require further decision-making; once a given stage of emergency is declared or a protective response has been ordered, the component functions are put into effect automatically.

Figure J.1 shows the functions required in carrying out each of the protective responses. As indicated, some functions are common to several protective responses (for example, the Agency Notification function is a part of all of the protective responses).

Individual Protective Actions

This response requires public notification, in addition to the notification of public agencies. It calls for the population within the EPZ (or parts of it) to take shelter at their immediate locations (within houses, places of employment, or schools). The population will be advised, primarily through EBS broadcasts, on the procedures for sheltering and for the use of readily available household products for protection against inhalation of radioactive materials.

Once individual protective actions are recommended, perimeter control, radiological exposure control, and medical support for the EPZ (or selected parts of it) begin.

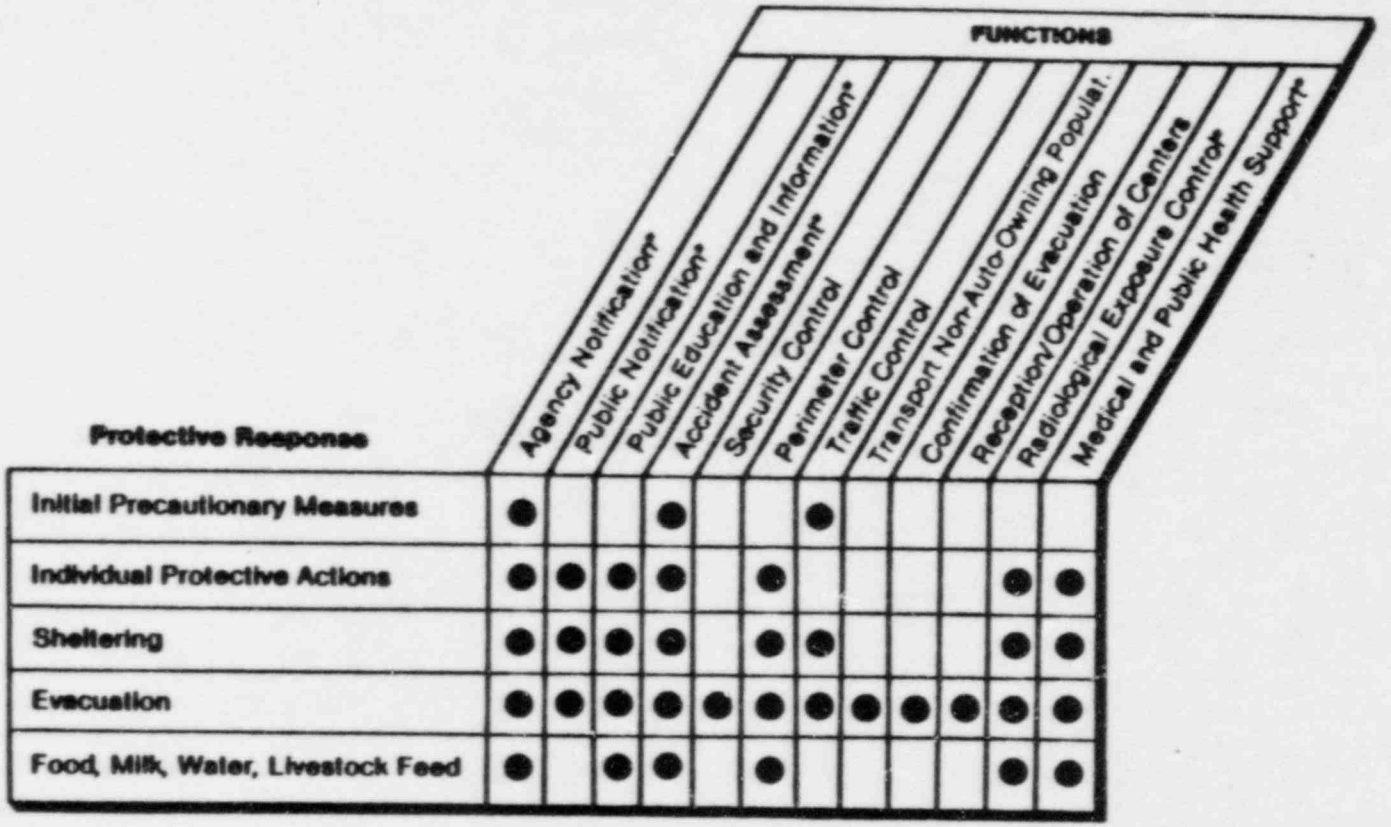

Figure J.1. Functions Required for Protective Response

Evacuation[1]

The evacuation response requires public notification as well as public agency notification. In this response, the population of the EPZ (or parts of it) will evacuate. Most of the evacuating population will travel in their own automobiles, driving out of the EPZ by the most direct route available. Public agencies, using school buses, will supply transportation for those who do not have a private automobile available for evacuation.[2]

Security control within the evacuated areas and perimeter control, for the evacuated areas are also included in this response. Traffic control, initiated at the Site Emergency stage, is intensified. Specific traffic control and perimeter control locations will be determined during the development of Standing Operating Procedures.

In an evacuation, reception centers will be operated for the purpose of receiving evacuees, reuniting families, providing temporary lodging, and provision of emergency medical services.

Evacuees traveling in private automobiles will go to a reception center (locations of which are to be designated during development of Standing Operating Procedures), or a destination of their own choosing outside the EPZ (for example, home of relatives or friends). Persons transported from the EPZ by public agencies will be taken directly to reception centers.

The Suffolk County Police Department will monitor the traffic flow on evacuation routes. In the event of severe weather or other conditions affecting traffic flow (for example, traffic accidents), the Police Department will recommend diversion of traffic to less congested routes. This diversion will be accomplished by the traffic control officers.

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[1] See "Preliminary Evacuation Time Estimates" (Supporting Document 1) for detailed description.

[2] See Footnote 1 on Page 4.

The non-auto-owning population is transported in school buses based within Suffolk County.[1] Persons requiring special transportation (for example, handicapped or non-ambulatory) will be transported out of the EPZ by ambulances, rescue vehicles and other special vehicles.

The evacuation response requires the Confirmation Function, to assure that all persons within the evacuation area have received the necessary information and are able to comply with the evacuation order. This response also requires that the radiological exposure control and medical and public health support functions be put into effect.

Control of Food, Water, and Livestock Feed

This response requires that public agencies be notified, and that the field monitoring activity (radiological exposure control function) be put into effect.

RESPONSE FUNCTIONS AND INDIVIDUAL ACTIONS

Functions represent more generalized responses, whereas individual actions describe the basic unit of response which an agency undertakes. Each function contains specific actions.

AGENCY NOTIFICATION ACTIONS

This function, described in detail in Part E of this plan, involves the plant's notification of the County Police Department, and the County Police Department's subsequent notification of the County Executive and the Department of Emergency Preparedness. In turn, the Department of Emergency Preparedness is responsible for notifying the rest of the agencies participating in the emergency response.

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[1] See Footnote 1 on Page 4.

Actions included in agency notification are:

- Notify Local Response Agencies
- Notify School Districts
- Notify Elected Officials
- Notify Response Personnel

SECURITY CONTROL ACTIONS

This function is intended to provide law enforcement within areas where a major protective response, such as evacuation, has been ordered. Security control is intended to protect property and assist individuals in carrying out protective response actions.

Specific actions included in the Security Control Function are:

- Broadcast Advisories on EBS, explaining the security patrol effort and encouraging listeners to comply with the protective responses that are ordered.
- Patrol Security Area with local law enforcement officers, who assist in carrying out emergency responses and assure the security of property in evacuated areas, and generally maintain public order.
- Prevent Entry into Restricted Areas through use of County Police Department and local police agency personnel.
- Perform Law Enforcement Functions, for example, maintain order, respond to complaints, etc.

Responsibilities for these actions are summarized in Figure J.2.

PERIMETER CONTROL ACTIONS

This function advises drivers entering controlled areas of the emergency in progress. Generally, access into controlled areas is by automobile and, consequently, most of the resources used in perimeter control are assigned to the manning of checkpoints. Actions included in the perimeter control function are:

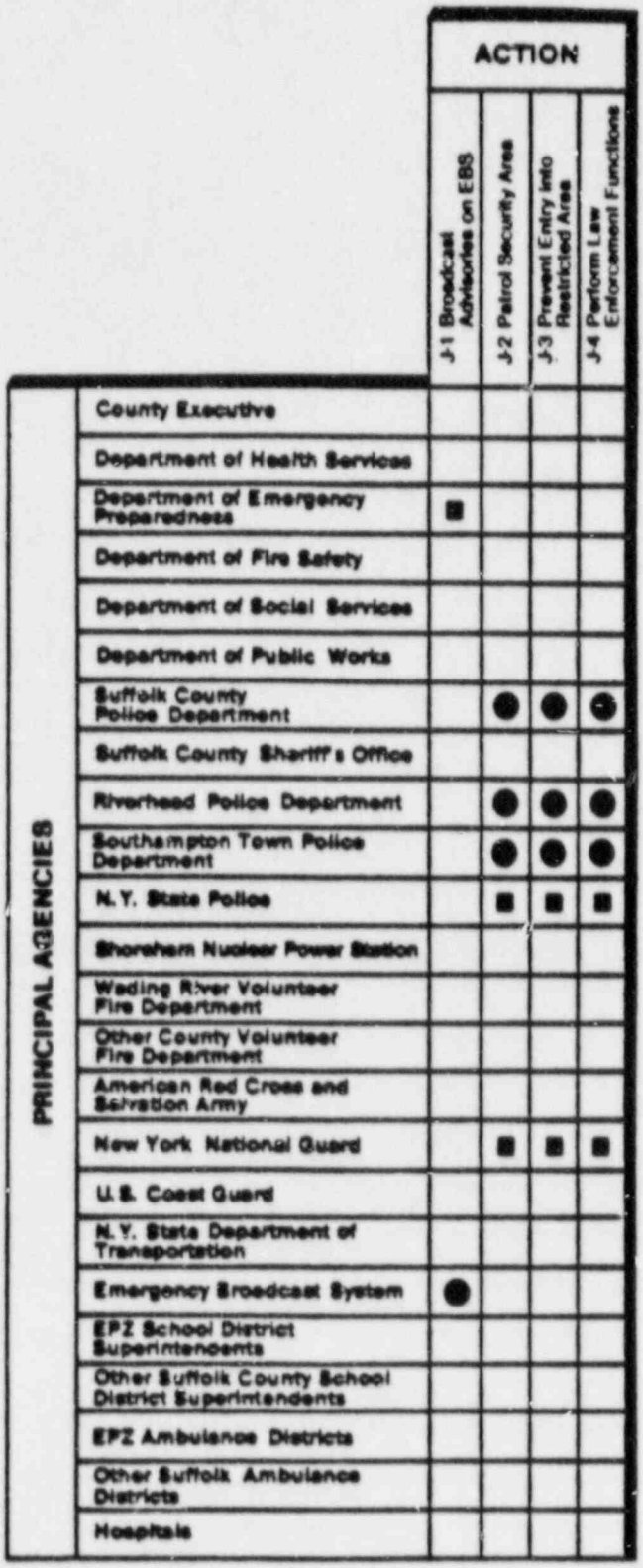

Figure J.2. Security Control Responsibility of Principal Agencies

- Establish Checkpoints on all roads into restricted areas. Checkpoints will be manned by Suffolk County Police with support by local police and New York State Police.

- Divert Through Traffic (traffic having neither origin nor destination in the controlled area) through signing and barricading.

- Control/Screen Access, permitting entry to essential vehicles. This action is conducted by the County and State Police at the perimeter checkpoints with support from local police departments.

- Intercept Boat Traffic on Long Island Sound and the Southern Bays, using officers and patrol boats from the Suffolk County Police Department's Marine Unit.

- Notify Federal Air Traffic Controllers of areas of the county for which air space is restricted as a result of the emergency at Shoreham.

- Notify Railroads of the need to divert rail traffic around restricted areas.

Responsibilities for these actions are summarized in Figure J.3.

TRAFFIC CONTROL ACTIONS

This function, which assures the orderly flow of traffic out of areas being evacuated, is conducted primarily by Suffolk County Police, New York State Police, and local police officers directing traffic at designated locations. Actions included in the Traffic Control Function are:

- Direct Traffic –Suffolk County Police and local police officers will direct evacuation traffic at locations designated as critical to the overall flow of traffic. Ordinarily, traffic direction is intended only to control the flow at a particular location. In some instances, traffic control will also be used to divert evacuating traffic to less congested routes.

- Monitor Traffic Flow – Suffolk County Police Department and local police departments will monitor the flow of traffic out of the evacuating areas, and will choose alternate routes where this can alleviate congestion problems.

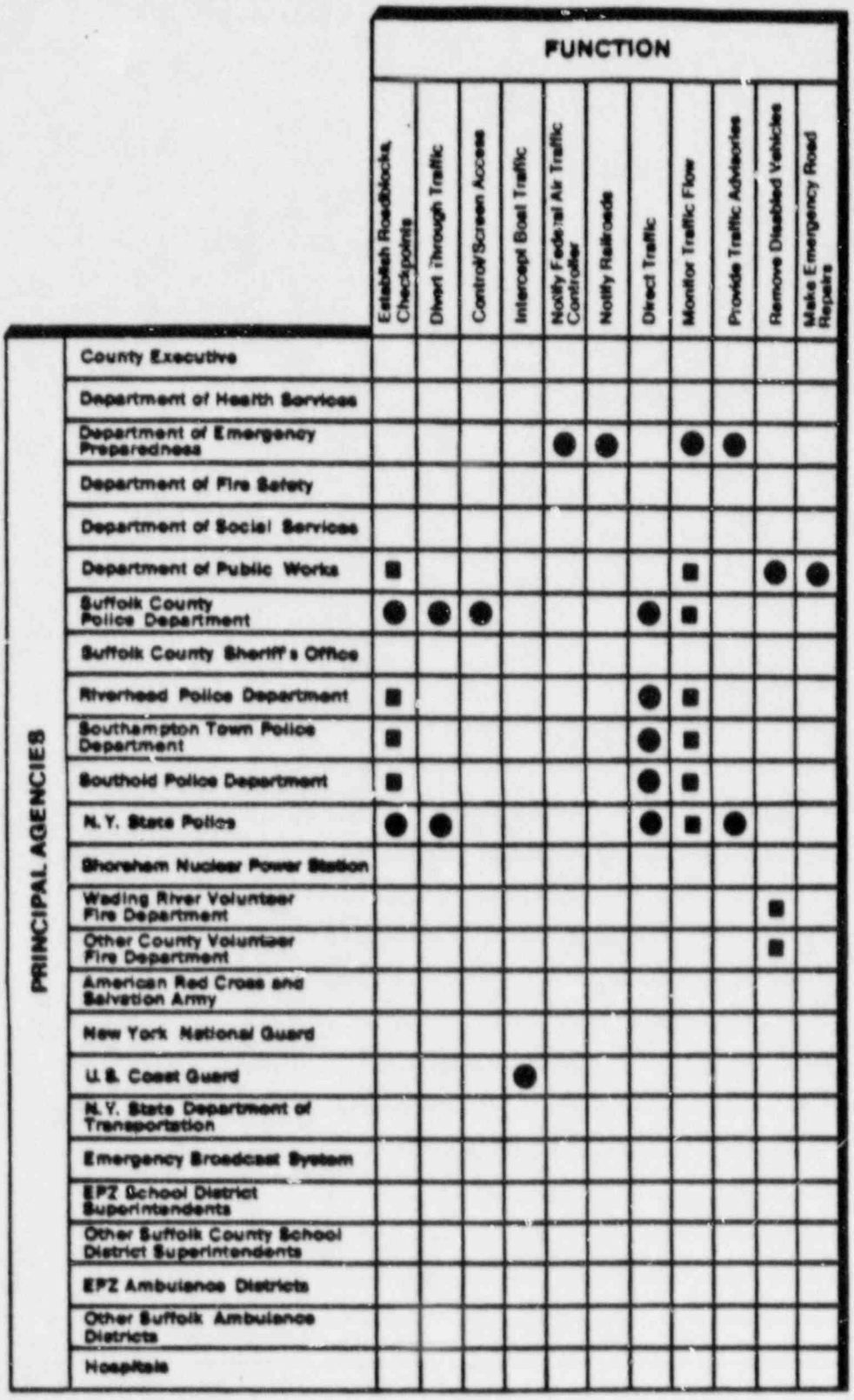

Figure J.3. Principal Agency Responsibility for Traffic Control

- Provide Traffic Advisories – Suffolk County Police Department will release advisories on evacuation traffic when it appears that such advisories will correct imbalances in traffic flow and expedite the evacuation process. Advisories will include advice on routes and alternate routes for evacuation. Advisories will be broadcast by EBS stations.

- Remove Disabled Vehicles – Tow truck operators,[1] at the direction of New York State, Suffolk County, and local police officers, will remove disabled vehicles that are hindering traffic flow from the EPZ. The Department of Public Works and the volunteer fire departments will also be involved in this action.

- Make Emergency Road Repairs – The Suffolk County Department of Public Works will maintain the roads in usable condition for evacuation and other emergency response actions for which the roads are required. The most likely factor affecting road condition is snow. In addition, the Department of Public Works will make some minor repairs (for example, clearing current construction areas) that might impede evacuation traffic.

Responsibilities for these actions are summarized in Figure J.3.

TRANSPORT ACTIONS–NON-AUTO-OWNING POPULATION

Persons not having an automobile available for evacuation will be transported to reception centers in buses or special vehicles (ambulance, rescue vehicle, etc.). Four groups of the non-auto-owning population will be transported:

- Non-auto-owning population, living at home and not having an automobile available for evacuation, will gather at designated buildings where they will be collected by buses.[2]

- Handicapped persons living at home will be transported in vans, rescue vehicles, and in some instances, school buses under the direction of local fire departments.[3]

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[1] As with school bus drivers (see Footnote 1 on Page 4), means should be established to assure that an adequate complement of tow truck operators will be available.

[2] See Footnote 1 on Page 4.

[3] See Footnote 1 on Page 11.

- It is recommended that school populations (students and staff) be evacuated directly from school in school buses[1] to reception centers outside the EPZ. That decision, however, will be left to individual school districts, which should develop emergency Standing Operating Procedures in cooperation with the county.

- Hospitals within the EPZ will undertake census reduction. This involves the discharge of ambulatory and stable patients into the care of their immediate family. It is likely that sheltering, within hospitals, would be the least dangerous option for patients requiring a high level of care. Census reductions enable hospitals to maintain reasonable staffing levels, as they can be expected to experience staffing problems due to conflicting family and work responsibilities. Hospital physicians will decide which patients may be discharged.

Transporting non-auto-owning population involves three actions:

- Mobilize Vehicles – The primary source of vehicles for transporting non-auto-owning residents is school bus fleets within Suffolk County but outside the EPZ, and therefore not needed for the evacuation of the school population. These buses are supplemented by the fleet based within the EPZ, after the evacuation of the school population is complete.[1]

  The County Department of Emergency Preparedness will request that the school buses be mobilized for evacuation. Drivers will be notified by their supervisors and will report to designated locations, generally school district bus garages.

- Dispatch Vehicles – Local fire departments will dispatch buses to the designated collection points at which non-auto-owning residents are gathered.[1,2]

- Transport Passengers to Reception Centers – Drivers will follow collection routes as designated by local fire departments. Drivers will then proceed to a designated reception center, unload passengers, and be redispatched.

There are three actions included in transporting handicapped persons living at home:

- Mobilize Vehicles – The Department of Emergency Preparedness will request that ambulances from the balance of Suffolk County (outside

[1] See Footnote 1 on Page 4.

[2] See Footnote 1 on Page 11.

the EPZ) be mobilized. Drivers will report to their usual positions, generally fire stations.

- Dispatch Vehicles – Local fire departments in the EPZ will request that ambulances go to residences of handicapped persons in their areas.

- Transport Passengers to Reception Centers – Ambulance drivers will proceed to the designated reception center, unload passengers, and be redispatched.

Evacuation of the school population by bus[1] involves the following four actions:

- Mobilize Buses – The school bus fleet normally used within the EPZ will be mobilized. Drivers will report to a designated school, generally one for which they normally drive.[2]

- Register School Population – The school staff will account for all students prior to leaving the school. Parents picking up their children at school prior to evacuation will sign an acknowledgement that the students were removed from the school's custody.

- Dispatch Buses – The school district will dispatch all buses used in evacuation of the school population.

- Transport Population – School buses will travel directly to a designated reception area. Teachers and other school staff will accompany each bus. At the reception center, students will remain in the custody of the accompanying teacher until released to parents. By designating which schools go to each reception center, parents will be aware, in advance, of where to collect their children.

Transporting of the population in hospitals and nursing homes involves three actions:

- Mobilize Vehicles – The Department of Emergency Preparedness will request that ambulances from the balance of Suffolk County (outside the EPZ) be mobilized. Drivers will report to their usual posts, generally at fire stations.[3]

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[1] See Page 17 and, in particular, Footnote 2.

[2] See Footnote 1 on Page 4.

[3] See Footnote 3 on Page 20.

- Dispatch Vehicles – Local fire departments in the EPZ will request vehicles at hospitals and nursing homes within their districts.

- Transport Passengers to Reception Areas – Vehicle drivers will proceed to designated reception areas or other destinations (for example, hospitals). Passengers will be unloaded and the vehicle redispatched. This option would follow census reduction, relocation of each patient will be the decision of hospital physicians.

Responsibilities for all actions involving transportation of the non-auto-owning population are summarized in Figure J.4.

CONFIRMATION ACTIONS

The extent of compliance with the evacuation order is measured by means of telephone sampling by the Department of Emergency Preparedness. If a substantial lack of compliance with the evacuation order is found, further actions to encourage evacuation will be put into effect.

Confirmation consists of the following four actions:

- Assemble Confirmation Staff – The Department of Emergency Preparedness will assemble the telephone interviewers needed for the confirmation sampling. Most interviewers will be drawn from other county agencies.

- Make Random Telephone Calls – The telephone interviewers, working under the direction of the Department of Emergency Preparedness, will make telephone calls to a random sample of households, verifying that no one is present or, in instances where residents are present, offering assistance in evacuating the area.

- Summarize Phone Call Results – The telephone interviewers will maintain a running record of the telephone call results, summarizing the percentage of population complying with the evacuation order.

- Take Corrective Actions – If the telephone survey results indicate a substantial fraction of the population is not complying with the evacuation order, the Department of Emergency Preparedness will recommend further actions to encourage evacuation. These will include further advisories on EBS, renotification by mobile public address units in locations where notification is found to have been inadequate, etc.

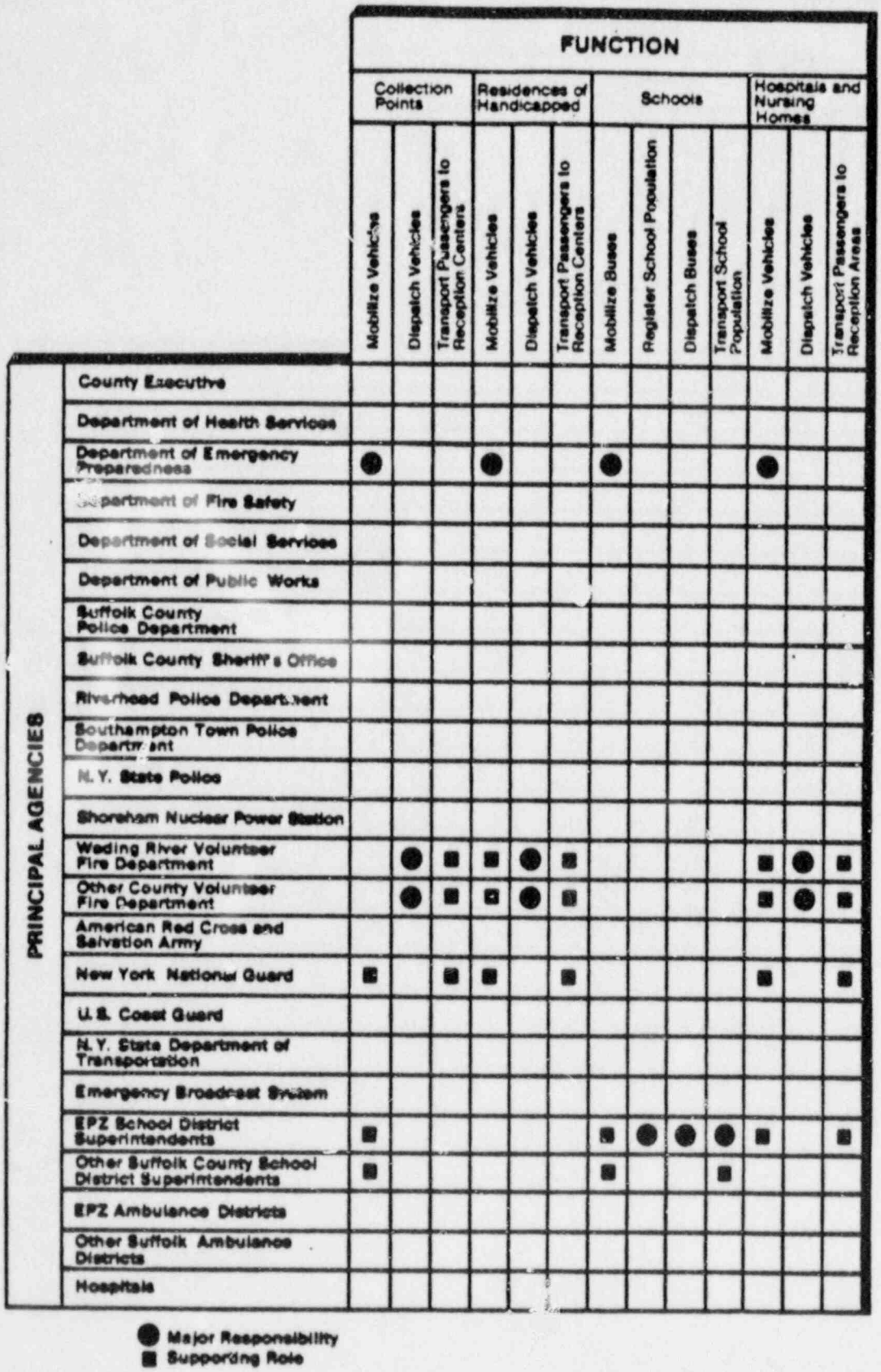

Figure J.4. Principal Agency Responsibility for Transportation of Non-Auto-Owning Population

RECEPTION CENTER ACTIONS

Reception centers serve as a place for evacuees to receive immediate services upon leaving the EPZ. These services include registering, the reuniting of families, radiological monitoring and decontamination. Reception centers also can serve as the longer-term relocation centers for evacuees, providing lodging until the evacuated areas can be reentered. The Suffolk County Department of Social Services will provide overall supervision of reception centers. The American Red Cross and the Salvation Army are expected to be able to provide operating support.

Actions and preliminary responsibilities included in the operation of the reception centers are:

- Register Evacuees – Reception center staff will register evacuees upon their arrival at the reception centers.
- Screen for Contamination – The Department of Health Services will screen arriving evacuees for necessary decontamination and treatment, according to the procedures in their plan. The Red Cross will provide support.
- Decontaminate Evacuees – The Department of Health Services will decontaminate evacuees as necessary. The Red Cross will provide support.
- Provide Food and Water – The reception center operator will provide food and water for evacuees. Support will be provided by the Red Cross and Salvation Army.
- Provide Lodging – The reception center operator will provide lodging for evacuees. The New York National Guard will provide support.
- Provide Medical Services – The reception center operator will provide for medical services at the reception centers. The Department of Health Services will provide support in this area.
- Provide Social Services – The Suffolk County Department of Social Services will arrange for the continuation of social services at the reception centers.
- Provide Public Telephone Service – The reception center operator will arrange for temporary public telephone service to be provided by the local telephone company normally serving the reception center.

- Provide Family Information Service – The reception center operator will provide the information and services necessary for reuniting families separated during the evacuation.

- Decontaminate Vehicles – The local fire department will decontaminate vehicles at the reception centers. They will be supported by the New York National Guard.

- Provide Animal Sheltering – The County Department of Social Services will arrange shelter for animals brought to reception centers. They will be supported by the New York National Guard.

Responsibilities for these actions are summarized in Figure J.5.

RADIATION EXPOSURE CONTROL ACTIONS

The Department of Emergency Preparedness has the prime responsibility for controlling the radiological exposure of emergency workers in Suffolk County. The individual actions in this function are described in detail in Part K of this plan:

- Distribute Personnel Protective Equipment
- Maintain Exposure Control Records
- Ensure Exposure as Low as Reasonably Achievable
- Decontaminate Emergency Workers and Equipment

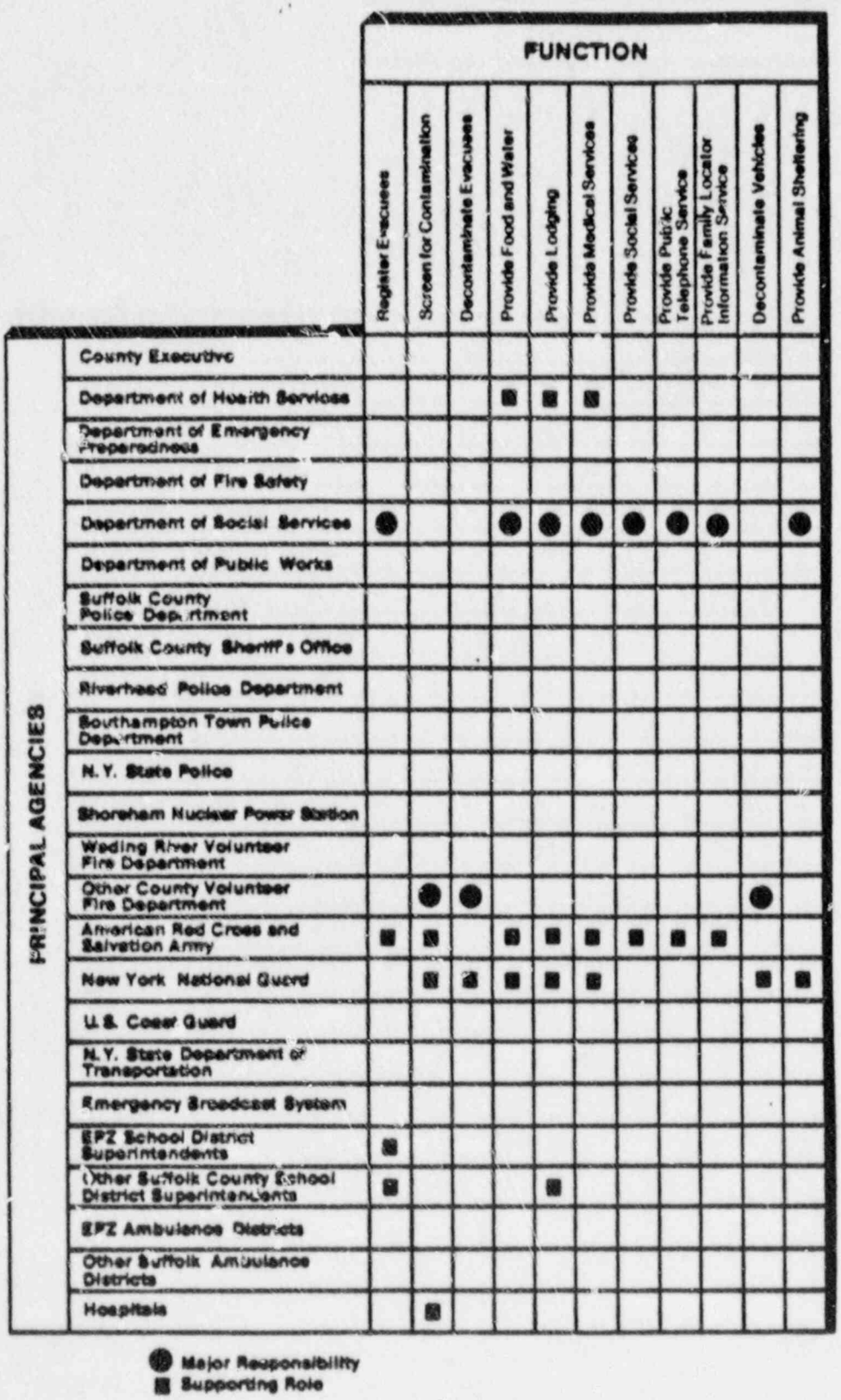

Figure J.5. Principal Agency Responsibility for Operation of Reception Centers

PART K. RADIOLOGICAL EXPOSURE CONTROL

PLANNING STANDARD

"Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides."[1]

SUMMARY

All emergency workers having duties requiring them to be within the 20-mile EPZ will take measures to protect themselves from excessive exposure to radiation. This protection is gained through:

- Use of personnel monitoring devices which measure the radiological exposure that the user is receiving.
- Re-assignment of emergency workers who are in danger of receiving excessive doses of radiation.
- Training in the proper response to situations where radiation may be present.

The Suffolk County Department of Emergency Preparedness has the prime responsibility for ensuring that all response agencies are equipped with monitoring devices and that all emergency workers are trained in protecting themselves from radiological exposure. At the time of an emergency, each response agency is responsible for distributing devices, assuring that they are used properly and reassigning emergency workers. The County Department of Health Services will have the primary responsibility for the screening and decontamination of local response personnel.

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[1] NUREG 0654.

DETAILED LOCAL ACTIONS

Radiological exposure control of emergency personnel is approached through four actions:

- Distribute Personnel Monitoring Equipment – The Department of Emergency Preparedness will distribute personnel monitoring equipment as summarized in Table K.1. Most response agencies will store their county-supplied devices. The county will maintain all devices on a semi-annual cycle.

  Response agencies will distribute personnel monitoring equipment to all emergency workers in accordance with agency procedures. All emergency workers in the EPZ will be issued both: (1) film badge monitor, and (2) direct reading device.

  Response agencies will deliver film badges daily to the Department of Emergency Preparedness, which will relay them to the State Office of Disaster Preparedness for reading. The state will provide 24-hour turnaround time on device reading.

- Maintain Exposure Control Records – Local agencies which are issued personnel monitoring equipment will monitor emergency worker exposure and maintain records in the format as indicated in Figure K.1. Records will be maintained continuously, on a 24-hour daily basis.

  Local agencies will submit these records daily to the County Department of Emergency Preparedness.

  The county will submit copies of these exposure records daily to the State Department of Health at the County EOC, after which they will be relayed in accordance with the New York plan for response to radiation emergencies.

- Ensure Exposures as Low as Reasonably Achievable – The Department of Emergency Preparedness, county agency heads, and the county police will decide on courses of action to minimize dosages received by emergency workers. Specific actions will deal with the assignment of personnel, rotation of worker locations, and curtailment of worker activities causing the exposure.

  The Protective Action Guide (PAG's) for maximum exposures for emergency workers are given in Figure K.2. At no point will exposures in excess of these PAG's be intentionally incurred.

- Decontaminate Emergency Workers and Equipment – Emergency workers and equipment will be selectively screened for contamination

TABLE K.1. QUANTITIES AND DISPOSITION OF PERSONNEL MONITORING DEVICES

Agency Using Monitoring Devices	Number of Personnel Monitoring Equipment Sets[1]	Storage and Distribution Responsibility
Suffolk County Department of Emergency Preparedness		
Suffolk County Police Department		
Suffolk County Department of Health Services		
Suffolk County Department of Fire Safety		
Department of Public Works	THE NUMBER OF MONITORING EQUIPMENT SETS, AND STORAGE AND DISTRIBUTION RESPONSIBILITIES WILL BE ADDRESSED DURING THE DEVELOPMENT OF STANDING OPERATING PROCEDURES.	
Sheriff's Office		
Riverhead Police Department		
Southampton Town Police Department		
Southold Police Department		
New York State Police		
Fire Departments in EPZ		
Fire Departments outside EPZ		
Police Departments in EPZ		
Police Departments outside EPZ		
School Districts in EPZ		
School Districts outside EPZ		
Ambulance Districts in EPZ		
Ambulance Districts outside EPZ		
Cooperative Extension Service		

1. All equipment sets to include a badge-type and a direct reading dosimeter, 0-200 mR range.

FIGURE K.1. RADIATION EXPOSURE RECORD

Name: ______________________________ Social Security Number:

TLD Badge Number: ______________________________ Organization:

Mission	Date	CDV-742			CDV-730			CDV-138		
		Serial Number	Initial	Final	Serial Number	Initial	Final	Serial Number	Initial	Final
			Total			Total			Total	

FIGURE K.2. MAXIMUM PERMISSIBLE RADIATION EXPOSURES TO EMERGENCY WORKERS

A. Emergency actions shall be conducted in such a manner that radiation exposures to emergency workers are kept as low as possible and in any case are not permitted to exceed the following emergency exposure limits:

Activity	Projected Whole Body Gamma Dose (rem)	Projected Thyroid Dose (rem)
Other than lifesaving	25	125
Lifesaving	75	No Limit

B. No emergency worker shall be assigned to an activity involving significant potential external exposure to radiation until an accurate measurement or estimate of the expected exposure has been made, a maximum allowable exposure time has been calculated and the worker has been provided with personnel dosimetry which shall include a film or TLD badge and at least one self-reading pocket dosimeter of a range suitable for measuring the maximum anticipated exposure dose. Dose readings and activity assignments shall be recorded for each emergency worker so assigned.

C. No emergency worker shall be assigned to an activity involving significant potential exposure to air-borne radioiodine, air-borne radioactive particulates, or radioactivity deposited on exposed surfaces unless: (1) the worker has been provided with suitable respiratory protection equipment (e.g., gas mask, oxygen re-breathing apparatus) and suitable protective (anti-contamination) clothing; (2) provisions have been made for monitoring personnel for radioactive contamination, and (3) facilities have been provided for decontaminating personnel. Records shall be kept of contamination monitoring results for each person monitored.

D. Emergency workers assigned to activities involving significant potential exposure to radiation or radioactivity shall be provided with a means for continuous, direct radio communication with a central control center at which current information is available on all aspects of the developing emergency situation which might significantly affect radiation exposures to emergency workers.

E. For purposes of B, C, and D, above, a significant exposure to radiation or radioactivity is one which, for a person not regularly exposed occupationally to radiation, would result in a whole body gamma does in excess of 5 rems or a dose to the Thyroid in excess of 25 rems or, for a person who is regularly exposed occupationally to radiation, would result in a whole body gamma does in excess of 1 rem or a dose to the thyroid in excess of 5 rems.

under certain conditions: (1) when the workers are known to have been in an identified plume area, (2) on the basis of readings on the direct-reading dosimeter carried by the emergency worker or, (3) on the request of the emergency worker, regardless of suspected exposure. Screening will be done at the emergency worker screening/decontamination stations. This will be performed by trained Department of Health Services personnel.

Guidelines for the acceptable levels of contamination for skin, clothing, equipment, and materials are given in Table K.2. When these guidelines are exceeded, personnel and equipment will be decontaminated at decontamination stations, the location of which will be designated during the development of Standing Operating Procedures.

RADIOPROTECTIVE DRUGS

Current policy of the New York Office of Disaster Preparedness precludes the use of radioprotective drugs by state emergency workers. In conformance with this state policy, the Suffolk County Emergency Response Plan does not incorporate the use, acquisition, storage or distribution of radioprotective drugs.

Individual response agencies participating in the Suffolk County Emergency Response Plan may, at their own option, provide for the use of radioprotective drugs. Such an action is taken solely at the initiative of the local agency, and does not affect the operation of this emergency plan.

Similarly, other institutions (particularly hospitals) within the EPZ may choose to administer radioprotective drugs. Such use of radioprotective drugs by these institutions will be according to their internal procedures and will not affect the operation of this emergency plan.

ACTION/RESPONSIBILITY SUMMARY

Figure K.3 summarizes the actions relating to radiological exposure control that would be put into effect during an emergency at Shoreham. Figure K.3 also identifies the agencies with major responsibilities for these actions.

TABLE K.2 GUIDELINES FOR MAXIMUM ACCEPTABLE LEVELS OF CONTAMINATION

Subject	Maximum Acceptable Level of Beta/Gamma Contamination (Above Background)
Thyroid (Adult)	.13 mR/hour, as determined with CDV 700 with probe shield closed. If readings in excess of .13 mR/hr are found, persons should go to hospital with nuclear medicine capability.
Thyroid (child)	Any reading above background, as determined by CDV 700 with proble shield closed. When any reading above background is found, person should go to hospital with nuclear medicine capability.
Skin, hair	.3 mR/hour with probe shield open. If readings in excess of .3 mR/hour are found, person should be considered contaminated and should be decontaminated at a designated station.
Clothing	.1 mR/hour with probe shield open. If readings in excess of .1 mR/hour are found, persons should be considered contaminated and should be decontaminated at designated station.
Vehicles, equipment (exterior)	.3 mR/hour on equipment or exterior of vehicles. If readings in excess of .3 mR/hour are found, vehicles or equipment should be considered contaminated and should be decontaminated at a designated station.
Vehicles (interior)	.3 mR/hr on interior surfaces of vehicles which are in direct contact with occupants. If readings in excess of .3 mR/hour are found on these surfaces, vehicles should be decontaminated at designated stations.
Decontamination areas	50 mR/hour. If readings in excess of 50 mR/hour are found, decontamination area is closed off, entry is prohibited and decontamination activity is shifted to another location.

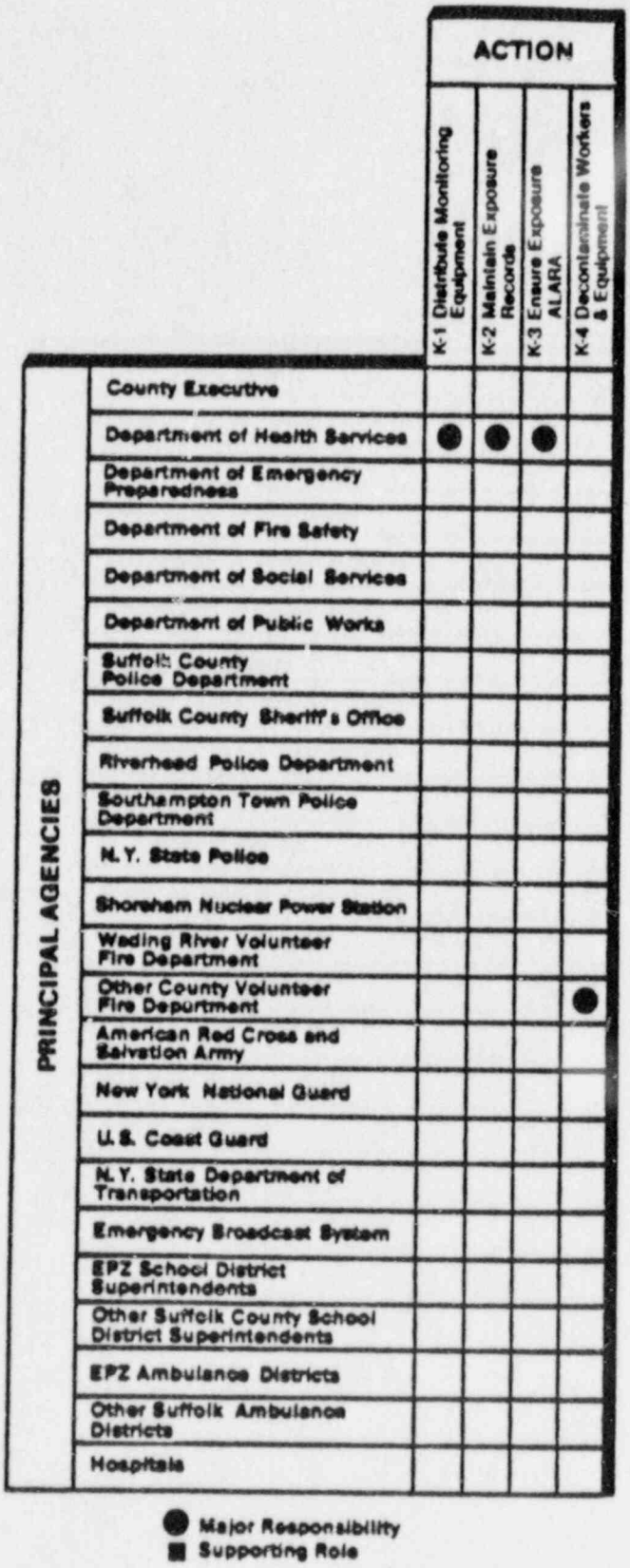

Figure K.3. Radiological Exposure Control Responsibilities of Principal Agencies

PART L. MEDICAL AND PUBLIC HEALTH SUPPORT

PLANNING STANDARD

"Arrangements are made for medical services for contaminated injured individuals."[1]

LOCAL ACTIONS

Personal injury involving possible contamination will be initially handled by the emergency medical services providing first aid concentrating on life-endangering injuries in preference to decontamination. In the event that treatment is required for contaminated injured individuals, some limited hospital service can be provided by the Central Suffolk Hospital which has been equipped with a private entrance to an isolated emergency room containing appropriate instrumentation, equipment for decontamination, and protective clothing. Nevertheless, it is possible that Central Suffolk Hospital's facilities may not be adequate to handle the number of contaminated and/or injured patients that may require treatment due to a severe accident at Shoreham. It should also be noted that Central Suffolk Hospital is within the EPZ and may itself be subject to evacuation. Therefore, the county must examine whether additional hospital service is required. Such additional facilities will be designated during the development of Standing Operating Procedures. Responsibilities of principal agencies for medical and public health support functions are shown in Figure L.1.

TRANSPORTATION

Volunteer fire departments will provide contaminated individuals with transportation to the hospital. The Director of Fire Safety will provide coordination and enable communication with the volunteer fire services. As a backup, transportation will be provided by helicopter.

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[1] NUREG 0654.

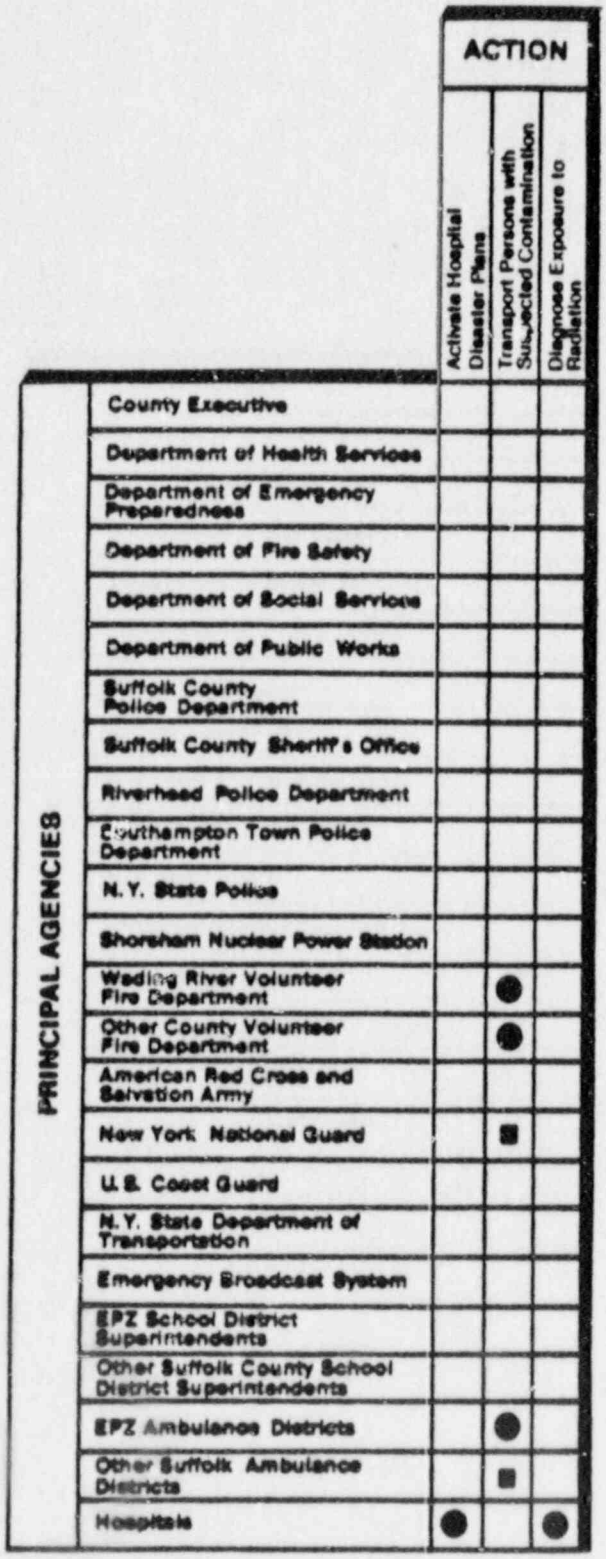

Figure L.1. Responsibility of Principal Agencies for Medical and Public Health Support Functions

PART M. RECOVERY AND REENTRY PLANNING AND POST-ACCIDENT OPERATIONS

PLANNING STANDARD

"General plans for recovery and reentry are developed."[1]

DECISION PROCESS FOR RELAXATION OF PROTECTIVE RESPONSES

Field monitoring teams will make continuing reports of radiation levels in Suffolk County, as specified in the accident assessment function (Part I of this plan). Based on these reports and other information, a decision on relaxation of protective measures will be made by the state in accordance with the State Radiological Emergency Preparedness Plan. Notification of the relaxation of emergency responses will follow the same procedure as the original notification of emergency (Part E of this plan).

RELAXATION OF PROTECTIVE RESPONSES

In general, the ending of protective responses involves the same functions and the same participating agencies as required for originally putting the response into effect. Specific functions included in the ending of protective responses are:

- Agency Notification – (Part E of this plan). The state notifies the Suffolk County Department of Emergency Preparedness of the end of the particular protective response. Individual agencies notify their emergency workers.
- Public Notification – (Part E of this plan). The public is informed, primarily through EBS broadcasts, of the end of the protective responses.
- Accident Assessment – (Part I of this plan). Field monitoring continues through the finish of the protective responses.
- Security Control – (Part J of this plan). Security control is maintained through the finish of the protective responses.

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[1] NUREG 0654.

- Perimeter Control – (Part J of this plan). Perimeter control is relaxed as the evacuation response is ending.

- Traffic Control – (Part J of this plan). Traffic control at critical locations is resumed during reentry to the evacuated area.

- Transport Non-Auto-Owning Population – (Part J of this plan). Population without access to an automobile is returned to the evacuated areas by the same means by which they were removed.

- Operation of Reception Centers – Operation of reception centers is phased out as their population returns to the EPZ.

- Radiological Exposure Control – (Part K of this plan). Continues through the end of the protective responses.

- Medical, Public Health Support – (Part L of this plan.) Continues through the finish of the protective responses.

ASSESSMENT OF ECONOMIC LOSSES

State agencies (for example, New York Department of Agriculture and Markets, New York Department of Natural Resources) will assess economic losses due to the radiological emergency at Shoreham and the responses within the county to this emergency.

DISPOSAL OF RADIOACTIVE WASTES

The State Office of Disaster Preparedness and Department of Health will advise the county on the disposal of radioactive wastes accumulated within Suffolk County during the emergency. County agencies which may participate in the disposal of these wastes are the Department of Public Works and the Department of Health Services.

SECURING FINANCIAL ASSISTANCE FOR RECOVERY

State and federal representatives to the EOF (for example, FEMA and NRC) will advise the county on available sources of state and federal financial assistance for disaster recovery, and will assist the county in applying for this assistance.

PART N. EXERCISES AND DRILLS

PLANNING STANDARD

"Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiences identified as a result of exercises or drills are (will be) corrected."[1]

SUMMARY

Two types of tests are planned:

1. Annual exercises, held at least once every 12 months (plus or minus 3 months) which test the capabilities for emergency response throughout the entire EPZ. Exercises are called by the New York Office of Disaster Preparedness.

2. Drills are supervised instruction periods focused on a specific emergency response capability. Drills may be included as part of the annual exercise for the entire EPZ. Drills may also be held at more frequent intervals, and confined to agencies within the county itself.

EXERCISES

Exercises will be conducted prior to the adoption of the local preparedness plan, and annually (plus or minus three months) after that. Exercises will be called by the New York Office of Disaster Preparedness.

The County Department of Emergency Preparedness will coordinate all participation by Suffolk County in the exercises.

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[1] NUREG 0654.

Scenarios for Exercises

Each exercise will follow a scenario; that is, a set of real and simulated events that dictate the emergency response. Scenarios will be established by the County Department of Emergency Preparedness in coordination with the state and the Shoreham Plant. Scenarios will include these specific items:

- Objective of the exercise
- Agencies that will participate in the exercise
- Events that will be simulated, and their timing
- A narrative summary of the activities to be included in the exercises
- A description of advance materials to be provided to official observers

Guidelines for Exercises

Exercises will be conducted according to the guidelines issued by NRC and FEMA. Observers from county agencies will be designated by the Suffolk Department of Emergency Preparedness.

Scope of Exercises

All agencies in the county with a role in emergency response will participate in an exercise at least once during a five-year span. This is achieved by structuring the annual plan scenarios to include each agency at least once in five years. Personnel and resources will be mobilized to the extent necessary to demonstrate the capability to respond to a radiological emergency.

DRILLS

The Department of Emergency Preparedness will conduct three types of drills:

1. Communication Drills, to test communications with the state, the offsite EOF, and county response agencies, will be held monthly.

Tests of communications with Federal agencies will be made on a quarterly basis. Communications with field assessment teams will be tested annually.

Communication drills can be included as part of the annual exercise.

2. Medical Emergency Drills involving the transportation of a radiologically-contaminated person (simulated) will be conducted annually. Rescue and ambulance squads will participate in this drill.

3. Radiological Monitoring Drills will be conducted annually. These drills will encompass the deployment of monitoring teams, collection of sample media, analysis of sample media, communication of results and recordkeeping. Personnel from the County Department of Health Services will participate in these drills.

RESPONSE TO CRITIQUES

The County Department of Emergency Preparedness will schedule a work session with federal, state, and local observers of exercises and drills. It will request comments and observations on the exercises, and will record these comments, either as written transmittals from the reviewing agencies or as minutes of the review meetings. The Department of Emergency Preparedness will incorporate suggestions into the plan and supporting documents (SOP's), and will inform reviewing agencies, in writing, of the disposition of the suggestions and review comments.

PART O. RADIOLOGICAL EMERGENCY RESPONSE TRAINING

PURPOSE

"To specify the training to be provided to emergency workers; that is, to persons responding to a radiological emergency at the Shoreham Plant."[1]

EMERGENCY WORKERS TO BE TRAINED

Training will be provided to all emergency workers participating in the responses described in this plan. These emergency workers, their agencies, and the recommended type of training are identified in Table O.1.

SCOPE OF EMERGENCY TRAINING

Training for response to a radiological emergency at Shoreham addresses four general areas:

- Basic radiological emergency response – Nature of radiation in general, types of radioactive materials, nature of radioactive materials and processes at the plant, health consequences of exposure to radiation, use of gamma radiation detection instruments, use of personnel monitoring devices, procedures for screening of personnel and equipment, decontamination of personnel and equipment.

- Emergency response by individual agencies – Specific actions required by any particular agency during response to an emergency at Shoreham. Includes notification of the agency, notification of emergency workers by the particular response agency, communications, command and control, reporting procedures and Standing Operating Procedures (SOP's) for the agency's actions.

- Radiological monitoring training – More advanced and detailed training in the use of radiological monitoring instruments and procedures, directed toward agencies having overall responsibilities for the emergency response (for example, the County Department of

[1] NUREG 0654.

TABLE O.1. SUMMARY OF TRAINING ACTIVITY

Agency	Persons Trained	Training Received: Basic Radiological Response	Training Received: Response By Individual Agency	Training Received: Other
County Department of Emergency Preparedness	Director	X	X	Radiological Monitoring Station and EOF Plans
County Police Department	All Staff	X	X	
	Police Chief	X	X	Station and EOF Plans
County Executive	All Staff			Briefings by Department of Emergency Preparedness on County Plan
County Department of Health Services	All Staff	X	X	Accident Assesment and Radiological Monitoring
County Public Works Department	All Staff	X	X	
County Sheriff's Department	All Staff	X	X	
County Cooperative Extension Service	All Staff	X	X	
All Police and Fire Departments in Suffolk County		All Staff	X	X
All Ambulance Districts and Companies in Suffolk County		All Staff	X	X
All School Districts in EPZ	Superintendent	X	X	
	Principals	X	X	
	Transp. Directors	X	X	
	Bus Drivers/Alt.	X	X	
Red Cross	All Staff	X	X	
Salvation Army	All Staff	X	X	
All hospitals in County	Designated Representative			Briefing by County Department of Emergency Preparedness

Emergency Preparedness) and agencies with health-related functions (for example, Suffolk County Department of Health Services and rescue squads).

- Station and Emergency Operations Facility (EOF) Plans – Directed toward county agencies (Department of Emergency Preparedness and Police Department) having direct contact with the EOF during an emergency. This training covers procedures and functions of the EOF, communications between the county and the EOF, procedures for assessing the health hazards of releases of radioactivity from the plant.

All emergency workers will receive training in the first two areas—Basic Radiological Emergency Response and Emergency Response by Individual Agencies. This training is accomplished in a course of instruction, provided by the State Office of Disaster Preparedness.

Some emergency workers (Table O.1) will receive training in the additional areas of Radiological Monitoring and Station and EOF Plans. This training is provided by federal agencies, federal contractors, or LILCO (Table O.2). Courses of instruction range from 6 to 36 hours of instruction and include exercises.

FREQUENCY OF TRAINING

The basic training for all emergency workers, consisting of the Basic Radiological Response and Individual Agency Response elements, will be provided by the State Office of Disaster Preparedness prior to the beginning of exercises and drills. An annual updating of this training will be provided by the County Department of Emergency Preparedness. Some additional annual exposure to the response plan is provided by the yearly review cycle for the plan documents.

TABLE O.2. COURSES AVAILABLE FOR RADIOLOGICAL EMERGENCY RESPONSE TRAINING

Course Title	Time Required	Prerequisites	Taught By	Training Site
Radiological Monitoring (Basic) (Refresher for above)	16 hours 4 hours	A. 15 students, no previous training B. Monitoring assignment	As arranged	As arranged
Radiological Defense Officer - (R.D.O.)	32.5 hours	A. RDO Assignment B. Completion of Basic 16-Hour Monitor Course C. 15 students	As arranged	As arranged
Radiological Emergency Resource Operations Course	10 days (80 hours)	A. Radiological Monitoring Course (16 hours) B. R.D.O. Course C. Emergency management Assignment	NRC and Contractor	N.T.S., Las Vegas, Nevada
Category 6 Coordinator Course (Dose Assessment)	36 hours	A. Assignment in Radiological Analysis	NRC and U.S. E.P.A.	Site to be announced
Nuclear Planning Course	36 hours	A. Assignment in Nuclear Planning and Emergency Management	FEMA - NRC	Site to be announced
Basic, Advanced, R.D.O. & Radiological Monitor Instructor Workshop	32.5 hours 22 hours	A. Assignment in Analysis Monitoring, or R.D.O. B. Completion of Basic 16 Hour Monitoring Course	FEMA	Site to be Announced
Radiological Training (Licensee Conducted)	As Arranged	A. Monitoring/Assessment B. Managerial Related Functions C. Familiarity with Station Emergency Plans	Nuclear Training Dept. (Nuclear Services Mission)	Near-Site Location

PART P. RESPONSIBILITY FOR THE PLANNING EFFORT: DEVELOPMENT, PERIODIC REVIEW AND DISTRIBUTION OF EMERGENCY PLANS

PLANNING STANDARD

"Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained."

PLAN DEVELOPMENT

The County Executive is responsible for developing the plan for response by the Suffolk County agencies in the event of a radiological emergency. The County Executive is also responsible for coordinating the county plan with the New York State Disaster Preparedness Plan, federal plans, and the LILCO Emergency Response Plan for the Shoreham Nuclear Power Station.

PLAN DISTRIBUTION

The Suffolk County plan will be distributed as shown in Figure P.1.

PLAN UPDATING

The County Executive will update the plan annually. Revisions will derive from tests and exercises, changes in agency resources, and changes in state and Federal plans. They will also circulate revised plans to all plan holders (Figure P.1). Plan revisions will be keyed to the original plan document, and revised pages will be dated and marked to indicate the changes that have been made. The Plan Revision Control Sheet (Figure P.2) will be completed by the plan holder and returned to the County Executive.

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[1] NUREG 0654.

Agency	Number of Copies
County Executive	5
Department of Health Services	2
Department of Emergency Preparedness	5
Department of Fire Safety	1
Department of Social Services	1
Department of Public Works	1
Suffolk County Police Department	3
Suffolk County Sheriff's Office	1
Riverhead Police Department	1
Southampton Town Police Department	1
New York State Police	1
Shoreham Nuclear Power Station	1
Wading River Volunteer Fire Department	1
Other County Volunteer Fire Departments	1
American Red Cross and Salvation Army	1
New York National Guard	1
U.S. Coast Guard	1
New York State Department of Transportation	1
Emergency Broadcast System	1
EPZ School District Superintendents	1
Other Suffolk County School District Superintendents	1
EPZ Ambulance Districts	1
Other Suffolk Ambulance Districts	1
Hospitals	1
N.Y. State Office of Disaster Preparedness	5
Federal Emergency Management Administration	1
Nuclear Regulatory Commission	1

Figure P.1. Distribution of Suffolk County Radiological Emergency Response Plan

FIGURE P.2. PLAN REVISION CONTROL SHEET

According to our records you have _____ copy(ies) of the Suffolk County Radiological Emergency Response Plan. Enclosed are revised pages or additions to the plan. Please insert these pages in the proper place in the plan and dispose of the page(s) they are replacing, if any. Sign this letter and return it to me within two weeks to acknowledge receipt.

If you have any questions, please contact me at any time. Thank you for your cooperation.

Sincerely,

County Executive

I have received the above-mentioned documents, inserted them in the plan, and destroyed all previous issues.

_____
Signature

_____
Date

(Please Print)

NAME: _____

PLAN COMPONENTS

The Suffolk County Radiological Emergency Response Plan, of which this text is a part, consists of:

- Concept of Operations – which summarizes the response plan.
- Parts A through P – organized along the structure of the 15 planning standards (functions) specified in NUREG 0654. The component actions within each function are identified and responsibilities for the individual actions are assigned to county agencies.
- Appendices, including –

  (1) Glossary of Terms

  (2) Agreement Form

  Development of this plan was based on supporting documents contained in Volumes II and III.

In addition to this plan, a set of Standing Operating Procedures (SOP's) will need to be produced. These will define the detailed procedures, within each agency, for carrying out the specific actions relating to an emergency response in Suffolk County.

SUPPORTING PLANS

- Department of Energy (DOE) Radiological Assistance Plan (RAP), from the U.S. Department of Energy. This plan describes the DOE support that is available upon request.
- Federal Radiological Monitoring and Assessment Plan (FRMAP) by FEMA/NRC, describes the participation of federal agencies in response to an emergency at nuclear power plants.
- New York State Disaster Preparedness Plan, deals in general terms with radiological emergencies.
- New York State Radiological Emergency Preparedness Plan, prepared by the Nuclear Emergency Planning Group, provides more specific details than the State Disaster Preparedness Plan.

APPENDIX 1
GLOSSARY OF TERMS USED IN THIS REPORT

ACCIDENT ASSESSMENT – Determination of the health hazards produced by a radiological emergency. Accident assessment involves the field measurement of radiation levels by monitoring teams using portable instruments, the reporting of these readings to a central point and the interpretation of these readings by trained analysts.

ALERT – A condition at the plant, indicating an accident which clearly reduces the margin of safety at the plant. No release of radioactivity is present or expected at this stage of emergency.

CONFIRMATION OF EVACUATION – the sampling of households, through telephone calls from the EOC, to establish the extent to which the public has evacuated.

DECONTAMINATION – The removal of radioactive materials from persons or equipment, usually by washing.

DEDICATED COMMUNICATION SYSTEM – A communication system reserved exclusively for a specified purpose (for example, notification of agencies) and which is not shared with other non-designated traffic. A dedicated communication system can be obtained with various types of hardware, including telephone lines, microwave, or UHF radio.

EMERGENCY BROADCAST SYSTEM (EBS) – System for conveying uniform messages on emergencies to local radio listeners.

EMERGENCY OPERATIONS CENTER (EOC) – Headquarters for the county response to a radiological emergency. The Suffolk County EOC is located at Yapank, and is also the full-time headquarters of the Suffolk County Department of Emergency Preparedness.

EMERGENCY OPERATIONS FACILITY (EOF) – A headquarters facility, built and maintained by the utility, which serves as the base of operations for the utility during an emergency.

EMERGENCY PLANNING ZONE (EPZ) – The area around a nuclear facility for which planning is required to protect population in the event of an emergency at the facility.

EMERGENCY WORKER – Any person having designated duties in response to a radiological emergency. All emergency workers belong to a Response Agency.

EVACUATION – One of the Protective Responses that might be ordered for the public at large within the EPZ. In this response, population will travel in their own automobiles, driving out of the hazard area by the most direct

route available. Public agencies, using school buses,[1] will transport those persons not having an automobile available for evacuation.

GENERAL EMERGENCY – A condition at the Shoreham Plant, indicating a severe accident with large releases of radioactive materials. Releases extend (or are projected to extend) beyond the plant site.

INDIVIDUAL PROTECTIVE ACTIONS – One of the Protective Responses that might be ordered for the population within the EPZ. This response calls for the public to take shelter at their immediate location (within their homes, places of employment, schools) and to use readily available household products, such as towels and paper tissues, for protection against the inhalation of radioactive materials.

NOTIFICATION – Indicates that an emergency has occurred, and that designated pre-planned activities should be started. Agency Notification is the alerting of Response Agencies. Emergency Worker Notification is the alerting of the individual staff members of each response agency. Public Notification involves informing the population at large, through siren sounding and EBS broadcasts, of the emergency at Shoreham and the recommended response.

PERIMETER CONTROL – The closing of the EPZ to incoming vehicular traffic.

PLUME – The pathway (or projected pathway) of radiation released from Shoreham.

PROTECTIVE ACTION GUIDES (PAG's) – Criteria for the maximum allowable radiation dose for individuals in the general population. Protective Responses are warranted to prevent population from exceeding those dose levels.

PROTECTIVE RESPONSES – Measures ordered for protection of the population at large from radioactive hazards. Most likely protective actions are (1) individual protective actions to prevent inhalation of radioactive materials and, (2) evacuation out of the EPZ.

RECEPTION CENTERS – Temporary operations, housed at schools outside the EPZ, to which evacuees are directed for screening, decontamination, collection of other family members, and temporary lodging.

RESPONSE AGENCY – Any organization (public or private) with designated duties in an emergency response.

RELEASE – Radioactive material (gas or particulates) which has escaped from the Shoreham Plant

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[1] See Footnote 1 on Page 4.

SCREENING – The monitoring of persons to establish if they have ingested radioactive material or if their body surface is contaminated with radioactivity. Most screening is done with portable monitoring instruments by fire department personnel at reception centers.

SECURITY CONTROL – The patrolling of evacuated areas, by local police, to maintain order in the evacuated areas and to assist remaining residents in evacuating.

SIREN SYSTEM – System of high-powered sirens located throughout the vicinity of the plant, having the capability to alert all population within the EPZ. Sounding of the siren alerts listeners to tune into Emergency Broadcast System radio for further information.

SITE EMERGENCY – A condition at the plant, indicating a major failure (actual or expected) which reduces the margin of safety at the plant. Releases of radioactivity have occurred or are expected. These releases are projected to be confined within the plant.

TRAFFIC CONTROL – The maintaining of orderly traffic flow at critical locations (usually intersections) during an evacuation. Traffic control is done by local police agencies.

UNUSUAL EVENT – A condition at the plant, signifying almost any variation from normal operation of the plant. An unusual event is not expected to decrease the safety at the plant.

APPENDIX 2
FORM FOR LOCAL INTERAGENCY AGREEMENT IN RESPONSE TO A RADIOLOGICAL EMERGENCY

(Suffolk County Letterhead)

A FORMAL INTERAGENCY LETTER OF AGREEMENT TO PARTICIPATE IN A COORDINATED RESPONSE TO NUCLEAR ORIENTED EMERGENCIES IN SUFFOLK COUNTY, NEW YORK

This plan, as developed for the administrative and operating agencies of Suffolk County Government and local governmental jurisdictions, represents a combined effort on the part of Federal, State, and local governments to establish a program of radiation response preparedness on behalf of the citizens of Suffolk County, New York.

A continuing effort will be made by all responsible agencies to facilitate the cooperative use of the maximum in time and resources available to County and local government in such an emergency.

The undersigned officials, representing their various individual agencies and departments, are hereby responsible for the actions of County and local government in New York and agree to fulfill such obligations or responsibilities as their portion of this plan for response to radiation emergencies may assign or delegate to them.

(Signed, Director of County or Local Agency)	(Signed, Director of County or Local Agency)
_____	_____
_____	_____
_____	_____

NEW YORK STATE
Disaster Preparedness Commission
Radiological Emergency Preparedness Group
Building #22, First Sublevel, State Campus
Albany, N.Y. 12226-5000

David Axelrod, M.D.
Chairman

MG Lawrence P. Flynn
Secretariat

NEW YORK STATE
PREVENTION/MITIGATION
RECOVERY — RESPONSE
DPC
DISASTER
PREPAREDNESS
COMMISSION

MEMORANDUM

TO: All Recipients of the NYS Radiological Plan

FROM: James D. Papile, Director, REPG

DATE: September 1, 1987

SUBJECT: Revised New York State Plan

Please find enclosed the latest revision to the New York State Radiological Emergency Preparedness Plan for Commercial Power Plants dated Rev. 8/87. This is the latest revision of the plan, please destroy all previous copies. Also enclosed is the index of the latest revision for each page. Please retain this with your copy of the plan.

JDP/sm

Enc. 2

PAGES NOT BEARING A REVISION NOTATION ARE PAGES REMAINING FROM THE ORIGINAL PLAN FIRST PUBLISHED IN 1980. THE FOLLOWING IS A LIST OF THE UPDATED REVISED PAGES.

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NEW YORK STATE
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN
FOR COMMERCIAL POWER PLANTS

Prepared for
the Disaster Preparedness Commission
of the
State of New York

By the Radiological Emergency Preparedness Group

April, 1987

Executive Summary

INTRODUCTION

This New York State Radiological Emergency Preparedness Plan (REPP) has been written to assist in protecting the health and safety of the inhabitants of New York State in the event of an emergency at a commercial nuclear power plant.

The New York State Disaster Preparedness Plan addresses radiological emergencies in general terms whereas this NYS Radiological Emergency Preparedness Plan fills in the specific details. This Plan also contains seven county plans, county and State implementation material and procedures necessary to carry out adequate protective action responses should a radiological emergency at a nuclear power plant occur. All components of this Plan are designed to provide preplanned coordinated efforts by emergency managers.

BACKGROUND

New York has had a Radiological Emergency Plan (Rad. Plan) since May 1971. The 1971 Plan stressed reliance on plant operators, especially the accident assessment capability.

The need to develop an improved radiological plan took on a new sense of urgency due to regulations imposed upon facility operators by the Federal government following the accident at Three Mile Island in March, 1979. Federal rules (10 CFR 50) require the nuclear facility operators to provide the Nuclear Regulatory Commission (NRC) with improved and expanded radiological response plans for the counties surrounding each nuclear power plant site for the State. Such plans must demonstrate an ability on the part of the State and counties to react to an emergency effectively. The Federal regulations do not place requirements directly on the State, and its subdivisions, but they clearly accentuate the need for statewide radiological emergency plans. New York has chosen to develop this Plan to insure adequate comprehensive emergency management.

The Radiological Emergency Preparedness Group (REPG), was established in 1980 as an interagency work group under the auspices of the New York State Disaster Preparedness Commission. The REPG is responsible for developing comprehensive plans and procedures for prompt reactions to potential emergencies at nuclear power plants in New York or in bordering states. Funding for REPG is provided by Chapter 708, Executive Law of 1981, which requires operators of commercial nuclear power reactors in New York State to support State and local radiological emergency preparedness activities.

The two lead Federal agencies that deal with this plan's review are the Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission (NRC). FEMA is responsible for reviewing State and local plans, and the NRC is charged with reviewing the nuclear facility operators' plans. Each nuclear facility plan must include State and county components. FEMA advises the NRC on the adequacy of State and county plans.

The Federal rules required several provisions be included in the development of a radiological plan; a uniform accident classification system consisting of four emergency action classes created to assist in prompt emergency notification and the concept of Emergency Planning Zones (EPZs), which define two specific radiation pathways for each power facility and was adopted to improve response activity efficiency.

These EPZs consist of a plume exposure pathway (approximately 10 mile radius) and an ingestion exposure pathway (approximately 50 mile radius). The rules further require a clearly defined prompt emergency notification system for the general public.

A test of the complete emergency system in the form of an exercise includes local government, State and utility components. A Federally observed and assessed exercise is held biannually at each site. During off year, any exercises are observed and evaluated by the UPC/REPG.

These aforementioned requirements are contained in this NYS REPP. On February 1, 1985 the generic State plan received Federal approval from FEMA.

ORGANIZATION

The structure of this Plan is consistent with that of the NYS Disaster Preparedness Plan. Three emergency phases exist in both: Prevention/ Mitigation, Response, and Recovery. Before an actual radiological problem develops, the State should be taking preventive and mitigative action. When an emergency occurs, response procedures must be implemented. After the initial threat of an emergency is over, the recovery stage begins.

PREVENTION/MITIGATION

Prevention/Mitigation is the first phase of the emergency preparedness system. Its primary purpose is to eliminate, or reduce, the effects of radiological emergencies. Prevention/Mitigation activities include logistical assistance, technical assistance, and off-site monitoring of potential radiological emergencies, public education, training, drills, and vulnerability studies of potentially hazardous radiological sources. These and similar activities which attempt to negate or minimize the effects of a radiological emergency are essential to the protection of public health and environment from radiological exposure.

It is the policy of the State that specific agencies on State and local levels will have individual roles and responsibilities to perform, and will effectively combine resources with those of the private sector to produce an efficiently functioning Prevention/Mitigation program. (NYS Executive Law, Article 2-B, 1979 as amended).

RESPONSE

The Response phase is of primary concern in the Federal rules and review process. Of necessity, Response is emphasized in this Plan.

The Response phase sets forth those actions taken in direct reaction to a radiological emergency. Response activities are those which require immediate

action to protect public health and alleviate the effects of hazardous radiation. The relief actions are undertaken by a combination of State and local resources, with Federal assistance where necessary, and with significant input from the licensees.

This Plan places the State lead role during an emergency at any commercial nuclear power plant with the New York State Department of Health. The Department of Health is charged with the assessment and evaluation of radiological incidents, and with the task of recommending appropriate protective actions. (Protective actions include: sheltering, administration of thyroid blocking agents, ad hoc respiratory protection and evacuation.) The coordination of this assessment and evaluation is centralized in the assessment and command rooms at the State EOC. The State Emergency Management Office (Division of Military and Naval Affairs) is the coordinator of State and local operational resources. Such coordination is centralized in the operations room of the State EOC. The Radiological Emergency Preparedness Group serves as the Disaster Preparedness Commission's field liaisons within the counties, the power plant, and the Joint News Center. The coordination of REPG is centralized in the command and control room at the State EOC. These three State offices perform primary functions in the vital initial stages of the Response phase.

Upon implementation of this plan by the Disaster Preparedness Commission, all concepts and procedures shall be deemed binding upon all State agencies.

During the Response phase, many functions of radiological emergency management are delegated to key State agencies. Primary functions, such as direction and control, public information, accident assessment and medical and sanitation services, are provided by the Department of Health and the REPG. Communication and the coordination of State resources needed for evacuation are handled through the State Emergency Management Office.

The assessment activity required by the Federal regulations, and as set forth in this Plan, is unique to radiological emergencies. Chapter 708 of the Executive Laws of 1981 calls for improvements in accident assessment by means of an independent monitoring capability at the State level to insure more accurate and efficient notification as to potential radiological emergencies.

The Response process in a radiological incident is as follows: the nuclear facility operator becomes aware of a potential radiological emergency. The Radiological Emergency Communications System (RECS) is activated to enable the State and affected county(ies) governments and the utility to communicate with each other. After data and information is received and reviewed, the county Chief Executive and the Chairman of DPC activate the executive hotline and make an assessment and evaluation of the situation. The REPG deploys to the affected site. A protective action is recommended by Department of Health, if necessary. The State Emergency Management Office then coordinates State resources to support the recommendation by notifying State Agencies and the SEMO district office. The county response plans are implemented upon the decision of the county Chief Executive and are carried through to completion with the support of the State.

RECOVERY

The Recovery phase is the final s ge of the Radiological Emergency Preparedness Plan. During recovery, a planned effort to assist in returning the community to normal is made. A specific disaster preparedness recovery team will be appointed by the Disaster Preparedness Commission to reconstruct the physical and institutional aspects of the community after the radiological emergency. A return of services to prior levels or better is the projected goal of the Recovery stage.

NEW YORK STATE RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

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Definitions

Airborne Radioactive Material: Any radioactive material dispersed in the air in the form of dusts, fumes, mists, vapors or gases.

Assessment: The compilation and analysis of all available accident data and information in order to determine actual and projected radiation doses to the affected population that may result from the accident.

Background Radiation: Radiation arising from man's natural environment including cosmic rays and radiation occurring from the natural radioactive elements.

Chief Executive: A County Executive or County Manager, the Chairman or other presiding officer of the county legislative body, the Mayor of a city or village, or the Supervisor of a town.

Congregate Care Center: A facility where short term housing and feeding would be provided for evacuees.

Contamination (Radioactive): Deposition of unwanted radioactive material on the surfaces of structures, areas, objects, or personnel.

Decontamination: The reduction or removal of unwanted radioactive material from a structure, area, object or person.

Disaster Preparedness Plan: A plan which provides comprehensive emergency management for all types of emergencies within the State. The Radiological Emergency Preparedness Plan is an intergral part of the State Disaster Preparedness Plan.

Dose: The amount of radiation energy absorbed.

Dose Equivalent: A quanity that expresses all types of ionizing radiation on a common scale to indicate relative biological effects. The rem is the unit of dose equivalent.

Dose Rate: The radiation dose delivered per unit of time. Measured, for example, in rem per hour.

Dosimeter: A personnel monitoring instrument that measures radiation dose received. (Self-reading)

Emergency Operations Center (EOC): A secure area with a wide range communications capability that provides an operating area for those agencies involved in emergency response to man-made or natural disasters.

Emergency Operations Facility (EOF): A facility operated by the licensee for the purpose of evaluating and controlling emergency situations and coordinating responses. It is normally located outside the plan exclusion area.

Emergency Planning Zone (EPZ): The area surrounding a nuclear power plant site for which offsite planning is required. For nuclear power plants, the EPZ is defined as an area with a radius of about ten (10) miles for the plume exposure pathway and a radius of about fifty (50) miles for the ingestion exposure pathway.

Emergency Response Planning Area (ERPA): A subdivision of the plume exposure (10-mile) emergency planning zone.

Evacuation: The relocation of the public from an area.

Event Classification: Nuclear Regulatory Commission (NRC) classification of four levels of radiological emergencies. This classification system - unusual event, alert, site area emergency, general emergency - provides a uniform method to identify the severity of a nuclear power plant accident.

Exclusion Area: The area surrounding a nuclear power plant facility, in which the Nuclear Facility Operator (NFO) has the authority to determine and control all activities including exclusion or removal of personnel and property from the area. There are no residences within a nuclear power plant facility exclusion area boundary.

Exposure: A measure of the ionization produced in air by X-ray or gamma radiation. The Roentgen (R) is the unit of exposure. The term "dose", sometimes used interchangeably with exposure, actually refers to absorbed radiation.

Exposure Pathways: The ways in which the presence of radioactive materials in the environment leads to exposure to man. Inhalation of airborne radioactive material, ingestion of contaminated food or drink, and whole body exposure to a passing plume or ground contamination are examples of different exposure pathways.

Film Badge: A light-tight package of photographic film worn like a badge and used to measure possible exposure to ionizing radiation. (Permanent record - requires processing to read.)

Ingestion Emergency Planning Zone: For planning purposes, the area surrounding a site, where the principal exposure from an accident would be from the ingetion of contaminated water or foods. For nuclear power plants the ingestion EPZ is an area of about a fifty (50) mile radius around a nuclear plant.

Inhalation Emergency Planning Zone: See definition Plume Exposure Pathway.

Initial Notification: The first notification by a Nuclear Facility Operator to State and local agencies and the Nuclear Regulatory Commission of one of the four event classifications.

Ionizing Radiation: Any radiation capable of displacing electrons from atoms or molecules, thereby producing ions. (For example, radiation produced by x-ray equipment.)

Joint News Center: The facility used as the central point for dissemination of informtion by county, State and utility representatives to the news media. This facility is located offsite, and is the only location which allows media access during an emergency.

Local Government: For the purposes of the Plan any County, City, Town or Village.

Millirem (mrem): One-thousandth (1/1000) of a rem.

Nuclear Facility Operator (NFO): The entity licensed by the Nuclear Regulatory Commission to operate a nuclear facility.

Nuclear Power Plant Emergencies: Any emergency of a radiological nature that occurs at a nuclear power plant station.

Nuclear Reactor: A device in which nuclear fission may be sustained and controlled in a self-supporting nuclear reaction.

Off-site: Anything outside the exclusion area of a particular nuclear power plant facility.

On-site: Anything inside the exclusion area of a nuclear power plant facility.

Personnel Monitoring Center (PMC): Those facilities or locations where individuals and equipment will be monitored for radioactive contamination and decontaminated if necessary.

Plume Exposure Pathway: For planning purposes, the area surrounding a site here the principal exposure sources are: (a) whole body exposure to gamma radiation from the plume and from deposited material, and (b) inhalation exposure from the passing radioactive plume. For nuclear power plants the plume EPZ is defined as an area with a radius of about ten (10) miles.

Prevention/Mitigation: The emergency phase that is aimed at eliminating or reducing the probability of the occurrence if a radiological emergency, and in minimizing the impact of a radiological emergency on public health and property.

Projected Dose: The calculated radiation dose which affected individuals could potentially receive.

Protective Action: Any action taken to protect the public health in response to a radiological emergency.

Radioactive Materials: Material containing atoms having excess energy. It contains excited, unstable atoms that are disintegrating, emitting radiation.

Radioiodines: A family of radioactive iodines - I-131, I-133 and I-135 - these are the radioiodines of primary significance for radiological emergencies involving nuclear power plants.

Radiological Emergency: A situation which may result in the loss of control of a radiation source causing a hazard, or potential hazard, to health or property.

Radiological Monitoring: The detection and measurement of ionizing radiation from radiological releases by means of survey instruments.

Reception Center: A predesignated location outside the Plume Exposure Pathway EPZ through which evacuees will pass to receive assistance which may include registration, first aid, radiation monitoring and direction to a Congregate Care Center or medical facility.

Recovery: The emergency phase in which efforts are carried out to return to pre-emergency conditions.

Release: Escape of radioactive materials into the environment.

Rem: The unit of dose equivalent in body tissue. It is a measure of radiation exposure that indicates the potential impact on human cells.

Response: The emergency phase in which public protective actions are carried out.

Sheltering: An action taken to reduce exposure to radiologically contaminated air by going indoors.

Survey Meter: A portable instrument used to detect and measure ionizing radiation.

Thyroid Blocking Agent: A chemical compound taken to prevent or reduce the absorption by the thyroid of radioiodine. Potassium iodide (KI) is the typical blocking agent used in the United States.

Thyroid Exposure: Exposure of the thyroid gland to radioactive isotopes of iodine which have been either inhaled or ingested.

Thermoluminescent Dosimeter (TLD): A dosimetry badge used to measure possible exposure to ionizing radiation. (Permanent record - requires processing to read.)

Whole Body Exposure: An exposure of the human body to radiation, in which the entire body rather than an isolated part is exposed to ionizing radiation. For regulatory purposes, exposure of certain organ systems such as the head and trunk are considered equivalent to exposure of the entire human body.

Abbreviations and Acronyms

A&M - New York State Department of Agriculture and Markets

ARC - American National Red Cross

BERP - Bureau of Environmental Radiation Protection

BWR - Boiling Water Reactor

CREPP - County Radiological Emergency Preparedness Plan

DEC - New York State Department of Environmental Conservation

DMNA - New York State Division of Military and Naval Affairs

DOE - United State Department of Energy

DOH - New York State Department of Health

DOT - New York State Department of Transportation

DPC - Disaster Preparedness Commission

DSP - New York State Division of State Police

EBS - Emergency Broadcast System

EOC - Emergency Operations Center

EOF - Emergency Operations Facility

EPA - United States Environmental Protection Agency

EPZ - Emergency Planning Zone

ERPA - Emergency Response Planning Area

FDA - United States Food and Drug Administration

FEMA - United States Federal Emergency Management Agency

FRERP - Federal Radiological Emergency Response Plan

FRMAP - Federal Radiological Monitoring and Assessment Plan

JNC - Joint News Center

NAWAS - National Warning System

NFO - Nuclear Facility Operator

NRC - United States Nuclear Regulatory Commission

OGS - New York State Office of General Services

PAG - Protective Action Guide

PIO - Public Information Officer

PWR - Pressurized Water Reactor

RACES - Radio Amatuer Communications Emergency Service

RAP - Radiological Assistance Plan

RECS - Radiological Emergency Communications System

REPG - Radiological Emergency Preparedness Group

REPP - New York State Radiological Emergency Preparedness Plan

SEMO - State Emergency Management Office

SEO - New York State Energy Office

TSC - Technical Support Center

CROSS REFERENCE INDEX TO THE CRITERIA FOR PREPARATION AND EVALUATION OF RADIOLOGICAL EMERGENCY RESPONSE PLANS AND PREPAREDNESS IN SUPPORT OF NUCLEAR POWER PLANTS.

Reference to 10CFR50 requirement, this index satisfies Evaluation Criteria P.8.

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NEW YORK STATE RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

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PART 1 SECTION I

I. INTRODUCTION AND BACKGROUND

A. PURPOSE

The purpose of the Radiological Emergency Preparedness Plan (REPP) is to minimize the risk to the health of the inhabitants of the State of New York in the event of a radiological emergency. This will be accomplished by identifying measures to prevent and mitigate such an emergency by developing mechanisms to coordinate Federal, State, local and private sectors resources, during and after such an emergency; and by providing for recovery following a radiological emergency. A radiological emergency is an incident that may result in the loss of control of a radiation source, leading to a hazard or potential hazard to health or property.

B. BACKGROUND

New York State has continuously addressed the matter of the safety of its citizens in regard to ionizing radiation. The New York State Department of Health is the State agency having primary responsibility in this particular area. The status of primary responsibility was designated by the former State Atomic Energy Council in 1971 and later formally affirmed by the Governor of New York in his letter of March 18, 1975, to the United States Nuclear Regulatory Commission.

The New York State Public Health Law (Section 206) gives the Commissioner of Health broad authority for protecting the health and life of the people of New York State. Section 201 of that law further assigns the Commissioner of Health the responsibility for the protection of the public health regarding the use of ionizing radiation. The State Sanitary Code, Part 16, which implements the Public Health Law, includes requirements relating to accidents, emergencies, or incidents. Radiation dose limits are prescribed therein. Upon the release of radioactive materials, which exceed these limits, from any radiological installation into an uncontrolled area, certain actions are required to correct the situation and to prevent exposure to the public.

To carry out these actions the State developed and implemented an emergency plan for radiation accidents in 1971. This plan provided for a coordinated effort among Federal, State, and local agencies, to prevent or minimize hazards to life and health in the event of a radiological emergency. The plan assigned the State Health Commissioner the responsibility for recommending protective actions. It also recognized that the primary responsibility for implementing actions to mitigate the effects of a radiological emergency rests with the local political subdivisions affected by the emergency.

Since that State emergency plan for radiation accidents was written, certain key events have occurred manifesting a need for extensive revision to that Plan. Article 2-B of the New York State Executive Law (State and Local Natural and Manmade Disaster Preparedness) was enacted in 1979 which, among its provisions, created a State Disaster Preparedness Commission. This Commission is charged with a wide

variety of powers and responsibilities designed to provide a comprehensive emergency system to prevent or react to emergencies or disasters within the State. Among these responsbilities are: (1) to develop and maintain a State emergency plan and to assist local government in developing such plans; (2) to direct State disaster operations and coordinate State operations and resources with local disaster operations; (3) to coordinate recovery operations and recovery assistance; and (4) to provide training to assure that responsible personnel are familiar with plans and procedures. Article 2-B was amended in 1981 to deal with certain aspects of Radiological Emergency Preparedness specifically. The law provides that counties are the first line of defense in handling emergencies subject to an assumption of responsibility by the State pursuant to a State Declaration of Disaster Emergency (see Executive Law, Section 24, McKinney's Consolidated Laws of New York, Volume 18).

The Radiological Emergency Preparedness Group (REPG), established under the auspices of the New York State Disaster Preparedness Commission and its Chairman, is responsible for developing and implementing comprehensive emergency and maintenance plans and procedures for prompt reactions to potential emergencies at nuclear power plants in New York or in bordering states.

C. PLANNING BASIS

Where, by tradition, emergency plans have been primarily concerned with response activities, New York State has adopted an overall emergency preparedness system which includes three interrelated critical phases:

1. Critical Preparedness Phases (Comprehensive Emergency Management)

Prevention/Mitigation: This is the initial phase of activities that is aimed at eliminating or reducing the probability of the occurrence of a radiological emergency, and at minimizing the impact of a radiological emergency on public health and property. These activities include the development of legislation and development of preparedness plans and training programs. Prevention/Mitigation activities form a basis for and enhance the quality of response operations.

Response: The Response phase follows the identification or notification of an emergency. Generally, response activities are planned to minimize the adverse impact on public health and to protect property, to the extent possible, through emergency assistance. These activities include accident assessment and evaluation, radiological exposure control, and protective action orders and recommendations. They also reduce the probability of secondary damage and speed recovery operations.

Recovery: The Recovery phase begins when the emergency situation has been brought under control, there is no further threat to the public, the initiation of response activities has ended, and the relaxation of protective response options taken is being considered. Recovery activities continue until the community life of the affected area returns to its previous level or better.

These three phases are parts of an on-going cycle in which one phase leads into another. This Plan has been developed and patterned consistent with and supportive of the State Disaster Preparedness Plan, which incorporates this comprehensive cyclical approach in planning and in dealing with all types of emergencies.

Under the provisions of Article 2-B, local governments have developed radiological emergency plans consistent with and as part of this State Plan. This State planning effort is designed to cope with a variety of potential radiological emergencies at a nuclear power plant that could have a public health impact.

In addition to the general State and local radiological plans, nuclear power plants have developed and as required, maintain and update emergency or site contingency plans.

The Nuclear Regulatory Commission (NRC) by law, can grant licenses for nuclear power plants only if the health and safety of the public is adequately protected. Although the law (The Atomic Energy Act) does not specifically require emergency plans and related preparedness measures, the NRC requires consideration of overall emergency preparedness as part of the licensing process. The NRC now requires adequate on- and off-site emergency plans for the continuance of a license or the issuance of a new license.

The Federal Emergency Management Agency (FEMA) has the lead responsibility for review and recommendation or approval of all off-site nuclear emergency planning.

Any financial assistance processed by the State related to radiological emergencies is conditioned on full compliance with New York Executive Order 40.1 pertaining to Affirmative Action. All personnel carrying out State emergency assistance activities, including the distribution of supplies, processing of applications, and other relief and assistance activities, shall perform their work in an equitable and impartial manner, without discrimination on the grounds of race, religion, sex, color, age, economic status, or national origin.

2. EMERGENCY PLANNING ZONES

New York State has adopted the Federal concept of Emergency Planning Zones for nuclear power plants. Emergency Planning Zones (EPZs) around each nuclear facility must be defined for both short term and long term periods of exposure to ionizing radiation. Such zones are defined as the areas for which planning is needed, to assure that prompt and effective actions can be taken, to protect the public in the event of an accident. They have been designed in size to accommodate the need for actions in regard to potential degree and radiological exposure (See page I-13).

There are two Emergency Planning Zones (EPZs) for each nuclear power plant site. The first zone is the Ingestion Exposure Pathway which is the area within (approximately) a fifty mile radius from the site. The principal exposure sources within this zone would be the

ingestion of contaminated water or foods such as milk or fresh vegetables. The duration of potential exposures in this zone could range in time from hours to months. Therefore, protective actions for the Ingestion Exposure Pathway are planned for the extended time period. It is the intent of this planning effort to initiate protective actions at an early time period to prevent or minimize potential radiological contamination of milk or other agricultural products.

The second EPZ is the Plume Exposure Pathway which is the area within (approximately) a ten mile radius from the site. Although the radius for an EPZ implies a circular area, the actual shape would depend upon the physical and demographic features within that zone. The principal exposure sources within this zone are external whole body exposure to gamma radiation and exposure through the inhalation of radioactive materials.

The potential exposure within the Plume EPZ would depend on the duration of a release and meteorological conditions at that time and could range from one-half hour to any number of days.

The concept of these zones and their respective sizes represent a judgement on the kind and extent of planning which must be done and on the appropriate types of response activities needed for the effective protection of the public health. In a given emergency, protective actions might be restricted to a small part of either or both planning zones. Under other given circumstances, the emergency may extend outside these designated zones whereby discretion is permitted where natural and jurisdictional areas would receive little to no impact in an emergency.

3. PROTECTIVE ACTION GUIDES

The concept of Protective Action Guides (PAG's) was introduced to radiological emergency response planning in order to assist public health and other governmental authorities in deciding how much of a radiation hazard in the environment constitutes a basis for initiating emergency protective actions. These guides (PAG's) are expressed in units of radiation dose (rem) and represent initiation (trigger) levels of preplanned protective actions should the projected future dose to be received by an individual exceed the designated level.

These Protective Action Guides are used as the basis for initiating activities to minimize the potential exposure of individuals.

The PAG units represent such initiation levels as tools to be used as a decision aid to a response situation. They are not intended to represent "acceptable" radiation dose levels in other than emergency situations.

These guides are used in Section III of the Plan, entitled RESPONSE.

D. CONCEPT OF OPERATIONS

When considering radiological emergencies, Prevention/Mitigation, Response, and Recovery are responsibilities that are shared by all levels of government and the private sector. However, as stated in Executive Law, Section 24, the affected counties have lead responsibility for carrying out emergency activities unless a "State Declaration of Disaster Emergency" is declared by the Governor.

1. PREVENTION/MITIGATION

(A) PRIVATE SECTOR

The Nuclear Facility Operator (NFO) will provide training programs for public information and education in conjunction with all levels of government, establish operator training, and provide specialized technical information and material to maintain an updated facility and response emergency plan. The operators are responsible for all aspects of this phase within site boundaries.

(B) LOCAL GOVERNMENT

Among the responsibilities of local government are the preparation and coordination of local preparedness plans, the development of a public information and education program, and the development and maintenance of communication systems.

(C) STATE GOVERNMENT

The State assists local government by providing information and available expertise and by suggesting new or improved activities to effectuate good Prevention/Mitigation direction. The State also chairs the Statewide Public Education Management Group.

In those instances where a county does not have the capability to implement all or part of its Radiological Emergency Preparedness Plan, or the Chief Executive of a county does not elect to put such a plan into effect, the State also shall take the necessary actions to respond. The Department of Health has been designated as the lead agency.

(D) FEDERAL GOVERNMENT

The Federal Government, through the Nuclear Regulatory Commission, has the principal responsibility for regulating matters regarding radiological health and safety. The Federal Emergency Management Agency provides assistance to New York State and its local governments in the preparation, review and testing of State and local radiological emergency plans (refer to page III-2). In all other areas affecting plant construction and operation, New York State has the authority to regulate, although that authority is sometimes coextensive with Federal authority.

2. RESPONSE

(A) PRIVATE SECTOR

The first line of responsibility lies with the facility operator. The local and State response efforts will not begin unless the emergency results in a potential hazard to the public. Responsiblity for notification and initial assessment and evaluation lies with the nuclear facility operators.

(B) LOCAL GOVERNMENT

Upon notification, local government will activate its resources to respond to the emergency (and will remain activated). At such time as their resources are no longer adequate, in addition to the technical assistance and evaluations normally provided by the State, the county may request State response assistance.

(C) STATE GOVERNMENT

The Commissioner of Health shall initiate the activation of State monitoring, assessment and evaluation personnel, equipment, and resources. The Commissioner will then recommend protective action options on these evaluations. The Director of the State Emergency Management Office, as the State coordinating agency, will coordinate the State resources needed to implement the protective action option and insure their continuity. State resources will supplement local resources in carrying out the necessary response activities to meet these option requirements.

In those instances where a county does not have the capability to implement all or part of its Radiological Emergency Preparedness Plan, or the Chief Executive of a county does not elect to put such a plan into effect, State agencies under the direction of the Disaster Preparedness Commission will implement the county's plan using State and local resources and personnel.

(D) FEDERAL GOVERNMENT

Upon State request, the Department of Energy Brookhaven Area Office will contact the appropriate Federal agencies to provide support for monitoring on-site with the NFO and off-site with the local and State governments. The NRC and FEMA will then coordinate their assessment information and jointly advise the State Commissioner of Health on such assessment and evaluation of the emergency and the availability of support.

3. RECOVERY

(A) PRIVATE SECTOR

The Nuclear Facility Operators (NFO's) will continue their activities as necessary. They will be responsible for ongoing on-and off-site monitoring.

(B) LOCAL GOVERNMENT

The recovery process encompasses the deescalation of response activities. Local responsibilities and resource provisions will continue as necessary.

(C) STATE GOVERNMENT

The Recovery Committee, appointed by the Disaster Preparedness Commission, will provide the direction of State resources and recovery activities. The State Emergency Management Office will act as the liaison for the Commission between local, State and Federal agencies and will coordinate State and Federal assistance programs. The State will continue off-site monitoring systems during and after the final relaxation of protective actions taken during the Response phase.

(D) FEDERAL GOVERNMENT

The appropriate Federal agencies will remain for support and guidance throught the Recovery phase. Federal financial assistance and Recovery programs will be administered by the State Emergency Management Office.

E. NUCLEAR POWER PLANT FACILITIES

Within New York State there are four nuclear power plant sites that are briefly described below. The contiguous states of Connecticut, New Jersey, Vermont and Massachusetts, and the province of Ontario have operating sites with emergency planning zones (refer to page I-8) covering portions of New York State and therefore, it is necessary to include them in this plan.

(1) NEW YORK STATE

(a) Indian Point site, located on the east bank of the Hudson River in the Village of Buchanan, is in Westchester County (Rockland, Putnam, and Orange Counties are in the Emergency Planning Zone (EPZ). The site is 24 miles north of the New York City line; 2.5 miles southwest of Peekskill Center, three and three-tenths miles north of Montrose, and eight and three-tenths miles south of West Point, and is comprised of 239 acres containing three units of which two are operating. Indian Point Unit One and Unit Two are Pressurized Water Reactors (PWR) owned by Consolidated Edison. Indian Point Unit One is not operable. Indian Point Unit Two, operated since 1973 by Consolidated Edison, produces 873 megawatts of electricity. Indian Point Unit

Three, owned and operated by the New York Power Authority since 1976, is also a PWR which produces 965 megawatts of electricity. The two operating plants were designed by Westinghouse Electric Corporation.

(b) Robert E. Ginna site, located on the south shore of Lake Ontario in Wayne County, is a 338 acre area 20 miles east northeast of Rochester, 45 miles west southwest of Oswego. The reactor is a PWR which produces 470 megawatts of electricity. It is owned and operated by Rochester Gas and Electric Corporation since 1969. The plant was designed by Westinghouse Electric Corporation.

(c) Nine Mile Point site, located in Oswego County, on the south shore of Lake Ontario, in the town of Scriba, is seven miles northeast of the city of Oswego, and 36 miles northwest of Syracuse. It is an area of 1,500 acres and contains two operating Boiling Water Reactors (BWR). Nine Mile Point Unit One, owned by Niagara Mohawk Power Corporation, has been operated by them since 1969 and produces 610 megawatts of electricity. The James A. FitzPatrick Nuclear Power Plant, owned and operated by the New York Power Authority, produces 821 megawatts of electricity and has been operating since 1975. The two plants were designed by the General Electric Company. Nine Mile Point Unit Two is on the same site and fuel was loaded in December, 1986.

(2) CONTIGUOUS STATES OR PROVINCES

(a) Millstone is on the Connecticut north shore of the Long Island Sound, the east shore of the Niantic Bay, three miles west southwest of New London city limits, and 39 miles southeast of Hartford. The main station area is located on a peninsula jutting into the Long Island Sound, and is 7.5 miles northwest of Fishers Island and 8 miles north of Plum Island both of which are in Suffolk County. (Plum Island is a U.S. Department of Agriculture (USDA) Animal Disease facility.)

The Millstone site is 500 acres on which there are three reactors. Millstone Unit one is a BWR, producing 660 megawatts of electricity and has been operating since 1970. Millstone Unit Two is a PWR producing 870 megawatts of electricity, and has been operating since 1975. A third reactor (PWR) is expected to be commercially operated in May of 1986. It is designed to produce 1,150 megawatts of electricity. The reactors are primarily owned by Northeast Utilities and operated by Northeast Nuclear Energy Company.

The plume exposure EPZ responsibilities of New York State and Suffolk County with respect to Fishers Island and Plum Island, are described in each community's local radiological emergency response plan. The USDA's plan for Plum Island was directly submitted to the Federal Emergency Management Agency (FEMA). Both of these plans have been approved by FEMA as part of the State of Connecticut's submittal of Millstone site emergency response plans. Notification procedures, protective action

recommendations and emergency response actions for Fisners and Plum Islands are in accordance with the Connecticut State Plan.

(b) Haddam Neck in the town of Haddam, Connecticut is approximately 18 miles north of Long Island Sound and 40 miles northwest of Montauk Point. There is a single PWR, producing 582 megawatts of electricity, which is owned primarily by Northeast Utilities and operated by Connecticut Yankee Atomic Power Corporation and has been operating since 1968.

(c) Vermont Yankee, located in Vernon, Vermont, is 27 miles from the New York border. This reactor is a BWR, producing 514 megawatts of electricity and has been owned and operated by Vermont Yankee Nuclear Power Corporation since 1972.

(d) Yankee Rowe, located in Rowe, Massachusetts, is 18 miles east of the New York State border. There is one PWR, producing 175 megawatts of electricity, which is owned by the Yankee Atomic Energy Company. They have been operating since 1961.

(e) Oyster Creek, located in Ocean County, New Jersey, is 45 miles from Staten Island. There is one BWR, producing 650 megawatts of electricity, which is owned and operated by New Jersey Central Power Plant and Light Company.

(f) Pickering Generating Station, located on Lake Ontario in Pickering Township, Ontario, Canada is approximately 20 miles northeast of the City of Toronto and is approximately 18 miles from the New York State border and 36 miles from the New York State land area. There are currently four CANDU (Canadian Deuterium Uranium) reactors each with a gross electrical generating capacity of 491 megawatts. Four additional CANDU reactors are scheduled for completion in 1983. The Pickering site is owned and operated by Ontario Hydro and has been operational since 1971.

F. LEGAL AUTHORITIES AND REFERENCE DOCUMENTS

1. NEW YORK STATE

New York State Executive Law - Article 2-B 4/1/79, as amended by Chapter 708 of the Laws of 1981

Provides State and Local Natural and Man-made disaster preparedness. Establishes the existence of the Disaster Preparedness Commission and its powers and responsibilities. Provides the duties and responsibility of local Chief Executives.

New York State Public Health Law Section 201

Provides the Commissioner of Health the responsibility for public health aspects in the use of ionizing radiation.

New York State Public Health Law Section 206

Provides the Commissioner of Health broad authority for protecting the health and life of the people of New York State.

New York State Sanitary Code Part 16

Implements the Public Health Law. Requires actions to be instituted to correct and prevent unecessary exposure due to the release of any radiation installation of radiation sources or materials exceeding acceptable dose limits.

New York State Defense Emergency Act as enacted by Chapter 784 of the Laws of 1951

Enacted in accordance with the Civil Defense Act to establish a Civil Defense Office in every county which also functions as the County disaster coordinating agency. Provides for construction and utility of the EOC, development of communication and warning systems and the involvement of volunteer CD workers.

Interstate Civil Defense and Disaster Compact, Chapter 2 Section 9231 Unconsolidated Laws

Provides mutual aid among contracting states in meeting an emergency.

Agriculture and Markets Law Article 17, Section 199-1 Prohibition as to adulterated or misbranded food

Provides the Commissioner of Agriculture and Markets the ability to test food or foodstuffs for contaminants.

Environmental Conservation Title 6, Chapter IV, Subchapter C, Radiation Part 380

Provides for the prevention and control of environmental pollution by radioactive materials.

New York State General Business Law Article 280

No person shall possess or use radioactive material without a valid license issued by the (Industrial) Commissioner...except where the use or possession of radioactive material or radiation equipment are subject to the regulatory powers and jurisdiction of the State Department of Health or the Health Department of the City of New York.

Industrial Code Rule 38

Every industrial installation and mobile source consisting of radiation equipment shall be registered with the Industrial Commissioner.

State Defense Law Article 6, Section 9160 Closing or Restricting Use of Highways; Posting of Properties

Provides the Commissioner of Transportation the authority to open or close highways, waterways, railroads, et al.

The New York State Disaster Preparedness Plan 4/1/80

This plan establishes the methods and procedures to cope with the effects of a disaster by comprehensive management of all private and public resources available in New York State.

NYS/NRC Letter of Agreement 10/62

Sets up New York to assume some NRC responsibilities for licensing and inspection of some radiological by-products. (signatories: Rockfeller and the Atomic Energy Commission)

2. FEDERAL GOVERNMENT

Atomic Energy Act of 1954

Requires that the NRC grant licenses only if the health and safety of the public is adequately protected.

Title 10 Code of Federal Regulations Part 50. Nuclear Regulatory Commission, Emergency Planning, Final Regulations

NUREG-0654 - FEMA - REP-1 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

Requirements for licensee emergency plans for onsite and offsite emergency preparedness measures for nuclear reactors, fuel cycle facilities and certain other fuel cycle and materials licensees.

NRC/FEMA Memorandum of Understanding 3/3/80

Establishes a framework of cooperation in radiological emergency response planning.

Presidential Executive Order 12148

Charges the FEMA Director with establishing policy for and coordinating all civil emergency planning and assistance functions for Executive agencies (section 2-101). The Director shall represent the President in working with

State and local governments and the private sector to stimulate vigorous participation in civil emergency preparedness, mitigation, response and recovery programs (section 2-104).

Title 44 Code of Federal Regulations Part 350

Establishes policy and procedures for review and approval of State and local emergency plans and preparedness for coping with the offiste effects of radiological emergencies at commercial nuclear power reactors by the Federal Emergency Management Agency.

Presidential Executive Order 11795 7/11/74

Delegates disaster relief functions under PL 93-288, to Federal Agencies, primarily HUD, Secretary of Agriculture, and the Secretary of Defense.

Title 24, Chapter XII, Part 2205 - Code of Federal Regulations

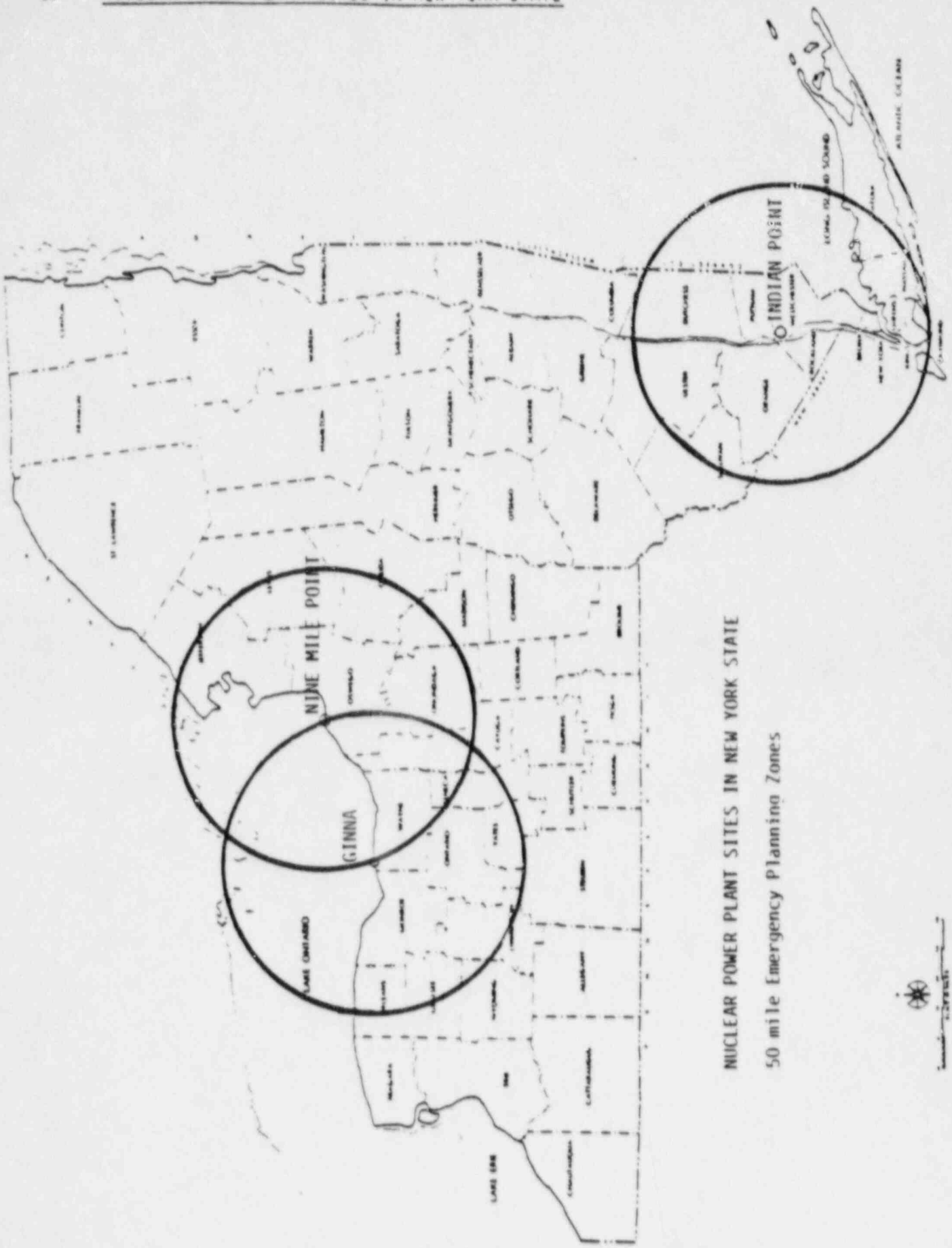
Standards and procedures to be followed implementing PL 93-288.

Federal Civil Defense Act of 1950 (PL 81-890) as amended

Established entire Civil Defense Program

Disaster Relief Act 1974 (PL 93-388) 1970 (PL 91-606)

G. NUCLEAR POWER PLANT SITES IN NEW YORK STATE



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H. LISTING OF SUPPORTING PLANS

1. New York State Disaster Preparedness Plan
2. Monroe County Radiological Emergency Preparedness Plan
3. Oswego County Radiological Emergency Preparedness Plan
4. Orange County Radiological Emergency Preparedness Plan
5. Putnam County Radiological Emergency Preparedness Plan
6. Rockland County Radiological Emergency Preparedness Plan
7. Wayne County Radiological Emergency Preparedness Plan
8. The Indian Point Radiological Emergency Preparedness Plan for Westchester County
9. Consolidated Edison Company of New York, Inc., Emergency Plan for Indian Point Units Nos. 1 and 2
10. Niagara Mohawk Power Corporation, Nine Mile Point Nuclear Station, Site Emergency Plan
11. New York Power Authority, Indian Point No. 3 Nuclear Power Plan, Emergency Plan
12. Rochester Gas and Electric Corporation, Ginna Station Radiation Emergency Plan
13. New York Power Authority, James A. FitzPatrick Site Emergency Plan
14. Federal Radiological Emergency Response Plan (FRERP)
15. Federal Radiological Monitoring and Assessment Plan (FRMAP)
16. Brookhaven Area Office, US Department of Energy Radiological Assistance Program (RAP)

*The Radiological Emergency Response Interim Plan for Implementing Compensating Measures for Rockland County previously listed here was replaced by the Rockland County Radiological Emergency Preparedness Plan and the State Compensating Measures Team disbanded May 14, 1985.

(NOT USED)

New York State Radiological Emergency Preparedness Plan

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PART I SECTION II

II. PREVENTION/MITIGATION

A. INTRODUCTION

Prevention/Mitigation is the first phase of the emergency preparedness system. Its primary purpose is to eliminate, or reduce, the effects of radiological emergencies. Prevention/Mitigation activitites include logistical assistance, tecnnical assistance, and off-site monitoring of potential radiological emergencies. Also included in this phase are public education, training, drills, and vulnerability studies of potentially hazardous radiological sources. These and similar activities, which attempt to negate or minimize the effects of a radiological emergency, are essential to the protection of public health and environment from radiological exposure.

Specific agencies on the Federal, State, and local levels with individual roles and responsibilities to perform, combine their resources with those of the private sector to produce an efficiently functioning Prevention/Mitigation program.

B. OPERATIONS

The private sector can provide resources, such as specialized technical information, specialized material and equipment, and personnel to reduce the probability and effects of a radiological emergency.

State government, in cooperation with other levels of government, as well as the public, determines what resources are needed to mitigate the effects of an emergency.

All radiological emergency preparedness plans must be mutally supportive, to allow for all levels of government to recognize each other's capabilities, responsibilities, and obligations.

1. STATE/FEDERAL ROLE

The Federal Government's primary role in Prevention/Mitigation is to enact laws or rules that will insure the safest possible operation of a nuclear power plant. Within the Federal government, the Federal Emergency Management Agency (FEMA) and the Nuclear Regulatory Commission (NRC) are the primary agencies responsible for the Prevention/Mitigation of a radiological emergency. FEMA is responsible for assisting in and overseeing off-site emergency planning in accordance with the Federal masterplan. The NRC is responsible for the granting of nuclear power plant licenses and on-site emergency plans.

Federal agencies provide radiological emergency planning guidance and related training to State and local governments. These agencies work with nuclear facility operators in developing emergency plans for the public protection and assist in developing agreements with government agencies, to provide early public warning and implementation of protective actions.

The State will continue to work closely with the Federal government in all aspects of emergency management and will continue its role of intermediary among the Federal government, local governments, and private citizens.

The Radiological Assistance Plan (RAP) provides for preplanned emergency operations to assist State and local governments in assessing potential consequences of radiological emergencies of any kind.

The Federal Radiological Monitoring Assistance Plan (FRMAP) provides for the use of all available Federal capabilities for radiological monitoring and assessment.

2. STATE/LOCAL ROLE

All levels of government have a role in the Prevention/Mitigation of a radiological emergency.

The State will take action in those programs to prevent or mitigate the effects of potential radiological emergencies and provides available assistance to local governments including plan development, training and the conduct of exercises.

The State also shall take the necessary actions to respond in those instances where a county does not have the capability to implement all or part of its Radiological Emergency Preparedness Plan, or if the Chief Executive of a county does not elect to put such a plan into effect.

The State supports activities which will be carried out exclusively by the private sector or local government, such as vulnerability analysis, educational programs. and similar programs.

3. STATE/LEAD AGENCY ROLE

State Prevention/Mitigation activities are carried out before the emergency and are directed by the Commissioner of Health to minimize any adverse impact on the public health. The Radiological Emergency Preparedness Group (REPG) is responsible for the development and implementation of these activities and programs. Examples of some of these Prevention/Mitigation actions are the preparation of State plans and the Statewide public education programs.

The Commissioner of Health recommends improvements and additions to the State Plan. Such recommendations will be developed by the Radiological Emergency Preparedness Group and forwarded to the State Disaster Preparedness Commission which in turn, will forward the changes to the Governor, the State Legislature, or executive offices or agencies for appropriate attention and action. The Department of Health will submit the required report to the DPC.

C. PREVENTION/MITIGATION ACTIVITIES AND ASSIGNMENTS

In addition to the technical personnel in the Department of Health, personnel from other State agencies will be made available to provide technical assistance. These resource personnel will be required to possess various qualifications in such areas of expertise as health physics, laboratory analysis, environmental surveillance and monitoring, power plant systems and operations, and reactor hazards analysis.

Table 1, page II-4, summarizes Prevention/Mitigation activities carried out by the identified agencies. An "X" in an agency column indicates that the associated agency has responsibility for a program activity. The paragraphs following this chart will describe briefly the activities that support the "X" in an agency column.

PREVENTION/MITIGATION
TABLE I

-ACTIVITIES-	HEALTH	REPG	EMERGENCY MGMNT. OFFICE	AGRICULTURE & MARKETS	EDUCATION	ENERGY	ENVIRONMENTAL CONSERV.	LABOR	PUBLIC SERVICE COMM.	STATE (Fire Prov. & Control)	STATE POLICE	TRANSPORTATION
ADMINISTRATION		X										
LOGISTICAL ASSISTANCE	X	X	X				X					
MONITORING RAD. EMERGENCIES	X	X	X			X	X				X	
PLANS, POLICIES & PROGRAMS	X	X	X	X		X	X		X			
PUBLIC EDUCATION	X	X	X	X	X							
TECHNICAL ASSISTANCE	X	X	X	X		X	X	X				X
TRAINING, DRILLS & EXERCISES	X	X	X							X	X	

1. ADMINISTRATION

The responsibilities for the administration of this Plan includes but not be limited to the following:

- providing for and controlling the Plan distribution, amendments, and updates;
- reviewing the status of New York State emergency response agencies capabilities and their procedures for implementing this Plan;
- providing the mechanisms for and conducting an annual review and updating of this Plan through up-to-date information and the results of periodic drills and annual exercises, to certify that the Plan is current.

a. STATE AGENCIES

(1) The Radiological Emergency Preparedness Group is responsible for the development, publication, and distribution of the Plan and for the prompt distribution of amendments and plan updates to all concerned agencies; maintains the compatibility of this Plan with other relevant emergency plans; oversees the implementing procedures of State agencies having

radiological emergency responsibility in this Plan; provides up-to-date radiological emergency planning information, relevant to the appropriate State agencies; and conducts an annual review, update, and certification of this Plan for the Commissioner of Health, the Disaster Preparedness Commission and the Governor.

b. COUNTY

Each County emergency services operation is responsible for the administration of their respective county radiological emergency preparedness plan as outlined in that plan.

2. LOGISTICAL ASSISTANCE

The timely mobilization and efficient management of resources available for response operations is of the utmost importance in determining the effectiveness of dealing with radiological emergency. Three key related Prevention/Mitigation activities are the identification, acquisition, and the maintenance of an up-to-date inventory of potentially useful emergency response resources that can be marshalled in the event of an emergency.

a. STATE AGENCIES

(1) The Radiological Emergency Preparedness Group provides guidance in the development of program needs and is responsible for the Statewide distribution plan for dosimetry.

(2) The State Emergency Management Office is the contact point for mutual assistance operations and maintains a stockpile of water and power equipment available for loan to State and local agencies during emergencies, maintains inventories of State and local governments' equipment, coordinates emergency communications systems and maintain civil defense radiological monitoring equipment, and assures that the current public notification system is operable.

(3) The Department of Environmental Conservation provides equipment and manpower to assist in communications and monitoring the environment, in case of a radiological emergency.

(4) The Department of Health assists local health agencies, provides laboratory services, and maintains monitoring equipment.

b. COUNTY

Each county emergency services operation is responsible for logistical assistance as outlined in their respective radiological emergency preparedness plan.

3. MONITORING POTENTIAL RADIOLOGICAL EMERGENCIES

The offsite radiological monitoring capabilities of State agencies in areas around nuclear facilities are primary to an adequate Prevention/Mitigation program. Typical examples of fixed environmental monitoring equipment both in use and in planning (in the State of New York) ranges from air particulate monitors, I-131 monitors and thermoluminescent dosimeters, to environmental radiation monitoring systems associated with central processing and data communication interface equipment for remote data acquisition. Presently the State relies on the licensee for off-site field iodine monitoring with support from local and federal response organizations.

a. STATE AGENCIES

(1) The Radiological Emergency Preparedness Group (REPG) and the State Emergency Management Office (SEMO) have limited radiological capabilities and receive meteorological information which may be used to assist the Department of Health in the assessment and evaluation of a radiological emergency.

(2) The Department of Health provides radiological capabilities and operates a Statewide Radiation Surveillance Network, which collects environmental samples to establish and monitor long term environmental trends of radioactive pollutants.

(3) The Division of State Police relays reports regarding radiological emergencies received from the public and patrols, through channels to the SEMO; mans the alternate State Warning Point and has limited radiological monitoring capability.

(4) The Department of Environmental Conservation upon request will provide assistance in radiological monitoring.

4. PLANS,-POLICIES AND PROGRAMS

Preparing plans is a Prevention/Mitigation activity. Many State agencies planning programs influence local government activities.

a. STATE AGENCIES

(1) The Radiological Emergency Preparedness Group is responsible for the overall development of the plans, policies and programs.

(2) The Department of Agriculture and Markets, through scheduled inspections, will monitor relevant farm activities and the food chain system.

(3) The State Emergency Management Office will maintain the State Disaster Preparedness Plan and assists local government planning.

(4) State Energy Office is the liaison with the NRC.

(5) The Department of Environmental Conservation provides expert testimony/professional expertise in the siting of energy facilities.

(6) The Department of Health assists local communities in radiological emergency planning, provides technical advice, laboratory assistance, and health advisory information, and conducts an environmental surveillance program near nuclear facilities.

(7) Public Service Commission and Deparment of Public Service assures the consumer safe and adequate service at just and reasonable rates, consistent with energy conservation and environmental objectives.

The Public Service Commission has regulatory responsibilities over the rates and services of electric corporations. The Department of Public Service is the staff arm of the Public Service Commission.

In addition, under Article VIII of the Public Service Law, the Chairman of the Public Service Commission is also Chairman of the State Board on Electric Generation Siting and the Environment, which is responsible for licensing of major stream electric power plants in New York State. The support staff for the Siting Board is provided by the Department of Public Service.

b. COUNTY

Each county plan is a part of this State plan and the preparation of each is done at the county level with REPG assistance and DPC approval.

5. PUBLIC EDUCATION

A key activity is the implementation of the statewide public education program, in conjunction with Federal and local agencies and the private sector, to provide information about radiological emergency planning. Included in this program is the preparation and distribution of pamphlets, discussion of such topics as potential problems associated with nuclear power plants, radiation and emergency response information.

The Public Education Management Group consists of State, County and Utility public information officers and is technically supported by the REPG.

Public understanding of potential hazards and the Preventive/Mitigative activities available to minimize the potential of an emergency is basic to the whole process of Public Education. Public Education is a mitigative activity of all

levels of government. An annual news media education program will be conducted at each site to acquaint the news media with relevant radiological emergency plans, radiation information and public protective measures.

a. STATE AGENCIES

(1) The Radiological Emergency Preparedness Group coordinates and supervises public education efforts at the State level through the Public Education Management Group (PEMG). REPG will also assist local government and utility operators in the design and implementation of their public education programs and work cooperatively to ensure program continuity to the extent possible.

(2) The Department of Agriculture and Markets assists in education plans and the education of farmers and food processors regarding the control and inspection of milk and other food products to guard against radiological contamination and assists the Radiological Emergency Preparedness Group in overall public education programs.

(3) The State Emergency Management Office will make available information about radiological emergencies to the general public upon request, maintains a film library, stockpiles public information publications.

(4) The Department of Education insures that the education curricula for elementary and secondary schools in potential radiological emergency areas includes an educational program that pertains to potential hazards during an emergency.

(5) The Department of Health provides health advisory information and an education plan to insure that the public is fully informed about potential radiological emergencies and what steps must be taken to mitigate such emergencies.

b. COUNTY

Each county supports the PEMG. Their activities are outlined in the respective site's public education program.

c. NUCLEAR FACILITY OPERATOR

Each nuclear facility operator supports the PEMG in accordance with the Statewide public education program.

6. TECHNICAL ASSISTANCE

State agency techincal assistance to communities will be provided. Many State agencies have specialized capabilities (i.e., engineering and scientific expertise) and personnel to support local communities faced with potential radiological emergencies. Due to the cost of such services, local governments cannot always provide them independently. This assistance includes providing for the testing of radiological instruments, equipment, warning systems, and communication systems.

a. STATE AGENCIES

(1) The REPG will provide guidance and make available the assistance requested by the local communities.

(2) The Department of Health provides technical advice, laboratory assistance and health advisory information on potentially hazardous materials, and provides technical assistance for power plant siting and power plant licensing review.

(3) The Department of Agriculture and Markets provides technical assistance to farmers and food industries concerning the effects of radiation and what measures may be taken to mitigate the effects of a radiological emergency.

(4) The State Emergency Management Office provides technical radiological assistance.

(5) The State Energy Office reviews and evaluates safety related materials components, systems, programs, and procedures at nuclear facilities, to insure that the potential for accidents affecting the public health and safety is minimized, and provides technical support in the development of emergency plans for nuclear facilities.

(6) The Department of Environmental Conservation provides technical guidance for cleanup and decontamination.

(7) The Department of Labor provides technical assistance on request as part of their ongoing responsibility for guarding against and minimizing industrial radiation hazards.

(8) The Department of Transporation advises the person directing the evacuation on traffic and highway maintenance related matters and on the possible effects of alternative evacuation strategies, should modification to the plan be necessary.

7. TRAINING, DRILLS, AND EXERCISES

Radiological emergency preparedness plans require trained personnel to implement them. The State Radiological Emergency Preparedness Group will coordinate this training for emergency personnel and public officials. Training and retraining of State and local officials is provided through a variety of programs, such as formal courses, seminars, conferences, emergency operation simulations (EOS's), and experience gained in response to actual emergencies. An annual exercise will be conducted which will include emergency response agencies from the State and local level in conjunction with the Nuclear Facility Operators.

Provisions are made for a critique of pre-exercise training drills and each exercise by qualified observers. The results of the critiques will be the basis for improving the New York State Radiological Emergency Preparedness Plan.

a. STATE AGENCIES

(1) The Radiological Emergency Preparedness Group (REPG) is responsible for the coordination of REP training including the development of curricula, training materials and handbooks, and the delivery of training. REPG is also responsible for the development, organization and conduct of drills and exercises.

(2) The State Emergency Management Office provides training support to the REPG for REP courses as necessary including emergency operations, and local and State radiological monitoring. They sponsor a continuing training program for State and local officials having disaster responsibilities which consists of conferences for public officials (CPO), emergency operations simulation (EOS), and other related training activities. In the EOS, emergency response requirements, actions, and methods are discussed and explained and tested under simulated emergency conditions. These activities are the same as may be required in a radiological emergency, with the exception of the technical response involved in evaluating radiation hazards. Courses dealing with the evaluation of and response to radiological emergencies are sponsored by the Federal government and SEMO Technical Resources Section, and coordinated through the REPG.

(3) The Department of Health conducts radiological training for staff and local public health officials, and assists REPG in the training of other local officials and assists with the preparation and conduct of drills and exercises.

(4) The Office of Fire Prevention and Control (Department of State) conducts specific courses in handling hazardous materials emergencies and in radiation safety for firefighters.

(5) The Division of State Police participates in training programs for radiological monitors, and assist REPG in specialized training and drills.

b. COUNTY

The specific training courses and audience are specified in the Training Procedure in each respective County Radiological Emergency Preparedness Plan.

c. NUCLEAR FACILITY OPERATOR

Provides periodic training and retraining for local emergency services located in the vicinity of the facility. Training and/or drills are typically provided on an annual basis for fire, hospital and ambulance personnel. The nuclear facilities provide instructors at certain CPG's and EOS's and provide staff to assist in preparation of scenarios used in the EOS simulated emergencies.

(NOT USED)

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PROCEDURES FOR THE NEW YORK STATE
RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM (RECS)*

In the event of a radiological incident requiring a report (initial and follow-up notification) to Counties and State, the Nuclear Facility Operators, Counties and State agencies will comply with the following procedures for Unusual Event, Alert, and Site Area Emergency. In the event the initial call reports a General Emergency, refer to I.A.6.:

I. INDIAN POINT UNIT 2 and INDIAN POINT UNIT 3

A. LICENSEES

1. Control Room operator will depress ring button and release. After ten seconds, operator will pick up handset and announce: "THIS IS TO REPORT AN INCIDENT AT (SITE). STAND BY FOR ROLL CALL." (Conduct roll call to include the following stations:)

Wetchester County Warning Point
Peekskill City Warning Point
Rockland County Warning Point
Orange County Warning Point
Putnam County Warning Point
NYS Warning Point (SEMO during duty hours, State Police during non-duty hours)

During duty hours, the following stations may be active to receive information:

**NYS Health Department (Radiological Health)
**NYSEMO Radiological (State EOC)
**NYSEMO Southern District
**Westchester County EOC
**Orange County EOC
**Putnam County EOC
**Rockland County EOC
**Peekskill City EOC
**West Point EOC
**NY Power Authority Corporate Response Center
**Indian Point AEOF
**Indian Point Recovery Center
**Indian Point EOF

**These stations do not have to be present on telephone before licensee operator begins the message information. If these stations want a repeat of information, the State Warning Point will comply.

NOTE #1 - During non-duty hours, the State Police will notify and give information to personnel listed on notification lists maintained by the State Health Department and the State SEMO via commercial phone (see Attachments 4&5). The State SEMO will notify and give information to the SEMO Southern District in accordance with its notification procedures via commercial phone.

NOTE #2 - In the event a County Warning Point station does not answer roll call, licensee operator will proceed with the information, the SEMO Southern District (during duty hours) or the State Warning Point (during non-duty hours) will be responsible to notify the non-answering station and give required information.

2. Upon completion of roll call, operator will give information out-lined on Radiological Emergency Data Form (Attachment 7). For initial notifications only Part I of the Data Form is used.

3. Operator will again call roll, by saying, "(NAME OF STATION) did you copy?"

4. Operator will sign off by saying, "(LICENSEE NAME) out at (TIME) LOCAL and (DATE)."

5. Operator will record dissemination of information on log.

6. Initial Notification of a General Emergency

   a. Control Room Operator will depress ring button and release. After ten seconds, operator will pick up handset and announce:

      This is to report that a General Emergency condition at (site) exists. REPEAT This is to report that a General Emergency condition at (site) exists. Stand by for roll call. All stations not called please stay off the line until further notice."

      (Conduct roll call to include the following stations only:)

      - Westchester County Warning Point
      - Rockland County Warning Point
      - Orange County Warning Point
      - Putnam County Warning Point
      - NYS Warning Point (SEMO during duty hours, State Police during non-duty hours.)

   b. Upon completion of roll call, operator will give information outline on the Radiological Emergency Data Form (Attachment 7). For initial notifications only Part I of the Data Form is used.

   c. Operator will again call roll by saying, "(Name of Station) did you copy?"

   d. Operator, after checking with all 4 counties to see if initial message has been received will release control of the RECS Line to the Westchester County Warning Point for purposes of coordinating with Rockland, Orange and Putnam Counties, the time for siren and EBS activation. After this procedure has been completed Westchester will sign off releasing the RECS Line for normal communications. (Rockland County will serve as the alternate coordinator.)

   Note 1 - After Westchester signs off, stations not listed above,

that may be on the line may ask the State Warning Point for a repeat of information.

Note 2 - If After Duty Hours - The State Police will notify and give information to personnel listed on notification lists maintained by the State Health Department and the State Emergency Management Office (SEMO) via commercial phone (see Attachments 4 and 5). The SEMO will notify and give information to SEMO Southern District in accordance with its notification procedures via commercial phone.

B. COUNTY or CITY WARNING POINT (EOC)

1. When phone rings (beenive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS (NAME) County or City, (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "(NAME) County or City copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

6. Operator will notify County or City officials in accordance with local Implementating Procedures.

C. STATE WARNING POINT (EOC)

1. When phone rings (beenive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS STATE WARNING POINT (STATE EOC), (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer: "STATE WARNING POINT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - State Police operator will call via commercial telephone, State Health Department personnel (Attachment 4), then call State SEMO personnel (Attachment 5) and transmit information received. (See Note #1 above.)

IF AFTER DUTY HOURS - State SEMO will call via commercial telephone, SEMO Southern District personnel (DMNA Directory) and transmit information received. (See Note #1 above.)

AFTER DUTY HOURS - If a County Warning Point does not answer roll call, State Police operator will notify non-answering station and give required information (see NOTE #2).

6. Operator will notify State officials in accordance with State Implementing Procedures (Attachment 10).

D. STATE HEALTH DEPARTMENT

1. When phone rings (beenive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS STATE HEALTH DEPARTMENT, (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "STATE HEALTH DEPARTMENT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - Health Department personnel will be notified by State Police personnel and copy the information received. (See Note #1.)

6. Operator will notify Health Department officials in accordance with the Department's procedures.

E. SEMO SOUTHERN DISTRICT

1. When phone rings (beenive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS SEMO SOUTHERN DISTRICT, (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "SEMO SOUTHERN DISTRICT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - SEMO Southern District personnel will be notified by State SEMO and copy the information received. (See Note #1.)

If a County Warning Point station doesn't answer, SEMO Southern District will notify non-answering station and transmit the information received (See Note #2.)

6. Operator will notify District officials in accordance with District procedures.

7. SEMO Southern District will advise New York City Office of Civil Preparedness for incidents with potential for off-site consequences - Alert, Site Area Emergency or General Emergency.

8. SEMO Southern District Office will advise assigned State agency personnel when they are to report to a county EOC at the direction of the Disaster Preparedness Commission.

*RECS test procedures are covered in Attachment 2.)

II. NINE MILE POINT NUCLEAR STATIONS and JAMES A. FITZPATRICK NUCLEAR POWER PLANT*

A. LICENSEES

1. Control Room operator will depress ring button and release. After ten (10) seconds operator will pick up handset and announce: "THIS IS TO REPORT AN INCIDENT AT (SITE). STAND BY FOR ROLL CALL." (Conduct roll call to include the following stations:)

Oswego County Warning Point
NYS Warning Point (SEMO during duty hours, State Police during non-duty hours)

During duty hours, the following stations may be active to receive information:

**NYS Health Department (Radiological Health)
**NYSEMO Radiological (State EOC)
**NYSEMO Central District
**Oswego County EOC

**These stations do not have to be present on the telephone before licensee operator begins message information. If these stations want a repeat of information, State Warning Point will comply.

NOTE #1 - During non-duty hours, the State Police will notify and give information to personnel listed on notification lists maintained by the State Health Department and the State SEMO via commercial telephone (see Attachment 4 &5). The State SEMO will notify and give information to the SEMO Central District in accordance with its notification procedures via commercial telephone.

NOTE #2 - In the event the Oswego County Warning Point does not answer roll call, the licensee operator will proceed with the information, the SEMO Central District (during duty hours) or the State Warning Point (during non-duty hours) will be responsible to notify

the Oswego County Warning Point and give the required information.

2. Upon completion of roll call, operator will give information outlined on Radiological Emergency Data Form (see Attachment 7).

3. Operator will again call roll, by saying, "(NAME OF STATION) did you copy?"

4. Operator will sign off by saying, "(LICENSEE NAME) out at (TIME) LOCAL and (DATE)".

5. Operator will record dissemination of information on log.

6. Initial Notification of a General Emergency

   a. Control Room Operator will depress ring button and release. After ten seconds, operator will pick up handset and announce:

      "This is to report that a General Emergency condition at (site) exists" REPEAT "This is to report that a General Emergency condition at (site) exists. Standby for roll call. All stations not called please stay off the line until further notice."

      (Conduct roll call to include the following stations only:)

      - Oswego County Warning Point
      - NYS Warning Point (SEMO during duty hours, State Police during non-duty hours.)

   b. Upon completion of roll call, operator will give information outline on the Radiological Emergency Data Form (Attachment 7). For initial notifications only Part I of the Data Form is used.

   c. Operator will again call roll by saying, "(Name of Station) did you copy?"

   d. Operator, after checking with Oswego County to see if initial message has been received will release control of the RECS Line to the Oswego County Warning Point.

   Note 1 - After Oswego signs off, stations not listed above that may be on the line may ask the State Warning Point for a repeat of information.

   Note 2 - If After Duty Hours - The State Police will notify and give information to personnel listed on notification lists maintained by the State Health Department and the State Emergency Management Office (SEMO) via commercial phone (see Attachments 4 and 5). The SEMO will notify and give information to SEMO Southern District in accordance with its notification procedures via commercial phone.

IF AFTER DUTY HOURS - State SEMO will call via commercial telephone, SEMO Central District personnel (DMNA Directory) and transmit information received. (See Note #1 above.)

AFTER DUTY HOURS - If Oswego County Warning Point does not answer roll call, State Police operator will notify Oswego County Warning Point and give required information. (See Note #2.)

6. Operator will notify State officials in accordance with State Implementing Procedures (Attachment 10).

D. STATE HEALTH DEPARTMENT

1. When phone rings (beehive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS STATE HEALTH DEPARTMENT (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "STATE HEALTH DEPARTMENT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - Health Department personnel will be notified by State Police personnel and copy the information received. (See Note #1.)

6. Operator will notify Health Department officials in accordance with the Department's procedures.

E. SEMO CENTRAL DISTRICT

1. When phone rings (beehive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS SEMO CENTRAL DISTRICT, (NAME), speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "SEMO CENTRAL DISTRICT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - SEMO Central district personnel will be notified by State SEMO and copy the information received. (See NOTE #1.)

If Oswego County Warning Point doesn't answer, SEMO Central District will notify said station and transmit the information received. (See Note #2).

6. Operator will notify District officials in accordance with District procedures.

7. SEMO Central District Office will advise assigned State agency personnel when they are to report to a county EOC at the direction of the Disaster Preparedness Commission.

*RECS test procedures are covered in Attachment 2.

III. ROBERT E. GINNA (GINNA) NUCLEAR POWER PLANT*

A. LICENSEE

1. Control Room operator will depress ring button and release. After ten seconds, operator will pick up handset and announce: "THIS IS TO REPORT AN INCIDENT AT (SITE). STAND BY FOR ROLL CALL." (Conduct roll call to include the following stations:)

Wayne County Warning Point
Monroe County Warning Point
NYS Warning Point (SEMO during duty hours, State Police during non-duty hours)

During duty hours, the following situations may be active to receive information:

**NYS Health Department (Radiological Health)
**NYSEMO Radiological (State EOC)
**NYSEMO Lake District
**NYSEMO Western District
**Wayne County EOC
**Monroe County EOC

**These stations do not have to be present on telephone before licensee operator begins message information. If these stations want repeat of information, State Warning Point will comply.

NOTE #1 - During non-duty hours, the State Police will notify and give information to personnel listed on notification lists maintained by the State Health Department and the State SEMO via commercial phone (see Attachments 4&5). The State SEMO will notify and give information to the SEMO Lake and Western Districts in accordance with its notification procedures via commercial phone.

NOTE #2 - In the event a County Warning Point station does not answer roll call, the licensee operator will proceed with the information, the SEMO Lake or Western Districts (during duty hours) or the State Warning Point (during non-duty hours) will be responsible to notify the non-answering station and give required the information.

2. Upon completion of roll call, operator will give information out-lined on Radiological Emergency Data Form (Attachment 7).

3. Operator will again call roll, by saying, "(NAME OF STATION) did you copy?"

4. Operator will sign off by saying, "(LICENSEE NAME) out at (TIME) LOCAL and (DATE)."

5. Operator will record dissemination of information on log.

6. Initial Notification of a General Emergency

   a. Control Room Operator will depress ring button and release. After ten seconds, operator will pick up handset and announce:

      "This is to report that a General Emergency condition at (site exists" REPEAT "This is to report that a General Emergency condition at (site) exists. Stand by for roll call. All stations not called please stay off the line until further notice."

      (Conduct roll call to include the following stations only:)

      - Wayne County Warning Point
      - Monroe County Warning Point
      - NYS Warning Point (SEMO during duty hours, State Police during non-duty hours).

   b. Upon completion of roll call, operator will give information outline on the Radiological Emergency Data Form (Attachment 7). For initial notifications only Part I of the Data Form is used.

   c. Operator will again call roll by saying, "(Name of Station) did you copy?"

   d. Operator, after checking with Wayne and Monroe Counties to see if initial message has been received will release control of the RECS Line to the Wayne County Warning Point for purposes of coordinating with Monroe County, the time for siren and EBS activation. After this procedure has been completed, Wayne will sign off releasing the RECS line for normal communications.

   Note 1 - After Wayne signs off, stations not listed above that may be on the line may ask the State Warning Point for a repeat of information.

   Note 2 - If After Duty Hours - The State Police will notify and give information to personnel listed on notification lists maintained by the State Health Department and the State Emergency Management Office

(SEMO) via commercial phone (see Attachments 4 and 5). The SEMO will notify and give information to SEMO Southern District in accordance with its notification procedures via commercial phone.

AFTER DUTY HOURS - If a County Warning Point does not answer roll call, State Police operator will notify non-answering station and give required information (see NOTE #2).

7. Operator will notify State officials in accordance with State Implementing Procedures (Attachment 10).

D. STATE HEALTH DEPARTMENT

1. When phone rings (beehive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS STATE HEALTH DEPARTMENT, (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "STATE HEALTH DEPARTMENT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - Health Department personnel will be notified by State Police personnel and copy the information received. (See Note #1.)

6. Operator will notify Health Department officials in accordance with the Department's procedures.

E. SEMO LAKE AND WESTERN DISTRICT

1. When phone rings (beehive light ON), operator will pick up handset after hearing its station name being called, identify by saying, "THIS IS SEMO (LAKE or WESTERN) DISTRICT, (NAME) speaking."

2. Operator will take information as given by licensee operator and copy on Radiological Emergency Data Form (see Attachment 7).

3. After hearing its name, operator will answer, "SEMO (LAKE or WESTERN) DISTRICT copied."

4. Operator will sign off by hanging up handset.

5. Operator will record receipt of information on log.

IF AFTER DUTY HOURS - SEMO Lake and Western District personnel will be notified by State SEMO and copy the information received. (See Note #1.)

If a County Warning Point station doesn't answer, SEMO Lake or Western District will notify non-answering station and transmit the information received (See Note #2.)

6. Operator will notify District officials in accordance with District procedures.

7. SEMO Lake and Western District Offices will advise assigned State agency personnel when they are to report to a county EOC at the direction of the Disaster Preparedness Commission.

*RECS test procedures are covered in Attachment 2.)

IV STATE EOC CLARIFICATION AND CONFIRMATION PROCEDURES

A. HOTLINE PROTECTIVE ACTION CLARIFICATION FORM

The below Hotline message is to be given by the State EOC immediately following any message containing Utility recommendations on protective actions.

"ATTENTION ALL STATIONS. THIS IS THE STATE EOC. UTILITY RECOMMENDATIONS ARE NOT, REPEAT NOT TO BE IMPLEMENTED UNLESS ORDERED BY APPROPRIATE GOVERNMENTAL AUTHORITIES. STATE EOC OUT AT _____ (TIME)."

B. CONFIRMATION PROCEDURE

If the utility does not call roll of all parties or if all appropriate parties are not present (see Attachment 3) and whenever there is a change in the emergency classification or when a radioactive release occurs for the first time or stops, the State EOC will follow the Utility Hotline message with the following message for the appropriate County/City and SEMO District.

A. For emergency classification change:

"THIS IS THE STATE EOC. ALL STATIONS ARE ADVISED THAT -THIS IS AN (A) UPGRADE (DOWNGRADE) TO_____ CLASSIFICATION.

B. For a new release or termination of the release:

"THIS IS THE STATE EOC. ALL STATIONS ARE ADVISED THAT THE RELEASE HAS BEGUN (BEEN TERMINATED) AT _____(TIME)."

After the above message has been read, receive confirmation from each party (call appropriate roll) as follows: "_____ (NAME) DO YOU COPY?"

(NOT USED)

TEST PROCEDURES FOR THE NEW YORK STATE
RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM (RECS)

1. NYS Warning Point (NYSWP) will depress ring button and release. After ten (10) seconds NYSWP will pick up handset and announce: "THIS IS A TEST. REPEAT. THIS IS A TEST. This is NYS WARNING POINT calling all stations. Stand by for roll call".

   (NYSWP WILL CALL ROLL ACCORDING TO SEQUENCE OF CALLS IN 10 BELOW)

2. After hearing ring (beenive light ON) all stations will lift up handset and answer roll call after hearing its station name over loudspeaker by saying, "(NAME OF STATION) TEST".*

3. After completing roll call, NYSWP will recall all stations not answering, saying, "NYS WARNING POINT recalling (NAME OF STATION NOT ANSWERING)". (NAME OF STATION RECALLED) will answer using terminology in 2 above.

4. NYSWP will sign off by saying, "END OF TEST, NYS WARNING POINT out at (TIME) LOCAL and (DATE)".

5. All stations will log results (the Radiological Emergency Communications System Log enclosed may be used).

6. All stations not answering initial test will be called on commercial telephone by NYSWP for reasons. Problems will be reported immediately to the trouble number _____ reporting Circuit_____ failed

   (CIRCUIT FAILURES WILL BE RECORDED IN RED INK ON LOGS)

7. If circuit failures occur, station that has failure will call by commercial telephone, NYSWP and appropriate County Warning Point(s) and report outage and time when back in service.

8. TEST SCHEDULE - Tests will be conducted bi-weekly on Tuesdays preceding the bi-weekly NAWAS tests according to the following:

   a. Ginna at 9:15 a.m.

   b. Nine Mile Point at 9:30 a.m.

   c. Indian Point at 9:45 a.m.

   Test schedules will be issued by NYSWP.

9. Unannounced tests will be conducted as necessary.

*By answering "(Name of Station) Test," the operator is signifying that bell, beehive light and speaker are working properly and voice transmissions are at proper level.

10. SEQUENCE OF ROLL CALL

a. INDIAN POINT - called in the following order:

Indian Point Unit #2 Control Room
Indian Point Unit #3 Control Room
Indian Point Emergency Operations Facility
Indian Point Alternate EOF
Westchester County Warning Point
Westchester County Disaster and Emergency Services
Westchester County EOC
Peekskill City Warning Point
Peekskill City EOC
Rockland County Warning Point
Rockland County EOC
Orange County Warning Point
Orange County EOC
Putnam County Warning Point
Putnam County EOC
NYSEMO Southern District
NYS Department of Health (Radiological Health)
NYS Division of State Police (Alternate State Warning Point)
NYSEMO Radiological (State EOC)
West Point

b. NMP/JAF - called in the following order:

Nine Mile Point Control Room
Nine Mile Point 2
FitzPatrick Control Room
Oswego County Warning Point
Oswego County EOC
NYSEMO Central District
NYS Department of Health (Radiological Health)
NYS Division of State Police (Alternate State Warning Point)
NYSEMO Radiological (State EOC)

c. GINNA - called in the following order:

Ginna Control Room
Ginna Emergency Operations Facility
Wayne County Warning Point
Wayne County EOC
Monroe County Warning Point
Monroe County EOC
NYSEMO Lake District
NYSEMO Western District
NYS Department of Health (Radiological Health)
NYS Division of State Police (Alternate State Warning Point)
NYSEMO Radiological (State EOC)

(Other licensee operational areas having RECS phones will be tested by licensee.)

NEW YORK STATE
RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM

MONTH_____ LOG

YEAR_____

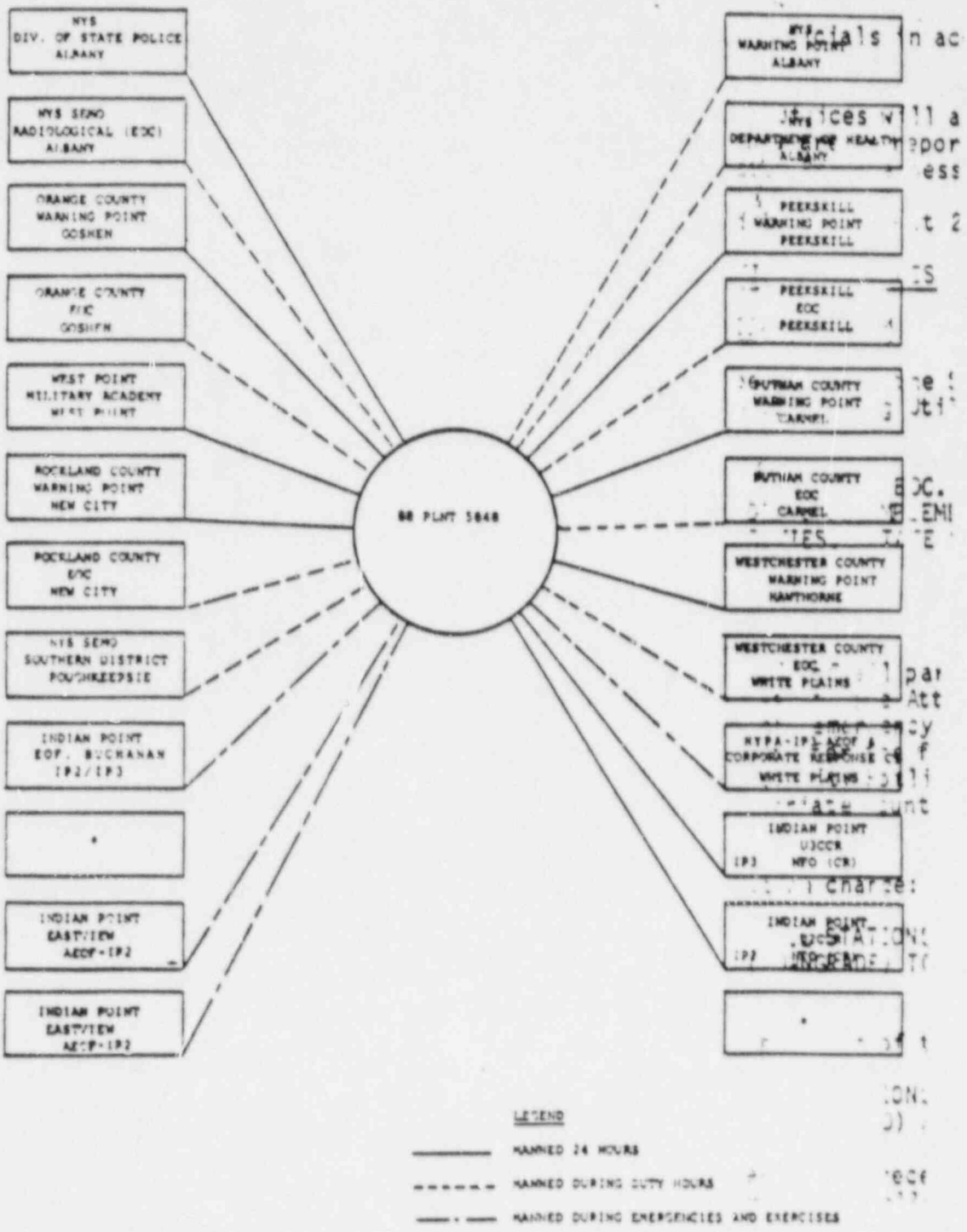
DATE	LOCAL TIME	FROM/TO	TYPE OF CALL/MESSAGE SUMMARY	REC. BY

(NOT USED)

RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM

(RECS)

INDIAN POINT UNIT 2 & UNIT 3



LEGEND

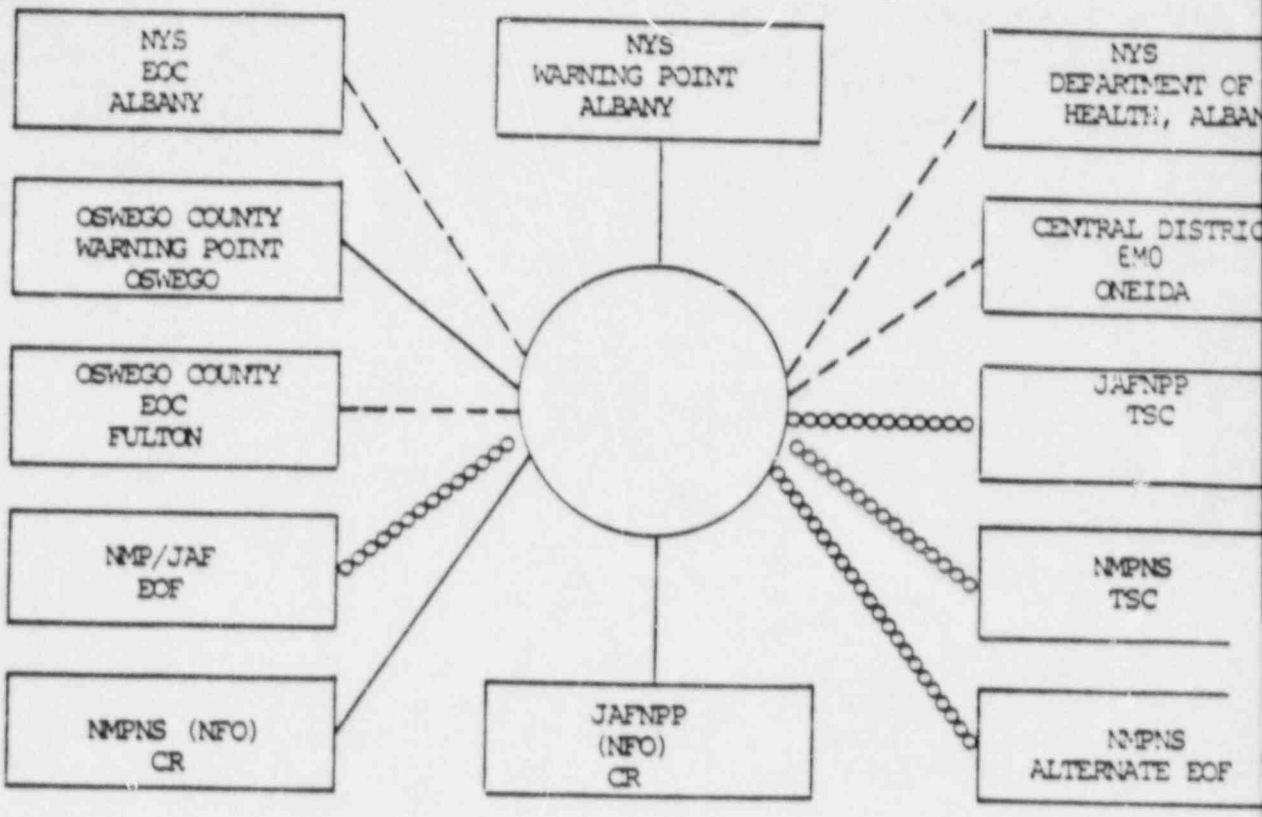
——— MANNED 24 HOURS

– – – – – – MANNED DURING DUTY HOURS

——·—— MANNED DURING EMERGENCIES AND EXERCISES

THIS COMMUNICATIONS SYSTEM IS ACTIVATED BY SPEAKING INTO THE HANDSET AT ANY STATION. ALL PARTIES ARE ACTIVATED SIMULTANEOUSLY ON THE SAME LINE

RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM(RECS)
NINE MILE POINT NUCLEAR STATION (NMPNS) & JAMES A. FITZPATRICK NUCLEAR POWER PLANT(JAFNPP)



LEGEND

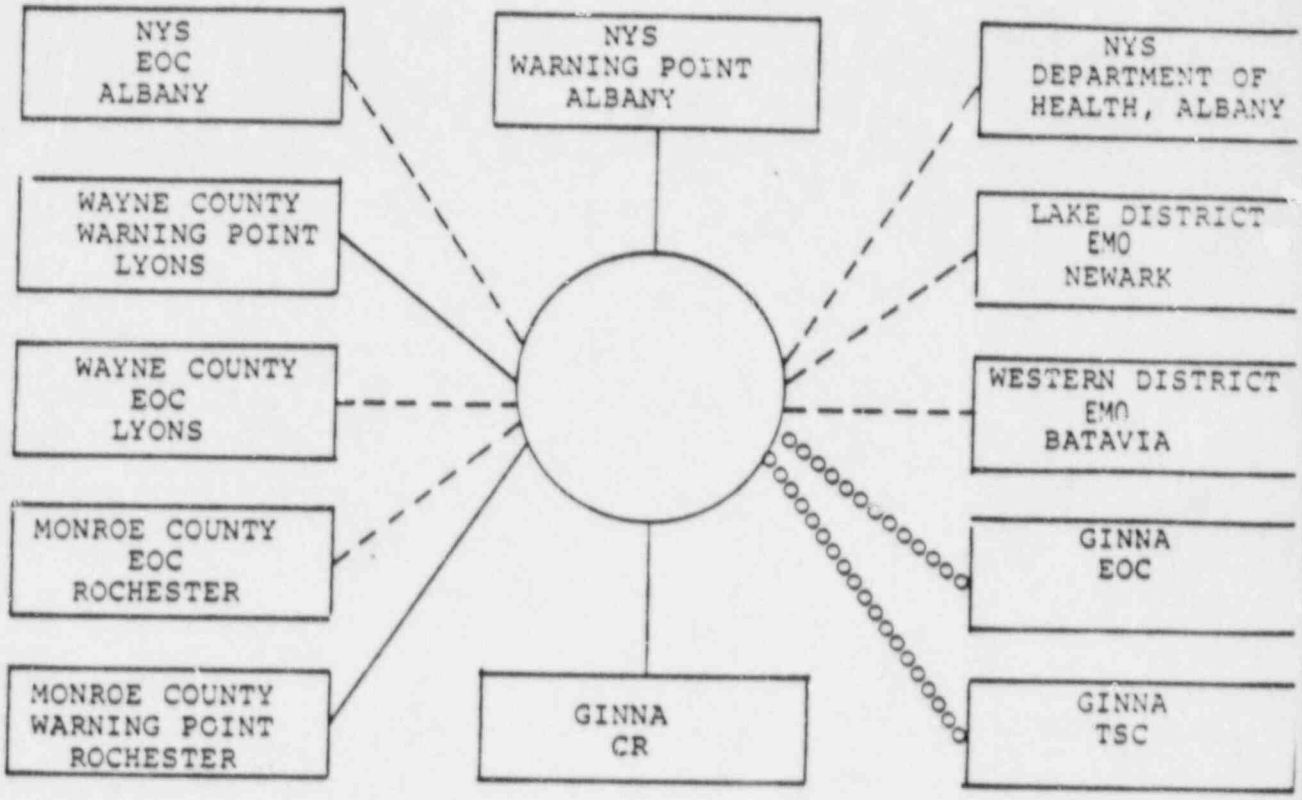
———— manned 24 hours

– – – – – manned during duty hours

oooooooo manned during emergencies and exercises

This communication system is activated by any party picking up its RECS instrument. All parties are activated simutaneously on the same line.

RADIOLOGICAL EMERGENCY COMMUNICATIONS SYSTEM (RECS)
GINNA NUCLEAR POWER STATION



LEGEND

———— manned 24 hours

--------- manned during duty hours

oooooooo manned during emergencies and exercises

This communication system is activated by any party picking up its RECS instrument. All parties are activated simutaneously on the same line.

(NOT USED)

RADIOLOGICAL EMERGENCIES

PROCEDURE FOR INITIAL RESPONSE STATE PERSONNEL

Upon receiving notification of any radiological emergency, transportation incident involving radioactive materials, or any emergency or emergency drill at a Nuclear Power Plant in or near New York State, the person at the State Warning Point receiving the call will:

Notify the Bureau Environmental Radiation Protection, NYS DOH in the following decending order:

		Office Number	Home Number
a.	Karim Rimawi	(Except as noted other-	
b.	William Condon	wise, all can be reached	
c.	James Huang	at 458-6461)	
d.	Robert Alibozek		
e.	Maryanne Harvey		
f.	Steve Zobel		
g.	Robert Middleton	457-7150	
h.	Thomas Miller		
i.	George Kerr		
j.	Douglas Keith		
k.	John O'Connell		

This list has been provided to the Department of Energy's RAP team at Brookhaven National Laboratory and to the US Nuclear Regulatory Commission.

In the event of an emergency at a nuclear power plant the contact person from the Bureau of Environmental Radiation Protection will notify the Radiological Emergency Preparedness Group in the following decending order:

		Office #	Home #
a.	James Papile	All staff can be reached	
b.	Bruce McQueen	at 457-8909	
c.	James Baranski		
d.	Lawrence Czech		

The REPG contact person will refer to the procedures outlined for the Director of REPG.

(NOT USED)

PART I SECTION III

III. RESPONSE

A. INTRODUCTION

The Response phase of a radiological emergency deals with the reaction to an emergency which encompasses the Federal, State, local and private sector response roles and how the activities of these organizations will be coordinated. This effort minimizes the impact of the emergency on the health and safety of those in the affected areas.

A nuclear power plant emergency is defined as a series of events at a nuclear power plant which leads to an actual or potential release of radioactive materials into the environment to warrant consideration of protective actions. Protective actions are those actions taken which are intended to minimize the radiation exposure of the general public.

1. PRIVATE SECTOR

The Response phase to a radiological emergency within a nuclear facility begins with the nuclear facility operator (NFO). NFO has the first line responsibility for assessing the magnitude of a radiological emergency and its potential consequences and for taking immediate actions to mitigate or terminate the emergency. This responsibility includes classifying the event and notifying State and local governments, as well as the Nuclear Regulatory Commission, on-site and off-site monitoring, sample collection and analysis. After the initial notification, technical personnel from the nuclear facility will remain in contact with the representatives of the State Commissioner of Health and local officials for consultation and ongoing assessment of the emergency.

2. LOCAL GOVERNMENT

Each county has the primary responsibility for responding to a radiological emergency with their resources and, when necessary, for requesting additional assistance from other jurisdictions. These resources are contained in each county plan.

Local government response efforts will be based on information from the NFO and guidance from the State Disaster Preparedness Commission (DPC). Local resources will be made available for the effective implementation of the appropriate protective action response options.

3. STATE GOVERNMENT

Each respective local government has the primary responsibility for responding to a radiological emergency. State agencies are expected to provide necessary support to the local government. However, upon a State Declaration of Disaster Emergency by the Governor, the DPC assumes direction and control of emergency response activities through the local Chief Executive.

The Department of Health, as the State lead agency in radiological emergencies, and by order of the Commissioner of Health, under the auspices of the Disaster Preparedness Commission, shall request necessary monitoring and activate assessment and evaluation personnel, equipment, and other resources. Upon evaluation and after consultation with the local Chief Executive, the Commissioner, will recommend appropriate protective action response options. The REPG, as liaison to the DPC, will deploy to the respective nuclear power plant EOF, county(ies) Emergency Operations Center(s) and the Joint News Center. After a State Declaration of Disaster Emergency pursuant to Executive Law, section 24, the Commissioner will order appropriate protective actions. State agencies are responsible for support. The State Emergency Management Office, as staff to the Disaster Preparedness Commission, is the State coordinating agency of State and local operational resources and will perform this function from the State Emergency Operations Center (EOC).

There will also be an ongoing, exchange of information between local and State agencies.

After the initial notification of an emergency, disaster preparedness response activities will be coordinated through the State Emergency Management Office. County Health Departments will continue ongoing communication with the State Health Department. County agencies will communicate through their ongoing State contacts and/or the REPG liaison.

As previously stated, the REPG will have a representative in each county emergency service office, in the EOF, in the news center and with the DPC Chairman at the State EOC to facilitate the proper implementation of the plan.

4. FEDERAL GOVERNMENT

Management of the Federal response requires the coordination of a number of Federal agencies with each other and with the appropriate State and local authorities. The responsibility for the overall management of the Federal response will be shared by the Nuclear Regulatory Commission (NRC) and Federal Emergency Management Agency (FEMA).

The NRC will be responsible for the on-site technical direction of the Federal response. "Technical" refers to all aspects of radiological monitoring, evaluation, assessment and reporting,

the application of sophisticated technology to control or predict the impact of radiological contamination and the use of all available instrumentation to develop recommendations for protective actions measures.

In accordance with the Federal Radiological Emergency Response Plan, FEMA will serve as the primary point of contact for State officials and will coordinate and manage all non-technical aspects of the Federal response ("non-technical" refers to all types of assistance to Federal and State/local organizations, such as transportation, communication and housing and assistance to State/local response activities). For Federal notification contacts refer to Part II, Procedure B, Attachment 10A.

At the direction of the State Commissioner of Health or his designee, the Department of Energy (DOE), through the Federal Radiological Monitoring and Assessment Plan (FRMAP) will coordinate all off-site monitoring, evaluation, assessment and reporting the activities of participating Federal agencies.

The NRC and DOE will coordinate their onsite and offsite data and will jointly advise the State Assessment Center on the Federal assessment and evaluation of the emergency and the availability of support.

The Operations Officer at the State Emergency Operations Center (EOC) is the designated State liaison to Federal agencies who have been requested to provide response support to the State. The U.S. Department of Agriculture has established USDA emergency boards in every State and county to coordinate USDA State or county disaster assistance efforts. All of the USDA agencies having major emergency responsibilities are represented on these boards. USDA emergency personnel are to establish continuing liaison with State and/or county agricultural agencies to insure coordination assistance activities and damage assessments. For USDA contact refer to Part II, Procedure B, Attachment 10A.

B. GENERAL OPERATIONS

1. RESPONSE ACTIVITIES AND ASSIGNMENTS

The following is a list of response activities assigned to State agencies, local governments, the private sector, and the Federal Government. This list is composed of those activities directly related to response to a radiological emergency. Those activities that are related to other types of emergencies that might occur in conjunction with a radiological emergency, such as flood, earthquake, snowstorm, etc., are found in Part III of the New York State Disaster Preparedness Plan. The lead State agency is listed first, followed by other agencies having response roles, listed in alphabetical order, followed by private agencies and the Federal Government. (See Chart pg. III-21). The Federal Government will use three primary agencies for response activities, upon the request of the State, as outlined. The State Commissioner of Health, or the Director of the Disaster Preparedness Program (State Emergency Management Office), will contact one or more of these agencies depending on the activity involved.

a. DIRECTION AND CONTROL

The activities within direction and control are to assign missions; make assessments and evaluations; direct and coordinate operations; supply special resoures; and implement applicable laws and regulations. These activities will be directed by assigned agency representatives at the State Emergency Operations Center (EOC), Building #22, State Campus, Albany, using the State Emergency Management Office (SEMO) communications system, which will be supported by the existing operational capability of other assigned agencies (refer to Part II, Section IB.)

(1) LOCAL GOVERNMENT

At the county level, this direction and control activity will be implemented by local government agencies, with the county Chief Executive in charge. Operations will be directed from the county EOC's, using county communications (refer to Communication procedures in each appropriate county radiological emergency preparedness plan). In those instances where a county does not have the capability to implement all or part of its Radiological Emergency Response Plan, or the Chief Executive Officer of a county does not elect to put such a plan into effect, the Governor shall declare a State of Disaster Emergency for that county and direct State agencies to implement those measures of the county's plan that may be appropriate and necessary under the direction of the Disaster Preparedness Commission. State and local resources and personnel shall be utilized in carrying out these measures.

(2) STATE AGENCIES

(a) The Department of Health is designated the lead State agency for a radiological emergency. The Commissioner of Health or his designee will provide guidance to local government agencies and will direct State agencies as to appropriate protective actions.

(b) The Radiological Emergency Preparedness Group will serve as the Disaster Preparedness Commission field liaison at the EOF, County EOC(s), and at the Joint News Center.

(c) The State Emergency Management Office is the State coordinating agency, and will coordinate the assistance furnished by various Federal and State agencies, emergency forces from political subdividisons, and quasi-public and private organizations. The coordination role will be carried out at the State EOC.

(d) The Department of Agriculture and Markets controls the safety of food and livestock subjected to radiological contamination including such measures as seizure, embargo and salvage. It will also give advice to farmers on emergency problems including livestock and crop contamination. In cooperation with the Department of Health it will implement response programs for sampling milk and other agriculture products.

b. COMMUNICATION

Communication activities include: notification of Federal, State, and county emergency organizations, and the news media; notification of the general population and special facilities within the plume exposure EPZ and reporting of radiological and meteorological information.

(1) LOCAL GOVERNMENT

Local communications will be activated at the local level using existing county emergency communications. (The specifics of these systems are set forth in the County Communication procedures.)

(2) STATE AGENCIES

(a) The State Emergency Management Office (SEMO) has communications systems with plume exposure Emergency Planning Zone (EPZ) counties, SEMO district offices and the NFO to provide initial notification and ongoing communication during the emergency. These systems include dedicated telephone lines - Radiological Emergency Communication System (RECS) and the Executive Hotline, commercial telephone and radio communications. SEMO also has the National Warning System (NAWAS) to all counties and some cities. SEMO district offices have radio systems on State agency networks of the Department of Transportation, Department of Environmental Conservation, Department of State (Fire Prevention and Control), and the Division of State Police.

(b) The Division of State Police has statewide police teletype system and radio systems that interconnect with the SEMO district offices. It is a complete system between fixed substations and mobile units and has a mobile command post bus with radio and telephone. Radio cars are equipped with public address systems and bullhorns and helicopters are equipped with public address systems. The State Police can the alternate State Warning Point to provide a 24-hour per day coverage. State of the art mobile communications vans with satelite communications capability have been developed and are operated for the UPC by the DSP.

(c) The Thruway Authority has a radio communication network, along the entire length of the Thruway which helps in keeping the Thruway available for the movement of emergency vehicles and supplies. The Thruway radio system is available to assist in emergency situations within the parameters of its operating capabilities, which is approximately ten miles each side of the Thruway.

(d) The Department of Environmental Conservation has a statewide radio system which connects regional headquarters to mobile units and with SEMO district offices.

(e) The Department of Health has mobile radio communication equipment which enables the Bureau of Emergency Medical Services to be in contact with local EMS personnel (ambulance, fire, rescue squads).

(f) The Division of Military and Naval Affairs, on order of the Governor, can activate radio communications between armories. It has bullhorns and aircraft loudspeakers, and special communication units which could be utilized.

(g) The Office of Parks and Recreation has bullhorn and loudspeaker communication capabilities within State parks and recreational facilities.

(h) The Bureau of Environmental Radiation Protection, Department of Health has an extension of the RECS and will notify the Radiological Emergency Preparedness Group.

(i) The Department of Transportation has a statewide system which connects regional headquarters to residencies and mobile units, which also connects with SEMO district offices.

(j) The Office of Fire Prevention and Control has radio equipment which can contact the office's field representatives and the County Fire Coordinating Officers near Albany. Information could be relayed on the assigned State fire radio frequency from the county offices near Albany to all counties in the State. This is a back-up system to get information to the fire service in New York State if other systems are not functioning. It interconnects with the SEMO district offices.

(k) The Civil Air Patrol has a radio network for emergency backup to SEMO.

(3) NUCLEAR FACILITY OPERATOR is responsible for initiating the notification system via the RECS.

c. PUBLIC NOTIFICATION

The capability exists to provide a prompt notification signal to the public, followed by provisions for disseminating instructions to the public on the appropriate protective actions to be taken.

(1) LOCAL GOVERNMENT

The activation and control of this public notification system will be implemented at the local level in coordination with the State Disaster Preparedness Commission.

Initial Notification Requiring Protective Action

In the event an emergency requiring an initial notification to the State and affected county(ies) that a General Emergency has been declared, the county(ies) will activate their siren system and release a prearranged EBS message to the public prior to coordination with the State. In the case of multiple county involvement, a lead county has been selected to activate the EBS system and authorization and procedures to activate the siren system immediately. Procedures are contained in each county plan.

(2) STATE AGENCIES

(a) The State Emergency Management Office will verify that public notification systems are activated, including the coordinated use of the Emergency Broadcast System.

(b) The Division of State Police will assist, as directed, in the local program to alert the public.

(c) The Department of Health will advise the public on the emergency impact and on which protective actions are necessary (refer to Part II, Section 1C.).

(d) The Office of Parks and Recreation will notify populations in State parks and recreation facilities about the emergency and will issue instructions for appropriate protective actions to be taken.

d. ACCIDENT ASSESSMENT

Radiological and meteorological capabilities exist to provide information for assessing the public health impact of

radiological emergencies. Accident Assessment includes obtaining radiological and meteorological data and the use of such data in determining the actual or potential impact on public health in order to determine the appropriate protective action.

(1) LOCAL GOVERNMENT

Will make all assessment based on information from the NFO, the State Commissioner of Health, and their own resources.

(2) STATE AGENCIES

(a) The Department of Health assesses the magnitude and impact of an emergency on the public health and where appropriate provides calibrated portable survey instruments and manpower. DOH conducts epidemiological surveillance; provides laboratory analysis of air, water, and agricultural products samples; collects potable water samples; provides information on hospitals with radiological medical personnel and thyroid uptake scanners for screening potentially exposed populations; and provides meteorological evaluation for transport of airborne radioactive materials, using the United States Department of Energy Atmospheric Radiological Release Advisory Capability system (ARAC) and the NFO's assessment system.

(b) The State Energy Office provides technical support through technical consultation with the NRC and NFO on the facility status.

(c) The Department of Agriculture and Markets, in cooperation with the Departments of Health and Environmental Conservation, implements programs in sampling milk and other agricultural products for radiological contamination.

(d) The Department of Environmental Conservation implements environmental monitoring programs, providing meteorological data from both the New York State Continuous Monitoring Network and the National Weather Service locations and interpreting this information concerning the transport of airborne radioactive materials.

(e) The Department of Labor monitors and evaluates industrial safety and health radiation hazards within its jurisdiction.

(f) The State Emergency Management Office provides technical support at the request of Department of Health with both radiological personnel and equipment and meteorological data.

(3) FEDERAL AGENCIES

Upon the request of the Commissioner of Health, through the Bureau of Environmental Radiation Protection, technical assistance will be provided through the Department of Energy, Brookhaven Area Office and the FRMAP for radiological assessment to support State and local agencies. This support includes the use of the United States Department of Energy (ARAC) Atmospheric Release Advisory Capability system.

(4) NUCLEAR FACILITY OPERATOR (NFO)

The NFO provides the initial radiological and meteorological assessment and continues to provide this data throughout the emergency situation. The NFO also provides assessment and recommendations throughout the emergency to the DOH and local officials.

e. PROTECTIVE RESPONSE EVALUATION

The process of evaluating all pertinent data so as to make the most appropriate decisions in recommending protective action.

(1) LOCAL GOVERNMENT

Evaluates information from the NFO, Department of Health, and their own resources.

(2) STATE AGENCIES

(a) The Department of Health evaluates all pertinent data to provide guidance to local government and State agencies as to appropriate protective actions.

(b) The State Emergency Management Office coordinates the collection and transfer of information needed for the evaluation process from appropriate State agencies and local governments.

(3) FEDERAL AGENCIES

Evaluative input will be provided through Federal radiological and meteorological programs.

(4) NUCLEAR FACILITY OPERATOR

Initial and ongoing recommendations on appropriate protective actions to be taken will be provided by the NFO.

f. RADIOLOGICAL EXPOSURE CONTROL

Means will be established for controlling exposures of the public and emergency workers to radioactive materials.

(1) LOCAL GOVERNMENT

Control of radiological exposure of local emergency workers and the public will be accomplished at the local level based on the existing situation and on the protective response actions recommended by the State Commissioner of Health.

(2) STATE AGENCIES

(a) The Department of Health recommends appropriate protective actions for controlling the exposure of the public to radiation.

(b) The State Emergency Management Office provides self-reading personnel monitoring equipment to State emergency workers, radiological monitoring of State emergency workers for external contamination and surface monitoring capabilities.

g. PUBLIC INFORMATION

Public information includes a coordinated program to keep the public informed on the up-to-date status of a radiological emergency situation and to insure that there exist methods to advise the public of all recommended public protective measures. Also, a system shall exist to monitor all media coverage to insure that misinformation is not released. The public information program is under the supervision of the State Public Information Officer designated by the Commissioner of Health. The State Public Information Officer will be the single source of information on State response activities and recommended public protective measures. The State Public Information Officer will ensure the establishment of a rumor control center to receive rumors from all sources. Once rumors are received they will be logged, evaluated and necessary actions will be taken (refer to Part II, Section I.C.).

(1) LOCAL GOVERNMENT

The State Commissioner of Health and the local Chief Executive are responsible for issuing announcements on public health and safety, relating to a radiological emergency. Public information officials from the local jurisdiction and the State Public Information Officer will consult with one another, to ensure that factual information will be available for reporting to the public in a timely manner at both State and local levels.

(2) NUCLEAR FACILITY OPERATOR

The NFO's information officer will consult with the State Public Information Officer and appropriate local

information officials prior to the release of any information which may affect the general public.

(3) STATE PUBLIC INFORMATION OFFICER

The State Commissioner of Health designates the State Public Information Officer (PIO) for radiological emergencies.

The State Public Information Officer will be the single, State agency source for official information during a radiological emergency.

The State Public Information Officer coordinates news releases with appropriate local government PIO(s), the utility information officer, and the Federal PIO(s).

h. EVACUATION

Evacuation encompasses the movement of people out of a threatened area and the resources necessary to support this movement. Included are the movement of people from designated areas over designated routes; keeping these routes clear for travel; the identification of special needs of children, sick, elderly, handicapped, and other groups which may be especially affected; and the care and support of evacuees (refer to each respective County Radiological Emergency Preparedness Plan).

(1) LOCAL GOVERNMENT

The evacuation plan will be implemented at the local level, using all available local resources, supplemented by available State resources.

(2) STATE AGENCIES

(a) The State Emergency Management Office coordinates, and provides technical assistance to the local governments.

(b) The Division of State Police assists in notification and providing control with local law enforcement agencies, enforces emergency highway traffic regulations, and assists in ensuring the security of evacuated areas.

(c) The Department of Transportation assists in keeping evacuation routes clear and in traffic control; supplies route designations for expedient movement and control mechanisms (signs, road blocks, signals, etc.); as required, can waive restrictions on transportation systems and assists in locating buses for mass transit.

(d) The Division of Military and Naval Affairs (DMNA) on order of the Governor, DMNA aids civil authorities with ground and air evacuation capabilities.

(e) The Department of Social Services assists in the identification of sick, elderly, infirm, handicapped, and retarded, and assists at adult facilities and children's facilities in implementing evacuation plans. Provides guidance and assistance to local Social Services and the American Red Cross in the administration and operation of Reception/Congregate Care Centers.

(f) The Department of Corrections will continue to make the appropriate decisions on the movement of prisoners on an ad hoc basis. State facilities may shift prisoners within the State system. There is no county authority to shift county prisoners into the State system. Upon the request of county officials, the State Commission on Corrections will advise the county and the Department of Corrections as to the protective action that is to be taken relative to incarcerated individuals.

1. RECEPTION/CONGREGATE CARE CENTERS

The needs of the relocated population will be determined for receiving, registering, lodging, feeding, and clothing.

- Housing. Temporary housing will be provided for displaced persons in the form of mobile and modular homes, rooms in private homes, schools, dormitories, armories, private and public buildings, and churches. Evacuees will be supplied with blankets, adequate fuel supplies for heat, and housing supplies. There will be a program with staff and equipment to register relocated persons and to identify those needing special attention (elderly, addicts, retarded, infirm, handicapped, sick, etc.). There will also be provided a place for possible decontamination activities.

- Food Provision. Activities will be implemented which are necessary to bring food to humans and animals, including the storage of food and assuring the availability of food.

- Clothing. Provision will be made for supplying needed personal garments in the disaster area.

(1) LOCAL GOVERNMENT

Activities to register and monitor evacuees at Reception Centers and to house, feed and cloth them at Congregate Care Centers will be implemented by local agencies and the American Red Cross.

(2) STATE AGENCIES

Activities supporting the above effort will be implemented according to the New York State Disaster Preparedness Plan through the State Emergency Management Office. Agency responsibilities are clearly stated in the appropriate portions of that Plan.

(3) FEDERAL AGENCIES

In the event of a presidential disaster declaration the Federal government may provide mass shelters, emergency supplies and clean drinking water, sell government-owned feed grains to livestock owners at reduced prices, assign personnel to screen contaminated food, and provide emergency clothing.

(4) VOLUNTARY/PRIVATE AGENCIES

These organizations will respond to the activity needs of this emergency and for this protective action just as they would in any disaster scenario (i.e., a radiological emergency response is no different from a blizzard or hurricane).

j. SOCIAL SERVICES

Provision will be made for the needs of those affected by the emergency, including special population segments (handicapped, elderly, etc.) and those receiving personal services, such as welfare. Other services which will be available are crisis counseling, psychiatric counseling, information, legal, and referral services, casework services, and other welfare services.

(1) LOCAL GOVERNMENT

Social services activities will be implemented at the local level, with support from the State.

(2) STATE AGENCIES

(a) The Department of Social Services will coordinate activities of the Red Cross, Salvation Army, and other recognized volunteer organizations.

(b) The Department of Health provides information and referral services, which tie in with the resources of local health jurisdictions. Twenty-five counties are served by State district health offices, which provides direct health services to communities without established health departments. The appropriate district office will advise the affected population.

(3) VOLUNTARY/PRIVATE AGENCIES

(a) American Red Cross will operate Congregate Care Centers to shelter and feed evacuees and assist government and other agencies responsible in the operation of reception centers, registration of evacuees and transportation.

(b) Salvation Army will carry out their traditional role in assisting disaster victims. Additional roles are outlined in applicable county radiological emergency preparedness plans.

(c) Mennonites will carry out their traditional role in assisting disaster victims.

k. PUBLIC HEALTH, MEDICAL, AND SANITATION SERVICES

Provision will be made for the continuation of basic public health services during radiological emergencies. Primary and emergency care and treatment for the ill and injured will also be provided, including radiation exposure patients. The movement or consolidation of patients, equipment, and personnel of hospitals, nursing homes, and other special facilities will be coordinated, as will the allocation of medical resources.

(1) LOCAL GOVERNMENT

Most of the activities dealing with health problems and protective actions will be implemented at the local level, with support supplied by the State.

(2) STATE AGENCIES

(a) The Department of Health provides laboratory testing of samples to assure safe food and water supplies and order any protective actions; monitors potable water supplies; provides technical assistance and risk assessment; issues orders related to affected public water supply; and recommends alternatives regarding the above in concert with the Departments of Agriculture and Markets and Environmental Conservation.

(3) ALL OTHER STATE AGENCIES

Activities will be implemented consistent with the New York State Disaster Preparedness Plan through the State Emergency Management Office. Agency responsibilities are clearly stated in that Plan for Disease and Pest Control, Sewage Control, Water Provisions.

(4) FEDERAL AGENCIES

Advice and technical assistance will be provided, upon request, to prevent communicable diseases.

1. PUBLIC SECURITY

The measures necessary to protect the public by the enforcement of normal and emergency laws will be provided.

(1) LOCAL GOVERNMENT

Public security measures will be implemented at the local level and will be supplemented by the State (refer to each Police/Law Enforcement procedure, County Radiological Emergency Response Plans).

(2) STATE AGENCIES

(a) The Division of State Police provides manpower and equipment to protect life and property; establishes ingress and egress control; maintains traffic and crowd control; closes highway; suppresses riots and disorders; investigates accidents; enforces laws, disaster emergency regulations, and curfews; arrests violators; secures evacuated areas; and coordinates these support activities with the Federal, other State agencies, and the local government efforts.

(b) The Division of Military and Naval Affairs, on order of the Governor, will select military forces to assist civil authorities and law enforcement agencies in the prevention of looting, surveillance and in perimeter control, to maintain or restore law and order and to support traffic control operations.

m. FIRE AND RESCUE SERVICE

Manpower and equipment for fire protection, surveillance, and suppression, will be provided for the affected emergency areas, including on-site assistance. Decontamination activities, and search and rescue operations including air, land, and water operations will also be provided.

(1) LOCAL GOVERNMENT

These fire and rescue services will be implemented at the local level, with available support from the State.

(2) STATE AGENCIES

(a) The Office of Fire Prevention and Control activates the New York State Fire Mobilization and Mutual Aid Plan upon request as outlined therein. This involves coordination of independent local fire protection resources, for the Office of Fire Prevention and Control does not itself possess fire suppression equipment. They shall also provide available staff and their communication vehicles

equipped with radio for technical assistance to local fire departments and State agencies upon request.

The Office of Fire Prevention and Control will provide to the State Emergency Management Office:

1) the Office of Fire Prevention and Control operational procedures manual for implementing the State Fire Mobilization and Mutual Aid Plan, including the assignment of Office of Fire Prevention and Control personnel;

2) the Directory of Fire Service Communications in the State of New York, which includes essential radio information for all county fire coordinators and the approximately 1,850 local fire jurisdictions; and

3) a basic inventory of the local fire service equipment and personnel resources available throughout the State.

(b) The Division of State Police provides search and rescue capabilities, using boats, land vehicles, and helicopters, to locate missing persons and rescue stranded people.

(c) The Civil Air Patrol provides aircraft and personnel to conduct air search missions, if requested.

n. ENGINEERING SERVICES

The repairing of damage roads, the clearing of obstructions on roadways, and the removal of impediments on designated evacuation routes will be provided.

(1) LOCAL GOVERNMENT

The engineering effort, providing personnel, expertise, and equipment in the affected area, will be a primary responsibility of the local jurisdiction(s) for their roads. State and Federal agencies will provide heavy equipment and manpower to operate equipment and will coordinate their activities with the local effort.

(2) STATE AGENCIES

(a) The Department of Transportation provides available resources (equipment and manpower) and, upon request, coordinates assistance from other agencies in the use of evacuation routes. These resources do not include a capability for towing.

(b) The Division of Military and Naval Affairs, on orders from the Governor, will provide aid in the evacuation process in the form of manpower and equipment.

(c) The Office of Parks and Recreation provides equipment and personnel to assist in keeping evacuation routes open.

(3) FEDERAL AGENCIES

Provides assistance for debris removal to allow passage of emergency vehicles.

c. TRANSPORTATION

The transportation of the injured and of critical equipment, supplies, food, and emergency personnel will be provided for.

(1) LOCAL GOVERNMENT

Vehicles to move emergency supplies and equipment to the affected areas will be provided, supplemented with available support from the State.

(2) STATE AGENCIES

(a) The Office of General Services has cars and vans available to support the transportation needs of involved State agencies.

(b) The Office of Mental Health has cars, vans, and buses available to support State transportation needs.

(c) The Division of Military and Naval Affairs, on order of the Governor, can provide helicopters and vehicles, to support the State effort.

(d) The Department of Environmental Conservation provides aircraft, boats, snowmobiles, and other vehicles, to support the State effort.

(e) The State Emergency Management Office coordinates emergency transportation resources where local, State, and Federal governments are involved in a common overall effort.

(f) The Division of State Police provides helicopters, boats, and vehicles to transport personnel.

(g) The Civil Air Patrol will provide transportation courier services.

(3) VOLUNTARY/PRIVATE AGENCIES

(a) The American National Red Cross will provide limited transportation for emergency victims.

p. STATE IMPLEMENTATION OF A COUNTY'S PLAN IN THOSE INSTANCES WHERE A COUNTY DOES NOT IMPLEMENT THE PLAN ITSELF

The Disaster Preparedness Commission assigns a REPG representative to the County EOC to act at its direction in assigning missions and tasks, directing courses of action to control the situation, informing the public and acting in conjunction with other affected counties' Radiological Emergency Preparedness Plans and Procedures, the New York State Radiological Emergency Preparedness Plan and Procedures, and the Nuclear Facility Operator's Site Emergency Plan and Procedures. These activities shall be carried out in accordance with the county's Radiological Emergency Preparedness Plan.

(1) STATE AGENCIES

(a) The State Emergency Management Office assigns a representative to the County EOC to support, assist and coordinate as necessary with representatives of the Disaster Preparedness Commission (DPC) and of other State agencies assigned to the County EOC.

(b) The Department of Health assigns a representative to the County EOC to act on behalf of the State Commissioner of Health and the DPC in directing the performance of protective actions to assure public health and safety, including emergency medical transport, during a radiological emergency in accordance with the county's Radiological Emergency Preparedness Plan.

(c) The Division of State Police assigns a representative to the County EOC to act on behalf of the DPC to direct activities to maintain law and order, insure citizen safety, protect public and private property, provide traffic direction and control, control access to radiologically affected areas and assist in the dissemination of emergency information and announcements in accordance with the county's Radiological Emergency Preparedness Plan.

(d) The Office of Fire Prevention and Control assigns a representative to the County EOC to act on behalf of the DPC to coordinate fire service activities, including search and rescue efforts and the provision of assistance in emergency first aid and medical transport services, relating to the radiological emergency operations as discussed in the county's Radiological Emergency Preparedness Plan.

(e) The Department of Social Services assigns a representative to the County EOC to act on behalf of the DPC to direct activities to provide aid to those people who have been affected by a radiological emergency, and organize and maintain reception centers, in accordance with the county's Radiological Emergency Preparedness Plan.

(f) The Department of Transportation assigns a representative to the County EOC to act on behalf of the DPC to direct public works, highway and engineering activities for the construction, rehabilitation and repair of essential highways and facilities during a radiological emergency. The Department of Transportation also assigns a representative to the County EOC to act on behalf of the DPC to direct the utilization of public and private transportation resources for the provision of transportation services during a radiological emergency for people without the means to transport themselves. These activities shall be carried out in accordance with the County's Radiological Emergency Preparedness Plan.

(g) The State Education Department assigns a representative to the County EOC to act on behalf of the DPC to coordinate and oversee and support the initiation and completion of each schools "go home" plan for early dismissal and the use of school buildings during the emergency.

(NOT USED)

STATE AGENCY RESPONSE ACTIVITY ASSIGNMENT CHART

This chart reflects the previous descriptions of State, local and other agency responsibilities during an emergency.

Each "P" represents the State Agency that has primary responsibility to assist local governments upon request and to have lead responsibility after a Gubernatorial Declaration.

Each "pr" represents organizations other than State agencies that share a primary role in that activity.

Each "X" represents involvement in an activity regardless of the level of involvement.

AGENCIES	RESPONSE ACTIVITIES														
	DIRECTION AND CONTROL	COMMUNICATION	PUBLIC NOTIFICATION	ACCIDENT ASSESSMENT	PROTECTIVE RESPONSE EVALUATION	RADIOLOGICAL EXPOSURE CONTROL	PUBLIC INFORMATION	EVACUATION	RECEPTION/CONGREGATE CARE CTRS	SOCIAL SERVICES	PUBLIC HEALTH, MEDICAL & SAN.	PUBLIC SECURITY	FIRE AND RESCUE SERVICE	ENGINEERING SERVICES	TRANSPORTATION
HEALTH (DOH)	P	X	X		P	P	P		X	P					X
STATE EMERGENCY MANAGEMENT OFFICE	X	P	P	X	X	X		P	X	X					P
AGRICULTURE & MARKETS	X			X	X										
CORRECTIONS								X							
CRIMINAL JUSTICE								X							
EDUCATION															
ENERGY (SOE)				X	X										
ENVIRONMENTAL CONSERVATION (DEC)		X		X	X										X
GENERAL SERVICES (OGS)															X
LABOR				X											
MENTAL HEALTH															X
MILITARY & NAVAL AFFAIRS (DMNA)		X						X				X		X	X
PARKS & RECREATION		X	X											X	
SOCIAL SERVICES								X		P					
STATE (Fire Prevention & Control)		X											P		
STATE POLICE		X	X					X				P	X		X
THRUWAY		X													
TRANSPORTATION		X						X						P	X
CIVIL AIR PATROL		X											X		X
REPG	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
LOCAL GOVERNMENT (County)	X	X	X	X	X	X	X	X	pr	X	X	X	X	X	X
FEDERAL GOVERNMENT				X	X						X			X	
AMERICAN RED CROSS		X							pr	X			X		X
SALVATION ARMY									X	X			X		
MENNONITES									X	X			X		
NUCLEAR FACILITY OPERATOR (NFO)		X		pr			X								

(NOT USED)

2. DIRECTION AND CONTROL

a. EMERGENCY OPERATIONS CENTER

The State Emergency Operations Center (EOC), located in Building 22, State Campus, Albany will have representation from all assigned State agencies. From this site State direction and control of emergency operations will be conducted. The SEMO district offices shall be responsible for tracking county operations and will provide coordination consistent with guidance from the State EOC at Albany. (see Part II, Section I.D., State and District Procedures).

b. NEW YORK STATE EMERGENCY COMMUNICATIONS NETWORK

(1) New York State Radiological Emergency Communications System (RECS): The New York State Radiological Emergency Communications System for Fixed Nuclear Facility notification is a dedicated telephone line between: (1) Indian Point Unit 2 and Unit 3 and State Warning Point, Albany; Westchester, Orange, Rockland and Putnam Counties; City of Peekskill; West Point; Southern District, SEMO, Poughkeepsie; State Department of Health, Albany and State EOC, Albany. (2) Nine Mile Point Nuclear Station and James A. FitzPatrick Nuclear Power Plant and State Warning Point, Albany; Oswego County, Fulton; Central District SEMO, Oneida; State Department of Health, Albany; State EOC, Albany. (3) Robert E. Ginna and State Warning Point, Albany; Wayne County, Lyons; Monroe County, Rochester; Lake District, SEMO, Newark; Western District, SEMO, Batavia, State Department of Health, Albany and State EOC, Albany.

The Radiological Staff of the Department of Health will receive notification and follow-up and authenticate and verify information with NFO and obtain additional details of the potential or actual emergency.

(2) The Executive Hotline Emergency Communications System is a dedicated telephone line between: (1) The Disaster Preparedness Commission command room in Albany and the command rooms in Westchester, Rockland, Orange and Putnam counties for the Indian Point Site; (2) The Disaster Preparedness Commission command room in Albany and the command rooms in Monroe and Wayne counties for the Robert E. Ginna Site.

The Disaster Preparedness Commission command room in Albany and the command room in Oswego County use commercial telephone conference calling for the Nine Mile Point site.

Radio and NAWAS will be used as backup to telephone systems. Communications/Warning operating procedures are contained in Part III Section I.B.

c. PUBLIC INFORMATION CENTERS

The State public information center will be located at the joint news center which has been established to serve the affected nuclear reactor site. (refer to Part II, Section I.C.).

Joint news centers will be accessible to all media sources. These centers will be manned by predesignated personnel from the utility, local, State and Federal governments.

The purpose of this center is to provide a central facility, for the accurate release of all information to the news media and the public. Joint news conferences and briefings will be held - details of each center are found in the respective public information and public education procedure manuals.

3. INITIATION OF RESPONSE ACTIVITIES

The emergency response phase is initiated upon the identification by the nuclear facility operator of a radiological emergency which falls into any one of the four emergency classes as defined by the NRC. The identification of an emergency is promptly followed by notification of State and local authorities, confirmation of the occurence, activation of emergency forces, and verification of the readiness of these State and local forces.

a. EMERGENCY CLASSIFICATION

The Nuclear Regulatory Commission (NRC) has established, and this Plan adopts, four emergency classes for nuclear power plants. The NRC requires that, when an initiating condition for any of the four emergency classes exists, the NFO shall provide early and prompt notification to both State and local officials. The four emergency classes are:

(1) Notification of Unusual Event

Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

(2) Alert

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

(3) Site Area Emergency

Events are in process or have occurred which involve actual or likely major failures of plant functions

needed for protection of the public. Any releases are not expected to exceed EPA Protective Action Guideline exposure levels except near site boundary.

(4) General Emergency

Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

Examples of initiating Conditions for each emergency class are contained in each respective County REPP.

The rationale for the Notification of Unusual Event and Alert classes is to provide early and prompt notification of minor events, which could lead to more serious consequences, given operator error or equipment failure, or which might be indicative of more serious conditions, which are not yet fully realized. A gradation is provided to assure complete response preparations for more serious indicators.

The Site Area Emergency class reflects conditions where significant releases are likely or are occurring but where a core-melt situation is not indicated, based on current information. The General Emergency class involves actual or imminent substantial core degradation or melting with the potential for loss of containment. For both Site Area Emergency and General Emergency full mobilization of emergency personnel in the near-site environs is indicated. For a General Emergency immediate public protective actions may be necessary.

The State Commissioner of Health, based on information obtained from the NFO and other sources and the Commissioner's own understanding of events and circumstances, may recommend to State and local agencies protective action different from that recommended by the NFO.

b. NOTIFICATION

(1) Plume Exposure Emergency Planning Zone:

Upon detection of an initiating condition for any of the four emergency classes, the nuclear plant Emergency Director will immediately notify the State and counties within the plume exposure EPZ. The notification from the nuclear facility operator shall be by communications network described in Part II, Section III.B, and Part II County Radiological Emergency Response Procedures. The State and County Warning Points are manned on a 24-hour per day basis (detailed procedures are set forth in Communication/Warning Procedures, Part II, Section 1.B).

The initial notification message from the NFO will contain:

- Name and location of the facility
- Name of person making report
- Class of emergency
- Whether a release is taking place or not
- Weather conditions, wind speed and direction
- Potentially affected population
- Whether protective measures may be necessary

The State Warning Point will ensure that the notification message is received by the State Department of Health and the State Emergency Management Office, according to the State Communication/Warning Procedures.

The State Department of Health will contact the NFO via RECS or commercial telephone to confirm initial notification and obtain additional emergency information.

- Location of incident;
- Date/time of incident;
- Class of emergency;
- Type of actual or projected release (airborne, waterborne, surface spill), and estimated duration/impact times;
- Estimate of quantity of radioactive material released or being released and the points and height of releases;
- Chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines and particulates;
- Meteorological conditions at appropriate levels (wind speed, direction (from), indicator of stability and precipitation, if any);
- Actual or projected dose rates at site boundary; projected integrated dose at site boundary;
- Projected dose rates and integrated dose at the projected peak and at 2, 5, and 10 miles, including ERPAs (Emergency Response Planning Areas) affected.

- Estimate of any surface radioactive contamination onsite or offsite;

- Recommended emergency actions, including protective measures;

- Prognosis for worsening or termination of event based on plant information.

Upon the direction of the Commissioner of Health the State Warning Point will advise appropriate State and local agencies. If warranted, the State Emergency Management Office will activate the State Emergency Operations Center (EOC) and notify the appropriate State agency personnel and the SEMO district offices. The SEMO district offices will notify the appropriate district emergency staff.

County warning points will notify the appropriate county officials and the appropriate SEMO district office according to their procedures. For emergencies classified as Alert, Site Area Emergency or General Emergency, FEMA Region II will be notified for information by the State Warning Point. If Federal radiological monitoring and assessment assistance is needed, it will be requested by the Commissioner of Health or his designee in accordance with the radiological assistance procedure of the Brookhaven Area Office, USDOE. If specific assistance from EPA is required, the assistance will be requested either directly by the Bureau of Environmental Radiation Protection or through USDOE and in accordance with the Federal Radiological Monitoring and Assessment Plan (FRMAP).

(2) Ingestion Pathway Emergency Planning Zone:

Upon the determination of radiological emergency involving effluent releases that may impact on the Ingestion Pathway, the State Emergency Management Office will notify potentially affected counties and FEMA. This notification will be made to County warning points by means of commercial telephone. In critical situations, the National Warning System (NAWAS) in the SEMO will be available for notification to affected counties' warning points. The county warning points will notify the appropriate county officials. SEMO and FEMA will notify any affected States and Canadian Provinces within the ingestion pathway EPZ.

c. ACTIVATION

(1) State

For a Notification of Unusual Event classification all involved State agencies will utilize their normal working quarters for response activities.

For an Alert, Site Area Emergency, and General Emergency classification, the State State Emergency Management Office will, according to its alerting procedures, notify specific predesignated State agency personnel to report to the State Emergency Operations Center, Public Security Building, State Campus, Albany, for response activities (refer to Part II, Section 1.D). At the same time, the appropriate SEMO district office will notify assigned district emergency staff to report to the district EOC.

For a Site Area Emergency and General Emergency classification, predesignated State personnel from the Department of Health and the State Energy Office will report to the NFO's Emergency Operations Facility (EOF).

(2) County

For counties within the plume exposure EPZ, for an Alert, and Site Area Emergency, and General Emergency classification, the County Emergency Operations Center will be activated by County emergency response forces for response activities. For emergencies classified as Site Area Emergency and General Emergency, there will be full activation of County EOCs within the plume exposure EPZ.

For a Site Area Emergency and General Emergency classification, plume exposure EPZ County predesignated personnel may report to the NFO's EOF.

d. VERIFICATION

Upon activation of the State EOC, SEMO district EOC, appropriate County EOC's, and the NFO Emergency Operations Facility (EOF), all parties will communicate with each other and confirm that each emergency response facility has been activated and is operational. The State Emergency Management Office will advise the Disaster Preparedness Commission of the activation and readiness of State and County response personnel. The Disaster Preparedness Commission will then advise the Governor.

e. INITIAL RELEASE OF PUBLIC INFORMATION

Upon direction of the State Commissioner of Health, the State Public Information Officer (PIO) will issue a press release containing specific information on the emergency and a

description of State and County emergency response actions to date. This press release will be coordinated with the affected County(ies) Public Information Officer(s) and the NFO information officer (refer to Part II, Section I.C.).

The issuance of this release may come at a time before accident assessment and evaluation have been fully developed. Therefore, it is likely that this initial press release will not contain specific protective action instructions to the public.

Press releases specifically pertaining to the ingestion pathway EPZ will be issued jointly by the State Commissioner of Health and the State Commissioner of Agriculture and Markets.

4. ASSESSMENT AND EVALUATION

The nuclear facility operator (NFO) has the primary responsibility for the initial assessment of the magnitude and consequences of radiological accidents at fixed nuclear facilities. This responsibility includes requirement for on-site and off-site monitoring, sample collection and analysis, classification of the emergency based upon predetermined emergency action level criteria, and notification of appropriate Federal, State, and local officials. However, in the future, the State Department of Health may obtain sufficient data, on a timely basis, from each NFO to permit independent, but parallel, evaluation of potential problems.

After the initial notification, technical personnel from the NFO will remain in continual contact with technical personnel from the State Department of Health for consultation and continued assessment and evaluations of the accident consequences. The Commissioner of Health is responsible for determining appropriate protective actions to accomplish the objectives of the Plan and will recommend the implementation of such actions to the DPC.

In an emergency, when the nuclear facility's EOF is activated, technical personnel from the State's Department of Health and Energy Office and the Principal Nuclear Specialist from the REPG will be dispatched to the NFO's appropriate Emergency Operations Facility. This will provide the State with on-the-scene staff for liaison and coordination of the assessment and evaluation activities.

Radiological releases have direct effects to the population; from inhalation of radioactive material by individuals causing internal radiation exposure to various organs of the body and indirectly from contamination of milk, potable water, or other agriculture products that may enter the food chain and be ingested also causing internal radiation exposure. If no remedial actions are taken, the relative dose to an individual from ingestion of contaminated food products (primarily milk) may be of much greater significance from the passing plume than exposure due to inhalation and whole body exposure.

Radiological emergencies at nuclear power reactors in other States, as well as the more likely accident scenarios at nuclear facilities within the State, may not pose any public health threat from the plume exposure pathways but may require significant assessment and evaluation activities and response actions, to protect the public from exposure from the ingestion pathways.

Planning must take into consideration all possible accident scenarios. The procedures in this Plan provide flexibility for responding to a continuum of situations, from those requiring only notification; to those requiring increased environmental surveillance; to those requiring milk, food and water control, to those radiological emergencies that may require extensive evacuation or sheltering.

a. ASSESSMENT

The Bureau of Environmental Radiation Protection, New York State Department of Health has four primary resources to use during the assessment phase:

(1) previously developed accident analysis data and information
(2) relayed data on the prevailing radiological release rates and on-site meteorological conditions
(3) radiological laboratory analysis
(4) on-going assessments from nuclear safety specialists from the NFO, NRC, and the State Energy Office

(Additional information on assessment procedures is contained in Part II, Section 1.H).

(1) Previously Developed Data (See Part II, Section 1.H)

Included in the previously developed data, available for use by the State radiological assessment staff, are the following:

- Dose-distance procedures have been developed by the NFO for different radiological release and meteorological conditions, which will correlate the expected doses at various down-range distances to the duration of the incident.

- In addition to the accident analysis data, assessment of the potential impact on livestock distribution, water supply data, land use tables, and marketing practices is maintained at Department of Agriculture and Markets and is available to EOC personnel. Marketing practices will include discussion of critical time periods, for raw milk to processor to retail market, for harvest to processor to retail market, for storage capacity and contraints, and for product distribution.

- Population distribution by sector and distance as well as by ERPA (emergency response planning areas) around commercial nuclear power reactors is shown in the appropriate sections of each County REPP.

- Evacuation timetables including consideration of various contingencies, such as adverse weather conditions or loss of primary evacuation route, will be used by the assessment teams. Evacuation time estimates for a variety of scenarios have been made for the general population and for special facilitites. These are given in appendices to each County Radiological Emergency Preparedness Plans

(2) Relayed Real-Time Radiological and Meteorological Data

Relayed data from meteorological monitors at the reactor sites will be available to the State radiological assessment staff. This information, when integrated with data from the National Weather Service, can be used to determine the actual and projected meteorological conditions for the area of concern.

The State will receive relayed data from numerous fixed radiation monitors wherever available. In the future, the State may also receive relayed real-time data derived from NFO plant data so as to enable the State to make an independent, but parallel, evaluation.

Mobile radiation monitoring teams will be deployed by the NFO and by Federal resources primarily through RAP (Radiological Assistance Plan) and FRMAP (Federal Radiological Monitoring and Assessment Plan) administered by the Brookhaven Area Office of the U.S. Department of Energy. Additional radiation surveillance resources of the State and local agencies will supplement the NFO and Federal field assessment teams and will be made available for assistance in determining and verifying off-site consequences. The appropriate EOF designated for each site will be the central point where field monitoring data are received and analyzed. All data will be transmitted to State EOC in Albany. NFOs have mutual agreements where monitoring assistance will be afforded each other in the event of an emergency.

Weather conditions permitting, sophisticated aerial monitoring and surveillance aircraft (AMS) from the U.S. Department of Energy will delineate potential areas of deposition of radioactive material as well as provide an isotopic analysis of the deposited and airborne radionuclides. Aerial surveillance provides the means

for fairly rapid survey of large areas at large downwind distances from the nuclear facility.

Data from environmental monitoring systems operated by the State DOH and the air samples provided by State Department of Environmental Conservation will be available to the State radiological assessment staff. NFO will also provide data from their monitoring systems. The primary functions of the environmental radiological monitoring system are to establish the preoperational background levels, detect any gradual buildup of long-lived radionuclides, and verify that operation of the plant has no detrimental effect on the health and safety of the public or the environment. Sampling media from the environmental monitoring locations will be used to obtain valuable assessment data in the event of an accident involving the release of radioactive material.

(3) Radiological Laboratory Analysis

The Laboratory of Radiological Sciences center for Laboratories and Research, State Department of Health, provides extensive radiological laboratory analysis and supporting services. All samples collected by State personnel will be delivered to center for Laboratories and Research for analysis (analytical equipment and staff are listed in Part II, Section II). In the event of a major emergency at the nuclear facility, additional laboratory analysis will be available from the Environmental Protection Agency, Food and Drug Administration, Department of Energy, Nuclear Regulatory Commission and the nuclear facility operator. The Director of Radiological Sciences Laboratory will coordinate the laboratory analysis activities of the various agencies.

(4) Ongoing Assessments From Nuclear Safety Specialists

The Director of the Bureau of Environmental Radiation Protection will be assisted in assessing the emergency by reactor safety specialists from the NFO, and NRC, as well as other State agencies, and will provide an on-going diagnosis and prognosis of the emergency. This assessment will identify events which are in progress or have occurred that involve likely and imminent major failures of plant functions needed for protection of the general public. In addition, assessment of the ingestion pathway will include input from the State Departments of Health, Agriculture and Markets, and Environmental Conservation.

b. EVALUATION

The Director of the Bureau of Environmental Radiation Protection will evaluate the assessment data to determine whether implementation of one or more of the protective action response options should be recommended to the State

Commissioner of Health. Directing implementation of protective actions for the ingestion pathway will be accomplished by the State Commissioners of Health. Implementation of the protective actions so ordered is the responsibility of the Departments of Agriculture and Markets and Health (e.g. Agriculture and Markets - food products; Health - public water supplies.)

(1) Input Paramaters and Boundary Conditions

During the evaluation phase, the protective actions response options which should be implemented are determined in order to execute the primary mission of this Plan. This Plan provides Protective Action Guides (PAGs) for determining appropriate responses during radiological emergencies. The PAGs for plume and ingestion exposure are given in Part II, Section 1.H.

(a) Ingestion Exposure Protective Action Guides

This Plan adopts Protective Action Guides (PAGs), for use in the event of accident radiation contamination of food and animal feeds, developed by the Food and Drug Administration. This FDA guidance replaces ingestion PAGs formerly used in this State from the Federal Radiation Council Reports No. 5 and No. 7.

Two levels, a preventative level and an emergency level, of PAGs for food and animal feed are established. Actions are keyed to specific whole body and thyroid doses.

The "Preventative PAG" is applicable to situations where protective actions should be taken, to prevent or reduce the concentration of radioactivity in agricultural products, with minimal impact on the food supply. The "Emergency PAG" is applicable to situations where protective actions, because of the projected health hazards, should be taken, to isolate agricultural products to prevent their entry into commerce by embargo or other disposition.

(b) Plume Exposure Protective Action Guides

This Plan adopts the Protective Action Guides (PAGs) developed by the Environmental Protection Agency for determining appropriate responses during radiological emergencies involving plume exposure pathways. In keeping with the objective of preventing or minimizing radiation exposure of the population in the event of a radiological emergency, the State Health Commissioner may

recommend protective actions for projected doses lower than the EPA PAG's.

In evaluating which of the protective action response options to implement, the State Radiological Health staff will integrate the following input data and boundary conditions, to establish a basis for the decision-making process:

Food and Drug Administration (FDA) PAG's;

Environmental Protection Agency (EPA) PAG's;

Implementation time requirements for the protective action response options;

Current status of road and meteorological conditions via local public works/police, State Police and National Weather Service; and site incident prognosis via NFO, NRC and SEO. (See diagrams in Part II, Section 1, procedure H, Attachment 4).

(2) Critical Time Frames

Once the input parameters and boundary conditions have been established, the State Radiological Health staff will identify the critical time frames necessary to complete the missions of this Plan for a particular emergency. Specifically, the critical time frames to be identified for a particular emergency are the implementation time frames for the various protective action response options and the time frame until the safe termination of the emergency.

The implementation time frame for a particular protective action response option has two components - notification time and execution time.

Notification time refers to the time required to notify the population-at-risk and to deploy whatever emergency services personnel and equipment are necessary for the particular protective action response option(s) ordered. Execution time refers to the time, after notification is completed, required for the completion or full execution of that particular protective action.

Other critical time frames for evaluation include the projected time before any release is initiated, the time period that any release is projected to persist, and the time for the arrival of the plume at various distances.

Additional time factors must be considered in determining appropriate ingestion protective response actions. Examples of these time factors include time period for peak concentration in milk after ingestion of contaminated feed, critical period for harvesting, time period for agricultural products to go through the

processor to the retail market, and storage time.

(3) Projected Doses

After the decision bases and critical time frames have been established, the State Radiological Health staff in coordination with County Department of Health will determine the projected doses for particular emergency planning areas by extrapolating projected dose rates (thyroid and whole body) and projected depositions over the critical time frames, for the various protective action response options and for the estimated duration of the emergency. These values, when added to any doses already received in the area since the beginning of the emergency, represent the projected dose for the particular emergency planning area for the time frame of interest. Projected doses approaching the appropriate PAG levels are indications of the increasing desirability of implementing one or more of the protective action response options in this State Plan and local plans.

(4) Decision Process

The output of the assessment activity, input parameters and boundary conditions, critical time frames, and projected doses will be evaluated for determining which protective action response options should be implemented.

The Decision Process system will follow those steps shown in Part II, Section I.H.

5. PROTECTIVE ACTION RESPONSE OPTIONS

The protective action response options have been developed to provide the State Commissioner of Health the capability to execute successfully the primary mission of the State Plan. These protective action response options have been designed to be complementary and functionally additive. This allows the State Commissioner of Health to recommend more than one of the protective action response options at the same time for a particular radiological emergency. In addition, the State Commissioner of Health can recommend implementation of the protective action response options for the specific population-at-risk. This flexibility will tend to maximize the effectiveness of the protective action response options. The response options are tabulated according to ingestion pathway actions and plume exposure pathway actions. A section of each county plan specifies actions necessary to protect persons whose mobility may be impaired by being confined to institutions or other types of confinement facilities.

a. Ingestion Pathway Protective Action Response Options

The Ingestion Pathway Protective Action Response Options enable the State Commissioner of Health to recommend effective actions, to ensure that the potential for the general population to

recommended limits, is minimized, exclusive of doses contributed by natural radioactivity, through the various ingestion pathways. These options may involve restricting public consumption of contaminated drinking water and agricultural products. Routine operations would be resumed in those areas that were found to be uncontaminated.

The following ingestion pathway protective action response options identify two levels of Protective Action Guides (PAGs) a preventative level and an emergency level.

The preventative PAG level is a guidance limit used in identifying the need for evaluating projected health effects and the need for subsequent protective measures. The emergency PAG level is a guidance limit applicable to situations where projected health hazards indicate protective actions designed to restrict use or consumption of agricultural products, animal feed or water that may be contaminated.

(1) Environmental Surveillance

Contaminated lands and water supplies will be identified through environmental surveillance. Sampling is to be performed in a manner which permits sufficient time for action to be taken at an appropriate stage in the farm-processor-retail market cycle. Methods of radionuclide measurement will include complex laboratory methods, rapid analytical methods employing simple laboratory or modified field techniques, and field methods using conventional radiation survey instruments. In general, these analyses will be the basis for implementing other ingestion pathway protective action response options.

Implementing the environmental surveillance response option will include the following:

- increasing the frequency of air sampling near the accident site;
- undertaking field survey readings near the accident site;
- additional sampling of water, milk, and vegetation near the accident site; and
- postponing all other routine environmental samples as necessary.

(2) Milk and Dairy Products

This response option has two levels of Protective Action Guides (PAGs) for milk and dairy products - a preventative level at 1.5 rem to a child's thyroid or 0.5 whole body dose, and an emergency level at 15 rem to a child's thyroid or 5 rem whole body dose. Actions are keyed to specific whole body and thyroid doses. This option provides for:

- establishing liaison with the industry receiving milk from the affected area;
- informing owners of livestock to place their animals on stored feed;
- acceptance of milk produced by cattle on stored feed;
- analysis of milk produced by cattle on pasturage;
- a sampling program (raw and finished product);
- procedures for collection and diversion of milk; and
- monitoring of diverted milk.

Initial precautionary directives to place lacatating animals on stored feed to prevent contamination of the milk chain will usually be prescribed prior to confirmatory environmental surveillance data in the cases of Site Area Emergency and General Emergency as prescribed in Part II, Section I.H.

If laboratory analysis of milk and dairy products indicates that the projected dose may equal or exceed the emergency PAG, the Commissioners of Health and Agriculture and Markets may order one or more of the following protective actions:

- use of substitute source of uncontaminated fluid milk;
- use of uncontaminated powdered or canned milk for children, lactating mothers, and pregnant women;
- condemnation of milk and/or milk products and their destruction.

(3) Other Agriculture Products

This response option has two levels of Protective Action Guides (PAGs) for agricultural products, excluding milk and dairy products covered in the preceding sections. The PAG levels are the same as those listed above. Actions are keyed to specific whole body thyroid doses. This option provides for:

- establishing liaison with the industry receiving products from the affected area;
- determining types of products produced in the affected area;
- embargoing food pending evaluation;
- a sampling program; and
- procedures for collecting and disposal of contaminated products.

If analysis indicates the projected dose equals or exceed the preventative PAG, one or more of the following actions will be ordered:

- for livestock - move livestock to uncontaminated habitat; remove milk producing animals and other livestock used for meat production from pasturage

to uncontaminated stored feed; substitute source of uncontaminated water; and use sheltering to minimize ingestion.

If analysis indicates the projected dose equals or exceeds the emergency PAG, one or more of the following actions will be ordered:

- for consumable fruits and vegetables - advise home gardeners to remove potential surface contamination by washing, brushing, scrubbing, peeling or processing; advise against public consumption; use substitute sources of specific food items; and remove from market place and destroy.

- for meat and meat products - use substitute source of specific food item; advise against public consumption; divert to non-human, non-food pathway use; and remove from market place and destroy.

- for grains - use substitute sources; advise against public consumption; divert to non-human, non-food chain use; and condemn and destroy.

- for animal feeds - prohibit use of livestock; preserve and store for radionuclide decay; use alternate feed sources; divert to non-livestock, non-food chain use; increase time between deposition and harvest, to maximize time for weathering, plant growth, dilution, and radioactive decay; and condemn and destroy.

- for agricultural land - alter use of land, to allow radioactive decay of short-lived radionuclides; remove contaminated surface crops and destroy; for grasses, cutting and rolling sod - raking and removing mulch; removal of surface soil, allow natural surface erosion, or irrigate and leach; add excess lime to decrease nuclide solubility; and isolate and prohibit land use.

(4) Water Sources

This response option has two levels of Protective Action Guides for water sources that may be utilized for human consumption, directly or via the food chain. This response option provides for:

- identifying public water sources that may be affected by the release;
- establishing liaison with the water supply operators;
- collecting and analyzing representative samples; and
- alerting individuals and water supply operators using water sources that may be contaminated.

One or more of the following protective actions will be ordered for implementation when the projected dose for ingestion of water sources equals or exceeds the appropriate PAG:

Preventative PAG -

- advise the reduction in population daily intake.

Emergency PAG -

- use alternate drinking water sources and supplies and restrict use of the contaminated water sources for sanitary and fire fighting purposes;
- use of typical water treatment - coagulation, settling, and filtration;
- use of special water treatment removal techniques - sand filters, ion exchange, and lime-soda ash softening;
- alter use to allow radioactive decay of short-lived radionuclides; and
- prohibition of water supply use.

(5) Coordination With Government Agencies Outside of New York State

If a serious emergency occurred, that could result in the contamination of milk or food products that may be shipped into New York State, the Departments of Agriculture and Markets and Health will initiate the following actions as appropriate:

- establish liaison with their counterpart in the federal government and in the state(s) where milk or food products may have been contaminated;
- estimate the type and amount of milk, dairy products, or other agricultural products being shipped into the State from the affected area,
- determine the surveillance and controls being exercises to ensure that products contaminated in excess of acceptable limits will not be shipped into the State; and
- provide recommendations for a sampling program for surveillance over milk and food shipped into New York State.

*Note: The data (e.g., maps, computer listings, etc.) used in making the technical decisions is on file in the various SEMO District Offices and is available to the State EOC staff.

The U.S. Department of Agriculture has established USDA emergency boards in every State and county to coordinate USDA State or county disaster assistance efforts. All of the USDA agencies having major emergency responsibilities are represented on these boards. USDA emergency personnel are to establish continuing liaison with State and/or county agricultural agencies to insure coordination assistance activities and damage assessments.

b. Plume Exposure Protective Action Response Options

In this Section the following plume exposure protective action response options are described:

(1) Initial Precautionary Operations;
(2) Selective Sheltering;
(3) General Sheltering;
(4) Selective Evacuation;
(5) General Evacuation;
(6) Thyroid Blocking Agents.

(1) Initial Precautionary Operations

The Initial Precautionary Operations Response Option has been developed to provide an effective initial protective action which can be relatively easily implemented and which will facilitate the implementation of the other protective action response options, if they become necessary.

The implementation of the Initial Precautionary Operations Response Option will require a minimal commitment of emergency resources and will cause a minimal amount of inconvenience for the general public, while yeilding maximum benefits, such as simplifying and facilitating the implementation of the other protective action response options. Also, the implementation of this response option will effectively decrease the number of individuals who have to be addressed under the potential protective action response options, as well as effectively increasing the number of available emergency response personnel.

The implementation and execution of the Initial Precautionary Operations Response Option may include the following:

- the temporary closing of tourist areas, such as parks and campgrounds, within the appropriate EPZ;
- the temporary closing of elementary and secondary schools within the appropriate EPZ;
- the temporary suspension of noncritical patient admissions at hospitals within the appropriate EPZ;
- the establishment of ingress-control traffic check points for all major routes into the plume exposure EPZ; and

- the activation of the State EOC and the appropriate district and county EOC's.

(2) Selective Sheltering

In general, protective actions will be taken in accordance with the EPA PAG guidelines. The Commissioner of Health may recommend protective action at projected doses below these guidelines to minimize radioactive exposure to particular groups such as individuals who could not be safely evacuated, if a General Evacuation were recommended. This would include individuals who have been designated medically unable to withstand the physical and/or psychological stress of an evacuation, as well as those individuals who require constant, sophisticated medical attention.

The implementation and execution of the Selective Sheltering Response Option will include the following:

- the appropriate local health officer, in conjunction with the special facilities administrators and other local officials will make an initial determination of the number of nonevacuative individuals and their medical care requirements. This will be compared with the sheltering and medical capabilities otherwise available to these individuals;

- if this preliminary disposition indicates that additional medical personnel, equipment, and/or supplies are needed, local and State officials will assist in acquiring whatever is needed;

- the local health officer will conduct an on-going assessment as to the possibility and desirability of evacuation for those persons initially determined to be non-evacuative. This assessment would be based on the availability of evacuation capabilities, which would minimize the medical risk to those persons; and

- when the projected dose rates, as translated into dose assessment, outside any facility reach the various protective action levels, the local health officer will notify the facility and other local officials, who will begin the immediate implementation of sheltering for these persons.

(3) General Sheltering

For actual or projected off-site doses of 1 to 5 rem to

the whole body or 5 to 25 rem to the thyroid, the protective action response option "General Sheltering" may be implemented for the affected areas of the plume exposure EPZ. This response option can also be implemented for puff-type releases of lower doses, as a precautionary measure. For higher doses where evacuation would be indicated, but where evacuation cannot be implemented because of time constraints and/or impediments to highway movement, "General Sheltering" may be implemented in lieu of evacuation.

General Sheltering will be implemented by the local chief executive, upon the recommendation of the State Commissioner of Health.

Instructions for General Sheltering are provided for each household, school, special care facility, group quarters, and place of business in the plume exposure EPZ. These instructions are contained in the emergency public information brochure distributed annually to the population within the plume exposure EPZ population.

Information of General Sheltering is initiated by the county public notification system with explicit directions over the emergency broadcast system. Implementation can be affected for various Emergency Response Planning Areas (a subdivision of the plume exposure EPZ) or for the entire EPZ. Instructions to the public include directions to stay indoors; close and seal, where applicable, all doors and windows; and turn off air-conditioners.

Instructions on respiratory protection may be prescribed using common household items such as towels and handkerchiefs. The preponderance of General Sheltering will take place in residences and businesses. Levels of radioactive surface contamination will be measured for all affected areas. Areas requiring decontamination may require temporary relocation of persons within that area.

(4) Selective Evacuation

For actual or projected off-site dose levels of 1 to 5 rem to the whole body or 5 to 25 rem to the thyroid, the protective action response option Selective Evacuation may be implemented, to evacuate from the affected areas of the plume exposure EPZ members of the general public who are non-institutionally mobility impaired.

Selective Evacuation will be implemented by the local chief executive, following consultation with and the recommendation of the State Commissioner of Health.

Non-institutionalized mobility impaired persons can request transportation by calling telephone number(s) that will be announced over the emergency broadcast system. In addition, these impaired persons may be identified in advance by the submission of a mail-in postcard furnished as part of the emergency public information pamphlet, distributed annually to the plume exposure EPZ population.

Implementation of Selective Evacuation is initiated by the public notification system, with explicit directions over the broadcast media. Implementation can be effected for various Emergency Response Planning Areas (ERPA's) or for the entire EPZ. Instructions include the specific assignment of evacuation routes and reception centers in the host area. Persons without personal transportation will be provided public transportation. Congregate care shelter with appropriate medical facilities and personnel will be provided in the host areas.

(5) General Evacuation

For actual or projected off-site doses in excess of 5 rem to the whole body or 25 rem to the thyroid, the protective action response option General Evacuation may be implemented for the affected areas of the plume exposure EPZ.

General Evacuation will be implemented by the local chief executive, following consultation with or upon the recommendation of the State Commissioner of Health. Each County within the plume exposure EPZ has a detailed evacuation plan and maps showing evacuation routes. Evacuation Response Planning Areas, relocation centers (Reception Centers) and Congregate Care Centers are also shown in County Plans.

Non-institutionalized mobility impaired persons can request transportation by calling telephone number(s) that will be announced over the broadcast media. In addition, these impaired persons may be identified in advance by the submission of a mail-in postcard furnished as part of the emergency public information pamphlet, distributed annually to the plume exposure EPZ population.

This pamphlet also provides instructions on General Evacuation for each household, school, special care facility, group quarters and place of business.

Implementation of General Evacuation is initiated by the county public notification system, with explicit direction over the broadcast media, EBS. Implementation can be effected for various ERPAs or for the entire EPZ.

Instructions to the public include the assignment of specific evacuation routes and reception centers. Public transportation will be provided to persons without transportation. Special traffic control procedures and mechanisms will be implemented to insure an efficient vehicle flow. Congregate Care Centers will be provided in host areas, including provisions for feeding, lodging, and medical care. Special care facilities, including hospitals and nursing homes, have specific evacuation procedures, including the acquiring of special transport vehicles. Each NFO has evacuation plans for onsite personnel. NFOs will coordinate evacuation procedures with local authorities to insure suitable off site locations. Normally on site personnel will use the evacuation routes that are used by public in the ERPA where nuclear power plant is located. Evacuation plans with detailed evacuation routes are shown in County Plans.

(6) Thyroid Blocking Agents

Potassium Iodide (KI) in water soluble table form (130 mg) is recommended as an appropriate thyroid blocking agent for use by emergency workers, and staff and patients or inmates of facilities where evacuation is not possible or feasible.

Distribution to the general population is not recommended.

When emergency workers and the other persons listed above are likely to receive a projected dose of 25 REM to the thyroid, KI should be considered as a protective measure prior to receiving such a dose.

County emergency workers will receive their KI in accordance with county distribution procedures.

State agencies are authorized to obtain, store and distribute KI to their emergency staff as they deem necessary and in accordance with their internal standard operating procedures.

The State Commissioner of Health is the primary health officer responsible for recommending the use of KI. When time permits, the Commissioner will consult with appropriate local health officials. If the Commissioner is not available and time is of the essence, the affected local health officials shall be responsible for such recommendations.

6. EMERGENCY PERSONNEL -- RADIOLOGICAL EXPOSURE CONTROL

The Radiological Exposure Control procedure (Part II, Section I-G) has been developed to provide the State Commissioner of Health with the capability of controlling and minimizing the radiological exposure of emergency response personnel. Emergency response personnel include individuals engaged in accident assessment, rescue of endangered or injured personnel, lifesaving activities, evacuation of affected populations, and protection or prevention of property damage or loss within the 10 mile emergency planning zone.

Emergency activities may be necessary, to protect lives and reduce escalation of the radiological problem. It is possible that emergency workers, who are involved, may be exposed to radiation and become contaminated while carrying out their duties. The underlying radiation protection principle is to limit their exposure to as low as reasonably achievable, within the whole body limits prescribed for radiation workers, which is 5 rem per year. In an emergency situation, these guidelines may not provide the flexibility required for essential emergency operations. In these cases, all possible measures will be taken to limit radiation exposure of emergency workers. Specific exposure guidance, when lifesaving actions or extraordinary emergency operations are required, are provided below. If possible, volunteers should be used for emergency operations which are projected to exceed 10 rem to the whole body.

Exposure control procedures for emergency response personnel include the following:

- instructing emergency response personnel to wear their permanent personnel dosimeters (film badges and/or TLD's), as well as self-reading dosimeters.

- issuing emergency response personnel self-reading dosimeters and chargers, upon activation for field operations;

- instructing each person performing emergency service functions inside affected areas of the 10 mile the EPZ following a release to take dosimeter readings at frequent intervals - at least every 15 minutes. Should an indicated exposure register 1 rem accumulated gamma dose, a report will be made to the individual's immediate supervisor or the appropriate EOC; if an accumulated gamma dose of 3 rems is registered, personnel will report the reading to the individual's immediate supervisor and if not engaged in

lifesaving operations will leave the area unless instructed to remain by the supervisor.

- instructing fire-rescue service personnel to remain upstream of any water spray utilized in decontamination activities;

- assuring that personnel assigned specific mission inside affected areas of the 10 mile EPZ, which entail out-of-vehicle operations, are provided with and instructed on how to use appropriate protective clothing and equipment. Included will be instructions in use of protective breathing equipment and in improvising respiratory protection. An emergency workers guideline booklet is published;

- establishing provisions for obtaining whole body counts or bioassays for radiological evaluation of emergency personnel, including identification of medical service facilities, equipped to evaluate and/or treat radiation accident victims;

- recording the radiological doses received by all exposed emergency workers;

- establishing facilities for the decontamination of exposed emergency personnel; and

- selecting emergency personnel for livesaving actions or extraordinary emergency operations using the following criteria, if practical:

  emergency personnel for needed lifesaving actions should be volunteers and preferably professional rescue personnel;

  emergency personnel should be familiar with the consequences of radiological exposure;

  pregnant women or women capable of reproduction should not take part in these actions;

  volunteers above the age of 45 should be selected.

- planning lifesaving activities, whenever possible, to keep emergency personnel radiation exposure within the following guidelines:

  Planned doses to the whole body shall not exceed 75 Rem. The hands and forearms may receive an additional dose of up to 200 Rem (i.e., a total of 275 Rem) or no limitation thyroid due to inhalation. These exposures may only be exceeded by specific authorization of the NY State Commissioner of Health. Authorization may be requested by the field supervisor through the District or county EOC and the radiological assessment personnel in the State EOC at Albany.

- planning for other response activities not associated with

lifesaving or rescue of endangered or injured personnel, whenever possible, to keep radiation exposures to emergency personnel within the following guidelines:

planned projected gamma dose to the whole body shall not exceed 25 Rem and hand and forearms may receive an additional dose of up to 75 Rem (i.e. a total of 100 Rem) or 125 rems thyroid due to innalation;

- providing expert medical treatment, consultation, and service to emergency personnel receiving radition doses equal to or in excess of those indicated above (25 Rem or more whole body).

The whole body exposure guidance for emergency workers is provided in the EPA PAGs. The exposure guidance for hands and forearms is provided in NCRP report number 39, "Basic Radiation Protection Criteria."

7. RESPONSE ORGANIZATION STRUCTURES

The State responds to any emergency situation of localized scope with no special organizational change. The existing State Agencies, working through the State Emergency Management Office on a routine basis, will continue to do so and to provide initial emergency assistance to one or more affected counties (Disaster Preparedness Plan 1980 pg. 3-16). When conditions become serious enough to require the Governor to execute a "State Declaration of Disaster Emergency", the Executive Law provides, under Article 2-B, section 21, that the Disaster Preparedness Commission consider creating a temporary organization to manage the necessary Response efforts. In a radiological emergency the Department of Health has been predesignated as the "lead agency". For assessment and evaluation the Commissioner of Health will act as the head of this temporary organization (this person is reflected on the following chart as the SCO). The integration and coordination of the organizations implementation responsibilities will be directed by the State Emergency Management Office, under the auspices of the Disaster Preparedness Commission. The following charts reflect these interrelationships:

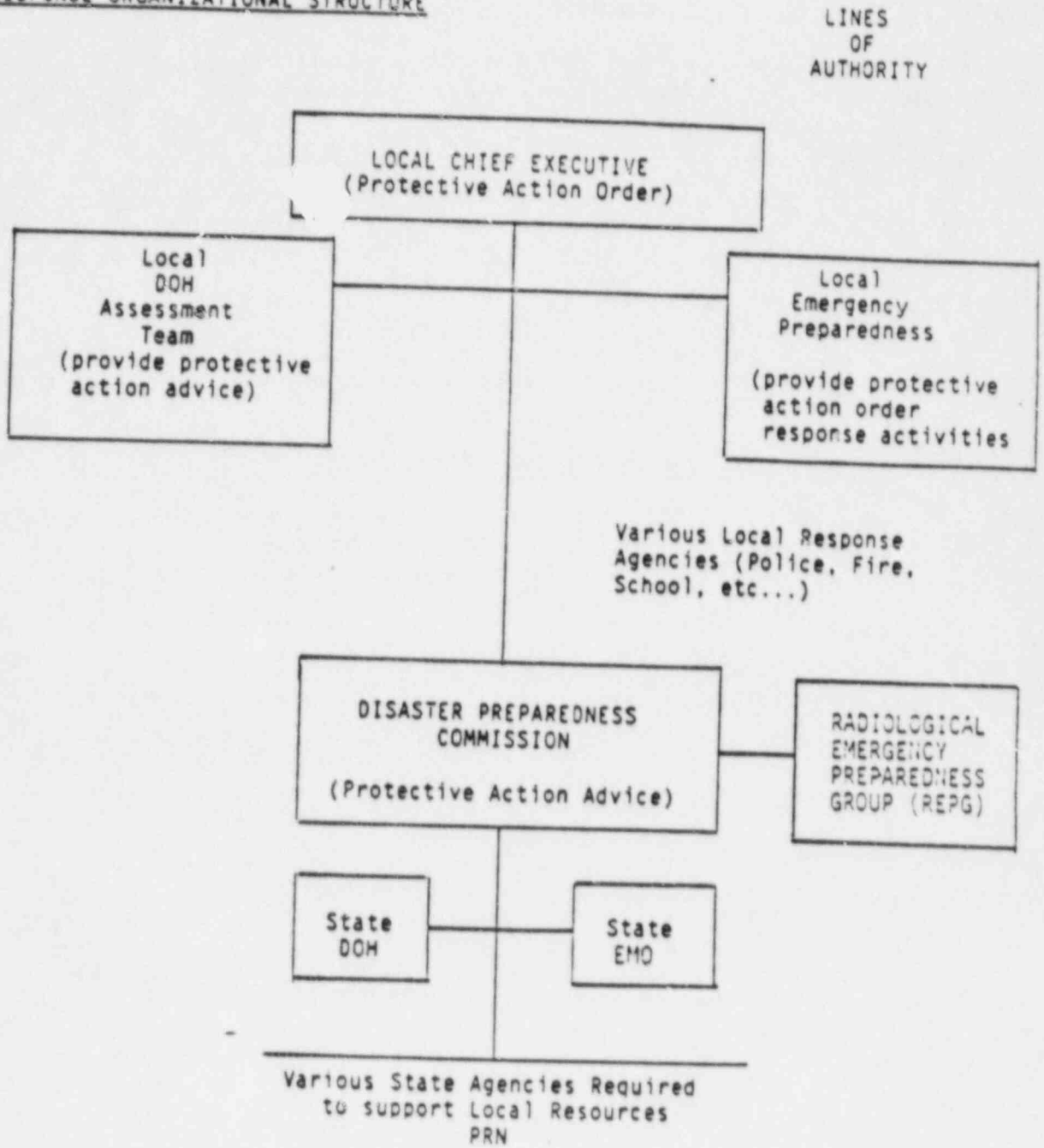
A. PRIOR TO GUBERNATORIAL "STATE DECLARATION OF DISASTER EMERGENCY"

B. AFTER GUBERNATORIAL "STATE DECLARATION OF DISASTER EMERGENCY"

C. ESTABLISHED LINES OF AUTHORITY DURING A RADIOLOGICAL EMERGENCY (NO "State Declaration of Disaster Emergency")

D. ACTIVATION OF EMERGENCY OPERATIONS CENTERS

A.
RESPONSE ORGANIZATIONAL STRUCTURE

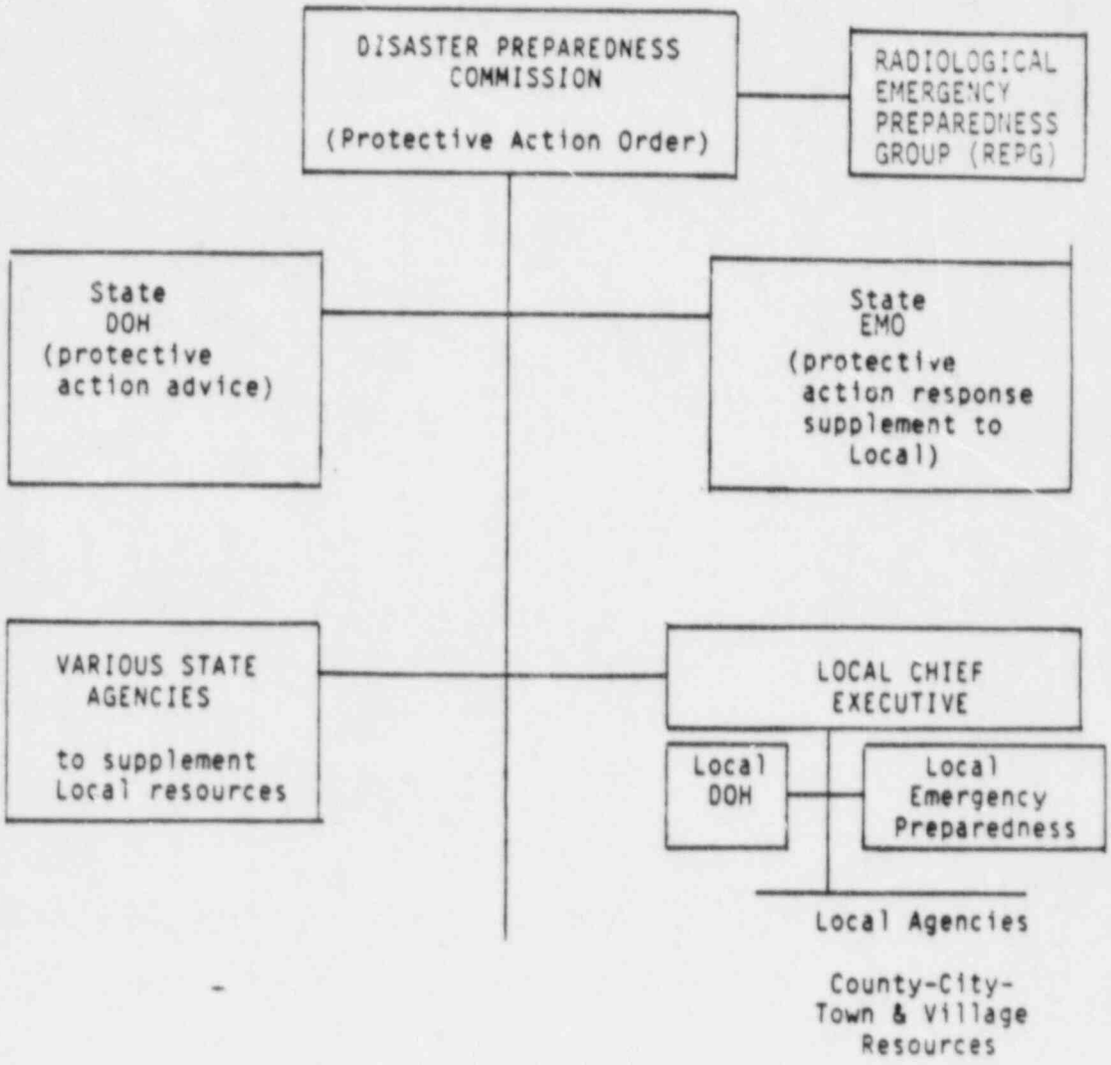


NOTE: Federal Lines of Authority: The NRC regulates the utility; FEMA advises the State.

B.
RESPONSE ORGANIZATION STRUCTURE

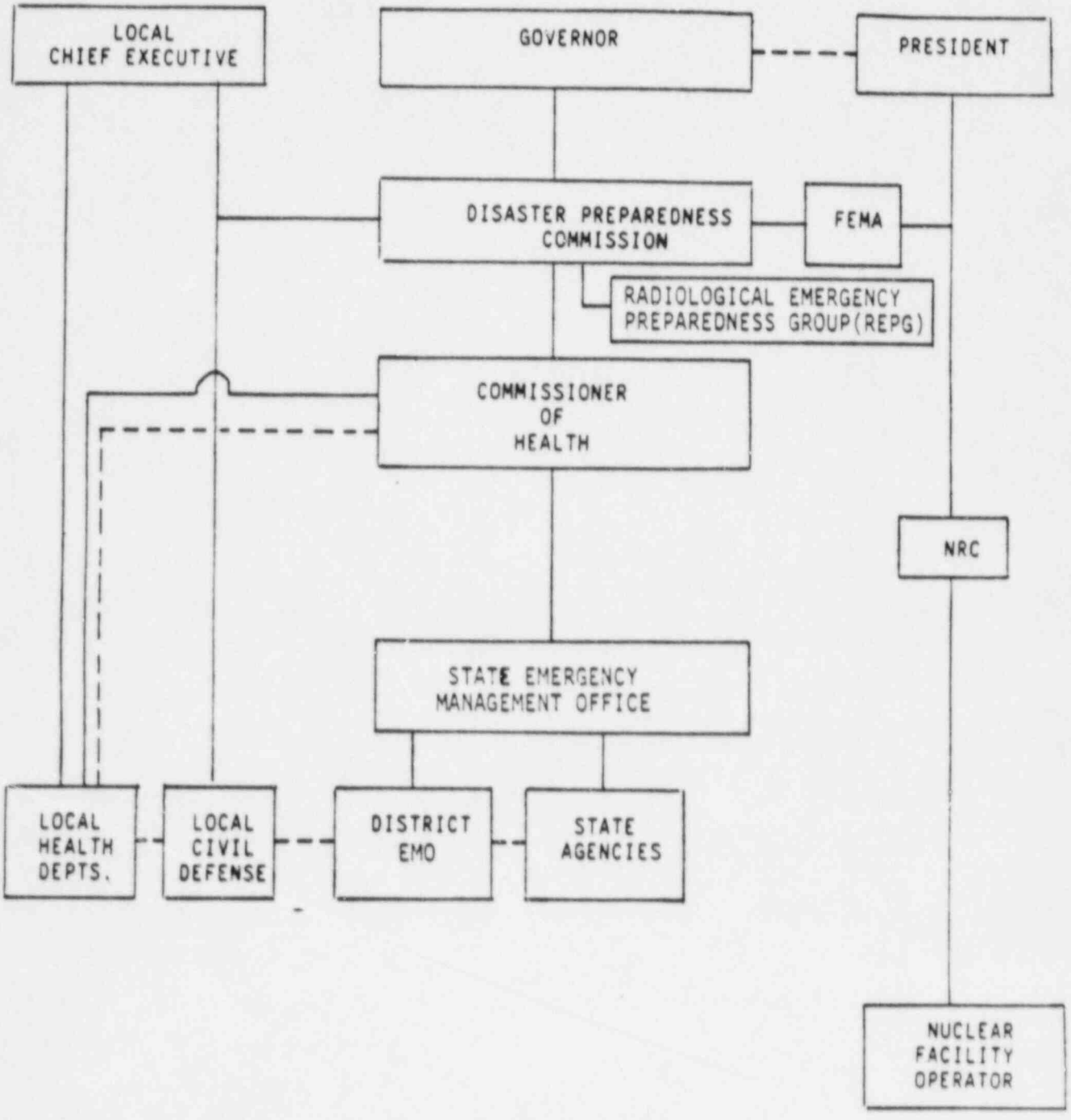
LINES OF AUTHORITY

"State Declaration of Disaster Emergency"



NOTE: Federal Lines of Authority: The NRC regulates the utility; FEMA advises the State.

C.
ESTABLISHED LINES OF AUTHORITY DURING A RADIOLOGICAL EMERGENCY



——————— STATUTORY RELATIONSHIPS

- COMMUNICATION RELATIONSHIPS

(NO "STATE DECLARATION OF DISASTER EMERGENCY")

D.
ACTIVATION OF EMERGENCY OPERATIONS CENTERS

Emergency Classification	State Activation	10 Mile EPZ County Activation	50 Mile EPZ County Activation
1. Notification of Unusual Event	All involved State agencies will utilize their normal working areas for response activities.	All involved County agencies will utilize their normal working areas for response activities.	All involved County agencies will utilize their normal working areas for response activities.
2. Alert	Notify appropriate State agency personnel to report to State EOC. Regional emergency staff will report to the SEMO District EOC.	Advise specific County agency personnel to report to County EOC.	Advise specific County agency personnel to proceed to County EOC if required.
3. Site Area Emergency	Full activation of State and SEMO District EOC. Send designated State personnel to EOF.	Full activation of County EOC. Send designated County liaison officer to the EOF.	Advise specific County agency personnel to proceed to County EOC.
4. General Emergency	Full activation of State and SEMO District EOC. Send designated State personnel to EOF.	Full activation of County EOC. May designate County liaison officer to the EOF.	Advise specific County agency personnel to proceed to County EOC.

(NOT USED)

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(NOT USED)

PART I SECTION IV

IV. RECOVERY

A. INTRODUCTION

As provided by the New York State Disaster Preparedness Plan, a Recovery Committee having authority and major responsibilites to make decisions relating to recovery activities will be appointed by the Disaster Preparedness Commission (DPC). This committee will be comprised of representatives of the Commission's membership, and such other agencies as the Commission Chairman may designate. Specifically included will be representatives of the Departments of Agriculture and Markets, Commerce, Health, Environmental Conservation, Labor, Social Services, State, Transportation, Office of General Services, State Energy Office, Public Service Commission, Division of State Police and Division of Military and Naval Affairs/State Emergency Management Office.

B. RESPONSIBILITIES

The Committee is responsible for directing State resources and recovery activities and for assisting in the total cooperative effort involving any or all of the other organizations having recognized roles in recovery. During recovery operations the Committee is responsible for developing practical time parameters and activities consistent with this plan, and insures that there are adequate communications systems and processes for all State activities. The Committee reports to the DPC and keeps it apprised of all matters relating to the recovery effort.

The New York State Commissioner of Health continues to have the primary responsibility for recommending protective actions; for overseeing the total related radiological program; and for modifying, relaxing, and discontinuing protective actions.

The Director of the State Emergency Management Office (SEMO) coordinates State and Federal assistance and programs with perceived needs and the requests of the local jurisdictions.

Local Chief Executives assess the needs of their affected areas in conjunction with the State Emergency Management Office. They direct recovery operations in their jurisdictions.

The Governor may appoint a Recovery Planning Council (as designated by Title VIII, Section 802 of the Public Works and Economic Development Act of 1965, as added by Title V of Public Law 93-288 - "The Disaster Relief Act of 1974") to help determine local needs in the recovery effort.

C. OPERATIONS

Recovery operations commence as soon as the situation is stabilized and involves the following four major considerations:

- Determination of the recovery actions to be taken.
- Dissemination of information on the appropriate recovery action.
- Provision of available State and Federal disaster assistance to affected areas.
- Requirements for continued monitoring.

1. A general consideration for lifting any protective action initiated as a result of the emergency takes into account the benefit received from the reduction of the projected dose, should the protective measures continue, against the social and economic costs of continuing the action taken. However, initiated protective actions for the general population will not be relaxed as long as the projected dose commitment exceeds 500 mRem. Certain individuals may be allowed reentry to an affected area if the situation warrants. An example is the farmer who must tend his livestock. In this case the farmer is treated as an emergency worker, given personal dosimetry equipment and emergency worker exposure levels apply.

   In determining the projected dose commitment all possible exposure pathways are considered. These include:

   a. External exposure resulting from surface contamination and all projected future atmospheric releases related to the accident.

   b. Ingestion of contaminated milk, or other agricultural products, or water.

   c. Inhalation of radionuclides resulting from resuspension of deposited material or from projected atmospheric releases resulting from the accident.

   Factors to be considered in assuring that the lifting of protective measures will not result in undue risk to public health include the following:

   a. Sampling and monitoring of radiation and evaluation of data by the Department of Health.

   b. Decontamination activities, including waste disposal, under the direction of the Department of Health, undertaken by the appropriate local agency depending on the method utilized.

   c. Security, including police and fire protection for affected areas -- will be provided by State and local police, and local fire agencies.

   d. Availability of medical service -- will be ascertained by State and local health officials.

e. Availability of electric power and telephone communications -- will be ascertained by Public Service Commission.

f. Adequacy of food and water supply -- will be determined by Department of Agriculture and Markets and Department of Health.

g. Operability of sanitary systems -- will be determined by Department of Environmental Conservation.

h. Availability of transportation -- will be determined by local officials.

i. Availability of sources of heat -- will be ascertained by State Energy Office.

j. Condition and needs of the affected population -- will be surveyed and determined by Department of Social Services with assistance from the American National Red Cross.

2. Dissmenination to the public of information pertaining to recovery actions commences after consideration has been given to the following factors:

a. The status of the services and conditions enumerated in the preceding portion of this plan. This includes information and guidance on methods the public should employ to overcome existing deficiencies, i.e., sources of emergency water supplies, restrictions on use of all non-canned foodstuffs, etc.

b. The consistency of public announcements between all levels of government. The Public Information Officers and affected County Public Information Officers coordinate such releases with each other before they are issued.

c. The methods by which these announcements are made depends in large part on the existing situation and the affected areas. Television and commercial radio broadcasts are the primary means of dissemination. Follow-up newspaper articles are also used. In special cases printed handouts and voice communications are used for Congregate Care Centers and similar facilities.

3. State and Federal assistance can be made available to assist affected counties in recovering from the effects of a radiological emergency.

Article 2-B of the New York State Executive Law provides that when the Governor declares a disaster emergency for an affected area he may direct any and all agencies of the State government to provide assistance under the coordination of the DPC. Such State assistance may include:

a. utilizing, lending, or giving to political subdivisions, with or without compensation therefor, equipment, supplies,

facilities, services of State personnel, and other resources, other than the extension of credit;

b. distributing medicine, medical supplies, food and other consumable supplies through any public or private agency authorized to distribute the same;

c. performing on public or private lands temporary emergency work essential for the protection of public health and safety, clearing debris and wreckage, making emergency repairs to and temporary replacements of public facilities of political subdivisions damaged or destroyed as a result of such disaster; and

d. making such other use of their facilities, equipment, supplies and personnel as may be necessary.

The Chief Executive officer of any affected county which has need of Federal disaster assistance accumulates and submits through SEMO District office to the Director, SEMO, data as required by Public Law 93-288 and appropriate regulations. This data will be submitted to the Governor through the Recovery Committee and the Chairman of the Disaster Preparedness Commission with a recommendation as to whether the Governor should request the President to declare an Emergency or Disaster as defined by Public Law 93-288. If such a request is made and granted, the Federal assistance which will then be provided would be administered by the Director, SEMO, for the Recovery Committee, appropriate State agencies and local governments in accordance with procedures adopted for use in administering Federal aid for any other type of an emergency or disaster declared by the President.

In instances where a Presidential declaration is either not requested or granted, specific types of Federal assistancy may be provided by individual Federal agencies acting within their own statutory authorities. The Governor may request such assistance, based on recommendations of the Director of the State Emergency Management Office and the Recovery Committee which will be submitted through the Chairman of the Disaster Preparedness Commission.

4. A radiation monitoring program for contaminated areas will be established by the State Commissioner of Health. This monitoring program may be long term depending upon the type, levels, and extent of the contamination. The monitoring will also take into account the nature of the contamination as well as the area affected. Future activities affecting release of radiation (venting, etc.) will also require monitoring. Other State agencies will cooperate and assist the Department of Health in monitoring for long term effects. Monitoring Programs initiated during the response phase will continue during recovery until acceptable levels are reached.

Medical follow-up to monitor the effects of radiation on the public and emergency workers after the incident may be established, if required. Currently, the State Department of

Health conducts an ongoing study of selected health statistics for counties with and without nuclear facilities as part of its epidemiological program. This program will be enhanced in the event of a radiological emergency.

All personnel monitoring equipment distributed during the emergency will be collected, assuring that exposure records for emergency workers are complete.

(NOT USED)

NEW YORK STATE RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN

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New York State Radiological Emergency Preparedness Plan

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PART II - SECTION I - Procedure A

A. PLAN MAINTENANCE

1.0 Purpose

This procedure provides for the control, distribution, amendment and updating of this Plan to ensure its accuracy and uniformity with local plans, NFO site-plans, the State's overall Disaster Preparedness Plan and contiguous states' and provinces' plans.

2.0 Responsibilities

2.1 The appropriate Commissioner, Director, or however otherwise designated, head of each State agency with a response responsibility under this Plan, and the Chief Executive of each affected county will insure the development and maintenance of plans to carry out such agency's or county's radiological emergency response responsibilities.

2.2 The Director of the Radiological Emergency Preparedness Group (REPG) under the auspices of the Disaster Preparedness Commission is responsible for the administration of this New York State Radiological Emergency Preparedness Plan. These responsibilities include:

2.2.1 providing for and controlling the distribution, amendment, and updating of this Plan;

2.2.2 coordinating the development by New York State emergency response agencies of their procedures for implementing this Plan;

2.2.3 providing for an annual review of this Plan, updating of it with current information and the results of periodic drills and annual exercises, and certifying annually that the Plan is current and up to date.

2.2.4 insuring that rosters of key personnel's telephone numbers are updated at least quarterly.

2.3 The Director of the Radiological Emergency Preparedness Group (REPG)is responsible for performing an annual review and making necessary revisions to the Radiological Emergency Preparedness Plan of a county which is unable to, or elects not to, update its plan itself.

3.0 Implementation

3.1 The Director of Radiological Emergency Preparedness Group (REPG) will control the distribution of the Plan and its procedure to all officials as required.

3.1.1 An up-to-date master list will be maintained of where the plans have been sent, the date sent an the type of edition sent (controlled or uncontrolled).

3.1.2 All amendments to, or updates of, this Plan will reflect the date of such change in the lower right hand corner of each page. These changes will be forwarded to the persons on the controlled section of the Master List.

3.2 Oversight of emergency response agencies as recorded in this Plan will be the responsibility of the Director of the Radiological Emergency Preparedness Group.

3.2.1 Each agency will forward their new or revised procedures to the Radiological Emergency Preparedness Group Office, State Campus, Building 22, 1st Sublevel, Albany, NY, 12226-5000.

3.2.2 State agencies and their disaster related responsibilities will be coordinated by the Director or the State Emergency Management Office in accordance with the State Disaster Preparedness Plan.

3.2.3 The Director of the SEMO will review and update quarterly, lists of telephone numbers of key personnel, and forward such update to the Director of the Radiological Emergency Preparedness Group.

3.3 This Plan will be reviewed annually, or sooner, if necessary, to ensure its applicability to current policy and its compatibility with each local plan.

3.3.1 The Director of the Radiological Emergency Preparedness Group will perform such reviews and report to the Disaster Preparedness Commission no later than February 1 of each year.

3.3.2 This annual report shall include but not be limited to:

Summary of State agencies' activities for the past year and their scheduled activities for the ensuing year.

Summary of Federal regulations and requirements promulgated or amended during the preceding year.

Recommendation on ways to improve State and local capabilities in all phases of radiolocial emergency management.

3.4 The Director of the Radiological Emergency Preparedness Group, in instances where a county does not review and update its Radiological Emergency Preparedness Plan at appropriate intervals, will perform such reviews and incorporate necessary revisions after consultation with the county's Chief Executive, other local officials designated by him, and affected State agencies.

PART II - SECTION I - PROCEDURE B

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ATTACHMENTS

1 Procedures for the New York State Radiological Emergency Communications System (RECS)
2 Test Procedures for the New York State Radiological Emergency Communications System (RECS)
3A Radiological Emergency Communications System (RECS) Indian Point Unit 2 and Unit 3
3B Radiological Emergency Communications System (RECS) Nine Mile Point Nuclear Station (NMPNS) & James A. FitzPatrick Nuclear Power Plant (JAFNPP)
3C Radiological Emergency Communications System (RECS) Ginna Nuclear Power Station
4 Radiological Emergencies Health Department Notification List
5 Emergency Notification Roster State Emergency Management Office, DMNA
6 Radiological Emergency Notification List District Offices State Emergency Management Office, DMNA
7 Radiological Emergency Data Form
8 SEMO Communications Systems
9 SEMO Communications and Warning Section Emergency Notification
10 State Notification and Activation List
11 Ingestion EPZ Counties Warning Points and EOC Phone Numbers
12 National Warning System in New York State
13 County EBS Stations

B. COMMUNICATIONS/WARNING

1.0 Introduction

The NYS Emergency Management Office (SEMO) Communications Section will organize the responsible parties within its Section and disseminate the appropriate information in conjunction with the County Radiological Emergency Preparedness Plans (REPP), NYS Radiological Emergency Preparedness Plan (REPP), and each Nuclear Power Operators' Site Emergency Plan and procedures - Indian Point Unit 2 (IP 2), Indian Point Unit 3 (IP 3), Nine Mile Point Nuclear Station (NMPNS), Unit 1 and Unit 2, James A. FitzPatrick Nuclear Power Plant (JAFNPP), and Robert E. Ginna Nuclear Station (Ginna). These communication systems, equipment and personnel are available to respond to a radiological emergency.

2.0 Abbreviations

Director - Director of State Emergency Management Office
DOH - New York State Department of Health
EOC - Emergency Operations Center
EPZ - Emergency Planning Zone
NAWAS - National Warning System (Dedicated Telephone)
NFO - Nuclear Facility Operator
RECS - Radiological Emergency Communications System
SEMO - State Emergency Management Office
SWP - State Warning Point

3.0 Initial Communication

The initial notification that a potential or actual radiological emergency has occurred at a nuclear power plant will be made by the NFO over the Radiological Emergency Communications System (RECS). Attachment 1 lists procedures for using RECS and Attachment 2 lists procedures for testing RECS. IP-2, IP-3, NMPNS-1, NMPNS-2, JAFNPP, and Ginna will use dedicated 24 hour telephone lines to notify the State Warning Point (or alternate SWP, New York State Police Communications Center) and appropriate SEMO District EOCs, DOH and State EOC during duty hours. During non-duty hours DOH radiological staff, State EMO and appropriate SEMO districts will be notified by the SWP by commercial telephone. (See Attachment 3 for diagrams of RECS. Notification lists are contained in Attachments 4, 5 and 6.) Note - If initial notification is a General Emergency condition the NFO control room operator of any New York State Nuclear Power Plant will immediately refer to (Attachment 1) procedures for the New York State Radiological Emergency Communications System (RECS) under I.A.6, II.A.6 or III.A.6 as appropriate.

If a state compensating plan should be in effect refer to respective plan.

NFO will transmit initial information as shown in Part I of Attachment 7 to the officials indicated above.

The notification systems described have radio backup during working hours. Radio communications will be from counties, through districts to SWP by the local government network and special emergency radio network. (See Attachment 8 & 8a)

3.1 Incidents With No Off-site Consequences

For incidents classified as an Unusual Event, the NFO will notify the NYS Warning Point and County Warning Points through prescribed communication channels (outlined in Section 4.0) that an unusual event is in progress or has occurred. No release of radioactive material requiring off-site response or monitoring are expected unless further degradation of safety systems occurs.

3.2 Incidents with Potential Off-site Consequences

3.2.1 Alert

For incidents classified as an Alert, the NFO will notify the NYS Warning Point and County Warning Points through prescribed communication channels (outlined in Section 5.0) that events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of the EPA protective action guideline exposure levels.

3.2.2 Site Area Emergency

For incidents classified as Site Area Emergency the NFO will notify State and County agencies through prescribed communication channels (outlined in Section 6.0) that events are in progress or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases not expected to exceed EPA protective action guideline exposure levels except near site boundary.

3.2.3 General Emergency

For incidents classified as General Emergency the NFO will notify County and State agencies through prescribed communication channels (outlined in Section 7.0) that events are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA protective action guideline exposure levels offsite for more than the immediate site area.

4.0 Response Action - Unusual Event

4.1 Upon initial notification from the NFO-(IP 2, IP 3, NMPNS-1, NMPNS-2, JAFNPP, or Ginna) of an Unusual Event, the SWP Operator located at

Building #22, State Campus, Albany, will answer the RECS phone and record the information utilizing the Radiological Emergency Data Form (Attachment 7) and will confirm parties present as shown in Attachment 3.

If the incident occurs during non-duty hours, weekends, or holidays, the SWP Operator (NYS Police Communicator) will then telephone the appropriate DOH personnel (Attachment 4) at home and transmit the information received from the NFO as recorded on the Radiological Emergency Data Form. DOH personnel will contact the REPG.

4.2 The SWP Operator will notify the Director of the State Emergency Management Office (Director), or a designated Alternate (Attachment 5) and transmit the information received from the NFO as recorded on the Radiological Emergency Data Form (Attachment 7).

4.3 When requested by the Director or designated alternate (Attachment 5), the SWP Operator notifies the Supervisor of SEMO Communications and Warning of the situation who will in turn notify the SEMO Supervisor of Warning and put the communications and warning staff on standby (Attachment 9).

If the incident occurs during non-duty hours, weekends, or holidays, the SWP Operator will telephone the appropriate SEMO District Office as shown in Attachment 6 and pass on the information received from the NFO.

4.4 The SWP Operator will then call the SEMO Director of Operations (Attachment 5) and relay the situation and direct him/her to standby for possible EOC activation.

4.5 The Supervisor of SEMO Communications and Warning will continue to monitor the situation. The Director will take any necessary actions, including activating other SEMO communication systems (Attachment 8) and staff, until verbal closeout or escalation to a more severe response action level by the NFO.

5.0 Response Action - Alert

5.1 Upon initial notification from the NFO (IP 2, IP 3, NMPNS-1, NMPNS-2, JAFNPP, or Ginna) of an Alert, the SWP Operator will answer the RECS phone and record the information using the Radiological Emergency Data Form (Attachment 7) and will confirm the parties present (see Attachment 3). DOH and REPG will send representative to the State EOC.

If the incident occurs during non-duty hours, weekends, or holidays, the SWP operator will then telephone the appropriate DOH personnel (Attachment 4) at home and read the information received from the NFO. The DOH representative will then telephone the NFO to verify the information received. DOH will send representatives to the State EOC.

5.2 The SWP Operator will notify the Director of the State Emergency Management Office (Director), or his Alternate (Attachment 5) and transmit the information received from the NFO as recorded on the Radiological Emergency Data Form (Attachment 7).

5.3 The Director will insure that the Chairman of the Disaster Preparedness Commission is advised of the situation.

5.4 The SWP Operator will notify the Supervisor, SEMO Communications and Warning of the situation, who will in turn notify the Supervisor of Warning and staff (Attachment 9) and activate the communications equipment.

If the incident occurs during non-duty hours, weekends, or holidays, the SWP Operator will telephone the appropriate SEMO District Office personnel as shown in Attachment 6 and pass on the information received from the NFO.

5.5 The SWP Operator will then call the SEMO Director of Operations (Attachment 5) and relay the situation and request that the EOC to be prepared for operations.

5.6 The SWP Operator will notify the State agency staff listed in Attachment 10 to be placed on standby for possible EOC activation or to report to the EOC and inform them of the situation. Each agency called will then activate its fan-out procedures to notify appropriate personnel.

5.7 The SWP Operator will notify as approprite Federal agencies, contiguous states and others and inform them of the situation (Attachment 10).

5.8 Upon request from DOH, the SWP Operator will notify by telephone or NAWAS, the appropriate ingestion EPZ counties (Attachment 11) and repeat the message provided by DOH (NAWAS system shown as Attachment 12).

5.9 The Supervisor of SEMO Communications and Warning will continue to monitor the situation. The Director will take necessary action, including activating other SEMO communications systems and staff, until verbal closeout or escalation to a more severe action level by the NFO (Attachment 8).

6.0 Response Action - Site Area Emergency

6.1 Upon initial notification from the NFO (IP 2, IP 3, NMPNS-1, NMPNS-2, JAFNPP, or Ginna) of a Site Area Emergency, the SWP Operator will answer the RECS phone and record the information using the Radiological Emergency Data Form Sheet (Attachment 7) and will confirm the parties present (see Attachment 3). DOH and REPG will send representatives to the State EOC.

If the incident occurs during non-duty hours, weekends, or holidays, the SWP Operator will telephone the appropriate DOH personnel (Attachment 4) at home and read the information received from the NFO. The DOH repreresentative will telephone the NFO to verify the information received. DOH will notify the REPG. DOH and REPG will send representatives to the State EOC.

6.2 The SWP Operator will notify the Director of the State Emergency Management Office (Director), or a designated Alternate (Attachment 5) and transmit the information received from the NFO as recorded on the Radiological Emergency Data Form (Attachment 7).

6.3 The Director will insure that the Chairman of the Disaster Preparedness Commission is advised of the situation.

6.4 The SWP Operator will then notify the Supervisor, SEMO Communications and Warning of the situation, who will in turn notify the Supervisor of Warning and staff (Attachment 9) and activate the communications equipment.

If the incident occurs during non-duty hours, weekends, or holidays, the SWP Operator will then telephone the appropriate SEMO District Office as shown in Attachment 6 and repeat the information received from the NFO.

6.5 The SWP Operator will then call the SEMO Director of Operations (Attachment 5) and relay the situation and request that the EOC be prepared for operations.

6.6 The SWP Operator will notify the State agency staff listed in Attachment 10 to activate and man the State EOC. Each agency will then activate its fan-out procedures to insure full personnel participation.

6.7 The SWP Operator will notify as appropriate Federal agencies, contiguous states and others and inform them of the situation (Attachment 10).

6.8 Upon request from DOH, the SWP Operator will notify by telephone or NAWAS the appropriate ingestion EPZ counties (Attachment 11) and repeat the message provided by DOH (NAWAS shown as Attachment 12).

6.9 Upon request from DOH, the SWP Operator will advise the appropriate plume EPZ counties (Attachment 11)to activate their public notification system (see County REPP) including the coordination with each County's Emergency Broadcast System (EBS) Stations (Attachment 13).

6.10 Ten (10) minutes after advisory to each County, as stated in 6.9 above, the SWP operator will re-call the same counties to verify that the notification system has been activated.

6.11 The Supervisor of SEMO Communications and Warning will continue monitoring the situation. The Director will take necessary actions until verbal closeout or reduction of the emergency class or escalation to the General Emergency class by the NFO.

7.0 Response Action - General Emergency

7.1 If initial notification of a General Emergency condition at Consolidated Edison (IP-2), the New York Power Authority (IP-3), Nine Mile Point Nuclear Station (NMPNS-1, NMPNS-2), James A. FitzPatrick Nuclear Power Plant (JAFNPP) or the Robert E. Ginna Nuclear Station (Ginna) is required, the control room operator of the affected utility will activate the New York State RECS Line and follow procedures listed in Attachment 1 under I.A.6, II.A.6 or III.A.6 as appropriate.

If an incident occurs during non-duty hours, weekends, or holidays, the SWP operator will telephone the appropriate DOH personnel (Attachment 4) at home and read the information received from the NFO. The DOH representative will telephone the NFO to verify the information received. DOH will notify the REPG. DOH and REPG will send representative to the State EOC.

7.2 The SWP Operator will notify the Director of the State Emergency Management Office (Director), or a designated alternate (Attachment 5) and transmit the information received from the NFO as recorded on the Radiological Emergency Data Form (Attachment 7).

7.3 The Director will insure that the Chairman of the Disaster Preparedness Commission is advised of the situation.

7.4. The SWP Operator will notify the Supervisor, SEMO Communications and Warning of the situation, who will in turn notify the SEMO Supervisor of Warning and staff (Attachment 9) and activate the communications equipment.

If the incident occurs during non-duty hours, weekends, or holidays, the SWP Operator will telephone the appropriate SEMO District Office as shown in Attachment 6 and repeat the information received from the NFO.

7.5 The SWP Operator will call the SEMO Director of Operations (Attachment 5) and relay the situation and request that the EOC be prepared for operations.

7.6 The SWP Operator will notify the State agency staff listed in Attachment 10 to activate and man the State EOC. Each agency will then activate its fan-out procedures to insure full personnel participation.

7.7 The SWP Operator will notify as appropriate Federal agencies, contiguous states and others and inform them of the situation (Attachment 10).

7.8 Upon request from DOH the SWP Operator will notify by telephone or NAWAS the appropriate ingestion EPZ counties (Attachment 11) and repeat the message provided by DOH (NAWAS shown as Attachment 12).

7.9 Upon request from DOH, the SWP Operator will advise the appropriate plume EPZ counties (Attachment 11) to activate their public notification system (see County REPP) including the coordination with each County's Emergency Broadcast System (EBS) Stations (Attachment 13).

7.10 Ten (10) minutes after advisory to each County, as stated in 7.9 above, the SWP Operator will re-call the same counties to verify that the notification sytem has been activated.

7.11 The Supervisor of SEMO Communications and Warning will continue to monitor the situation and the Director will take necessary action until verbal closeout or reduction to a less severe emergency class.

NOTE:
For nuclear facilities other than those listed above, the SWP Operator will record the information received via commercial telephone or NAWAS using the Radiological Emergency Data Form (see Attachment 7). Procedures listed above will follow for each appropriate emergency classification starting with the procedure to call DOH representatives.

EMERGENCY NOTIFICATION ROSTER

NEW YORK STATE EMERGENCY MANAGEMENT OFFICE

	NAME	BUS. TELEPHONE	HOME TELEPHONE	BEEPER
1)	DeVito, D.A.	457-2222		518-458-3861
2)	Germano, A.	457-9994		458-3863
3)	Radford, L.G.	457-9982		458-3862
4)	Houston, B.B.	457-9933		458-3867
5)	Simpson, R.J.	457-9960		
6)	DiNuzzo, J.P.	457-9983		

NOTE #1 - SEMO representative called by State Warning Point will immediately call and inform of the situation:

1) Nuclear Power Plant Accident - Tony Germano-(B) 457-9994 (H)
OR Lee Battes (Alternate)-(B) 457-9940 (H)

This list will be maintained by NYSEMO. Distribution of telephone numbers is controlled and numbers will be given on a need-to-know basis.

Pen and ink changes will be made to master copies of notification lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis.

(NOT USED)

RADIOLOGICAL EMERGENCY NOTIFICATION LIST

DISTRICT OFFICES

STATE EMERGENCY MANAGEMENT OFFICE, DMNA

I. Indian Point

A. Southern District - 914/454-0430 or 0431

1. Vacant
2. MacDonald Godfrey
3. Barbara A. Porter

II. Nine Mile Point

A. Central District - 315/363-8524 or 8527

1. Frank Griffin
2. Gerald Heitzman
3. John Fink

III. GINNA

A. Lake District - 315/331-4880 or 4884

1. Roger Winner
2. William Clark
3. Fred Allein

B. Western District - 716/343-1465 or 1474

1. Roger H. Wimer
2. Fred J. Allein
3. William Clark

This list will be maintained by NYSEMO. Distribution of telephone numbers is controlled and numbers will be given on a need-to-know basis.

Pen and ink changes will be made to master copies of notification lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis.

For additional district support see SEMO Emergency Operations telephone directory.

(NOT USED)

New York State Radiological Emergency Data Form

PART I - General Information

INSTRUCTIONS: Circle or fill-in information as appropriate.

1 Message transmitted at:
DATE _____ TIME _____ VIA _____

2 Facility providing information:
A INDIAN POINT #2 C GINNA STATION E NINE MILE POINT #2 G OTHER _____
B INDIAN POINT #3 D NINE MILE POINT #1 F FITZPATRICK PLANT H OTHER _____

3 Reported by:
NAME _____ TITLE _____

4 Reported from:
A CONTROL ROOM B TSC C EOF D OTHER _____

5 This:
A IS AN EXERCISE B IS **NOT** AN EXERCISE

6 Event Classification:
A UNUSUAL EVENT C SITE AREA EMERGENCY E TRANSPORTATION INCIDENT G OTHER _____
B ALERT D GENERAL EMERGENCY F EMERGENCY TERMINATED

7
A THIS EMERGENCY CLASSIFICATION DECLARED AT DATE _____ TIME _____
B THIS IS AN INFORMATIONAL NOTIFICATION ONLY. THIS EVENT DOES NOT CONSTITUTE ONE OF THE FOUR EMERGENCY CLASSIFICATIONS

8 Brief event description:

9 Plant status/prognosis is:
A STABLE B IMPROVING C DEGRADING D UNKNOWN

10 This event involves:
A **NO** ABNORMAL RELEASE OF RADIOACTIVITY C A RELEASE OF RADIOACTIVITY TO A BODY OF WATER
B AN ATMOSPHERIC RELEASE OF RADIOACTIVITY D A GROUND SPILL RELEASE OF RADIOACTIVITY

11 The release is:
A NOT APPLICABLE B CONTINUING C TERMINATED D INTERMITTENT

12 Protective actions:
A THERE IS **NO** NEED FOR PROTECTIVE ACTIONS OUTSIDE THE SITE BOUNDARY
B NEED FOR PROTECTIVE ACTION IS UNDER EVALUATION
C **SHELTERING** RECOMMENDED IN THE FOLLOWING ERPAs (circle the appropriate ERPAs): 1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
40 41 42 43 44 45 46 47 48 49 50 51 W1 W2 W3 W4 W5 W6 W7 M1 M2 M3 M4 M5 M6 M7 M8 M9
D **EVACUATION** RECOMMENDED IN THE FOLLOWING ERPAs (circle the appropriate ERPAs): 1 2 3 4 5 6 7 8 9
10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
40 41 42 43 44 45 46 47 48 49 50 51 W1 W2 W3 W4 W5 W6 W7 M1 M2 M3 M4 M5 M6 M7 M8 M9

13 Basis for protective action recommendations:
A PLANT CONDITIONS B FIELD MEASUREMENTS C PROJECTED OFFSITE DOSES

14 Wind speed:
_____ MILES/HOUR OR _____ METERS/SECOND

15 Wind direction:
(from) _____ DEGREES

16 Stability class:
_____ PASQUILL A TO G BROOKHAVEN I TO V OR STABLE UNSTABLE NEUTRAL

17 Ambient temperature:
_____ °F

18 General weather conditions:
A CLEAR B CLOUDY C RAIN D SNOW

MESSAGE RECEIVED BY _____

New York State Radiological Emergency Data Form

PART II • Radiological Assessment Data

19 Message transmitted at:

DATE _____ TIME _____ FROM _____

Based on information available at:

TIME _____

20 General release information:

A RELEASE STARTED AT DATE _____ TIME _____

B PROJECTED DURATION OF RELEASE _____

C TIME OF TERMINATION OF RELEASE _____

D REACTOR SHUTDOWN DATE _____ TIME _____

E WIND SPEED _____ MPH or _____ M/SEC

F WIND DIRECTION (from) _____ DEGREES

G STABILITY CLASS _____ (PASQUIL A
BROOKHAVEN HV OR STABLE, UNSTABLE OR NEUTRA

21 Atmospheric release information:

A EFFECTIVE RELEASE HEIGHT _____ FT

B IODINE/NOBLE GAS RATIO _____

C GROSS RELEASE RATE _____ C/SEC

D IODINE RELEASE RATE _____ C/SEC

E NOBLE GAS RELEASE RATE _____ C/SEC

F PARTICULATE ACTIVITY _____ C/SEC

22 Waterborne release or surface spill information:

A VOLUME OF RELEASE _____ GALLONS

B CONCENTRATION (ISI) _____ /C m

C RADIONUCLIDES IN RELEASE (in uC/ml): _____

D TOTAL ACTIVITY RELEASED _____ Ci

23 Dose/dose rate calculations

DATA IS BASED ON (circle one) **A** INPLANT MEASUREMENTS **B** FIELD MEASUREMENTS **C** ASSUMED SOURCE TERM

TABLE BELOW APPLIES TO (circle one) **A** ATMOSPHERIC RELEASES **B** WATERBORNE RELEASES

		DOSE RATES		INTEGRATED DOSE OVER THE COURSE OF THE ACCIDENT	
DISTANCE	X/Q	WHOLE BODY REM/HOUR	CHILD'S THYROID REM/HOUR	WHOLE BODY REM	CHILD'S THYROID REM
SITE BOUNDARY					
2 MILES					
5 MILES					
10 MILES					
_____ MILES					

24 Field measurement of dose rates or surface contamination (deposition)

MILE SECTOR OR MILES DEGREES	LOCATION OR SAMPLING POINT	TIME OF MEASUREMENT	DOSE RATE (MR/HR) CONTAMINATION (C/

REMARKS

SEMO

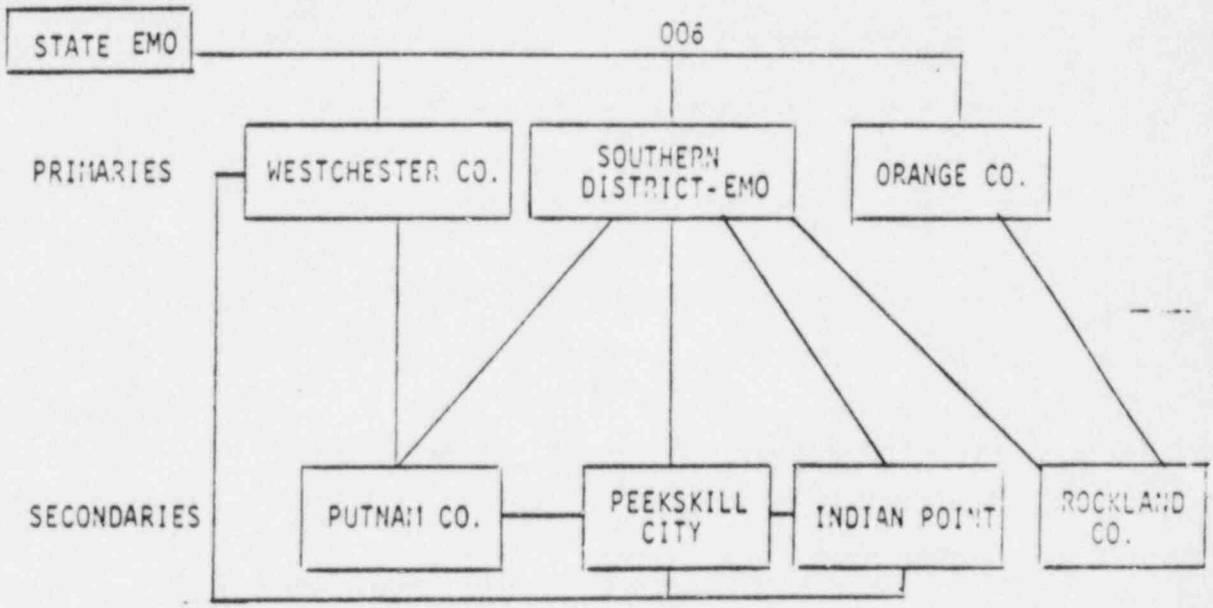
COMMUNICATIONS SYSTEMS

1. Notification of Public Officials

A. Indian Point

1. Commercial Telephone - Available at all locations

2. NAWAS



Note 1 - Transmit and Receive Traffic

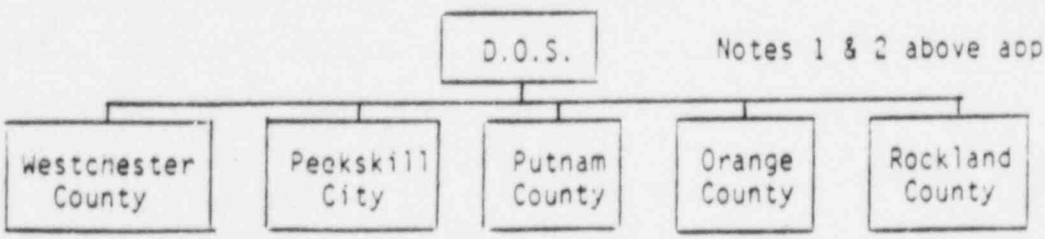
Note 2 - Traffic does not flow thru boxes

Note 3 - Secondaries Putnam and Rockland Counties and Peekskill City can talk to their respective Primaries and both with District; however, Putnam Co. and Peekskill City can talk with Indian Point (Same Secondary Circuit)

Note 4 All Secondaries can hear all traffic generated by State, Primaries and District

3. State Command Net (Radio) - for Emergencies only, effectivenes is limited due to variable propagation characteristics. State can Transmit and Receive with all Districts.

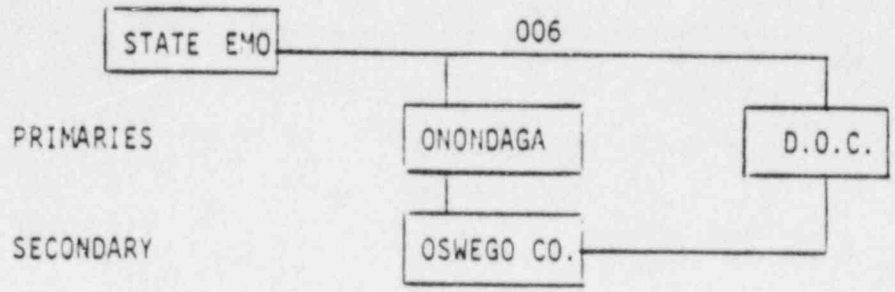
4. Civil Defense Local Government Radio Net



B. Nine Mile Point

1. Commercial Telephone - available at all locations

2. NAWAS



Note 1 - _____ = Transmit and Receive Traffic

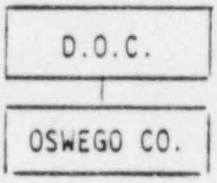
Note 2 - Traffic does not flow thru boxes

Note 3 - All Secondaries can hear all traffic generated by state, Primaries and District

3. State Command Net (Radio)

State can transmit and receive with all Districts.

4. Civil Defense Local Government Radio Net

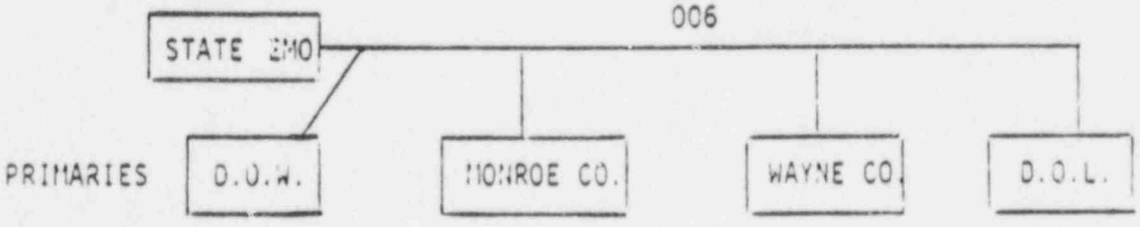


Notes 1 and 2 above apply.

C. Ginna

1. Commercial Telephone - Available at all locations

2. NAWAS



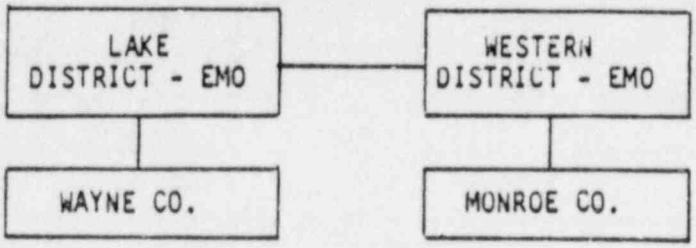
Note 1 - _____ = Transmit and Receive Traffic

Note 2 - Traffic does not flow thru boxes

3. State Command Net

State can transmit and receive with all Districts

4. Emergency Management Local Government Radio Net



Notes 1 & 2 above apply

D. Other C.D. communication systems, SOP's and equipment (N.Y.S. EMO and N.Y.S. EMO District and County communication systems, plans, alert lists, equipment inventory and descriptions are contained in Emergency Communication Development Plans (ECDP) kept in the NYSEMO's Planning and Communications and Warning Sections) are available to augment the above-mentioned systems.

1. Radio Services

a. Federal Emergency National Radio System (FENRS) - Between NYS EOC/Alternate Seat of Government (ASG) and FEMA Region 1 and all New England States including New Jersey and FEMA Region II with teletype.

b. Emergency Broadcast System (EBS) - KQT-854 for transmission of EBS information to Radio Station WGY from Albany EOC/ASG.

c. DMNA - Network on the DMNA circuit between military facilities.

d. RACES Radio - Used as a command and control backup to the State Command Net.

2. Other

a. Federal Emergency National Teletype System (FENATS) - Dedicated 100 wpm teletype circuit with voice capability, between the EOC/ASG, FEMA Region I and all State and Federal Civil Defense Offices.

b. NAWAS - Dedicated 24 hour telephone system that connects FEMA with all State and County C.D. organizations.

c. Teletype - To New York Telephone Company EOC's in Mt. Kisco and Manhattan from Albany EOC/ASG and one receive only from U.S. Weather Bureaus.

d. Interim Emergency Radio Network (IERN) - Through telephone equipment at EOC/ASC can broadcast information simultaneously to 15 stations throughout the State. Broadcasts can be orgiginated directly from the EOC/ASG or from any telephone in the world accesible to the Governor or State Director through switching equipment in the EOC/ASG.

The basic network is comprised of fifteen (15) AM stations. In addition to the fifteen (15) basic stations, there are ten (10) FM and four (4) TV "sister stations" which are activated by the basic stations.

AM Stations (Basic Network Stations)

WPTR - Albany	WCBS - New York	WGY - Schenectady
WROW - Albany	WHN - New York	WHEN - Syracuse
WBEN - Buffalo	WABC - New York	WSYR - Syracuse
WGR - Buffalo	WROC - Rochester	WTRY - Troy
WNBC - New York	WHAM - Rochester	WRUN - Utica

FM Stations (Supplemental to AM Stations)

WGR - Buffalo	WGFM - Schenectady
WBEN - Buffalo	WSYR - Syracuse
WABC - New York	WRUN - Utica
WNBC - New York	
WROC - Rochester	

TV Stations (Supplemental to AM Stations)

WGR - Buffalo	WROC - Rochester
WBEN - Buffalo	WSYR - Syracuse

e. EBS - 2 dedicated land line circuits consisting of a radio line and a voice line (order line) exist between the State EOC/ASG and radio station WGY for purpose of EBS input.

f. Federal Emergency National Voice System (FENAVS) - Dedicated telephone link between Albany EOC/ASG and FEMA Region II.

g. 2 Mobile Communication Vans - Both equipped with State Command Radio Network, District Command (Local Government) Radio Network, State Fire Radio Network, Sheriff Radio Network (limited capability), 1 van has telephone hook-up capability, Headquarters Local Government Radio Network.

h. Telecopier (Facsimile) - Using commercial telephone can transmit to all who have similar equipment (FEMA Region I and II).

i. Weather Station Monitor - Receives NOAA broadcasts concerning weather information.

COMMUNICATIONS AND FREQUENCY CHARTS

INDIAN POINT, NINE MILE POINT AND GINNA

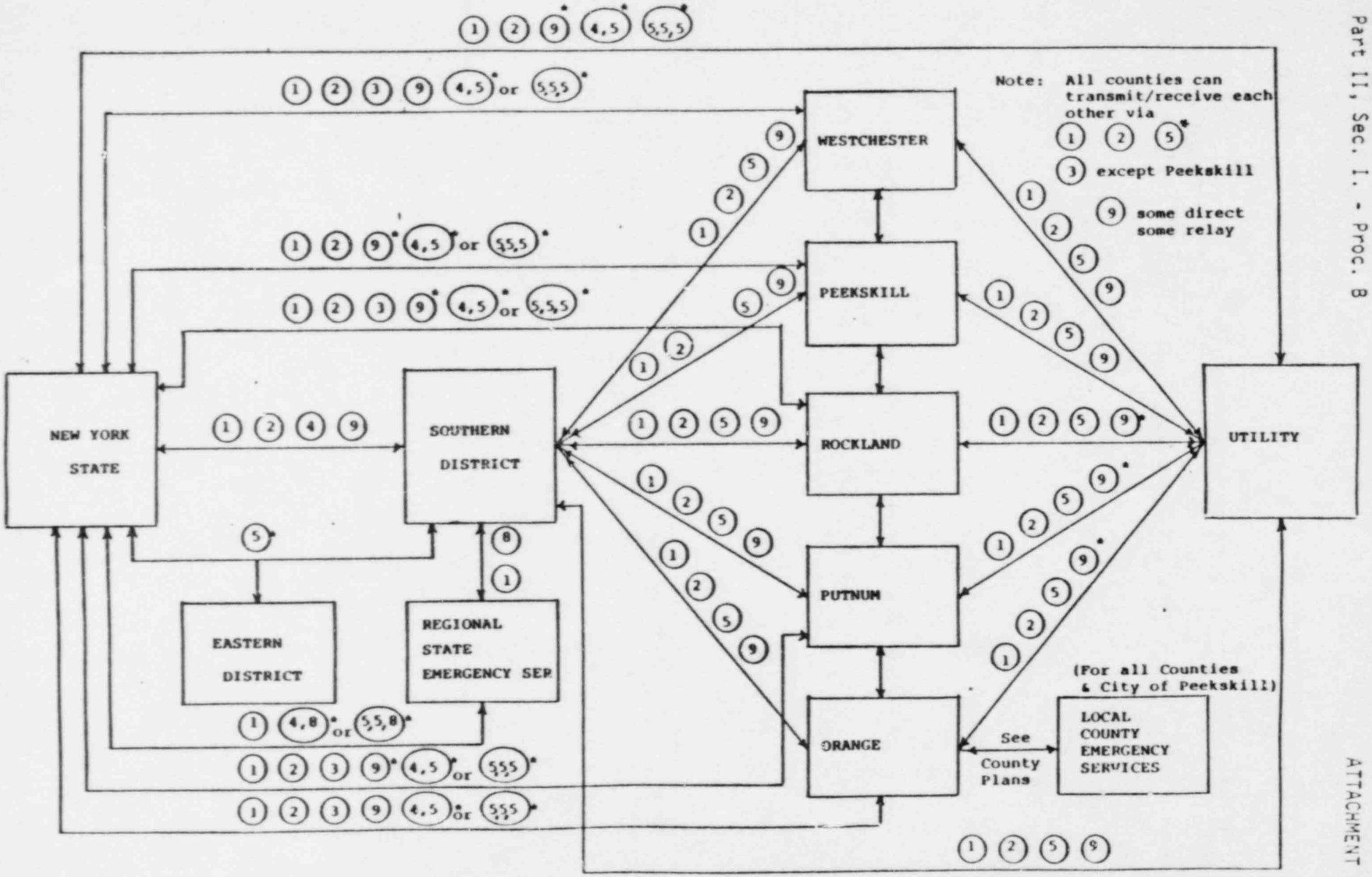
Communications between New York State, counties and utilities can be accomplisned using one or a combination of systems listed below.

LEGEND

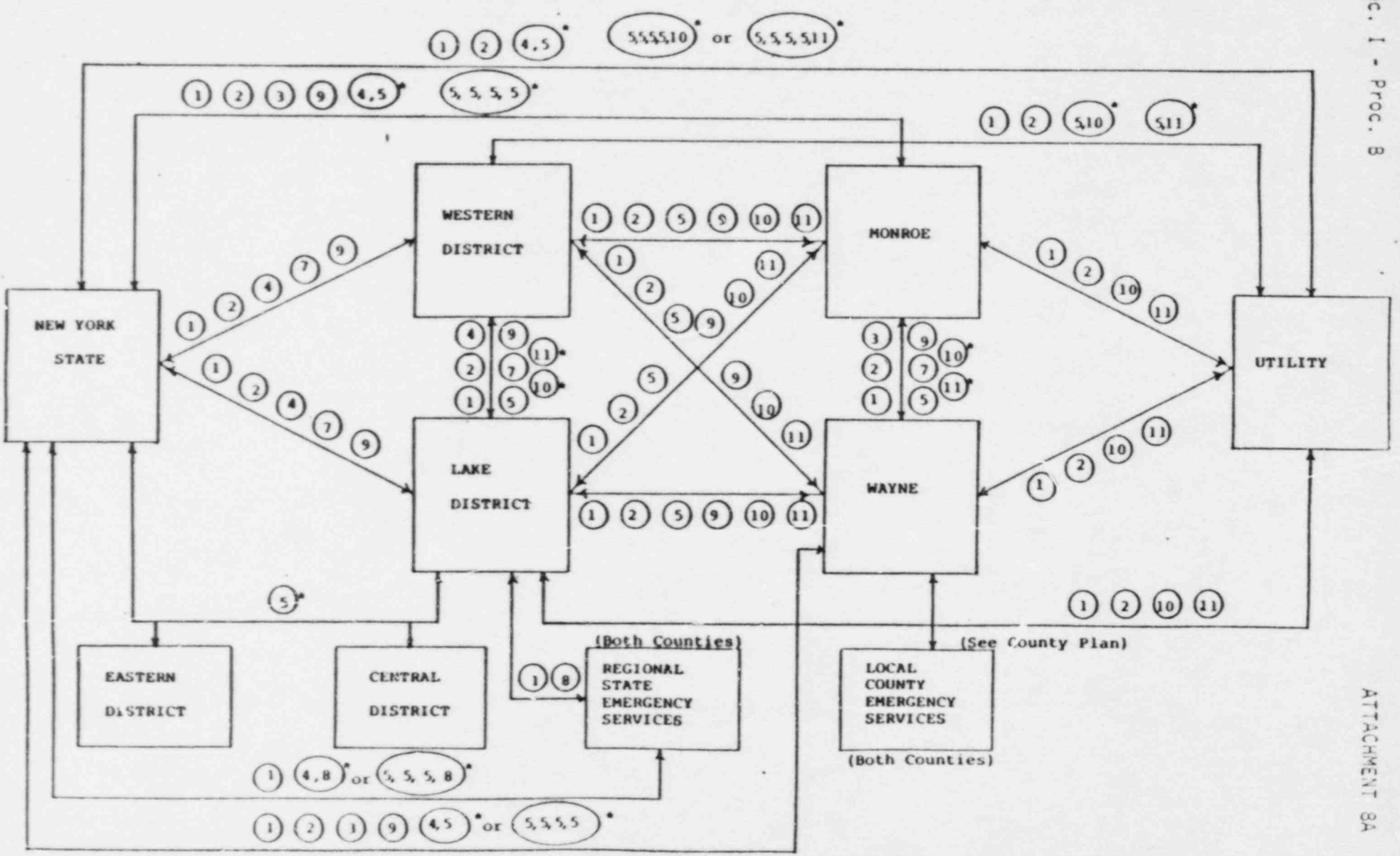
1) Commercial Telephone
2) Radiological Emergency Communications System (RECS)
3) Executive Hotline (dedicated telephone)
4) Special Emergency Radio Network
   Note: District Offices are not always able to communicate with each other and/or State due to inherent propagation problems.
5) Local Government Radio
6) Utility Radio
7) Radio Amatuer Civil Emergency Service (RACES)
8) State/Regional Service Radio
9) National Warning System (NAWAS)
10) State Fire Net
11) Police Point to Point Radio Net (MRD - Mobil Radio Dispatch)

Notes: A. If needed RACES may be requested for communications
B. *-Relay System only (not direct)

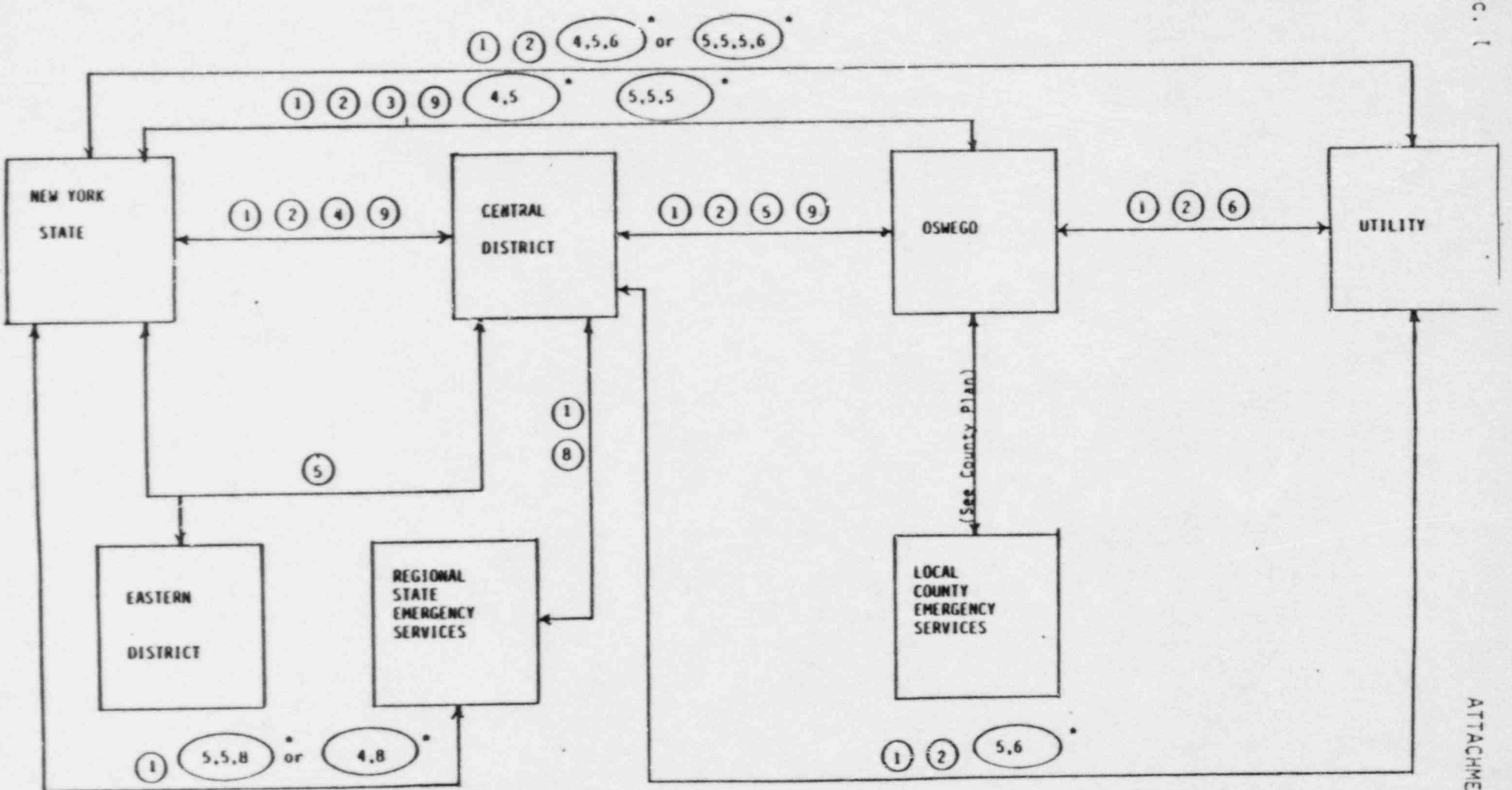
INDIAN POINT COMMUNICATIONS AND FREQUENCY CHART



GINNA COMMUNICATIONS AND FREQUENCY CHART

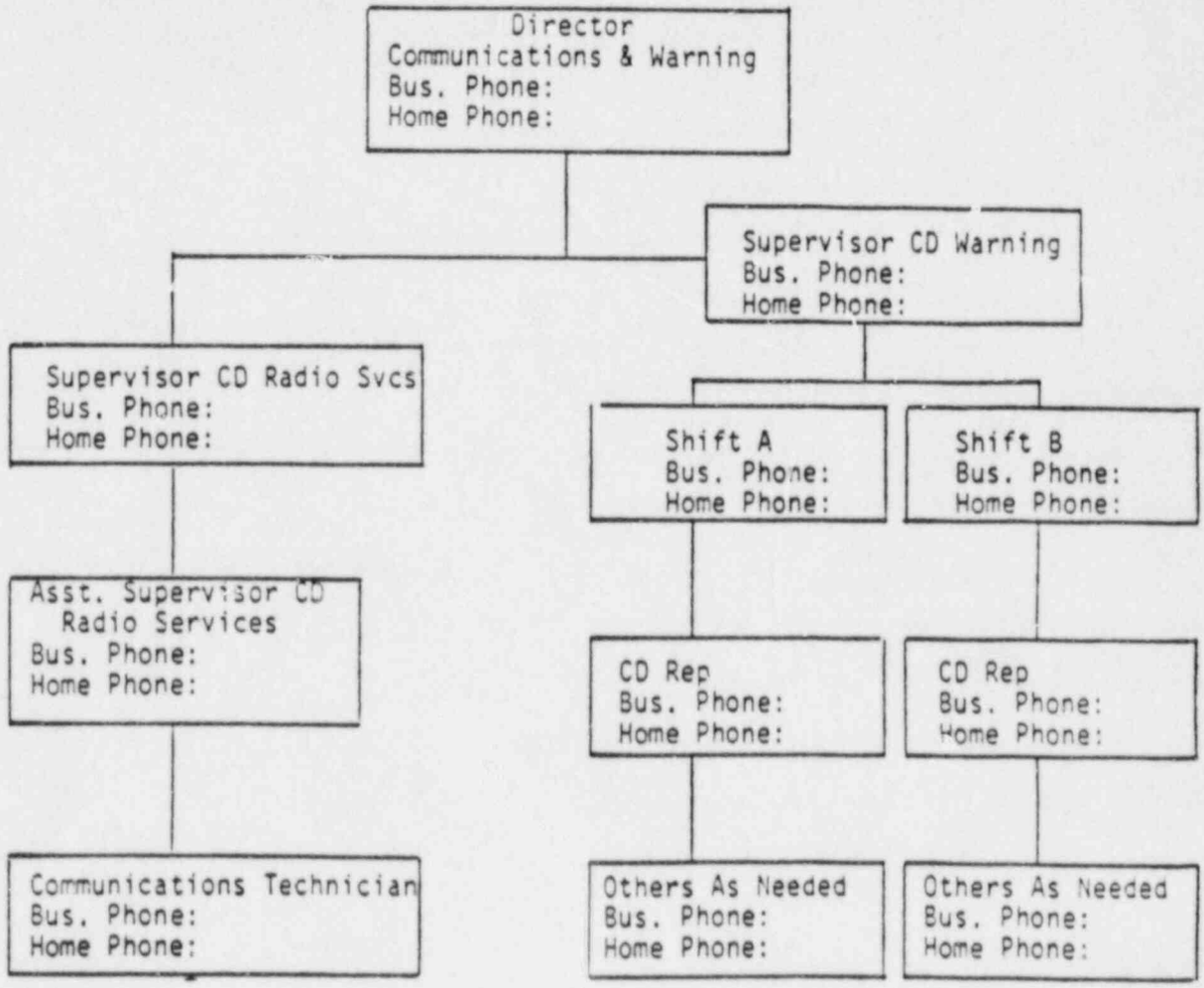


OSWEGO COMMUNICATIONS AND FREQUENCY CHART



SEMO COMMUNICATIONS AND WARNING SECTION

EMERGENCY NOTIFICATION



This chart is maintained by NYSEMO. Distribution of phone number is controlled and numbers will be given on a need-to-know basis.

Pen and ink changes will be made to master copies of notifications lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis.

(NOT USED)

STATE NOTIFICATION AND ACTIVATION LIST

Upon receipt of information of an emergency at a nuclear facility, the State Warning Point operator will notify agency representatives for stand-by or activation of the State EOC according to the emergency class declared.

I. UNUSUAL EVENT

STAND-BY

ACTIVATE TO EOC

*A. STATE EMERGENCY MANAGEMENT OFFICE

*B. HEALTH DEPARTMENT (Radiological)

*C. STATE POLICE

*Warning Point Operator will provide information received from the nuclear facility using the Radiological Emergency Data Form.

This list is maintained by NYSEMO. Distribution of names and phone numbers is controlled and is provided on a need-to-know basis.

Pen and ink changes will be made to master copies of notifications lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis.

II. ALERT

STAND-BY	ACTIVATE TO EOC
A. ENERGY	*A. SEMO
B. FIRE PREVENTION & CONTROL (STATE DEPT.)	*B. HEALTH DEPARTMENT (RADIOLOGICAL)
C. PUBLIC SERVICE COMMISSION	C. STATE POLICE
D. LABOR DEPARTMENT	D. ENVIRONMENTAL CONSERVATION
E. GENERAL SERVICES	E. AGRICULTURE & MARKETS
F. SOCIAL SERVICES	F. ENERGY
G. STATE UNIVERSITY	G. TRANSPORTATION DEPARTMENT
H. MENTAL HEALTH	H. MILITARY AND NAVAL AFFAIRS

I. MENTAL RETARDATION AND DEVELOPMENT DISABILITY

J. CORRECTIONAL SERVICES

K. PARKS, RECREATIONAL & HISTORICAL PRESERVATION

L. THRUWAY

M. BUDGET

N. RED CROSS

O. SALVATION ARMY

P. CIVIL AIR PATROL

* = Warning Point Operator will also provide Radiological Emergency Data Form information to representative called.

MESSAGE - This A is B is not an exercise. This is the State Warning Point. An ALERT has been declared at the _____ Nuclear Power Plant in _____ County. Your agency is requested to A stand-by for possible EOC activation B report immediately to State EOC. Please implement your agency's internal notification and emergency operations procedures. Repeat this A is B is not an exercise.

Q. FEMA, Region II

R. CONRAIL

S. AMTRAK

T. MTA

U. CONNECTICUT STATE POLICE (24 Hrs.)

MASSACHUSETTS STATE POLICE (24 Hrs.)

VERMONT CD EMERGENCY CENTER (24 Hrs.)

NEW JERSEY CD/STATE POLICE WARNING CENTER (24 Hrs.)

PENNSYLVANIA CD DUTY OFFICER (24 Hrs.)

III. SITE AREA EMERGENCY

STAND-BY	ACTIVATE TO EOC
	*A. SEMO
	*B. HEALTH DEPARTMENT (RADIOLOGICAL)

C. STATE POLICE

D. ENVIRONMENTAL CONSERVATION

E. AGRICULTURE & MARKETS

F. ENERGY

G. TRANSPORTATION DEPARTMENT

H. MILITARY AND NAVAL AFFAIRS

I. DISASTER PREPAREDNESS COMMISSION

J. EDUCATION DEPARTMENT

K. NEW YORK TELEPHONE

L. FIRE PREVENTION AND CONTROL (STATE DEPT.)

M. PUBLIC SERVICE COMMISSION

N. LABOR DEPARTMENT

O. GENERAL SERVICES

P. SOCIAL SERVICES

Q. STATE UNIVERSITY

R. MENTAL HEALTH

S. MENTAL RETARDATION AND DEVELOPMENT DISABILITY

T. CORRECTIONAL SERVICES

U. THRUWAY

V. BUDGET

W. RED CROSS

X. SALVATION ARMY

Y. CIVIL AIR PATROL

Warning Point Operator will also provide Radiological Emergency Data Form information to representative called.

MESSAGE - This A is B is not an exercise. This is the State Warning Point. A SITE AREA EMERGENCY has been declared at the _____ Nuclear Power Plant in _____ County. Your agency is requested to A stand-by for possible EOC activation B report immediately to State EOC. Please implement your agency's internal notification and emergency operations procedures. Repeat this A is B is not an exercise.

AA. FEMA, Region II

BB. CONRAIL

CC. AMTRAK

DD. MTA

EE. CONNECTICUT STATE POLICE (24 Hrs.)

MASSACHUSETTS STATE POLICE (24 Hrs.)

VERMONT CD EMERGENCY CENTER (24 Hrs.)

NEW JERSEY CD/STATE POLICE WARNING CENTER (24 Hrs.)

PENNSYLVANIA CD DUTY OFFICER (24 Hrs.)

IV. GENERAL EMERGENCY

In the event that the emergency escalates to a General Emergency without declaration of a Site Area Emergency, the State Warning Point operator will notify all agencies as shown in the previous section. The following message will be provided to the agency representatives contacted.

MESSAGE - This A is B is not an exercise. This is the State Warning Point. A GENERAL EMERGENCY has been declared at the _____ Nuclear Power Plant in _____ County. Your agency is requested to report immediately to State EOC. Please implement your agency's internal notification and emergency operations procedures. Repeat this A is o is not an exercise.

This list is maintained by NYSEMO. Distribution of names and phone numbers is controlled and is provided on a need-to-know basis.

Pen and ink changes will be made to master copies of notification lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis.

SPECIALIZED CONTACT LIST

FOR RADIOLOGICAL EMERGENCY INFORMATION OR SUPPORT

When requested by the State Department of Health appropriate agencies from the following list are to be contacted and provided message from DOH. Staff from SEMO and/or the Health Department will proceed to the EOC and assist Warning Point personnel with completing required notification.

	Telephone No.
A. Federal Emergency Management Agency - Region II	212-264-8960
B. Department of Energy - Brookhaven Area Office	516-282-2200
C. Environmental Protection Agency - Region II	212-264-4418 or 4110
(24 hour)	201-321-6672
D. Nuclear Regulatory Commission - Region I	215-337-5000
or	
NRC Operations Center, Washington, D.C.	202-951-0550
E. Food and Drug Administration - Region II	212-965-5052
	212-965-5411
	212-965-5070
(24 hour)	212-965-5300

Note: FDA representative is the contact for the Department of Health and Human Services.

F. United States Department of Transportation

1. Coast Guard - 3rd District, Governor's Island	212-668-7936
- 9th District, Buffalo	716-846-4153
- Admiral's Headquarters, Cleveland	216-522-3984
2. Federal Highway Administration - Motor Carrier Safety	518-472-6483
	518-472-7509
Emergency Transportation Coordinator	518-472-5314
3. Regional (I and II) Emergency Transportation Coordinator	617-223-5707
(duty Officer (24 hour)	617-223-3644
4. Federal Aviation Administration	
Watch Supervisor	518-869-7681
Flight Service Station Supervisor	516-869-9225

G. United States Department of Agriculture

1. Region I	212-264-1390
(24 hour)	212-969-9860
2. State Emergency Board	315-423-5170

H. New York City Bureau for Radiation Control 212-334-7761
Off Duty - Use Poison Control 212-340-4494

I. For Ginna and Nine Mile Point/FitzPatrick

Canada - Province of Ontario
- Province of Quebec
- National Radiation Protection Bureau

NOTE: The Federal Emergency Management Agency notifies federal agencies for informational purposes only. Requests for federal assistance other than EPA and DOE, will be initiated by the State.

USDA notification:
FEMA Region II, New York City, contacts the New York City United States Department of Agriculture regional office. This office then contacts the State Emergency Board who in turn will contact the respective County Emergency Boards.

The State Warning Point contacts contiguous state by using:

1. NAWAS - primary
2. FEMA National Teletype System - backup
3. Commercial Phone - backup

Canadian Notification - the Provinces of Ontario and Quebec are notified by the State Warning Point by use of commercial telephone. If not reachable the National Radiaton Protection Bureau will be contacted by commercial telephone. The State will ask FEMA to contact the above if the Warning Point is unable to do so.

Pen and ink changes will be made to master copies of notification lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis. Distribution of telephone numbers is controlled and numbers will be given out as is determined necessary.

INGE TION EPZ COUNTIES

WARNING POINTS AND EOC PHONE NUMBERS

Office	Warning Point	EOC/Local SEMO
A. Indian Point		
Westchester		
Mt. Vernon		
Newburgh		
New Rochelle		
White Plains		
Yonkers		
Orange		
Port Jervis		
Putnam		
Rockland		
Dutchess		
Nassau		
New York City		
Bronx		
Mannattan		
Queens		
Suffolk		
Sullivan		
Ulster		
Connecticut		
New Jersey		
Pennsylvania		
B. Nine Mile Point		
Oswego		
Cayuga		
Jefferson		
Lewis		
Madison		
Oneida		
Oneida (City)		
Rome		
Utica		
Onondaga		
Ontario		
Seneca		
Wayne		
Canada-Ontario		

C. Ginna

Monroe
Wayne

Cayuga

Genesee
Livingston
Onondaga
Ontario
Orleans
Oswego
Seneca
Wyoming
Yates

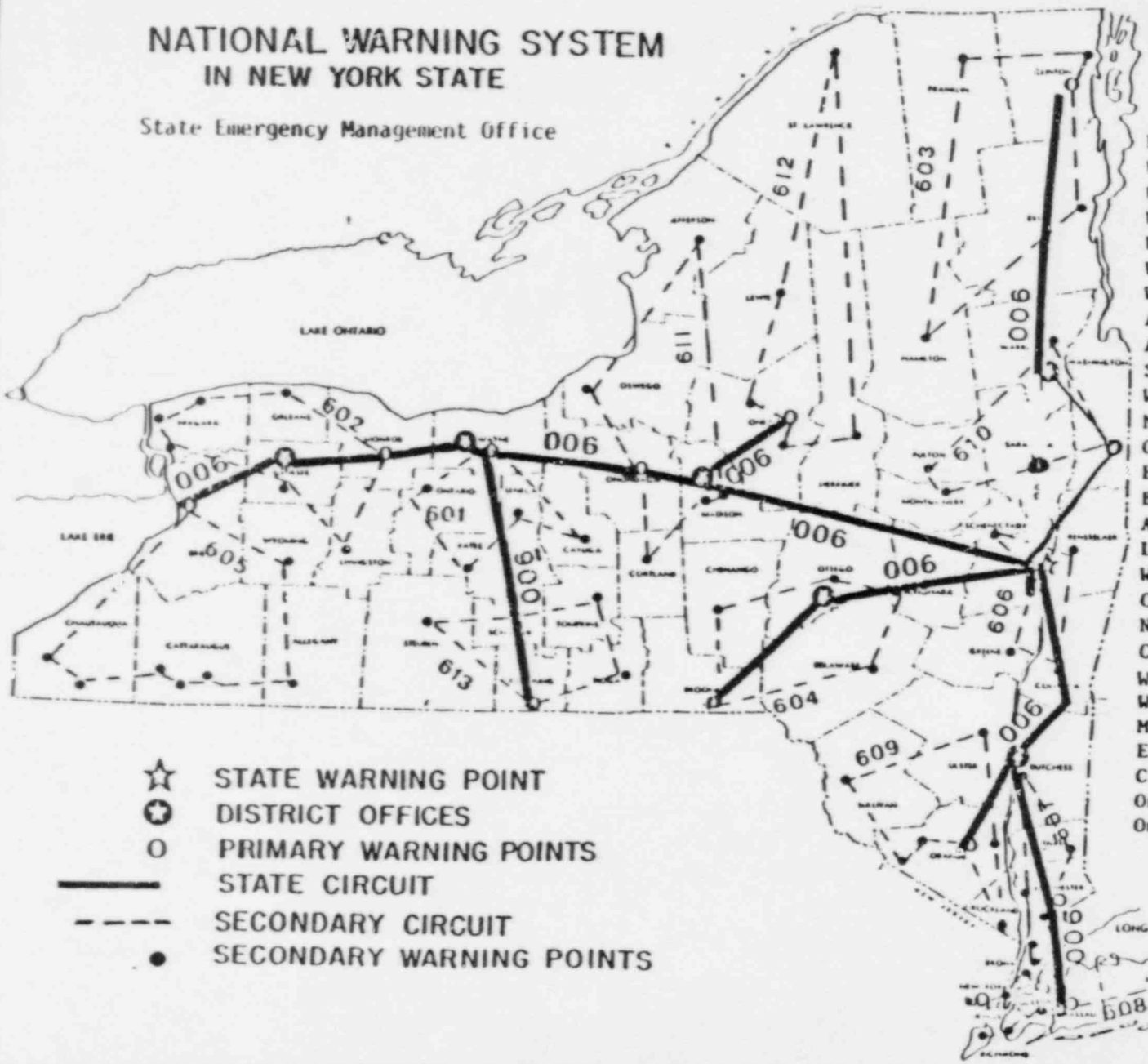
Canada-Ontario

This list will be maintained by NYSEMO. Distribution of telephone numbers is controlled and numbers will be given on a need-to-know basis.

Pen and ink changes will be made to master copies of notifications lists as changes are received at SWP and alternate SWP. Lists will be updated and published on a quarterly basis.

NATIONAL WARNING SYSTEM
IN NEW YORK STATE

State Emergency Management Office



CIRCUITS	
New York City	006
Weather A	006
Weather B	006
Weather C	006
Weather A	006
Weather R	006
Weather S	006
AEC Two	006
AEC Three	006
SOUTHERN DISTRICT	006
Westchester	607
Nassau	608
Orange	609
EASTERN DISTRICT	006
Broome	604
Albany	606
LAKE DISTRICT	006
Wayne	601
Chemung	613
NORTHERN DISTRICT	006
Clinton	603
Washington	610
WESTERN DISTRICT	006
Monroe	602
Erie	605
CENTRAL DISTRICT	006
Onondaga	611
Oneida	612

☆ STATE WARNING POINT
✪ DISTRICT OFFICES
O PRIMARY WARNING POINTS
——— STATE CIRCUIT
- - - - SECONDARY CIRCUIT
● SECONDARY WARNING POINTS

(NOT USED)

County EBS Stations

A. Indian Point

Broadcast Stations in the HUDSON VALLEY AND CATSKILL NEW YORK EBS Operational Area (Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester)

City	Station	City	Station
BEACON	WBNR	NEW ROCHELLE	WVOX, WRTN (FM)
BREWSTER	WPUT	NEW YORK	(CPCS-1)-WABC (AM/TV)
BRIARCLIFF MANOR	WZFM (FM)		WPLJ (FM)
CORNWALL	WCRR	OSSINING	WUSS (FM)
ELLENVILLE	WELV (AM/FM)	PATTERSON	WRVH (FM)
HYDE PARK	WHPN, WHVS (FM)	PEEKSKILL	WLNA, WHUD (FM)
KINGSTON	WGHQ, WBPM (FM)	PORT JERVIS	WDLC (AM/FM)
	WKNY	POUGHKEEPSIE	WEOK, WPDH (FM)
			WKIP
LIBERTY	WVOS (AM/FM)		WSPK (FM)
MIDDLETOWN	WKGL (FM)		WVKR (FM)
MONTICELLO	WSUL (FM)	SPRING VALLEY	WGRC
MOUNT KISCO	WVIP (AM/FM)	VALHALLA	WARY (FM)
NEWBURGH	WGNY, WFMN (FM)	WARWICK	WTBQ
NEW CITY	WRKL	WHITE PLAINS	(CPCS-2)-WFAS,(AM/FM)

B. Nine Mile Point

Broadcast Stations in the CENTRAL NEW YORK EBS Operational Area Plan (Cayuga, Cortland, Onondaga, Oswego, Tompkins)

City	Station	City	Station
Auburn	WAUB	Sandy Creek	WSCP
	WDWN (FM)	South Bristol	
	WMBO, WKLX (FM)	Townsnip	WMIV (FM)
Baldwinsville	WBXL (FM)	Syracuse	WAER (FM)
	WSEN (AM/FM)		WCNY (FM/TV)
Central Square	WCSQ (FM)		WFBL
Cortland	WKRT, WNOZ (FM)		(CPCS-2)-WHEN
	WSUC-FM		WMHR (FM)
Fulton	WOSC		WHEN, WNTQ (FM)
	WKFM (FM)		WOLF
Ithaca	WEIV (FM)		WONO (FM)
	WHCU (AM/FM)		(CPCS-1)-WSYR (AM/FM)
	WICB (FM)		WSTM-TV
	WTKO		WYRD
	WVBR-FM		WIXT (TV)
Manlius	WAQX (FM)		WIVH (TV)
North Syracuse	WSOQ, WEZG (FM)	Oswego	WRVO (FM)
			WSGO (AM/FM)

C. Geneva

Broadcast Stations in the NORTH CENTRAL NEW YORK EBS Operational Area
(Monroe, Livingston, Ontario, Yates, Seneca, Wayne)

AM

Station Facilities	Frequency EBS Designation	Station Facilities	Frequency EBS Designation
WHAM Rochester	1180 PRI CPCS-1	WNYR Rochester	990 NON-EBS
WPXN Rochester	1280 PRI CPCS-2	WSAY Rochester	1370 PRIMARY
WWBK Brockport	1590 KHz PRIMARY	WWWG Rochester	1460 PRIMARY
WCGR Canandaigua	1550 KHz PRIMARY	WSFW Seneca Falls	1110 PRIMARY
WFLR Dundee	1570 KHz PRIMARY	WACK Newark	1420 PRIMARY
WGVA Geneva	1240 NON-EBS	WBBF Rochester	950 PRIMARY

FM

WHFM Rochester	98.9 MHz PRI CPCS-1	WCMF Rochester	96.5 PRIMARY
WBKT Brockport	90.5 PRIMARY	WDKX Rochester	103.9 PRIMARY
WFLC Canandaigua	102.3 PRIMARY	WEZO Rochester	101.3 NON-EBS
WFLR-FM Dundee	95.9 PRIMARY	WIRQ Rochester	90.9 NON-EBS
WGSU Geneseo	89.3 PRIMARY	WMJQ Rochester	92.5 MHz PRIMARY
WECQ Geneva	101.7 PRIMARY	WPXY Rochester	97.9 NON-EBS
WEOS Geneva	89.7 PRIMARY	WRUR Rochester	88.5 PRIMARY
WGMC	90.1 MHz PRIMARY	WVOR Rochester	100.5 PRIMARY

C. Ginna (continued)

Station Facilities	Frequency EBS Designation	Station Facilities	Frequency EBS Designation
WITR Henrietta	89.7 PRIMARY	WXXI Rochester	91.5 PRIMARY
WRHR Henrietta	90.5 PRIMARY	WSFW Seneca Falls	99.3 PRIMARY
WHEC-TV Rochester 316 kw 500 ft.	CH 10 PRIMARY	WOKR (TV) Rochester 316 Kw 500 ft.	CH 13 PRIMARY
WROC-TV Rochester 316 kw 500 ft.	CH 8 PRI CPCS-2	WUHF (TV) Rochester	CH31 NON-EBS

(NOT USED)

New York State Radiological Emergency Preparedness Plan

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PART II - SECTION I - Procedure C

C. Public Information

1.0 STATEMENT OF PURPOSE

The lead spokesperson for the release of information to the public and the press during a radiological emergency for the State of New York shall be designated by the State Commissioner of Health. This person will act as Public Information Officer (PIO) for radiological emergencies to ensure the accurate and timely release of information to the public and the media concerning public protective action recommendations and state emergency response activities.

2.0 DUTIES OF THE DESIGNATED STATE SPOKESPERSON

The State Public Information Officer (PIO) shall be responsible for the following activities.

2.1 Identification, recruitment and training of public information staff: The State PIO will identify from among State agency public information officers interested and capable individuals to serve as assistant State public information officers for radiological emergency preparedness.

The State PIO will provide training/orientation sessions for the assistant public information officers at least once each year, and will provide them also with complete copies of necessary state and local public information/education procedures, related maps and educational materials on nuclear emergency planning.

2.2 Exercises/Drills: The State PIO and assistant PIOs shall participate in all preparedness exercises and shall be responsible for ensuring that State public information policies and procedures are appropriately and accurately carried out.

2.3 Liaison with Local/Utility PIOs: The State PIO shall be the State contact point for all county and utility public information officers on matters relating to emergency preparedness public information. He/she will ensure county/utility PIOs are kept informed of State PIO activities, will participate in determination of site and equipment for all near-site news centers, and will seek to ensure consistency and cooperation among the related public information programs.

2.4 Training: The State PIO shall provide to county PIOs, as necessary, training in radiological emergency public information. Training sessions shall include overview of plans, PIO responsibilities during exercises/emergencies, coordination of news releases, emergency broadcast system messages, equipment and staffing needs, and ongoing public education responsibilities and projects.

2.5 Public Education: Working with county/utility PIOs, the State PIO shall develop and implement programs to raise public consciousness of radiological emergency preparedness. These activities include,

but are not limited to: briefings for news editors/reporters; development and dissemination of germane booklets, brochures, and news releases; participation in "town meetings"; development of radio/TV public service announcements. Information shall be disseminated to the public at least once annually. Such information shall include educational information on radiation, contact number or place for additional information, evacuation routes and corresponding reception and/or congregate care centers, sheltering, respiratory protection, the special needs of the handicapped and a transient emergency information program.

2.6 Annual Press Briefing: The State PIO and assistant PIOs will conduct a briefing on New York's Radiological Emergency Preparedness Plan for the media at least annually.

2.7 Plan Development: The State PIO shall review the public information/education portions of the State plan at least annually and make any necessary revisions and/or additions.

3.0 COORDINATION OF PUBLIC INFORMATION

To ensure the prompt dissemination of pertinent, credible and reliable information to the press and the public during a radiological emergency, State, county and utility spokespersons shall coordinate information sharing and release.

3.1 DESIGNATION OF NEAR-SITE NEWS CENTERS

To facilitate coordination of information release, each site shall have a designated near-site joint news center. This news center shall be the sole site from which information concerning the emergency shall be issued to the press and the public by designated spokespersons (PIOs) for the State, the affected county(ies) and the affected utility.

Each near-site joint news center shall be equipped with adequate communications equipment and production equipment to allow timely collection, writing and distribution of news materials and regular media briefings.

3.2 INFORMATION RELEASE

The State PIO shall release, on behalf of and with the approval of the State Disaster Preparedness Commission Chairman and the State Health Commissioner, the following general types of information during an emergency:

- Announcement of State receipt of emergency notification by the affected utility;
- Announcement of activities of State emergency operations center;
- Regular and timely updates of State activities, determinations and policies related to the emergency;
- State assessment of projected doses and/or dose rates related to any release of radiation;

- State determination of any protective action and the basis for these determinations; and

- Regular and timely updates of State recovery/reentry activities.

3.3 COORDINATION OF INFORMATION RELEASE WITH COUNTY/UTILITY PIOs:

The State PIO shall coordinate information release with county and utility PIOs.

Recordkeeping: The State PIO shall keep records of information released to the press and the public during an exercise or emergency, and shall maintain a log of telephone inquiries related to any exercise or emergency.

3.4 RUMOR CONTROL

Statement of Purpose: To ensure that misinformation and rumors in a radiological emergency are kept to a minimum, the State PIO shall, in conjunction with county and utility PIOs, maintain a rumor control system capable of responding to factual inquiries and providing input to which subsequent news releases and/or press statements can be addressed.

Information Monitoring: Information broadcast over electronic media or printed in the print media shall be monitored to intercept any inaccurate information and provide corrective material.

(NOT USED)

EMERGENCY BROADCAST SYSTEM CONCEPT AND PROCEDURES

1.0 OBJECTIVES

The Emergency Broadcast System (EBS) is the vehicle through which public officials from the counties and the State of New York can advise the public directly of the status of any emergency situation connected to any of New York's nuclear power plants and of any protective actions that the public should be taking to ensure minimum risk of danger or radiation exposure as a result of the emergency situation.

2.0 CONCEPT OF OPERATIONS

Transmission of messages to the public via the EBS must be carefully coordinated to ensure the following:

2.1 An EBS message is ready for broadcast when the prompt notification system is first activated. (Note: There may be cause to run an EBS message before sirens are sounded, particularly if there is no protective action the public should take.)

2.2 The substance of the EBS messages have been cleared with county officials and the State decision makers prior to release.

2.3 The EBS messages are concise, cohesive and comprehensible to the general public.

2.4 The Stateand counties do not clutter the airwaves with individual messages but compile them into single messages that meet all requirements stated in 2.3 above.

2.5 The messages be verifiable and verified before release.

3.0 EXISTING PROCEDURES

The county plans call for EBS to be "activated" by predesignated local officials. Each of these individuals has access to a confidential authenticator code which identifies them to the lead EBS station in their area as bonafide and which allows the lead station to accept and verify the message.

3.1 Initial Notification Requiring Protective Action

In the event an emergency requiring an initial notification to the State and affected county(ies) that a General Emergency has been declared, the county(ies) will activate their siren system and release a prearranged EBS message to the public prior to coordination with the State. In the case of multiple county involvement, a lead county has been selected to activate the EBS system and authorization and procedures to activate the siren system immediately. Procedures are contained in each county plan.

ACTIVATION OF EMERGENCY BROADCAST SYSTEM

A. ACTIVATION OF THE EMERGENCY BROADCAST SYSTEM

The Emergency Broadcast System Operational Area Plan was prepared by the operational area Emergency Communications Committee. It provides specific procedures by which the broadcast media can disseminate emergency information and warning to the general public in the operational area, or any portion thereof, within the stations broadcast coverage capability at the request of designated local, state and federal officials. Any local EBS plan may be activated whenever an emergency poses an extraordinary threat to the safety of life and property. The plan is based on and authorized by Part 73, Subpart G, Federal Communications Commission Rules and Regulations.

1.0 AUTHENTICATION

Verification of legitimate activation will be by confidential authenticator codes .

2.0 ACTIVATION

Should activation be required due to an emergency at a nuclear power plant site, the affected county(ies) and the state will participate in and coordinate the following procedures:

2.1 Activation of the EBS will be decided through the cooperation of each respective county executive and the Chairman of the New York State Disaster Preparedness Commission.

2.2 County officials and state officials will receive data and recommendations from the utility. State and county officials will then analyze these data and share same via telecopiers in each EOC. State PIO receives the information simultaneously via telecopier and shares immediately with county PIOs.

2.3 County and/or state officials, in consultation with each other, determine the appropriate course of action.

2.4 County and state officials advise their PIOs on the mutually agreed course of protective action.

2.5 Upon such decision the county executives and NYS through their public information officers will develop the appropriate public message and transmit it to the activating public information officer.

2.6 Each county and State PIO will share information to make sure it is consistent. If it is, proceed to next step. If not, seek clarification from EOC.

2.7 If the county(ies)/state decide to sound sirens before the first EBS message airs, timing of sirens and message release must be coordinated. If sirens are not to sound, the message can go as soon as it is completed and shared.

2.8 An authorized, designated local official will contact the CPCS-1 station, via phone or other communications facilities available, to verify activation. If for any reason the CPCS-1 cannot be contacted, then the CPCS-2 will be contacted for activation.

2.9 Final copy EBS message is then telexed to respective EOCs. The telexed copy should indicate time sent to the CPCS-1 station and, if possible, first time aired.

2.10 PIOs will monitor EBS broadcast.

3.0 Initial Notification Requiring Protective Action

In the event an emergency requiring an initial notification to the State and affected county(ies) that a General Emergency has been declared, the county(ies) will activate their siren system and release a prearranged EBS message to the public prior to coordination with the State. In the case of multiple county involvement, a lead county has been selected to activate the EBS system and authorization and procedures to activate the siren system immediately. Procedures are contained in each county plan.

EBS PROCEDURES

Required Emergency Broadcast System Message Content

-- Location

-- Governing Authority (county or State)

-- Plant

-- Protective Actions*

-- Affected Areas

-- General ERPA Descriptions

-- Reception Centers (as necessary)

* Protective Actions are the options of sheltering and/or evacuation.

A. EBS MESSAGE - NO PUBLIC ACTION

Time aired:_____

EBS message #:_____

Released from: Name of Joint News Center

DATELINE:_____ - New York State (name and title of lead State official and/or names of county executive(s)) was/were notified of a technical malfunction at the (name of the facility) in (location), New York which occurred at approximately (time) today.

According to county and state health officials, there is no danger to the public at this time. County and state officials will continue to be informed of conditions at the plant site until the problem has been corrected.

Updates of the situation at the plant may contain information specific to geographic areas around the plant and will be referred to by pre-designated emergency planning areas. If you live within ten miles of the plant and you do not know the NUMBER of your emergency planning area, refer to the (Name) Emergency Planning brochure mailed to your home (or the special insert in the yellow/white pages of your telephone book). Posters with this information are posted at motels, gas stations and other public places within a 10-mile radius of the plant.

Stay tuned to this station for further information over the emergency broadcast system.

B. EBS MESSAGE - SHELTERING

Time aired:_____

EBS Message #:_____

Released from: Name of Joint News Center

DATELINE_____ - New York State (title and name of responsible state official and/or name(s) of responsible county official(s)) report(s) that an accidental release of radioactive material occurred at the (Name of nuclear facility) in (location), New York at approximately (time) today.

(Brief explanation of the plant condition, reason for release.)

Although the release is not expected to pose a serious health hazard to residents in the area, officials advise that as a precautionary measure residents in some specific emergency planning areas should remain indoors, close all windows and doors, extinguish all fires and close fireplace dampers.

The number of your emergency planning area can be found in the brochure detailing (name of nuclear facility) emergency planning (or in the yellow/white pages insert on radiological emergency planning in your telephone book).

Emergency planning areas advised to take these protective sheltering actions include: Numbers _____
Those areas include, (Example: in Westchester County: the municipalities of Verplanck, Buchanan, parts of Cortlandt, and Peekskill; and in Putnam County: Philipstown, Putnam Valley and parts of the Town of Carmel).

Those people in emergency planning areas that were not mentioned need not take any precautionary measures but are advised to stay tuned to this Emergency Broadcast System station.

To repeat, as a precautionary measure only, persons in emergency planning areas_____ are advised to take shelter and should remain indoors, close all windows and doors, extinguish all fires, close fireplace dampers, and turn off air conditioners and other ventilation systems. Leaving your home is not advised at this time; sheltering will provide more adequate safety during the conditions which presently exist.

Do not go to schools to pick up yor children. Children are being safely sheltered in their schools. Schools outside these planning areas are sending students home.

State and county health officials are continuing to monitor the magnitude of the radioactive release and meteorological conditions and will provide frequent status updates. Please stay tuned to this EbS station for further information.

C. EBS MESSAGE - EVACUATION

Time aired:_____

EBS Message #:_____

Released from: Name of Joint News Center

DATELINE_____ -- State Disaster Preparedness Commission Chairman (name) and chief elected officials from _____ counties, ask that you listen closely to this entire message before taking any action. People in some areas of these counties have been advised to take specific protective actions, as a precautionary measure, following the accidental release of radioactive material from the _____ nuclear power plant. Again, please listen to this entire message before taking any protective actions.

Although the release is not expected to pose a serious health hazard, residents in the following areas are asked to take these precautionary measures --

People in emergency planning areas_____ are asked to temporarily evacuate their homes or places of business and go to their designated reception center(s). The number of the emergency planning area in which you are located, and your designated reception center, can be found in the _____ Emergency Planning Brochure mailed to your home (or in the yellow/white pages radiological emergency insert in local telephone books). Before leaving, gather clothing, personal belongings and necessary medications to last a few days. Close and lock all doors and windows, and be sure all appliances are turned off. Again, those emergency planning areas asked to evacuate are numbers _____. Before taking ANY of these actions PLEASE listen to this ENTIRE message for additional instructions.

In the evacuation area, which includes emergency planning areas_____, (At this point specific information regarding children and schools should be included if appropriate.)

If you are in emergency planning areas _____, you have been advised to temporarily leave your home. If you are in emergency planning areas _____, you have been advised to seek shelter.

If you have been advised to evacuate and do not have your own transportation to your designated reception center, buses that will take you there will soon be parked at the bus stops listed in your _____ brochure. The stops are less than one-half mile from your home.

Before you leave your home or business, make sure you have closed all windows and doors, turned off all appliances, extinguished any fires and closed fireplace dampers. Lock all doors when you leave and take blankets and pillows with you for your own use and any medication that you regularly take.

If you have a bedridden or handicapped person in your home who needs special evacuation assistance, please call_____.

State officials advise that the evacuation measures are precautionary only, and ask everyone to remain calm and follow instructions.

Those people in emergency planning areas that were not mentioned need not take any precautionary measures.

Persons living or working outside the evacuated areas are asked to stay away from the area until further notice.

Please stay tuned to this EBS station for further information and instructions.

EBS MESSAGE - SHELTERING AND EVACUATION (FOLLOWING GOVERNOR'S DECLARATION OF STATE EMERGENCY)

Time aired:_____

EBS message #:_____

Released from: Name of Joint News Center

DATELINE_____ -- State Disaster Preparedness Commission Chairman (name) and chief elected officials from _____ counties, ask that you listen closely to this entire message before taking any action. People in some areas of these counties have been advised to take specific protective actions, as a precautionary measure, following the accidental release of radioactive material from the _____ nuclear power plant. Again, please listen to this entire message before taking any protective actions.

Although the release is not expected to pose a serious health hazard, residents in the following areas are asked to take these precautionary measures --

People in emergency planning areas_____ are asked to temporarily evacuate their homes or places of business and go to their designated reception center(s). The number of the emergency planning area in which you are located, and your designated reception center, can be found in the _____ Emergency Planning Brochure mailed to your home (or in the yellow/white pages radiological emergency insert in local telephone books). Before leaving, gather clothing, personal belongings and necessary medications to last a few days. Close and lock all doors and windows, and be sure all appliances are turned off. Again, those emergency planning areas asked to evacuate are numbers _____. Before taking ANY of these actions PLEASE listen to this ENTIRE message for additional instructions.

In addition, the following emergency planning areas are asked to take shelter. NUMBERS:_____. These people should NOT leave their homes. People in these areas should remain indoors, close all windows and doors, extinguish fires, close fireplace flues and turn off air conditioners. If you are outside in these areas, seek shelter in the nearest building.

In the evacuation area, which includes emergency planning areas_____ (At this point specific information regarding children and schools should be included if appropriate).

If you have been advised to evacuate and do not have your own transportation to your designated reception center, buses that will take you there will soon be parked at the bus stops listed in your _____ brochure. The stops are less than one-half mile from your home.

Before you leave your home or business, make sure you have closed all windows and doors, turned off all appliances, extinguished any fires and closed fireplace dampers. Lock all doors when you leave and take blankets and pillows with you for you own use and any medication that you regularly take.

If you have a bedridden or handicapped person in your home who needs special evacuation assistance, please call _____.

State officials advise that the evacuation measures are precautionary only, and ask everyone to remain calm and follow instructions.

Those people in emergency planning areas that were not mentioned need not take any precautionary measures.

Persons living or working outside the evacuated areas are asked to stay away from the area until further notice.

Please stay tuned to this EBS station for further information and instructions.

E. EBS MESSAGE - RECOVERY

EBS #: _____

Time: _____

From: Name of Joint News Center

_____, NY, (date) -- State and county health and public safety officials ask you to listen carefully to this emergency broadcast system message.

_____ has advised State disaster preparedness officials that the release of radiation from the _____ Nuclear Power Plant has been halted.

Individuals who were advised to evacuate their homes and places of business are asked to remain away from the evacuated area until they are informed that there is no longer any danger to public health and safety. This determination will be made by local and State health officials.

To repeat: The release of radiation from the _____ Nuclear Power Plant has stopped. Individuals who have evacuated are advised not to return to the evacuated area until further notice.

Those individuals previously advised to take shelter should _____

_____

_____.

Please stay tuned to this emergency broadcast system station for further instructions.

(NOT USED)

ARRANGEMENTS AND PROCEDURES FOR THE JOINT NEWS CENTER

1.0 PURPOSE

To provide a common, single location for the dissemination of information to the public and the news media concerning an emergency at a nuclear power plant.

To enhance coordination and prompt release of accurate information by officials from the State, affected county(ies) and utility.

2.0 OPERATION

A joint news center will be established near each nuclear power plant site in New York State. This media center will be the single location for the dissemination of information to the news media and the public concerning all State, local and utility emergency response activities and recommended public protective actions.

To ensure coordinated and accurate information release, all information proposed for release either in the form of emergency broadcast system messages, press releases or through media briefings will be shared by all lead PIOs from the State, county(ies) and utility. A reasonable opportunity will be given for any party to check information which might be in question.

Sufficient equipment and space will be provided for use by the State, county, utility public information staff and news media representatives to ensure effective operation of the news center.

3.0 JOINT NEWS CENTER LOCATIONS

Indian Point
Westchester Airport
Building 1
White Plains, N.Y.

Ginna
Rochester Gas & Electric
Basement Level
89 East Avenue
Rochester, New York 14649

Nine Mile Point/FitzPatrick
McCrobie Building
Lake Street
Oswego, New York

ARRANGEMENTS AND PROCEDURES FOR JOINT NEWS CENTERS

NEWS CENTER OBJECTIVES:	To provide a common location for the dissemination of information concerning an emergency at any nuclear power plant site. To enhance coordination of prompt release of accurate information by State, county and utility PIOs.
NEWS CENTER LOCATION:	The news center for each site will be located in an accessible and adequate facility near the power plant site.
SPACE:	Each party shall be afforded space adequate for the number of persons expected to work there.
EQUIPMENT:	Each party shall have available for its use: - telephones - at least 4 lines - photocopiers - 2 for common use and one back-up - telecopier - 1 each - typewriters - 2 each - television and radio - tables and chairs
NEWS CENTER ACCESS:	All designated, properly identified PIOs shall have access to any area in the news center. Media representatives shall have access to only the news briefing room and designated press work areas.
NEWS CENTER MAINTENANCE:	The appropriate utility(ies) shall maintain the news center and its equipment.
NEWS CENTER ACTIVATION:	The appropriate utility will activate and set-up the news center.
SECURITY:	Security will be provided by the utility.
NEWS BRIEFING:	Each party shall be afforded equal opportunity to participate in news briefings and will notify all other parties of the time of the briefing and the planned briefing content. Each news briefing will be videotaped and available for viewing at any time by any party.
NEWS RELEASE ISSUANCE:	Before issuance, each press release shall be shown to and signed by a representative of the state, county(ies) and utility. Signature on a release signifies awareness, not approval, of the release's content.

NEWS RELEASE ISSUANCE:
(continued)

When all signatures are secured, copies will first be distributed to each of the official parties and then to the media.

Each press announcement will be timed, dated and numbered.

(NOT USED)

NEWS MEDIA BRIEFINGS

The following is a general, suggested outline for news media briefings and training sessions related to radiological emergency preparedness. Due to the dynamic nature of the radiological emergency preparedness program, this format can be revised as necessary.

I. RADIOLOGICAL EMERGENCY PLANNING

- A. What is radiological emergency planning?
- B. Who is responsible?
  1. State
  2. Local Governments
- C. Annual exercises
  1. Why
  2. What do we learn
  3. Plan revision

II. EMERGENCY CLASSIFICATIONS

- A. What are they?
- B. What do they mean?

III. WHAT IS RADIATION?

- A. Facts about radiation
- B. Radiation monitoring
  1. Dose assessment
- C. Effect on the public

IV. HOW THE PUBLIC IS PROTECTED

- A. Safety systems - nuclear power facilities
- B. Off-site planning
- C. Protective action recommendations
  1. Initial notification systems
  2. Emergency Broadcast System

V. HOW WILL MEDIA STAY INFORMED?

- A. Joint News Center
  1. News Center orientation
  2. Public Information Officer introduction

(NOT USED)

NEWS RELEASE CONTENT

Contact:

Number:

Time issued:

Dateline:

Name of responsible official(s) and/or governmental agency(ies).

The body of the news release should contain as appropriate, but not be limited to, the following:

- Description of agency response activities.
- Status of agency response activities.
- Factors affecting response activities.
- Description of recommended public protective actions. (EBS messages will be primary source for this information.)
- Geographical areas affected by the emergency. (EBS messages will be primary source for this information.)
- Information on radiological monitoring activities.
- Dose assessment information.

(NOT USED)

1.0 RUMOR CONTROL PROCEDURES

During a radiological emergency at a nuclear power plant, a joint news center will be activated to serve as the single, central facility for the coordinated release of information about the emergency from the state, county(ies) and utility. One of the functions carried out at the joint news center will be a cooperative state, county and utility rumor control program.

The rumor control program has two components. The primary component provides for the monitoring of the broadcast and print media for news report accuracy. The second component deals with response to misinformation or rumors circulating through the public. A rumor control team, staffed by utility, state and county personnel, will carry out the rumor control function.

An audio/video center at the joint news center will be used to monitor and record news broadcasts and bulletins carried by radio and television stations. These broadcasts, as well as news reports in the print media, will be reviewed for accuracy. This off-air monitoring and recording capability will privide the opportunity for prompt identification of inaccurate or incorrect information. Any reports requiring correction will be brought to the attention of the appropriate state, county or utility representative. Corrections will be made during briefings at the joint news center, or by contacts directly with the responsible station or publication.

Rumor control telephone lines have been installed at the joint news center. The rumor control telephone numbers will be distributed to the state, county and utility telephone operators and to emergency response personnel. Personnel will be instructed to call this number to confirm information or to clarify suspected rumors. Other telephone numbers will be used to make special assistance arrangements and for response to media inquiries.

1.1 ACTIVATION

Rumor control will be activated with the opening of the joint news center. Necessary telephone and audio-visual equipment will be set-up by utility personnel as part of their joint news center activation procedures.

Upon completion of equipment set-up and when sufficient rumor control personnel have responded to the joint news center the following will happen:

-- State and county public information officers (PIOs) will notify their respective emergency operation centers (EOCs) by phone that rumor control has been activated.

-- State and county PIOs will give their respective EOC directors the telephone number(s) which will access rumor control lines for distribution to appropriate emergency response personnel.

-- Utility PIO will notify predesignated offices within his/her organization that rumor control has been activated.

-- Utility PIO will give to predesignated individuals within his/her organization the telephone number(s) which will access rumor control.

1.2 OFF-AIR MONITORING

The joint news center will be quipped with sufficient televison and radio equipment to monitor the major news broadcasts. When off-air monitoring equipment becomes operational, the following will happen:

-- Rumor control staff assigned to off-air monitoring will begin to monitor broadcast and print media reports via available audio-visual equipment and newspapers.

-- If an inaccurate news report is monitored, the nature of the inaccurate information will be recorded on the off-air monitoring report log provided. (See enclosure 3.)

-- The completed off-air monitoring report form will be given to the rumor control team coordinator.

-- The rumor control team coordinator will review the report received from the off-air monitoring staff to determine if similar misinformation is being received from other sources.

-- The rumor control team coordinator will forward the nature of the inaccurate report to the appropriate state, county or utility PIO for response.

1.3 RUMOR CONTROL TELEPHONE SYSTEM

The rumor control telephone system will consist of a sufficient number of telephone lines which can be called primarily by emergency response personnel or the public, on a limited basis, to relay misinformation or rumors that may be circulating. Rumor control telephones will be answered by trained state, county and utility staff. Staff will either answer the caller's question using available reference materials or take the necessary information and refer it to the rumor control team coordinator.

Rumor control team members will be provided with reference materials. (See enclosure 2.)

Rumor control telephone system will operate as follows:

-- Team members will be alerted that a caller is on the line by an audible alarm or flashing light. The line to be answered will be indicated by rapid flashing of the light for that line on the telephone stations.

-- A member of the team will answer the line, "news center" and determine the caller's concern. The response may be provided immediately from the reference materials or information from

briefings, or it may require that a return call be made after the answer is found. In some cases, the call may be referred to another team member or other staffers at the news center.

-- All calls will be logged on the rumor control inquiry log sheet. (See enclosure 1). These will serve as a record of the nature of the inquiry and the response provided. The caller's name and location are optional in accordance with the caller's wishes, and the telephone number is needed only in cases when a return call is required.

-- If a call is referred, the person responding to the call will complete the log. The logs will be filed at the rumor control area and reviewed periodically by the rumor control team coordinator to identify any recurring concerns or misinformation.

Each part of the rumor control system will function as a complement to the rest of the program. Inaccurate information from media coverage may be addressed on rumor control telephones in recorded messages or by the rumor control team members or by the appropriate PIO. News briefings and/or press releases can be used to address specific rumors which have become apparent through calls to the rumor control team or from off-air monitoring reports.

RUMOR CONTROL/MEDIA RESPONSE LOG

Time of call _____ am/pm Date _____

Type of caller _____ John Q. Public

_____ Professional _____

_____ Media _____

Question asked:

Answer given:

Not able to answer - call-back required:
Phone #: _____

Name: _____

Referred to: _____

_____

_____

RUMOR CONTROL

REFERENCE MATERIALS

Rumor Control Team reference materials shall include but not be limited to:

Copies of appropriate public informational brochure

Maps showing ERPAs and major evacuation routes

Geographic descriptions of ERPAs

Copies of all press releases

Copies of all Emergency Broadcast System messages

Telephone number listings for news center and state and county EOCs

Any other pertinent reference materials relating to the specific power plant site.

(NOT USED)

PUBLIC EDUCATION WORKPLAN

1.0 OBJECTIVE

To familiarize the public residing in the 10-mile emergency planning zone surrounding a nuclear power plant site and transients in the area with emergency preparedness plans, including prompt notification systems, protective actions, emergency response planning area designations and other emergency planning considerations.

2.0 ACTIVITIES

2.1 Assist in the development and distribution of emergency planning booklets.

2.2 Assist in the development and distribution of emergency planning materials to locations likely to host transients/visitors to the area.

2.3 Conduct joint media briefings.

2.4 Provide speakers on emergency planning.

2.5 Develop and publish general informational materials.

2.1 ASSIST IN THE DEVELOPMENT AND DISTRIBUTION OF EMERGENCY PLANNING BOOKLETS

Accountability for Activity:

Booklets review and revision will be a cooperative effort among the state, appropriate counties, and the utilities. The utilities shall be responsible for production and distribution of the booklets.

Frequency of Activity:

Existing booklets shall be reviewed annually and revised as needed. Booklets will be distributed at least annually.

Booklet Content:

The booklet shall describe and/or depict:

1) the basis for emergency planning
2) the purpose of the siren system and what actions should be taken when the sirens sound
3) the role of emergency broadcast system (EBS) stations in emergency response, including stations' names and call numbers
4) planning areas

5) maps of planning areas showing designated evacuation routes
6) emergency classifications
7) potential protective response actions the public may be advised to take by government officials
8) locations of reception centers and/or congregate care centers
9) addresses and phone numbers of responsible agencies that may be contacted for additional booklets/information

Booklet Distribution: The booklets will be distributed (one per household) to all households in the 10-mile emergency planning zone. Where more than one household resides in a building (i.e, apartment house), sufficient copies of the booklet shall be delivered to the building for distribution to the resident families.

Booklet Follow-up: Booklet follow-up shall be conducted jointly by the utilities and the appropriate counties.

2.2 ASSIST IN THE DEVELOPMENT AND DISTRIBUTION OF EMERGENCY PLANNING MATERIALS TO LOCATIONS LIKELY TO HOST TRANSIENTS/VISITORS TO THE AREA.

Accountability for Activity: The utilities will draft informational materials for transients, with input from the state and applicable county(ies).

Frequency of Activity: When the initial run of materials has been completed, materials will be reviewed annually and revisions made as necessary.

Material Distribution: Transient informational materials will be made available to management of all public buildings, public parks, hotels/motels, restaurants, shopping centers, schools and office complexes within the 10-mile emergency planning zones.

Inserts will be placed in telephone directories distributed by telephone companies serving communities within the 10-mile emergency planning zones.

2.3 CONDUCT JOINT MEDIA BRIEFINGS

Accountability for Activity:

Utility, state and county public information officers shall share responsibility for organizing and conducting the media briefings.

Frequency of Activity:

A joint media briefing shall be conducted annually at the applicable joint news center for each power plant site.

Briefing Content:

The briefing shall serve three purposes:

1) to educate journalists about nuclear power plant operation;

2) to enhance media understanding of emergency plans; and

3) to familiarize reporters with the operation of the joint news center.

The utilities and the state/counties shall make available to reporters at the media briefing, press kits which include current information on plant operation and emergency planning, respectively.

2.4 PROVIDE SPEAKERS ON EMERGENCY PLANNING

Accountability for Activity

The state, counties and utilities shall designate persons to represent them at public information/education functions.

Frequency of Activity:

Speakers shall be available at mutually convenient times to attend sessions.

Program Approach Content:

To minimize duplication of effort and to maximize use of limited resources and number of people reached, state, county and utility representatives will advise each other of emergency planning programs they have been invited to attend or have scheduled and will encourage their counterparts' participation.

Speakers will be prepared to discuss plant operations and emergency planning and protective actions and to answer questions. Speakers will bring sufficient copies of available informational materials for the size of the audience.

Community Outreach: Community organizations shall be advised of the availability of speakers and shall be encouraged to take advantage of the speakers for programs on emergency planning.

2.5 DEVELOP AND PUBLISH GENERAL INFORMATIONAL MATERIALS

Responsibility for Activity: The state, utilities and appropriate county(ies) shall be responsible for developing and publishing general informational materials.

Frequency of Activity: Materials will be published as informational needs are identified.

Content: Materials shall be related to emergency planning and response.

Publication Distribution: Copies of the publications shall be maintained by the state, county(ies) and the utilities. Availability of the publications will be announced.

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2	State Emergency Operations Center
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ATTACHMENTS

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2	Lake District Office
3	Southern District Office
4	Western District Office
5	Typical District Emergency Operations Floor Plan

PART II - SECTION I - PROCEDURE D

D-1 STATE EMERGENCY OPERATIONS CENTER

1.0 Purpose

State operations in response to a radiological emergency will be directed from the New York State Emergency Operations Center (EOC). This procedure is to provide instruction to the preassigned emergency staff concerning their movement to the EOC and the initial actions to be taken upon arrival.

2.0 Location

The State EOC is located in the substructure of the Public Security Building, State Office Building Campus, Albany, New York. See Attachment 1 and 2 for a map of the location and access roads.

3.0 Notification

Notification will be conducted in accordance with procedures established for the State Warning Point by the State Emergency Management Office (SEMO) Warning Officer (see Communication/Warning Procedure - Part III, Section IB) and will be based upon the four emergency classes adopted for use by nuclear power plants by the Nuclear Regulatory Commission. Should initial notification occur at an intermediate or high level, activities of all lower levels will also be accomplished as required. These levels, and the basic activity taken for each, are:

3.1 Notification of Unusual Event

Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant. No release of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs. Designated key personnel are advised.

3.2 Alert

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases expected to be limited to small fractions of EPA PAG exposure level. Minimum activation of the EOC to include SEMO operations, Communications and Warning personnel, and the Commissioner of Health or such designee authorized to make key decisions. Alert and place on standby all predesignated EOC emergency personnel.

3.3 Site Area Emergency

Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public.

Any releases are not expected to exceed EPA PAG exposure levels except nea site boundary. Full activation of the EOC to include all assigned staff and additional personnel as directed by the Chairman of the Disaster Preparedness Commission. Dispatch an SEMO Headquarters representative to the appropriate SEMO district office by the most expeditious transport available to advise and assist should evacuation become necessary.

3.4 General Emergency

Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Release can be reasonably expected to exceed EPA PAG exposure levels offsite for more than immediate site area. Continue full activation of the EOC.

4.0 Emergency Staff

Depending upon the emergency class the staff on duty at the EOC may include

4.1 The Governor and/or designated members of his staff.

4.2 The Chairman of the Disaster Preparedness Commission (DPC).

4.3 The Commissioner of Health and key staff including the Director of the Bureau of Environmental Radiation Protection (BERP).

4.4 The Director of the Radiological Emergency Preparedness Group and appropriate staff.

4.5 The Chief of Staff to the Governor.

4.6 The Director and members of the staff of the State Emergency Management Office (SEMO).

4.7 Key personnel and support staff of the State Departments of Agriculture and Markets, Energy, Environmental Conservation, Health, Public Service, Transportation, the Division of State Police, and other members of the DPC and other State agencies as determined by the Commission Chairman.

4.8 Liaison personnel from the NFO and other public utilities, the American National Red Cross and other volunteer organizations, and designated Federal agencies.

5.0 Vehicle and Traffic Control

Traffic control and vehicle parking will be supervised by the Capital Buildings Police. Vehicles will be parked in an orderly manner in the adjacent parking lots. License numbers of parked vehicles not bearing the correct parking sticker should be reported to the Security Guard at the entrance.

6.0 Entrance and Identification

6.1 Entrance

Unless otherwise directed, during a period of emergency operations the onl entrance to the EOC will be through the main lobby of the Public Security Building. All other entrances will be secured.

6.2 Identification

The State Capitol Police will provide full-time security at the entrance to the EOC. Identification satisfactory to the Security Guard will be required to gain admittance. Every effort will be made to expedite the admittance of required staff personnel, however, personal identification by a senior staff member may be required if the Security Guard is not otherwise satisfied.

7.0 Activation

7.1 The first representative of each agency to arrive will report directly to the Operations Room and take charge of operations for their agency until relieved by a senior representative.

7.2 The Director of SEMO will verify the activation of the appropriate SEMO District and county EOCs and their operational status and report on same to the Chairman of the DPC.

7.3 The Department of Environmental Conservation and/or the Division of State Police may be requested to maintain a helicopter on standby in the vicinity of the Public Security Building.

7.4 Each agency will prepare a list giving the name, title, responsibilities, and work shift of available personnel and provide a copy to the Director of SEMO or designee.

7.5 State agency records and other material previously stored in the EOC will be delivered to the agency representative in the Operations Room.

8.0 Facilities Available at the EOC

8.1 Communications

8.1.1 Power Plant Radiological Emergency Communications System
8.1.2 Radio to SEMO District Offices
8.1.3 State Fire Radio
8.1.4 National Warning System (NAWAS)
8.1.5 FEMA National Radio System (FEMANARS)
8.1.6 FEMA National Teletype System (FEMANATS)
8.1.7 Commercial Telephone
8.1.8 Internal Paging System
8.1.9 Internal Pneumatic Tube System
8.1.10 Direct Access to Selected Commercial Broadcast Stations
8.1.11 Direct Access to the Emergency Broadcast System (EBS)

8.2 Operations

8.2.1 Plotting boards
8.2.2 Situation boards
8.2.3 Detail maps of power plant areas
8.2.4 Message forms and other clerical supplies
8.2.5 Library of State agency plans and procedures, Federal and State regulations, directories, etc.

8.3 Lodging and Miscellaneous

8.3.1 Dormitory bunks for 350 persons per shift
8.3.2 Blankets and bed linen
8.3.3 Kitchen, dining, shower, laundry and medical facilities
8.3.4 Full-load emergency power generating capability with 2 week fuel supply

9.0 Prohibited Possessions

Articles of the following types are forbidden and will be confiscated when found:

Firearms and other weapons (except those of State Police and uniformed security forces).

Narcotic drugs (except those prescribed by a doctor for medical treatment).

Alcoholic beverages.

10.0 Security

10.1 Access to the EOC will be strictly limited to personnel required for emergency operations and their support (clerical, housekeeping, etc.).

2 Public information staff will be restricted to personnel of the Department of Health and the Division of Military and Naval Affairs. All other public information and media personnel will be accommodated in space provided.

10.3 When the Governor is present in the EOC the ranking State Police official will ensure that a proper security guard is furnished at all times.

10.4 Additional police officers, as required, will be provided by the Capitol Police to provide security and maintain order.

11.0 Operations

11.1 The Chairman of the DPC will direct State agency personnel present to carry out such functions as are necessary to accomplish the Commissioner of Health's directions or recommendations.

11.2 The Director of SEMO to ensure coordination of activities among these agencies will:

11.2.1 Provide staff and support services.

11.2.2 Ensure the dissemination of direction, advice and information to the involved agencies, appropriate district office, and, through the district office, to the affected local jurisdictions.

11.2.3 Receive periodic situation reports from these agencies and local jurisdictions through the district office on a schedule established by the Chairman.

D-2 DISTRICT EMERGENCY OPERATIONS CENTERS

1.0 Purpose

State operations in response to a radiological emergency will be directed from the New York State Emergency Operations Center (EOC) through the District EOC. This procedure is to provide instruction to the preassigned emergency staff concerning their movement to the District EOC and the basic actions to be taken upon arrival.

2.0 Location

Location of the District EOC is shown in Attachment 1.

3.0 Notification

The SEMO Regional Director or District Coordinator will be advised of an emergency situation in accordance with procedures established for the State Warning Point by the SEMO Warning Officer. Notification will be based upon the four emergency classes adopted for nuclear power plants by the Nuclear Regulatory Commission. Should initial notification occur at an intermediate or high level, activities of all lower levels will also be accomplished as required. These classes, and the basic activity taken for each, are:

3.1 Notification of Unusual Event

Unusual events are in process or have occurred which indicate a potential degradation of the level of safety of the plant. No release of radioactive material requiring offsite response or monitoring is expected unless further degradation of safety systems occurs. SEMO Field Staff alerted by the State Warning Point; designated key personnel are advised.

3.2 Alert

Events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of EPA PAG exposure level. Full activation of the EOC to include all assigned staff and additional personnel as directed by the Chairman of the DPC.

3.3 Site Area Emergency

Events are in process or have occurred which involve actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed EPA PAG exposure levels except near site boundary. An SEMO headquarters representative will be dispatched to the District Office by the most expeditious transport available to advise and assist should evacuation become necessary.

3.4 General Emergency

Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Release can be reasonably expected to exceed EPA PAG exposure levels offsite for more than immediate area. Continue full activation of the EOC.

4.0 Emergency Staff

Depending upon the emergency class the staff on duty at the EOC may include:

4.1 The Regional Director and SEMO district staff.

4.2 A Division of Radiological Health representative.

4.3 Designated personnel and support staff of the State Departments of Agriculture and Markets, Environmental Conservation, Health, Transportation, the Division of State Police, and representatives of other State agencies as determined by the Chairman, DPC.

4.4 Liaison personnel from NFO and other public utilities as appropriate, the American Red Cross and other volunteer organizations, and as required designated Federal agencies.

5.0 Vehicle and Traffic Control

Vehicles will be parked in an orderly manner in the District Office parking lot.

6.0 Entrance and Identification

6.1 Only required emergency staff will be permitted entrance to the District EOC. Media personnel will be referred to the designated Public Information Officer.

6.2 Satisfactory identification will be required to gain admittance. Every effort will be made to expedite the admittance of required staff personnel, however, personal identification by a senior staff member may be required.

6.3 If necessary, State Police will be requested to provide full time security personnel.

7.0 Activation

7.1 The first representative of each agency to arrive will report directly to the Operations Room and take charge of operations for their agency until relieved by a senior representative.

7.2 The Regional Director will report the activation and status of the district EOC to the Director of SEMO in the State EOC.

7.3 The Regional Director will verify the activation of the appropriate county and/or city EOCs and their operational status and report on same to the Director of SEMO in the State EOC.

7.4 Each agency will prepare a list giving the name, title, responsibilities, and work shift of available personnel and provide a copy to the Regional Director.

7.5 State agency records and other material previously stored in the EOC will be delivered to the agency representative in the Operations Room.

8.0 Facilities Available at the EOC

8.1 Communications

8.1.1 RECS.
8.1.2 Radio to State EOC.
8.1.3 Radio to local Emergency Management Offices.
8.1.4 State Department of Environmental Conservation radio.
8.1.5 State Fire radio.
8.1.6 State Police Radio
8.1.7 State Department of Transportation radio.
8.1.8 National Warning System (NAWAS)
8.1.9 Commercial Telephone

8.2 Operations

8.2.1 Plotting boards
8.2.2 Situation boards
8.2.3 Detail maps of power plant areas
8.2.4 Message forms and other clerical supplies
8.2.5 Library of State agency plans and procedures, Federal and State regulations, directories, etc.

8.3 Lodging and Miscellaneous

8.3.1 Dormitory bunks for 50 persons per shift
8.3.2 Blankets and bed linen
8.3.3 Kitchen, dining, shower, laundry and medical facilities
8.3.4 Full-load emergency power generating capability with 2 week fuel supply

9.0 Prohibited Possessions

Articles of the following types are forbidden and will be confiscated when found:

Firearms and other weapons (except those of State Police and uniformed security forces).

Narcotic drugs (except those prescribed by a doctor for medical treatment).

Alcoholic beverages.

10.0 Security

10.1 Access to the EOC will be strictly limited to personnel required for emergency operations and their support (clerical, housekeeping, etc.).

11.0 Operations

11.1 To ensure coordination of activities among agencies assigned to the district office, the SEMO Regional Director will:

11.1.1 Provide staff and support services.

11.1.2 Ensure the dissemination of direction, advice and information to these agencies and the affected local jurisdictions.

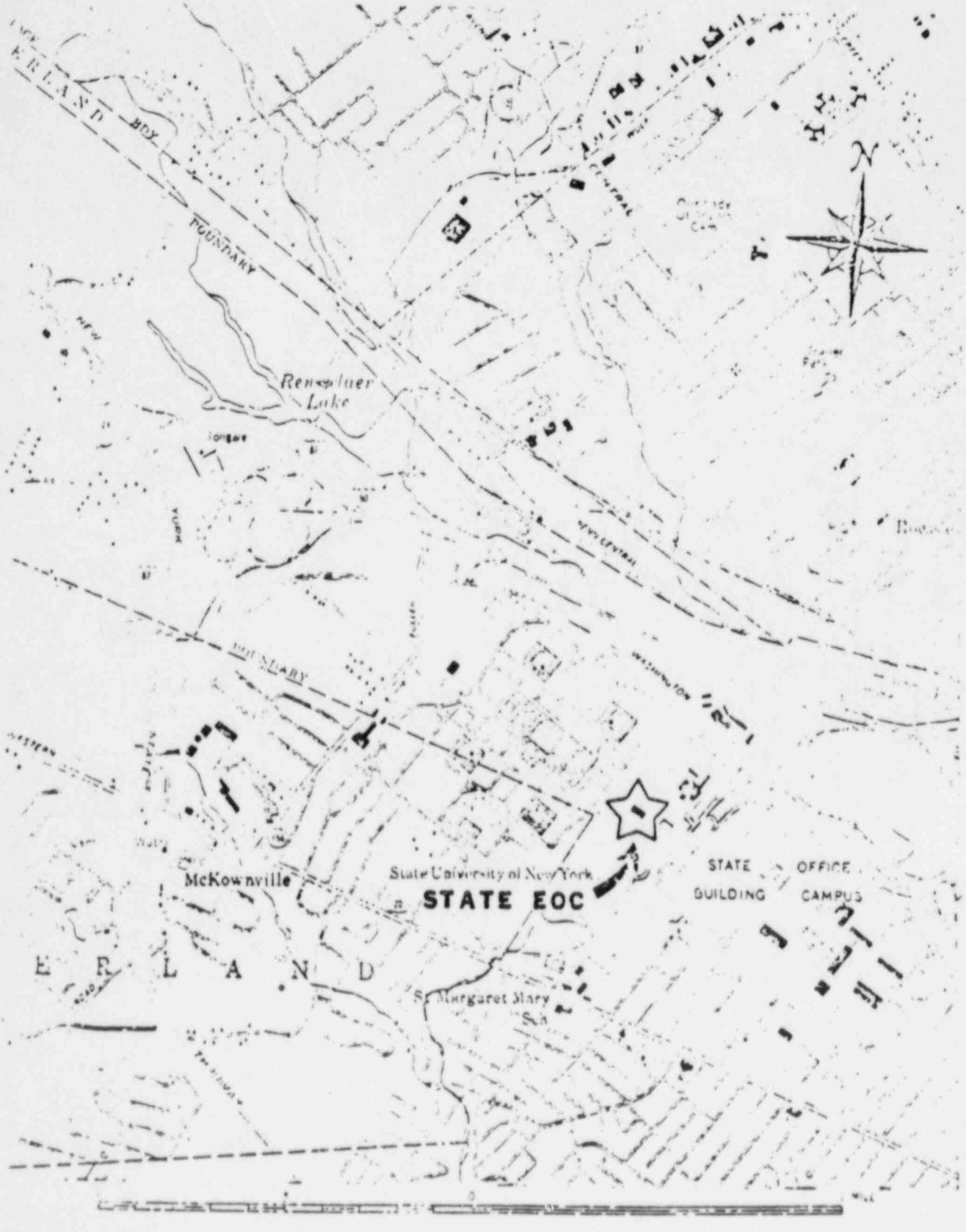
11.1.3 Receive periodic situation reports from these agencies and local jurisdictions and report on same to the Director of SEMO in the State EOC.

11.2 State agency representatives will establish contact and maintain liaison with their counterparts at the State EOC and at the local level.

11.3 The Regional Director will coordinate requests from local jurisdictions and appropriate State agencies, procure such assistance from within the district wherever possible, or request assistance from the State EOC when such is not available within the district.

11.4 District emergency staff will coordinate activities of their respective agencies with those of other State and local agencies.

STATE EOC-ASG



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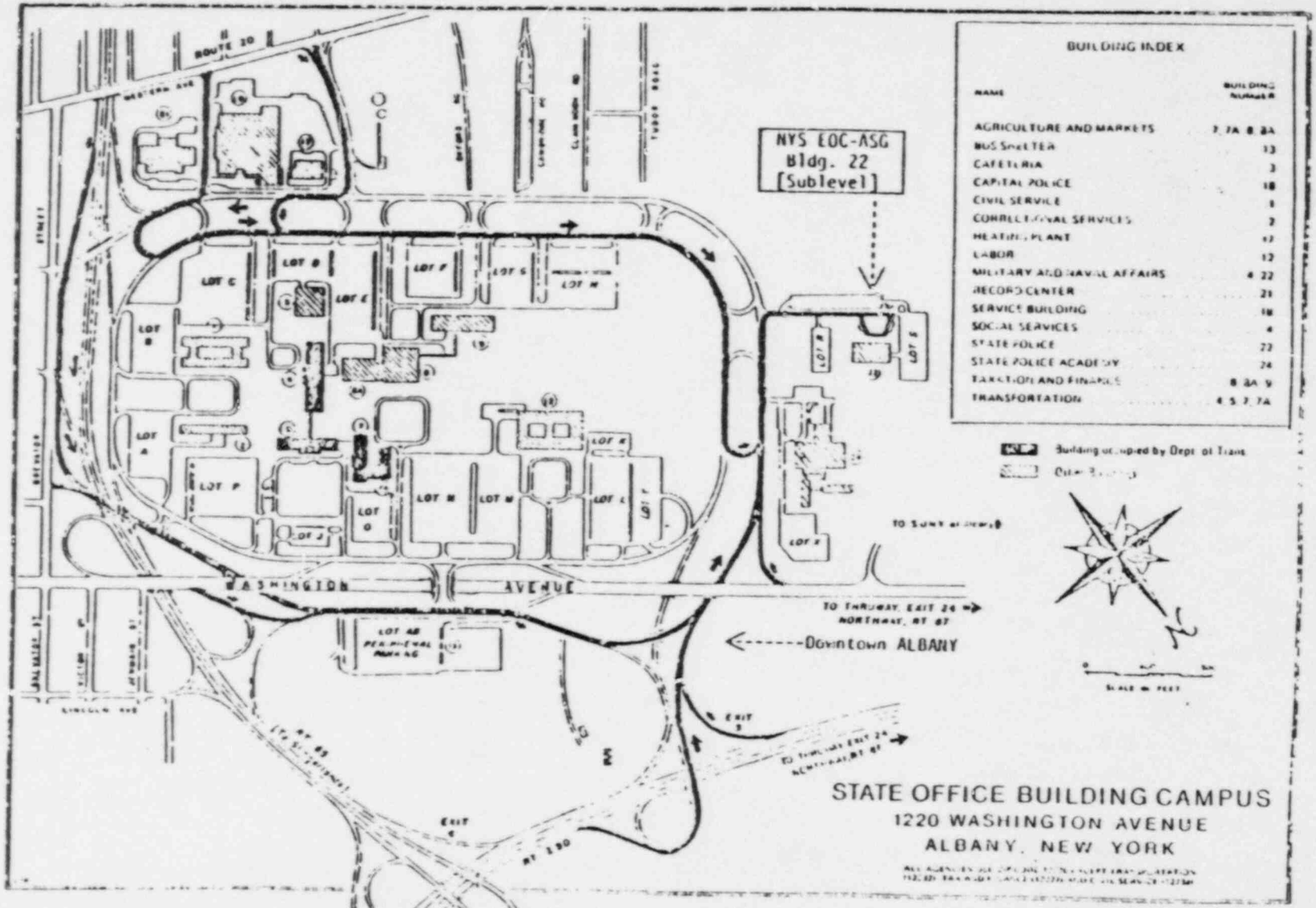


* FROM THE SOUTH or WEST take the N.Y.S. Thruway (I-87 Northbound/I-90 Eastbound) to Exit 24. After the toll booth proceed straight on I-90 to Exit 3.

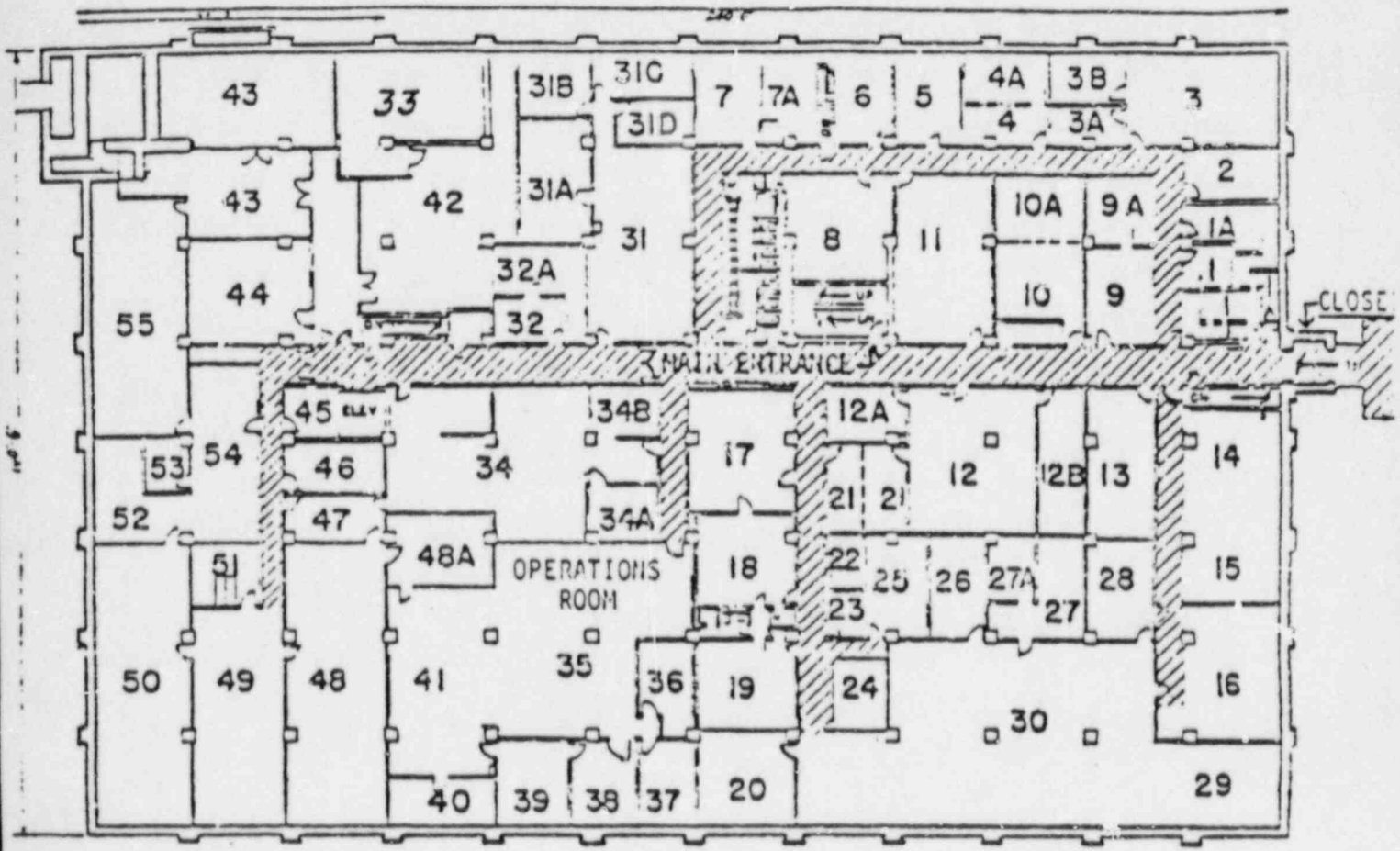
* FROM THE NORTH take the Adirondack Northway (I-87) South to Exit 1E. Proceed East on I-90 to Exit 3.

* FROM DOWNTOWN ALBANY take I-90 Westbound to Exit 3.

* FROM DOWNTOWN ALBANY take Washington Avenue to Western Avenue (Rte 20) to the State Office Building Campus.

(NOT USED)

STATE EOC FLOOR PLAN



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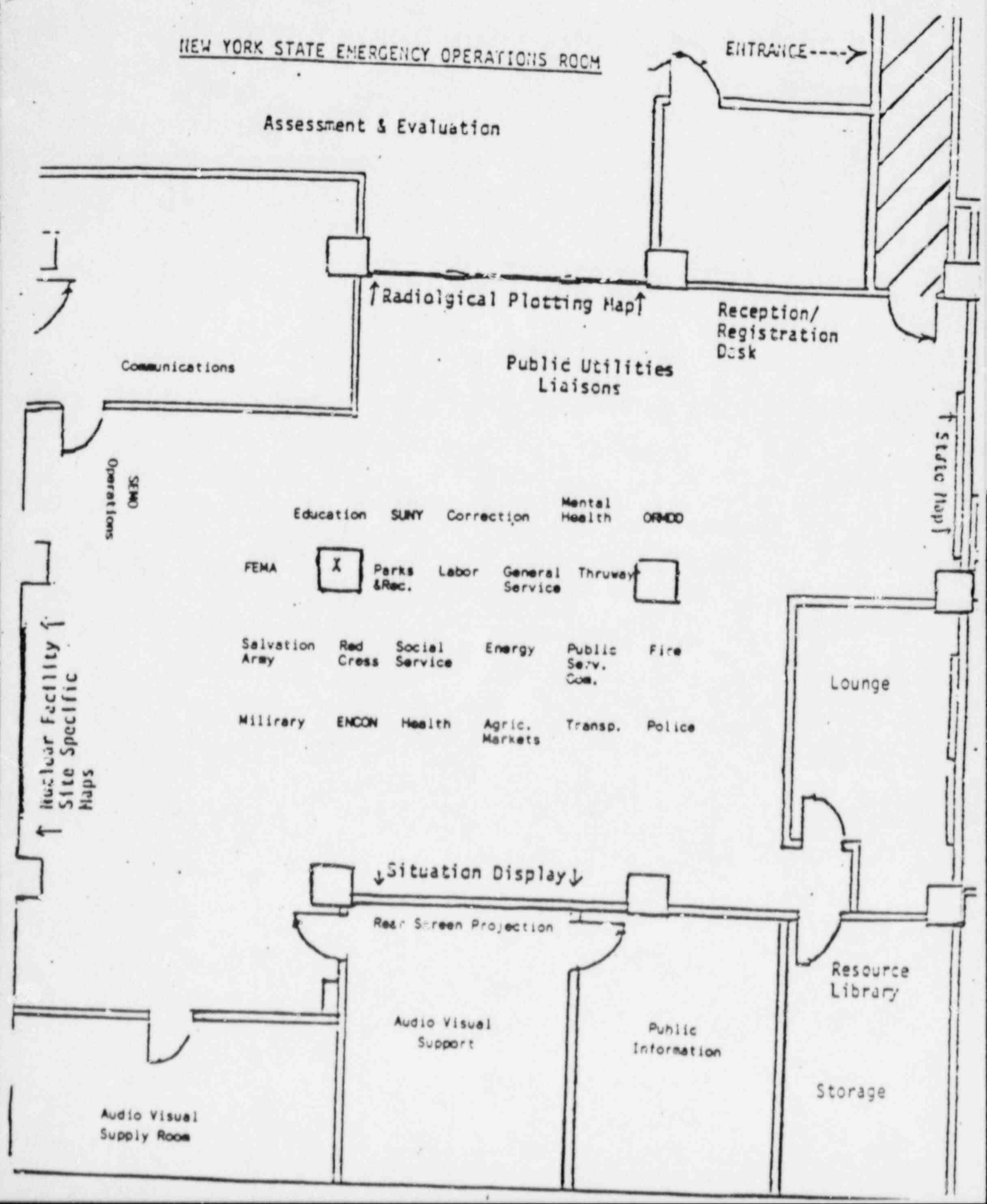
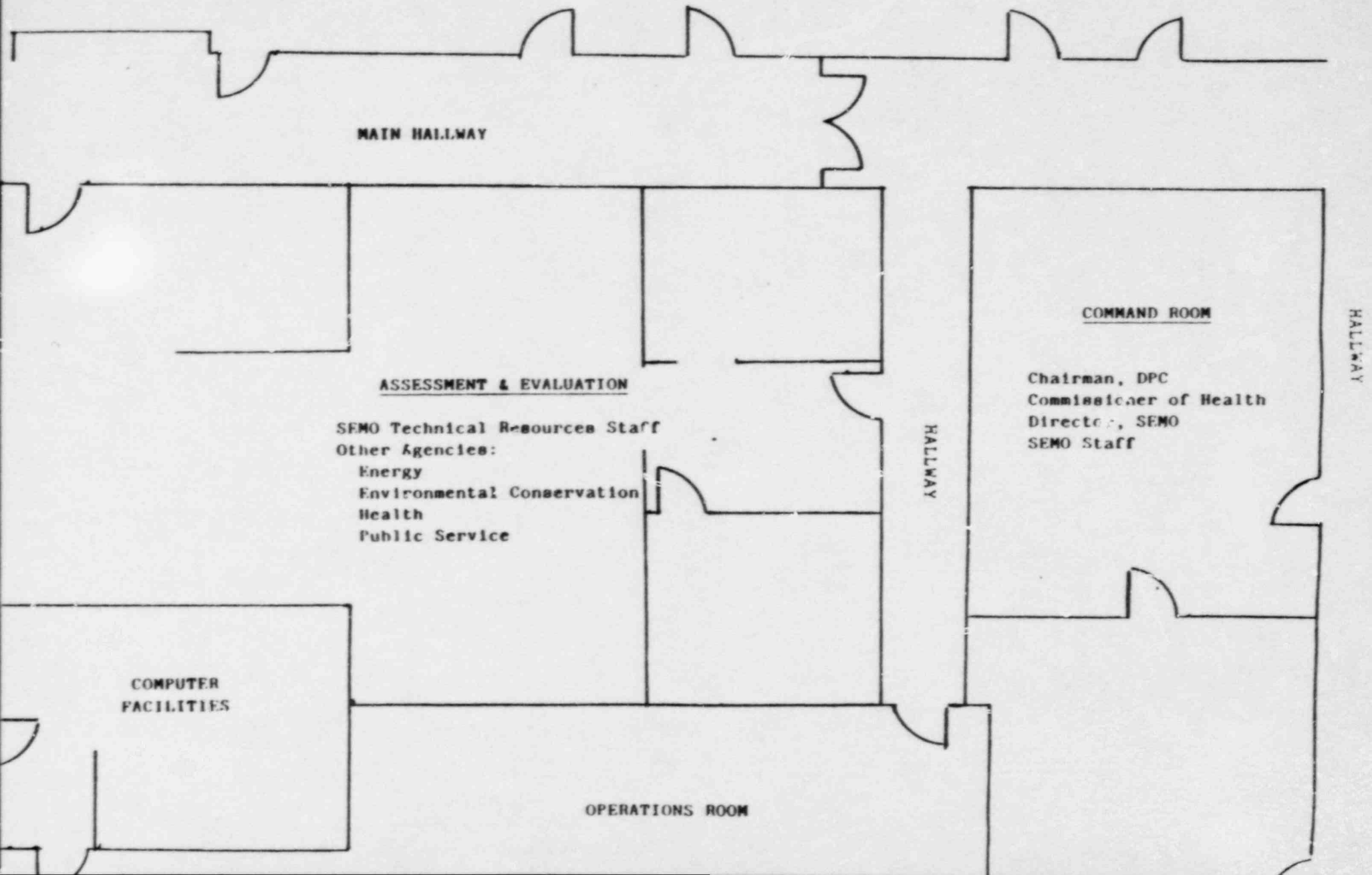
ATTACHMENT 4



NEW YORK STATE EMERGENCY OPERATIONS CENTER



PART II - SECTION I - PROCEDURE E

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E. PUBLIC EDUCATION

1.0 Purpose

To ensure that a coordinated educational program is developed and implemented to familiarize the general public - particularly those living within a 10-mile radius of commercial nuclear power plants - with relevant information pertaining to radiation, preparedness plans, how they will be notified in an emergency and what their actions should be in an emergency.

2.0 Responsibilities

2.1 The NYS Radiological Emergency Preparedness Group (REPG) through the Public Education Management Group (PEMG) has primary responsibility to develop and oversee the public education program to include, but not be limited to the following:

- potential hazards associated with improper handling or transportation of radiological materials;
- governmental and private sector preventing mitigative measures to minimize public risk;
- public prompt notification system and other methods to keep the public informed during an emergency;
- public protective measures which might be recommended;
- specific public emergency response information - i.e. evacuation routes, reception centers, EBS stations, etc.; and
- importance of prompt and consistent public response.

2.2 The New York State Public Information Officer (PIO) for Radiological Emergency Preparedness has overall responsibility for development and dissemination of all state educational materials and for coordination of state educational activities with those of the federal and local governments and the nuclear facility operators. The State PIO chairs the Public Education Management Group which consists of local and NFO public information officers.

3.0 Implementation

3.1 The REPG will direct a statewide public education task force to assist in the development of statewide radiological emergency preparedness public education materials, to coordinate public education efforts of all interested groups, to identify needs and the means to meet them and to limit unnecessary duplication of efforts by the various involved governmental jurisdictions and nuclear facility operators.

3.2 The specific, expert capabilities and resources of all appropriate state agencies will be utilized in the development and implementation of the state public education plan.

3.3 Educational activities within the statewide program will include, but not be limited to the following:

- public service announcements;
- brochures, pamphlets, posters and other printed materials as necessary;
- public apearances by experts in various areas of radiological emergency planning;
- exhibits at public events;
- participation, as requested, on radio talk shows and other radio, television and print media informational presentations;
- informational video presentations on radiological emergency preparedness; and
- press conferences and media briefings.

3.4 Brochures have been developed cooperatively by the state, involved counties and nuclear facility operators for dissemination to the public residing in the 10-mile EPZs surrounding nuclear power plant sites. These brochures include information on radiation, public protective measures, evacuation routes, reception/congregate care centers, special provisions for mobility impaired persons and points of contact for additional information.

3.5 An emergency worker's handbook has been published by the New York State Disaster Preparedness Commission (DPC) and is regularly disseminated to emergency response workers.

PART II - SECTION I - PROCEDURE F

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Attachments

1. Public Officials Conferences (POCs)
2. Emergency Operations Simulation
3. NYS Radiological Training Courses Appropriate for Peacetime Radiological Emergency Response
4. Federally Sponsored Training Courses
5. Nuclear Facility Operator Courses
6. State/Local Training

PART II - SECTION I - Procedure F

F. TRAINING, DRILLS AND EXERCISES

1.0 Purpose

The purpose of this procedure is to provide the vehicle by which personnel with emergency responsibilities will be trained initially, periodically retrained, and tested by means of drills and exercises in the performance of the functions that may be required of them in the implementation of this Plan.

2.0 Scope

2.1 Radiological emergency preparedness plans require trained personnel to implement them. The State Radiological Emergency Preparedness Group (REPG) will coordinate this training for emergency personnel and public officials. Training and retraining of State and local officials is provided through a variety of programs, such as formal courses, seminars, conferences, emergency operation simulations (EOS's), and experience gained in response to drills and exercises as well as actual emergencies.

State and local agencies with emergency response functions will designate individuals within these organizations who are to be trained in functions that are unique to a radiological emergency. Functions that are normal for the agency's usual role, i.e., teaching a police officer to direct traffic, are not considered here. The personnel selected for radiological preparedness training will include those from the following categories:

- Command and Control Personnel
- Key agency personnel assigned to State, district or County Emergency Operations Center (EOC) staffs
- Radiological monitoring teams and radiological assessment personnel
- Personnel monitoring and decontamination personnel
- Police, security and fire fighting personnel
- Medical and rescue personnel
- Personnel assigned to the evacuation of the general public, special populations and mobility impaired individuals
- Communications personnel
- Reception and Congregate Care Center personnel
- Public information personnel.

2.2 A major portion of the State's and each plume exposure county's emergency response organization will be exercised. Exercises will be scheduled to provide that all major elements of the respective State and county organizations are tested in accordance with 10CFR50 and 44CFR350 (see 4.2). These exercises will be conducted, at different times and under various weather conditions.

2.3 In addition to the scheduled exercise, drills shall be conducted as follows:

- Communication between State EOC, the appropriate district SEMO EOC and local government EOCs within the Plume Exposure pathway EPZ will be tested at least monthly.

- Communications between State EOC and Connecticut, New Jersey, Pennsylvania and Canada radiological emergency response organization, all within the ingestion pathway for Nuclear facilities located in New York, will be tested at least quarterly.

- Communications between NFOs, State EOC, appropriate SEMO district EOC, local EOCs and field assessment teams will be exercised annually.

- Radiological Health staff and local organizations will conduct annual radiological monitoring drills. The drills may include the collection and analysis of water, vegetation, soil and air samples; the communications used for reporting sample results, and the means for keeping records of these sample results. These drills will be included as part of annual exercises.

- The State Radiological Health staff will conduct semi-annual Health Physics drill involving one of the nuclear generating facilities. These drills will involve both the State's and local organizations' analysis of, and response to, conditions arising from simulated elevated airborne and liquid samples and direct radiation measurements in the environment. To the extent possible these drills will be included as part of the required scheduled NFO exercises.

- All or any portion of the State and/or county plans may be drilled as necessary.

3.0 Responsibilities

3.1 The New York State Radiological Emergency Preparedness Group (REPG) coordinates the planning and conduct of emergency response training for personnel who will implement radiological emergency preparedness plans. The State Emergency Management Office (SEMO) in coordination with the REPG will:

- Receive technical guidance from the State Health Department and FEMA on the appropriate application of CD Radiological Defense resources to peacetime radiological emergency response.

- Factor the above guidance into the development of appropriate training activities.

- Conduct formal courses for Emergency Operations Center staff and Radiological Monitor Instructors at State and local level.

- Manage the Home Study Course "Introduction to Radiological Monitoring" (HS-3), as the basic introduction to radiation and radiation detection. Distribution of course material is through a single contact point with each appropriate State agency, local jurisdiction or other large emergency response organization.

- Manage the Radiological Training Assistance Program which provides reimbursement to local instructors for classroom training in Radiological Defense monitoring.

- Provide to State agencies and localities technical assistance in the development of their own training capability including training their instructors.

- Provide technical assistance on the planning, conducting, and evaluation of exercises and drills.

- Receive and provide for staff and other agencies as appropriate, training on the use of new instrumentation and equipment procured for radiological emergency responses.

- Assist in identifying and recruiting appropriate State and local Civil Preparedness applicants for federally conducted or other appropriate emergency response training activities and courses. These training activities include planning, operations, and response courses sponsored by the Federal Emergency Management Agency which are geared specifically for State and local emergency response personnel. These courses include topics such as radiological accident assessment, analysis, monitoring and response operations.

3.2 The REPG coordinates with representatives of the Nuclear Facilities, appropriate counties, Federal and State agencies in exercising the New York State emergency response organizations. These responsibilities include:

- The designation of elements of the Plan that are to be exercised, to ensure that all elements are exercised in accordance with the federal regulations (see 4.2) under various conditions and times..

- The establishment of the exercise's basic objectives and any appropriate evaluation criteria.

- The date and time of the exercise.

- The agencies, officials and organizations that are expected to participate.

- The scenario to be used to include a schedule of real and simulated events.

- The designation and training of exercise observers.

- Arrangements for materials to be provided to RAC and other observers.

- Arrangements for a critique of each exercise.

3.3 Each agency or organization having an emergency response responsibility will insure that appropriate training is made available to their emergency response personnel, including annual refresher training. Training of appropriate personnel for accident assessment and evaluation will be the responsibility of the Department of Health. State agencies are responsible for the continuance and implementation of training programs relating to their respective agency's operating procedures and coordinate their training efforts related to radiological emergencies with REPG.

In addition, these agencies and organizations will conduct drills to develop, test and maintain their capabilities. These responsibilities include:

- Communications drills to insure the ability to understand and transmit the unique terminology associated with a radiological emergency.
- Radiological monitoring drills.
- As appropriate, medical emergency drills at the local level and health physics drills at the State level.
- Other drills as may be required to improve the capabilities of emergency response personnel.

3.4 Local Emergency Services and Disaster Preparedness Coordinators are responsible for, and coordinate with, State REPG for the following:

- Identification of local training needs and requirements.
- Request of appropriate training courses, which includes designation of times and locations.
- Recruitment of trainees to include Directors and Coordinators of response organizations, radiological monitors, emergency service personnel (fire, police, first aid, medical support, and rescue), and other appropriate personnel.
- Development of local training capability as required.
- Assist, as applicable, in the conduct of training. This includes the use of local instructor capabilities such as for the training of radiological monitors, etc.
- Conduct and participate in drills and exercises to improve the capabilities of their emergency response personnel.

4.0 Implementation

4.1 In addition to agencies' existing training programs, specialized emergency response training courses are offered to key personnel of those agencies with emergency response responsibilities. The types of training courses to be offered, and the titles and assignments of those who should participate are:

Type of Course	Ref. Attachment	Participants
Public Officials Conferences (POC)	1	Agency heads, and local government chief executives.
Emergency Operations Simulation	2	Agency heads, EOC staff and emergency planning personnel
State Radiological Training Courses	3	Radiological EOC staffs, Radiological Monitors and Instructors, Civil Defense Staff, and as appropriate, personnel assigned to Radiological related duties. (see Attachment 3).
Evaluation of and Response to Radiation Emergencies (as sponsored by the Federal Government)	4	Radiological EOC staffs, Medical and Public Safety Personnel (as appropriate)
NFO sponsored training courses	5	Civil Defense personnel Public Safety personnel, radiological monitors and EOC staffs.

4.2 Exercises will be conducted to test the integrated capability of a major portion of the State's and appropriate County's radiological emergency preparedness plan and organization. An exercise will include mobilization of State and local personnel and resources adequate to verify the capability to respond to an accident scenario requiring response. The State and appropriate local governments will conduct an exercise jointly with a nuclear power facility in accordance with the federal regulation set forth in 10CFR50, "Domestic Licensing of Production and Utilization Facilities", Appendix E, and 44CFR350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness". The State will choose, on a rotational basis, the site(s) at which the required exercise(s) is to be conducted. Priority is given to new facilities seeking an operating license from NRC, and which have not had an exercise involving the State plan at that facility site. The scenario should be varied from exercise to exercise such that all major elements of the plans and preparedness organizations are tested. Each full scale exercise will include as many actual (hands on) activities as possible within the resources available for the exercise. Included will be exercising the decision making process (assessment and evaluation), deployment of monitoring personnel and making recommendations of protective action response options to responsible officials. Law enforcement and fire personnel will be exercised on access and traffic control and security. Exercises will include public information activities to demonstrate coordinated efforts by the State, local officials and the licensee in keeping the public informed.

Qualified observers from Federal, State or local governments will critique the exercises. State and local observers will be provided appropriate pre-exercise briefings and, if required, additional training. Provisions will be made to start an exercise between 6:00 p.m. and midnight, and another between midnight and 6:00 a.m. once every six years.

A critique will be scheduled as soon as practicable after each exercise to evaluate the ability of organizations to respond to the plan.

Each organization establishes the means for evaluating observer and participant comments on areas needing improvement, including emergency plan procedural changes, and for assigning responsibility for implementing corrective actions. Each organization establishes management control to ensure that corrective actions are implemented.

4.3 Drills involving varying number of personnel and organizations are used to provide practical training. When conducting such a drill, emphasis is on the effectiveness of procedures and use of actual emergency equipment. Observers will be assigned to evaluate the performance of the participants. Drills to test smaller segments of the plan will be held more frequently than exercises. Although a drill is often a component of an exercise, drills will be conducted, in addition to the scheduled exercise, at the frequencies specified in Paragraph 2.3 above. Drills will be supervised and evaluated by qualified instructors. Communication drills are conducted for both radio and hard line modes (RECS) and include the testing of operators' understanding and ability to understand the content of messages transmitted/received. Radiological monitoring drills teach and test procedures for the collection, analysis, recording and reporting of radiation readings. Drills of other emergency functions will be conducted to enhance the capabilities of those persons performing such functions.

4.4 Upon completion of an exercise or drill, the evaluator and observer comments will be collected and evaluated. Plan revisions, arising from the lessons learned, will be incorporated in plans and procedures as appropriate.

4.5 State and Local training will be given as detailed in the following matrix (Attachment 6 Part III - 1F).

Training reports from each County will be forwarded to the REPG quarterly. This report will include:

- Training given in the previous quarter
- A schedule of proposed retraining or new training for the next quarter
- Course title, projected date, audience

A complete State and County Training report will be forwarded to the Federal Emergency Management Agency in accordance with FEMA guidelines.

Specific files on individuals and their training will remain on file within the entity responsible for the Primary Training role. Review of such files and lesson plans may be requested by FEMA from REPG.

PUBLIC OFFICIALS CONFERENCES (POCs)

The New York State Emergency Management Office routinely conducts POCs for State, County and City level government officials and is designated to acquaint them with their emergency responsibilities, need for planning, training, and coordinated effort.

This course includes:

1. Review of FEMA's emergency role.

2. Discussion of the New York State Civil Defense and Disaster laws outlining local emergency responsibilities, including a description of the State, District and Local command and control structure and responsibilities.

3. Stressing the need for Local Executive Orders assigning specific emergency response functions to local officials.

4. The concept of an emergency operations center.

5. Advising of training that is available and the sequence in which it is given.

6. Emphasis on the benefits of a well organized and coordinated government that is able to act in time of emergency.

7. The importance of local resource inventory.

8. The methods for recognizing and identifying hazardous materials.

(NOT USED)

EMERGENCY OPERATIONS SIMULATION

I. GENERAL COURSES

A. Planning and Operations:

1. The Role of Leadership.
2. Principles and techniques for developing emergency plans in accordance with Federal and State criteria.
3. Emergency Operations Center procedures.
4. Principles for successful emergency operations, including evacuation.

B. Communications:

1. Alerting procedures for staff and public.
2. Development and periodic testing of primary and back-up communications.
3. Utilization of procedures to verify notification(s).
4. Procedures for operating RECS, NAWAS, RACES, and local government radio networks.
5. Message center operating procedures.

(NOT USED)

New York State Radiological Training Courses Appropriate for Peacetime Radiological Emergency Response

I. RADIOLOGICAL EMERGENCY PREPAREDNESS PROGRAM

The following is a listing of the various types of courses specifically given for the REP training of emergency workers:

1. REP Monitoring Course - This course is designed for RDO's, RM's and emergency workers and addresses all aspects of peacetime radiological incidents. It has been utilized as an effective trainer tool for many of the trained county RDO's throughout the State. (8 Hr.)

2. REP Exposure Control Course - This course has been developed for emergency workers specifically for nuclear power plants and has become the core of instruction, following the subject matter dealing with radiological exposure control from the Emergency Worker Response Manual. (4 Hr.)

3. REP PMC Course - This course deals with the specific aspects of PMC operations for radiological monitors. Variations of this course also allows for personnel from Social Services, Department of Health, etc., to receive this training for their responsibility with respect to PMC operations. Please note that this course should be taken after the 4 Hour Exposure Control course by Radiological Monitors who will be stationed at PMC. (4 Hr.)

4. REP Management Course - Third block of instructions is intended for REP emergency managers, coordinators and supervisors, i.e., County SEMO Directors, State Agency personnel, etc., who have responsibilities for directing field emergency workers. (3 Hr.)

5. REP Instructor Course - This course is designed to afford potential REP Trainers, preferably with adult education experience with the necessary information to conduct the 4 Hour REP Exposure Control Course. (12-18 Hr.)

II. EMERGENCY OPERATIONS PERSONNEL AND RADIOLOGICAL MONITOR INSTRUCTOR COURSES

The following courses are supplemental to the REP Program and are conducted by State instructors for those local or State Civil Preparedness personnel who are involved in radiological emergency response program development, EOC operations and training of radiological monitors:

a. Basic Radiological Defense Officer (RDO-Basic)

Intended to provide the basic knowledge and skills necessary to qualify selected individuals to perform functions required of an RDO in nuclear attack or peacetime accident emergencies. This course is required for Radiological Monitor Instructors. (15-30 students, 30 hours).

b. RADEF Operations Workshop

Designed to provide Civil Preparedness staff, Radiological Defense Officers, and their assistants with an introduction to the plan, techniques, and tools used in Radiological Operations. The radiological monitoring and reporting system is evaluated and the EOC Radiological area is prepared for attack or peacetime radiological operations (5-10 students/crse., 6-12 hours).

c. Radiological Defense Management Seminar

Intended to provide local Chief Radiological Defense Officers and local Civil Defense Coordinators/Directors with necessary management background to accomplish the successful development and maintenance of a viable RADEF program for wartime or peacetime response at local government level (20-40 participants, 6-8 hours).

d. Radiological Monitor Instructor (RMI)

Designed to qualify selected individuals to conduct radiological monitor training in their respective jurisdictions or agencies. Recommended for Radiological Monitor Instructors. (15 students, 24 hours).

e. CD Peacetime Radiological Emergency Response (PRER) Monitoring

Designed to provide training applicable for use by local Civil Preparedness personnel or State agencies in planning for, responding to, and recovering from a peacetime radiological emergency in support of the responding lead agency. (15-30 students, 4-8 hours).

III. RADIOLOGICAL MONITORING COURSES

The following courses are administered and conducted by local instructors using materials provided by the State. State agencies will also use these courses to train their own personnel. These courses are for radiological monitors from emergency services or other organizations or industries which have a response role for peacetime radiological incidents. The primary purpose of this training as related to nuclear accidents is to provide a capability for exposure control of emergency workers and the public through detection and removal of surface contamination. Emphasis will also be placed on personnel external dosimetry and exposure records:

a. Radiological Monitoring, HS-3

An 8-hour programmed home study course which serves as an introduction to the nature of radiation and Civil Defense radiation detection instruments.

b. Radiological Monitoring - Practical

An 8-hour follow-up course to the Home Study HS-3 course which uses a number of exercises in the use of CD radiation detection instruments.

Federally Sponsored Training Courses

Courses dealing with the evaluation of and response to radiation emergencies are sponsored by the Federal Government. DOH coordinates the student selection with SEMO. Courses listed in the latest edition of the "Emergency Management Institute, Schedule of Courses".

Radiological Emergency Preparedness Course
Radiological Accident Assessment Course
Radiological Emergency Response Team Training
Medical Planning and Care in Radiation Accidents - for Physicians
Fundamentals Course for Radiological Monitors
Basic Radiological Health Course
Radiological Emergency Preparedness Workshop
Radiological Monitoring Refresner Course

*Note: All courses offered by the EMI program are also available statewide through NY State Emergency Management Office.

(NOT USED)

Nuclear Facility Operator Courses

The nuclear facilities provide periodic training and retraining for local emergency services located in the vicinity of the facility. Training and/or drills are typically provided on an annual basis for fire, hospital and ambulance personnel. The nuclear facilities provide instructors at certain Conferences of Public Officials and Emergency Operations simulations and provide staff to assist in preparation of scenarios used in the simulated emergencies. (Refer to Training Procedures, Part IV, County REMP.)

In addition, the Nuclear Facility Operators are providing resources to accomplish the required initial training of county staff. State and local officials provide input into the development of these training programs as well as the individual lesson plans. A typical matrix of topics and target clients for the initial local training is shown in Table 1. State and local personnel will provide training for new individuals and periodic retraining on ongoing basis.

(NOT USED)

STATE PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
1. Monitoring Teams			
A) Collect dose assessment data (Field)	DOH, REPG, Radiological DOL, SEO, DEC	NYS DOH	NYS REPG NYS EMO
B) Personnel monitoring of emergency service workers	Regional office of State Agencies	NYS EMO	NYS DOH NYS REPG
C) Decontamination of Personnel and Equipment	Regional Office of State Agencies	NYS EMO	NYS DOH NYS REPG
D) Handling of Potentially Contaminated/Injured Victims	Regional Office of State Agencies	NYS DOH	NYS REPG
E) Sample collection	DOH, DEC, A&M	NYS DOH	State Agencies
2. Dose Assessment Analysis (DOH)	Assessment Team	NYS DOH	NYS EMO
3. Evaluation (DPC) Those who make decisions	DPC	NYS DOH	REPG, State Agencies
4. Exposure Control	A) Agriculture & Markets B) Environmental Conservation C) Dept. of Transportation D) State Police E) Fire Prevention F) Labor G) Office of Disaster Preparedness H) Department of Health I) Department of Corrections J) Energy Office K) Office of General Services L) Division of Military and	NYS DOH	NYS EMO, NYS REPG

Table 1
(contd.)
STATE PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
	M) Office of Mental Health N) Office of Mental Retardation O) Office of Parks and Recreation P) Thruway Authority		
5. Radiological Plan Overview and policy training	State Agencies as Listed above	NYS REPG	NYS EMO
6. Communication			
A) RECS	1. ODP Staff	1. NYS EMO	1. NYS REPG
	2. Warning Point Staff	2.a. EMO Train Warning Point Trainer	2.a. NYS REPG
		b. Warning Point Trainer Train Staff	b. NYS REPG
	3. EMO District	3.a. EMO Train District Director	3.a. NYS REPG
		b. EMO District Director Train Staff	
	4. DOH	4.a. EMO	4.a. NYS REPG b. NYS REPG
B) Back-up System (to RECS)	1. EMO Staff	1. EMO	1. None
	2. Warning Point Staff	2.a. EMO Train Warning Point Trainer	2.a. None
		b. Warning Point Trainer Train Staff	b. DSP
	3. EMO District	3.a. EMO Train District Director	3.a. None
		b. EMO District Director Train Staff	b. None
		c. EMO Train District	c. None

Attachment 6
Table 1

Table 1

(cont.)

STATE PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
	4. DOH, NYS REPG	4.a. EMO Train REPG b. REPG Train Staff	4.a. None b. None
C. Public Notification (Insure system activation including State EBS)	EMO	NYS EMO	1. NYS REPG
D. Field Teams - State Agencies	1. Field Monitoring Team	1. NYS EMO	1. NYS REPG
	2. Personnel Monitoring Team	2. NYS EMO	2. NYS REPG
	3. Decontamination	3. NYS EMO	3. NYS REPG
	4. Public Security	4. NYS State Police	4. EMO (Communications)
	5. Public Works	5. NYS Dept. of Transportation	5. ODP (Communications)
E. Internal EOC A. P.A. System B. Briefings C. Runners	State Staff (including decision makers)	NYS EMO	1. None
F. External - EOC to EOC (NAWAS) (Datafax)	EOC Directors	NYS EMO	County (Communications) NYS REPG
G. Special Facilities	State C.D. and Special Facilities	NYS REPG	NYS EMO
7. Public Information System	State Agencies, PIOs	State PIO	NYS REPG

Table 1
(contd.)
STATE PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
8. Protective Actions Mechanism to coordinate the response activities after the protective action has been ordered	State Agencies as listed above	NYS EMO	NYS DOH, NYS REPG
9. Logistics	DPC Agencies	NYS EMO	NYS REPG
10. Refresher Training	Per 1-8	Per 1-8	Per 1-8

Table 2

LOCAL PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
1. Monitoring Teams			
A) Collect dose assessment data (Field)	Fire, Police, Health Departments, and Volunteers	County RDO	REPG, NYSDOH
B) Personnel monitoring of emergency service workers	Fire, Police, Health Departments and Volunteers	County RDO	EMO, NYSDOH, REPG
C) Decontamination of personnel and equipment	Fire, Police, Health Departments and Volunteers	County RDO	EMO, NYSDOH, REPG
D) Handling of Potentially Contaminated/Injured Victims	Fire, Police, Ambulance Health Depts., and Hospitals	Utility	NYSDOH, EMO County RDO, REPG
E) Sample Collection	State or County Personnel who obtain field samples for State analysis	NYSDOH	State Agencies (A&M, DEC)
2. Dose Assessment Analysis (EOC)	County Office of Emergency Preparedness	NYSDOH County RDO	EPA/FEMA, Utility
3. Evaluation (EOC) (Those who make decisions)	Chief Executive, Administrator	County Director of Emergency Preparedness	County RDO, NYSDOH, REPG

Table 2
(cont.)
LOCAL PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
4. Exposure Control	Police, Fire, Ambulance and Rescue Squads, Public Works, RDO's, Bus Drivers, American Red Cross, Cooperative Extension RACES, Health Department, Special Services, Civil Air Patrol, Volunteers		
5. Radiological Plans	County Emergency Service Workers As Listed Above		
A) County Plan		County Training Coordinator or Director of Emergency Preparedness	REPG
B) State Plan		NYS REPG	None
C) Federal Plan		FEMA	REPG
D) Utility		Utility	REPG
6. Communication			
A) RECS	RECS Operators	County RDO, Training Coordinator or Director of Emergency Preparedness	NYS EMO, REPG
B) Back-up System	County Emergency Personnel Amateur Radio Operators, Volunteers, Utility	County Director of Emergency Preparedness, County RDO, Communications Officer	NYS EMO, Utility
C) Public Notification	EBS Personnel, Siren Initiator County PIOs, Utility PIOs, County EOC Staff and	County Director of Emergency Preparedness, County RDO or Training Officer	State PIO, REPG NYS EMO

LOCAL PERSONNEL

COLUMN I TYPES OF TRAINING NEEDED	COLUMN II AUDIENCE	COLUMN III PRIMARY TRAINING RESPONSIBILITY	COLUMN IV SUPPORT RESOURCES ADDITIONAL TRAINERS
D) Field Teams	Field Monitoring Teams, Personnel Monitoring Teams, Decontamination Teams, Reception and Congregate Care Centers	County Director of Emergency Preparedness, County RDO, or Training Officer	REPG, NYS EMO Utility
E) Internal EOC	County EOC Staff	County Director of Emergency Preparedness	REPG
F) External EOC to EOC (NAWAS) (Datafax)	County Director of Emergency Preparedness and Staff	County Director of Emergency Preparedness, County RDO or Training Officer	NYS EMO
G) Special Facilities	County Director of Emergency Preparedness and Staff Special Facility Operators	County Director of Emergency Preparedness, County RDO or Training Officer	NYS DOH, NYS DSS, REPG
7. Public Information System	County PIOs, Utility PIOs, County EOC Staff and Emergency Response Workers	State PIO - REPG	County Director REPG
8. Protective Actions Mechanism to coordinate the response activities after the protective action has been ordered	County Departments as listed in #4	County Director of Emergency Preparedness	NYS EMO
9. Refresher Training	Per 1-8	Per 1-8	Per 1-8

(NOT USED)

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ATTACHMENTS

1. Radiation Exposure Record
2. Group Radiation Whole Body Exposure Record
3. Emergency Worker Exposure Control Procedures
4. Contamination Referral Sheet
5. Procedure for Issue, Accountability and Maintenance of Self-Reading Dosimeters
6. Procedure for Issue, etc. of Permament Record Dosimetry

PART II - SECTION I - Procedure G

G. RADIOLOGICAL EXPOSURE CONTROL PROCEDURES

1.0 Purpose

The objectives of these radiological exposure control procedures are:

To provide State/County Agencies with the capability to protect their emergency response personnel from excessive or unnecessary exposure to radiation.

To describe the requirements for and availability of instruments and equipment.

To describe certain technical aspects including: proper use of instruments and equipment, requirements for record keeping, use of exposure protective action guides, personnel monitoring and decontamination.

2.0 Scope

This procedure describes the necessary actions by State/County Agencies and their personnel when involved in emergency response activities performed in connection with an accident or incident at a fixed nuclear facility which requires activation of the State/County Radiological Emergency Preparedness Plan. It also describes some of the support activities available from those State agencies with specific radiological resources.

3.0 Personnel Exposure Guidance

3.1 It will be the responsibility of the agency Radiological Liaison to insure that appropriate agency personnel are trained in exposure control guidelines, procedures, and techniques. Training assistance is available for State Agencies through the training officer, State Emergency Management Officer (SEMO), and for counties through the training coordinator, State Radiological Emergency Preparedness Group (REPG)

3.2 Supervisors who will have workers in the Plume EPZ must also be familiar enough with exposure limits to provide guidance to their subordinates regarding actual or planned unusual exposures. They should also know enough about radiation to answer basic questions from their workers and to seek additional guidance on exposures in excess of the Protective Action Guides.

3.3 Supervisors will make every attempt to insure that exposure to emergency workers is kept as low as reasonably achievable. Staff rotation or reassignment should be used as methods for reducing individual dose to the workers.

3.4 The following guidelines apply:

3.4.1 Only required emergency workers (State/County/Federal or Utility) will be permitted access into the 10-mile plume exposure pathway or any State/County/Federal or Utility Emergency Operations Center or other facility which is being utilized to conduct emergency operations. Appropriate identification will be required and will be shown on request of law enforcement officers or appropriate State/County representatives.

3.4.2 Supervisors of State emergency teams or personnel will coordinate with the SEMO's Regional Office and the County Emergency Operations Center prior to entry into the 10-mile EPZ.

3.4.3 Rescue personnel for lifesaving activities will be selected using the following criteria:

- Should be volunteers or professional rescue personnel who are familiar with the consequences of exposure.

- Whenever possible, volunteers over 45 years of age should be selected.

- Pregnant women or women capable of bearing children should not be selected for lifesaving activities where they could be exposed to radiation exceeding 0.5 rem maximum permissable dose equivalent to the fetus. (Reference U.S. NRC Regulatory Guide 8.13, Possible Health Risks To Children Of Women Who Are Exposed To Radiation During Pregnancy.

3.4.4 Emergency Workers' planned dose exposure will not be permitted to exceed the following limits except by express authorization of the Commissioner, NY State Health Department:

- For emergency operations not involving lifesaving activities: 25 rems whole body gamma dose; or 125 rems thyroid dose due to innalation.

- For emergency operations involving lifesaving activities: 75 rems whole body gamma dose; no limit to thyroid dose due to innalation.

- For emergency operations involving protection of property or prevention of damage to property, the planned exposure for one time whole body gamma dose, should whenever possible, be limited to 5 rems. Volunteers should be used whenever the one time whole body exposure is expected to exceed 10 rems

and such volunteers will be issued self-reading dosimeter with a capability of measuring 0-200R prior to entering the area.

3.5 Exposure Control procedures should be prescribed by supervisors that will ensure rapid notification and relief and/or rotation of personnel whose exposure rate indicates that the worker may exceed the maximum limits of 25 rems (non-lifesaving) or 75 rems (lifesaving).

3.6 Each supervisor will maintain exposure records for personnel on the Group Radiation Whole Body Exposure Record Form (see Attachment 2) on the basis of reports to be provided by the emergency workers who are under his/her supervision. A copy of the completed record will be furnished to the District Office of SEMO by State personnel and to the County Exposure Control Coordinator by County personnel (see para. 5.5 below).

3.7 Each emergency worker will maintain an individual radiation exposure record card (Attachment 1) for each period of duty (or each shift). Basic identification information and the serial numbers of all issued dosimeters (self-reading and permanent) as well as the individuals total previous exposure (if known) will be recorded at the beginning of each shift. (See para. 5.5 below and Attachments 1 and 3.)

4.0 Radiation Detection Instruments/Associated Equipment and Supplies

4.1 Each emergency worker who is to perform duty within the 10-mile plume exposure pathway or at any other location where exposure to radiation is possible, will be furnished a basic emergency worker kit or packet which will include:

- Radiation Exposure Card
- One low range (0-5R) or (0-20R) self-reading dosimeter
- One high range (0-100R) or (0-200R) self-reading dosimeter
- One permanent record dosimeter (TLD or film badge)
- One bottle of potassium iodide (KI) tablets (14 tablets)

4.1.1 Other equipment and supplies to provide protection:

CDV 750 (or equivalent) Dosimeter Charger with D-cell battery for charging self-reading dosimeters (all emergency worker must be given access to a charger prior to going on duty so that self-reading dosimeter may be "charged".

Monitoring equipment (as required) for workers who will perform monitoring duties (field, personnel, vehicle, equipment, area or taking samples) may include:

- Geiger-Muller survey meter CDV700 (or equivalent) low range 0-50 mR/hr.
- Survey Meter CDV [illegible] (or equivalent) high range (0-500 R/hr)

- Air sampler (field monitoring)
- Rate meter (field monitoring)
- Sample bags/bottle (field monitoring and taking samples
- Anti-contamination clothing/hoods/gloves/boots
- Respiratory equipment/portection masks
- Other items for specific function or task

4.2 Permanent Record Dosimeters

4.2.1 Permanent Record Dosimeters will consist of either film badges or Thermoluminescent Dosimeters (TLDs). TLDs which are incorporated into emergency identification cards are recommended. Self-reading dosimeters are <u>not</u> permanent record dosimeters.

4.2.2 Each State Agency or county is responsible for obtaining sufficient quantities of permanent record dosimeters to provide one for each worker anticipated to be used in the Plume EPZ.

4.2.3 Purchase, inventory, distribution, periodic replacement or processing, reading and proper record keeping and reporting shall also be the responsibility of the Agency's Radiological Liaison. All such distributions shall be under the control of the State Emergency Management Office to State Agencies and the County Emergency Management Offices and the County Radiological Officer.

4.2.4 Permanent Record Dosimeters must be located by the agency so they will be immediately available to those workers who will need them in case of emergency.

4.2.5 Permanent Record Dosimeters must be stored to prevent exposure to radiation (other than normal background). At least one dosimeter should be designated and recorded as a "control" to allow for subtraction of background radiation. All permanent record dosimeters will be exchanged in accordance with vendors recommendations except in an emergency. The State Health Department will advise State Agencies on the frequency of exchange during an emergency.

4.3 Source of Instruments

4.3.1 Civil Defense type instruments are available to State and County agencies through the State Office of Emergency Management. This includes:

- Self-reading dosimeters - CDV 730 (0-200R) limited supply
  CDV 740 (0-100R)
  CDV 742 (0-200R)
  CDV 138 (0-200mR) training only

- Dosimeter Charger - CDV 750
- Survey Meters - CDV 700 (0-50mR/Hr)
  CDV 715 (0-500 R/Hr)
- Other - See Part III, Sec. II. NY State Plan

4.3.2 Other required instruments and supplies are available for purchase from commercial sources. (State agency funds and County 708 Funding).

4.4 Instrument Inventory and Maintenance.

4.4.1 Each state agency anticipated to have emergency workers in the Plume Exposure Pathway Emergency Planning Zone (EPZ), will obtain a sufficient number of dosimeters to provide for issue to each emergency worker and to have a charger available while in the Plume EPZ.

4.4.2 Each agency will request and receive dosimeters, dosimeter chargers, and batteries from the State Office of Emergency Management (SEMO) according to available supplies.

4.4.3 Replacement batteries, one per CDV-750 charger will be provided by SEMO at the request of the State agency every two years.

4.4.4 One individual in each such agency will be designated as the Radiological Liaison who will be accountable for these instruments and responsible for subsequent distribution within the agency and periodic inventory, operational checks and maintenance to insure availability and readiness of the instrument at all time.

4.4.5 Dosimeters will be zeroed by agency personnel upon receipt and again after 24 and 48 hours and then will be checked after another 24 hours. Any dosimeter found to read more than one-twentieth of full scale after the three charges is defective.

4.4.6 Dosimeters will be rechecked by the agency in this fashion annually, and will be rezeroed quarterly.

4.4.7 Dosimeter chargers will be checked upon receipt and at least annually for their ability to move a dosimeter hairline up and down scale.

4.4.8 Defective Civil Defense dosimeters and dosimeter chargers will be returned to SEMO for repair or replacement as necessary and according to available supplies.

5.0 Personnel Contamination Control

5.1 The Personnel Monitoring Center (PMC) Locations

- Two locations for each nuclear facility site will be used as Emergency Worker PMC, i.e. State PMC and County Emergency Worker PMC.

- PMCs will be established outside the 10-mile Plume EPZ.

- PMCs will be readily accessible from areas within the Plume EPZ and will be available for 24 hour use.

5.2 PMC Requirements

- PMCs will have available sufficient parking for vehicles transporting State/County emergency workers to the PMC after completion of their assignments within the Plume EPZ.

- PMCs will preferably have a separate entrance and exit from the building.

- They will have an area, for which access can be controlled of at least 10 x 20 feet of open floor space where personnel monitoring will be performed.

- Adjacent to the monitoring area there will be a decontamination area for which access can be controlled. This area will contain a sink and a shower which can be used for decontamination.

- An area will be designated for waste storage near the decontamination areas. Such stored wastes will be disposed of in a manner specified by the State Health Department. The licensee involved in the accident will collect and properly dispose of cntaminated waste from both State and county operations.

5.3 Personnel and Equipment Monitoring.

5.3.1 Unless otherwise directed, all State/County Emergency Workers who have been in the Plume EPZ during the accident response will report to the Personnel Monitoring Center (PMC) for monitoring.

5.3.2 All monitoring will be performed by State/County agency personnel who have been trained in the techniques and procedures to be used. This operation will be supervised by personnel from the SEMO Technical Resources Section and the State/County Health Department.

5.3.3 Personnel, vehicles, and other equipment will be monitored upon arrival at the PMC for external radioactive contamination using a Beta/Gamma sensitive GM survey instrument with beta shield open and probe covered with plastic to prevent instrument contamination. All outer clothing worn and equipment or supplies used in the Plume EPZ will also be monitored.

5.3.4 If the survey instrument indicates any areas on the person or object with a reading in excess of 0.1 mR/hr above background that individual or object is considered contaminated.

5.3.5 Decontamination will be provided if any area on the individual's skin, hair, etc. is found to be contaminated. Contaminated clothing will be removed and retained per 5.4.2 below.

5.3.6 After decontamination actions are taken the individual will be monitored again and released if the meter reading is below 0.1 mR/hr.

5.3.7 If several attempts at decontamination do not result in levels below 0.1 mR/hr above background, the contamination will be classified as non-removable and the individual released. If a reading above 1.0 mR/hr above background persists the case will be referred to the radiological specialist at the District EOC for evaluation and determination if referral to a special facility for further decontamination is required.

5.3.8 The personnel monitoring area will be periodically monitored, especially the floor where workers stand during monitoring, and steps taken to minimize contamination spread.

5.4 Personnel and Equipment Decontamination

5.4.1 Contaminated vehicles or other objects which may be easily decontaminated will be decontaminated as soon as possible to insure their continued availability.

5.4.2 Contaminated clothing will be removed, tagged with the owner's identification, and retained at the PMC in plastic bags. Replacement clothing will be available at the PMC.

5.4.3 Contamination on the skin or hair will be removed by rinsing, washing using water, soap or other available cleansing agents taking care not to abrade the skin. A sink and shower will be available for this purpose.

5.4.4 Individuals whose decontamination is complicated by the presence of wounds will be referred to a medical facility for further treatment and decontamination.

5.4.5 The decontamination area will be periodically monitored especially sink, shower floor and waste storage area and necessary steps taken to minimize contamination spread. Appropriate precautions will be taken to minimize exposure to contaminated run-off water.

5.5 Recordkeeping

5.5.1 There are two types of basic records on exposure of workers, the individual's Radiation Exposure Record Card and the Group Radiation Whole Body Exposure Record Form. Exposure records will also be available after processing of TLDs or film badges.

5.5.2 Each worker will be responsible for keeping the individual Radiation Exposure Record card (see Attachment 1).

5.5.3 Each supervisor will maintain the exposure records of his personnel in the Plume EPZ on the Group Radiation Whole Body Exposure Record form (see Attachment 2) on the basis of reports

provided by workers returning from the area. A completed copy of these records will be provided to the Personnel Monitoring Center or the SEMO District EOC if the PMC is not activated on a daily basis.

5.5.4 Each worker reporting to the PMC will bring the individual exposure record card.

5.5.5 If the PMC is not activated, these cards will be examined and collected by the worker's supervisor who will forward them to the SEMO District EOC on a daily basis.

5.5.6 Before an individual Radiation Exposure Record card is collected a new card will be provided so the worker can record the cumulative exposure to date on the new card. If he returns to the Plume EPZ he will use the new card.

5.5.7 Each person monitored at the PMC will turn in his individual exposure card upon release which will be marked with the results of the monitoring as indicated below.

5.5.8 After monitoring at the PMC if an individual is found not to be contaminated the word "CLEAN" will be written on the individual's exposure record card. A new card is provided to the individual per section 5.5.6, the old card is collected, and the individual is released.

5.5.9 If an individual is found to be contaminated the word "DECON" will be written on his card as well as the general location(s) of contamination. After successful decontamination the word "CLEAN" will be added to the card. A new card is provided per section 5.5.6, the old card is collected and the individual is released.

5.5.10 If an individual remains contaminated enough to require referral to a special facility for further decontamination, the location to which the individual was referred and the time of referral will be recorded on the card as well as the body locations and instrument readings. A new card is provided to the individual per section 5.5.6 and the old card is collected.

5.5.11 For referral cases a separate description of the specific contamination problems will be completed using the Contamination Referral Sheet (see Attachment 4) one copy of which is retained at the PMC and one taken with the individual to the special facility.

5.5.12 Each individual exposure record card will be collected either:

- Immediately after the word "CLEAN" is entered on it in accordance with the above procedure, or
- Upon completion of the Contamination Referral Sheet.

5.5.13 Individual exposure record cards will be examined at the PMC.

- Those cards with a total exposure less than 1 R and with the word "CLEAN" entered will be set aside for later reference.

- Those cards with an exposure exceeding 1 R for the day or for individuals referred to a special facility for further decontamination will be given to the supervisor of the PMC operation for followup action.

5.5.14 Copies of the Contamination Referral Sheet will be given to the supervisor of the PMC operation for followup action.

5.5.15 Appropriate information from the exposure cards and contamination referral sheets will be provided to the radiological specialist assigned to the District/County EOC for review and followup as appropriate. Such notification will be made when fixed contamination exceeds 1 mr/hr or whenever the whole body cumulative dose reaches a multiple of 3 rem.

5.5.16 A record must be kept on each individual processed at the PMC.

5.5.17 A copy of exposure records including permanent record dosimeter readings will be forwarded to the Bureau of Environmental Radiation Protection for permanent filing.

6.0 Thyroid exposure control

6.1 Thyroid exposure estimates:

The thyroid dose to an emergency worker in the Plume EPZ can be estimated from knowledge of the airborne iodine concentration and the time spent in the Plume.

6.2 Thyroid exposure limitation:

Thyroid exposure can be reduced by utilizing one of the following methods. Staff and/or material availability will dictate which method is to be used in a specific situation.

6.3 Removal from the Plume pathway:

Emergency workers in the plume pathway can be rotated so as to limit exposure to any one individual. If their presence is not essential they may be removed from the area until the iodine exposure is reduced.

6.4 Use of respiratory devices:

Respirators with activated charcoal filters may be used to reduce iodine intake.

6.5 Authorized use of KI by Emergency Worker - When authorized by Commissioner NYS Department of Health, Emergency Worker will take one KI tablet for 10 days to reduce effects of radioactive iodine.

7.0 Ingestion Pathway Teams:

Initially State ingestion pathway teams will include radiological specialists as well as persons who routinely collect samples of milk and other food products. Once the contaminated area is well defined and at the discretion of the State Health Department sampling programs will be done by individuals representing agencies who regularly collect similar samples albeit at possibly increased frequency and number of samples (State and local health - public drinking water; Agriculture and Markets - milk, etc.)

Name: ____________________

Address: ____________________

____

Social Security # ____________________

Date of Birth: ____________________

Blood Type: ____________________

CD Assignment: ____________________

Agency: ____________________

RADIATION EXPOSURE RECORD

(INDIVIDUAL)

Form Rad 196 (Apr. 64) Dosimeter Serial No. ____________________

Total Previous Exposure At Start Of Card __________

Date(s) of Exposure(s)	Time	Dose	Remarks	Date(s) of Exposure(s)	Time	Dose	Remarks

(NOT USED)

New York State
Division of Military and Naval Affairs
State Emergency Management Office
Radiological Intelligence Section
Building 22, State Campus
Albany, New York 12226

C.D. Activity: _____

Location: _____

Exposure Date: _____

GROUP RADIATION WHOLE BODY EXPOSURE RECORD

	Name (Print-Last, First, MI)	Social Security No.	Age (In Full Yrs.)	Dosimeter Serial #	Dosimeter Initial	Reading Final	Exposure (R/mR)
1							
2							
3							
4							
5							
6							
7							
8							

(NOT USED)

EMERGENCY WORKER EXPOSURE CONTROL PROCEDURES

A. Before entering the Plume Exposure EPZ each field supervisor will:

1. Obtain enough self-reading and permanent record dosimeters for use in the field as needed.

2. Obtain enough dosimeter chargers to assure that a charger will be readily accessible to each emergency worker in the field.

3. Make sure that all dosimeters and chargers are functional.

4. Make sure tht all emergency workers know what their responsibilities are as indicated below.

B. Before entering the Plume Emergency Planning Zone (EPZ) each worker will:

1. Obtain a self-reading and permanent record dosimeter.

2. Zero the self-reading dosimeter using a dosimeter charger with installed battery.

3. Prepare an individual Exposure Record Card by completing side one and entering the date, time, total dose to date and initial dosimeter reading (usually zero) on side two.

4. Make sure that a dosimeter charger with installed battery will be easily accessible while in the Plume EPZ.

5. Make sure that a timepiece and writing implement will be constantly available to insure the keeping of proper records.

C. While in the Plume EPZ each worker will:

1. Record the time and dosimeter reading (usually zero) upon entering the area.

2. Following a release every 15 to 30 minutes record the time and dosimeter reading on the individual exposure record.

3. If the dosimeter hairline registers 1R, record the time and reading on the individual exposure card and notify your immediate supervisor.

4. Notify your supervisor immediately if any of the following occurs:

   a. Your dosimeter hairline has gone off-scale or is not visible, or;
   b. You have received a total exposure of 1 R, or;
   c. You have received a total exposure of 3 R.

5. Report your dose to your supervisor at least every 12 hours if you remain in the Plume EPZ.

D. After leaving the Plume EPZ each worker will:

1. Immediately record the time and dosimeter reading on the individual exposure card.

2. Notify the supervisor of the total exposure received while in the Plume EPZ. If personnel monitoring is not necessary your supervisor will collect your individual exposure record card after giving you a new card which you complete as in B.3. above.

3. Follow any instructions you receive from your supervisor regarding the dosimeters and charger.

4. Unless told not to do so, report to the Emergency Worker Personnel Monitoring Center (PMC) to be checked for contamination. Take your individual exposure record card with you. Authorization from your supervisor is required for all exposures over 3 Rem and up to 25 Rem. Exposures in excess of 25 Rem must be authorized by the Commissioner of Health.

5. At the PMC follow the instructions of the monitors, receive a new individual exposure card, and turn in the old card.

6. Prior to re-entry into the Plume EPZ begin again with this procedure at Part A.

State of New York

CONTAMINATION REFERRAL SHEET

To be used for individuals requiring special decontamination procedures.

1. Name: _____ S.S. No. _____

2. Organization or Agency: _____

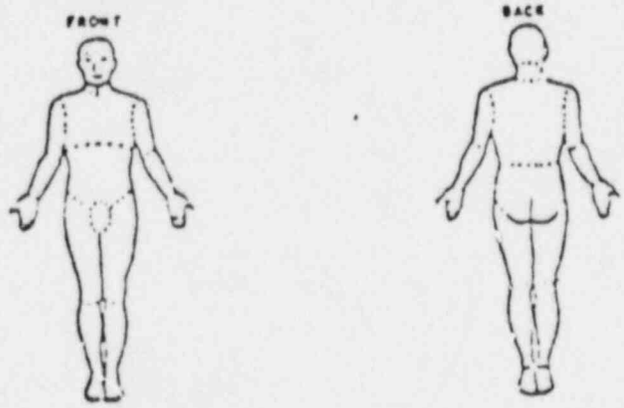
3. Total Dose to Date: _____

4. Description of Contamination Problem (Location and Exposure Rate): _____

_____

_____

5. Contamination Diagram:



6. Method(s) Used and Result of Initial Decontamination Efforts: _____

_____

_____

7. Recommended Follow-up Decontamination Efforts: _____

_____

_____

8. Referred By: (Name) _____ (Facility) _____

9. Referred To: (Facility) _____

10. Signed: _____ Date: _____ Time: _____

(NOT USED)

STANDARD OPERATING PROCEDURE

FOR THE INITIAL ISSUE, ACCOUNTABILITY AND MAINTENANCE OF SELF-READING DOSIMETERS FOR THE RADIOLOGICAL EMERGENCY PREPAREDNESS PROGRAM

1. An O-5R (Model 611) self-reading dosimeters are available for issue to State and county emergency workers in the event of an accident at a nuclear power plant. These dosimeters augment the existing State issued supply of Civil Defense Dosimeters (CDV-742) which will also be used.

2. Distribution of these dosimeters is in accordance with the State distribution plan developed by the Bureau of Environmental Radiation Protection, the NYS Radiological Emergency Preparedness Group (REPG) and the State Emergency Management Office (SEMO).

3. Upon receipt of the O-5R dosimeters from the supplier, the SEMO Radiological Instrument Facility will perform the following actions:

   a. Verify the count of dosimeters received from the vendor.

   b. Record individual serial numbers in blocks of 50 dosimeters.

   c. Issue dosimeters in accordance with the State distribution plan to include: preparing receipt forms, verifying counts and recording the serial numbers of the dosimeters.

   d. Issue CDV-750 dosimeter chargers on the basis of one charger per four dosimeters.

   e. Maintain by serial number the record of issue of these dosimeters to State agencies and county EMO jurisdictions.

4. Annually each recipient of these dosimeters will inventory them by serial number and report the results to the SEMO Technical Resources Section each January. (See Enclosure 1)

   The enclosed format (Enclosure 1) will be used to report the inventory of Model 611 dosimeters and will be made a part of the "equipment on hand" section of the local REP plan. In addition, CD issued dosimeters utilized for REP operation, will be inventoried and maintained in accordance with N.Y.S Emergency Operations Plan, Annex K, Appendix 3.a.(3).

5. The following procedures, extracted from Part II, Section I, Paragraph G.4.4.6 thru G.4.4.9 of the State REP Plan, will be followed by all dosimeter recipients:

   a. Dosimeters will be zeroed by receiving agency personnel upon receipt and again after 24 and 48 hours and then will be checked after another 24 hours for drift. Any dosimeter found to read more than one-twentieth of full scale after the three charges is defective. (Defective O-5R Model 611 dosimeters, Civil Defense dosimeters and dosimeter chrgers will be returned to the SEMO Radiological Instrument Facility for repair or replacement as necessary and according to available supplies).

b. Dosimeter will be rechecked by the agency in this fashion annually, and will be rezeroed quarterly.

c. Dosimeter chargers will be checked upon receipt and at least annually or according to manufacturers specifications, whichever is less for their ability to move a dosimeter hairline up and down scale.

d. At the time of quarterly and annual maintenance checks, each receiving distribution point (State or county agencies) should designate an individual to be responsible for the actual checking and recordkeeping involved to assure proper control of the instruments. A listing by serial number of each dosimeter should be maintained by each agency. Dates of quarterly and annual checks should appear after each serial number. Dosimeter charger maintenance should be handled in the same manner on an annual basis or according to manufacturers specifications, whichever is less. A sample form (Enclosure 2) is attached for maintenance control.

6. It is the responsibility of the recipient to annually evaluate emergency worker dosimeter requirements.

_____
County/Agency

Page _____ Date _____

DOSIMETER AND CHARGER STOCKPILE AND DISTRIBUTION PLAN

A. Total Allocation To This Organization

1. Dosimeters Model 611 (0-5R).....: _____

2. Dosimeter Chargers CDV-750.....: _____

B. Summary of Present Distribution

	611	CDV-750
1. Quantity in central storage at EOC.....:	_____	_____
2. Quantity distributed to decentralized storage.....:	_____	_____
3. Quantity distributed to individuals.....:	_____	_____
TOTAL :	_____	_____

C. Inspection

1. Date dosimeters last charged.....: _____

2. Date of last inventory.....: _____

D. Location of Equipment Distributed

1. Name of Individual or Facility	2. Quantity 611	3. Quantity CDV-750	4. Address (Street & City)

Note: Complete Emergency Operations Plan, Annex K, Appendix 3.a.(3) for CO issued dosimeter and charger stockpile and distribution plan.

_____
County/Agency

Page _____ Date_____

DOSIMETER AND CHARGER MAINTENANCE FORM

Dosimeter Serial #	Initial Zero Date	Zero Date Plus 24 Hrs.	Zero Date Plus 48 Hrs.	Zero Date Plus 72 Hrs. Drift Check

STANDARD OPERATING PROCEDURE

FOR THE ISSUE, ACCOUNTABILITY AND MAINTENANCE OF PERMANENT RECORD INDIRECT READING DOSIMETRY

1. In accordance with the State and County Radiological Emergency Preparedness (REP) Plans, indirect reading dosimeters will be provided to all emergency workers within the 10 mile Emergency Planning Zone in the event of a nuclear power plant incident. Indirect Reading Dosimeters, such as Thermoluminescent Dosimeters (TLDs), will be the permanent legal record of radiation exposure for all emergency workers and will be utilized in conjunction with direct reading dosimeters.

2. Distribution of indirect reading dosimeters will be in accordance with the State distribution plan developed by the Bureau of Environmental Radiation Protection, the NYS Radiological Emergency Preparedness Group (REPG) and the State Emergency Management Office (SEMO).

3. Upon receipt of the indirect reading dosimeters from the supplier, the State EMO Radiological Instrument Facility will perform the following actions:

   a. Verify the count of indirect reading dosimeters received from the vendor.

   b. Issue dosimeters in accordance with the State distribution plan to include: preparing receipt forms, verifying counts and recording serial numbrs.

   c. Maintain by serial number the record of issue of these indirect reading dosimeters to State agencies and county EMO jurisdictions. Also provide copies of suppliers computerized serial numbers to recipients.

4. At the present time, the State of New York has purchased Thermoluminescent Dosimeters (TLD) to be utilized as the permanent (legal) record dosimeters for emergency workers. Part 3, Section 1, G.4.2, of the New York State Radiological Emergency Preparedness Plan outlines further the requirements and procedures for permanent record dosimeters.

5. Upon receipt of TLD's, State or county agencies shall:

   a. Verify count and serial numbers as indicated in supplier's computerized serial number listing provided with shipment.

   b. Develop appropriate plans for the distribution and storage of TLD's to emergency response personnel or agencies. A control TLD is to be kept at each separate distribution and storage point to record appropriate natural background radiation. Once identified, the TLD Distribution and Storage locations shall be recorded on supplier's computerized sheet by serial number. Also identify control TLD serial numbers and record on supplier's computerized sheet.

6. TLD's will be exchanged periodically through the following procedure:

   a. SEMO Radiological Instrument Facility will receive and distribute to each agency who initially received TLD's, replacement TLD's. Upon receipt of these TLD's, recipient will follow procedures per item 5 above and will collect previously issued TLD's with appropriate control TLD's for return to the following address:

      Division of Military and Naval Affairs
      Radiological Instrument Facility Section
      Building #18, State Office Campus
      Albany, New York 12226

      Note: It is the responsibility of the recipient to insure that each TLD issued previously is returned as required. If the number of TLD's returned for replacement is less than the number of TLD's initially issued, the recipient will be responsible for the appropriate replacement cost.

7. In the event of a nuclear power plant incident, all emergency workers will record their TLD serial numbers on their individual Exposure Record Cards. At the termination of the incident or upon request of the State Department of Health, record cards will be collected in accordance with REP Plan procedures. It is the responsibility of the recipient to record emergency worker personnel information (name, social security number, etc.) on the supplier's computerized TLD serial number listing.

   Upon request from the State Department of Health, a copy of the supplier's computerized TLD serial number listing and all emergency worker TLD's used and control TLD's shall be sent to the SEMO Radiological Instrument Facility for shipment to the supplier for recording of radiation exposure. Replacement TLD's will be provided to the recipient per item 6 above.

8. It is the responsibility of the recipient to evaluate annually emergency worker TLD requirements.

PART II - SECTION I - PROCEDURE H

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Attachments

1. Dose Estimation Procedures
2. Ingestion Pathway Exposure Guidance
3. PAGs for Whole Body Exposure to Airborne Radioactive Materials
4. Evacuate or Shelter Decision Chart
5. NYS Department of Health Problem Alert Form
6. Contact List for Initiating Sampling Procedures

PART III - SECTION I

H. ASSESSMENT/EVALUATION

1.0 Radiological Assessment Purpose

The objective of radiological assessment is to determine potential or actual off-site consequences of a radiological emergency. The purpose of this procedure is to identify how such an assessment is to be achieved and how it will influence the selection and initiation of appropriate protective measures.

2.0 Scope

The procedure will define the State staff involved in the assessment process, their roles, and their interaction with the Nuclear Facility Operator (NFO) and local and Federal agencies.

3.0 Radiological Assessment Staff

3.1 Accident assessment at the initial stages of an accident will be performed by the NFO. The NFO will utilize the available information on releases, on-site and off-site monitoring data to calculate the projected doses off-site and to determine the accident class. Once these are determined, the NFO will promptly notify the State and local authorities. Once notified, the State Radiological Health Staff will perform independent assessment of the public health effects of the incident. If the accident is classified as an Alert, Site Area Emergency or General Emergency, accident assessment activities will be conducted in the State Emergency Operations Center (EOC) in Albany. In addition, State representatives will be dispatched to the NFO's Emergency Operations Facility (EOF) and will participate in the accident assessment activities. Typically, State representatives will be dispatched to the EOF during the Alert phase.

3.2 The State Health Department has the lead role in assessing the health impact resulting from off-site releases. The Bureau of Environmental Radiation Protection within the Health Department is responsible for this function. The Technical Resources Section, SEMO, support the Bureau of Environmental Radiation Protection.

Technical support also will be provided by the Health Department's radiological laboratory, Department of Environmental Conservation (DEC), Department of Agriculture and Markets (A&M), State Energy Office (SEO), Department of Public Service, State Energy Research and Development Authority (NYSERDA) and the Radiological Emergency Preparedness Group (REPG).

The radiological laboratory will complete a lab analysis of samples collected.

DEC staff provides support in meteorology.

A&M staff provides support in evaluation of the need for protective actions relating to the milk and food supply.

SEO, Public Service, NYSERDA and REPG provide staff who assess and evaluate status of reactor systems.

4.0 Bureau of Environmental Radiation Protection Activities

The Bureau of Environmental Radiation Protection is responsible for the overall radiological accident assessment and providing radiological health expertise to other state and local agencies as required.

The Bureau staff conduct their activities during a radiological emergency from a variety of locations. These are:

4.1 Bureau Office in the Health Department:

Initial notification (during working hours) will be received at the Bureau of Environmental Radiation Protection office. Initial contacts with the NFO and key State and local staff will be conducted from these offices.

In case of an Unusual Event the EOCs will not be activated and all activities relating to the situation will be conducted from the Bureau Offices. The staff will:

- maintain periodic contact with the NFO
- keep key Health Department, other State agencies and local officials informed of all significant developments relating to the situation.

During non-business hours, the above activities will be completed from the homes of appropriate BERP staff.

4.2 State EOC

If the emergency class if Alert or more severe, the State EOC will be partially or fully activated. In both cases the Accident Assessment group as defined in Item 3.2 will proceed to the State EOC. Following initial contact with the NFO and notification of key Health Department staff, two radiological health specialists will proceed to the State EOC. The EOC Radiological Assessment Staff controls and directs the State radiological effort and has the following responsibilities:

- establishes contact with the NFO and obtains updated information periodically
- estimates projected doses off-site and relates them to the Protective Action Guides (PAG's)
- recommends protective action to reduce projected doses to the off-site population

- o determines the magnitude of the sampling program needed, and initiates the sampling program as appropriate.

- o determines the need for off-site monitoring and takes action to initiate the monitoring program

- o requests Federal radiological assistance through U.S.D.O.E.'s Brookhaven Area Office.

- o maintains flow of current information and data between the EOC and EOF.

- o recommends to the Commissioner of Health in situations when personnel exposure exceeding PAG's for emergency workers should be authori[illegible]. Acts on the authorization, if it cannot be obtained in a timely manner.

- o recommends relaxation of protective actions as the emergency conditions ease.

- o conducts briefings for the Chairman of the Disaster Preparedness Commission, the Commissioner of Health, other officials as appropriate, including the P.I.O.

4.3 EOF

When activated, the EOF becomes the center where data from the NFO, Federal and State agencies is coordinated and accident assessment is carried out. The State will typically send two licensee representatives to the EOF. These will include a radiological health specialist and a specialist in reactor systems and operations normally from REPG. The State EOF liaison staff will have the following responsibilities:

- o participate in the accident assessment process at the EOF

- o maintain flow of current information and data between the EOF and the State EOC

- o represent the State at briefings conducted in the EOF.

4.4 State District EOC

The district EOC is the coordinating center for regional State field activities in response to the emergency. The Bureau of Environmental Radiation Protection or SEMO's Technical Resource Section will send a radiological specialist to this center when activated. This specialist will:

- o coordinate any monitoring conducted by the State, receive data from field teams and transmit this to the EOC in Albany

- o provide interpretation and advice on radiological exposure control to state emergency workers in the EPZ's

- o provide interpretation and advice to local government staff

- o review cases of high personnel exposure or contamination that are referred. Provide advice as to maintaining personnel exposure as low as reasonably achievable

- o assist with personnel contamination monitoring or area surveys if possible.

4.5 Local EOC

In general, local radiological health specialists or radiological officers are responsible for the radiological aspects of the emergency response at the county level.

State radiological health specialists will proceed to County EOCs and will act as a radiological consultant to the county if requested.

4.6 Monitoring Teams

The NFO has the primary responsibility for evaluating the magnitude of the off-site exposure levels and concentrations of radioactive releases.

In addition to licensee (NFO) and county monitoring teams, the State will request assistance for aerial and ground monitoring from federal resources through the Brookhaven Area Office, USDOE. This assistance may be internal USDOE departmental radiological assistance or federal interagency support through Federal Radiological Monitoring and Assessment Plan (FRMAP).

4.6.1 Collection and Dissemination of Field Data

Prior to activation of the NFO EOF:

1. Data collected by County or NFO field monitoring teams will be transmitted to their EOC or TSC, respectively, according to existing procedures.

2. County EOC receiving field data from its field monitoring teams reviews, tabulates and promptly transmits all data to State EOC via telecopier.

3. NFO staff receiving field data from NFO's field monitoring teams reviews, tabulates and promptly transmits data to State EOC via telecopier.

4. Radiological assessment and evaluation staff in the State EOC transmits promptly, via telecopier, data received to TSC and counties as appropriate.

After activation of the NFO EOF:

1. Field monitoring data collected by NFO's monitoring teams will be transmitted to the EOF according to NFO's existing procedures. Data collected by county teams will be transmitted to their respective county EOC's.

2. County and NFO radiological assessment staff tabulate and review field data.

3. County EOC transmits promptly, via telecopier, copies of all field data to EOF.

4. EOF staff makes copies of field data (both gererated by NFO or received from counties) and distributes to State, County and Federal liaison persons in the EOF.

5. Each liaison person is responsible for assuring that copies of all appropriate data are transmitted via telecopier from the EOF to their respective EOC's.

6. If a county liaison officer has not arrived at the EOF, the State representative will assure that appropriate field monitoring data are transmitted to that county's EOC from the EOF.

7. Should a county who does not have a representative at the EOF have any questions concerning the data they should address their questions to the State liaison at the EOF or to the State EOC.

5.0 Assessment Input Information Required

The assessment process utilizes four sources of information. These are the following:

5.1 Previously Developed Data

These include information that is independent of the nature of the accident which is needed for a determination of the impact on public health resulting from the accident. Since the radiological assessment may be conducted in the Health Department at the early stages of an accident, copies of these data will be readily available for all sites at the Health Department in addition to the State EOC and the EOF. These data include the following:

1. Site map showing facility layout
2. Site map showing plume EPZ
3. Site map showing ingestion EPZ
4. Maps, or overlays for the appropriate maps showing
   a. population distribution
   b. special facilities
   c. milk and food processing plants
   d. open reservoirs
   e. ERPAs and evacuation routes
   f. relocation centers
   g. local and State EOC's and EOF
   h. locations of fixed monitoring station and assigned mobile monitoring points (if predesignated)
5. Precalculated off-site projected doses for DBA
6. Estimated evacuation times
7. Site specific emergency procedures

5.2 Relayed Real-Time Radiological and Meteorological Data

Under the currently existing conditions, the decision making process in a fast developing emergency is completely dependent upon the Nuclear Facility Operator, who is in a position to identify the emergency and evaluate its on-site and off-site consequences within a short period of time. Any supplementary information from State or Federal agencies on the releases are delayed by a number of hours, and thus are not usable for preliminary assessment of the accident.

Available information is to be provided promptly to the Bureau of Environmental Radiation Protection staff at Health Department offices or at home prior to activation of the EOC. Updates should be supplied periodically to the EOC, once activated.

Offsite monitoring for exposure rates and radioiodine concentration in the plume EPZ will be conducted by the NFO staff. Monitoring and sampling locations for the various facility teams have been identified. These are shown in the Site Specific portion of this Plan.

Monitoring capability support for extended periods of time will be supplied by the other nuclear facility operators. Agreements are established by which mutual radiological assistance will be made available to any facility suffering an accident. Both Indian Point and Nine Mile Point-FitzPatrick sites include reactors operated by two seperate licensees (operators). In each case, monitors from one facility will be available to support the other. Support to Ginna can be supplied by monitors from Nine Mile Point and FitzPatrick. The two sites are 50 miles apart. Also Ginna staff can support Nine Mile Point and FitzPatrick.

5.2.1 NFO Supplied Information

5.2.1.1 Source term information:

a. physical form of release
b. radionuclides released and inventory available for potential release
c. release rate and possible change in rate
d. time release started, or projected time of start of release
e. projected duration of release
f. effective height of release point

5.2.1.2 Meteorological Information

a. on and off-site low level wind speed and direction, current and forecast
b. upper-air wind speed and direction for on and off-site, current and forecast
c. atmospheric stability class, current and forecast
d. precipitation data current and forecast
e. temperature, pressure, humidity

5.2.1.3 Off-site radiological information - measured

a. exposure rates at monitoring points and time of measurement
b. cumulative dose at monitoring points (where available)
c. airborne concentrations and radionuclides measured and time and location of measurement
d. ground deposition and radionuclide composition

5.2.1.4 Reactor status information

a. the reactor operational status
b. status of engineered safeguards
c. projected effect on release rate and/or duration
d. length of operating cycle
e. time delay of release after shutdown

5.2.1.5 Off-site Dose Information
The NFO will provide the following information and will identify whether it is measured or projected

a. sectors affected
b. dose rate at various distances downwind and time of measurement (or projection) for whole body and thyroid
c. projected dose at site boundary and at various distances downwind (2, 5 and 10 miles)
d. projected dose for special facilities downwind

5.2.1.6 Protective Actions Information

a. on-site NFO's protective measures involving off-site emergency response teams
b. NFO's recommendation for off-site protective actions.

5.2.2 Federal Monitoring and Assessment Information

USDOE Radiological assistance will be requested for emergencies classified as Site Area or General Emergencies. Data from the DOE teams will be coordinated with other data in the EOF and transmitted from there to the State EOC. The DOE teams will be the primary source of information on aerial monitoring of the plume. The information supplied by this monitoring mode includes:

- exposure rates and radionuclide concentrations in the plume
- isotopic identification of radionuclides releases
- delineation of plume extent
- extent of ground deposition

Radiological Assistance teams operating from Brookhaven National Laboratory can respond to any site in the State within 4 to 6 hours if air transport is used. (If air transport

cannot be used due to weather conditions, motor vehicles will be used. The use of motor vehicles may add about 3 hours to response time for an incident at Indian Point; add about 9 hours for an incident at NMP/JAF; and add about 11 hours for an incident at Ginna Station).

Aerial monitoring capabilities are expected to arive from Andrews AFB, Maryland. This capability is expected to be functional 4 hours after take-off.

RAP acvance teams at Knolls Atomic Power Laboratory (KAPL), Environmental Measurements Laboratories (EML) and the West Valley Demonstration Project, may be able to respond in a shorter time frame depending upon the site of the emergency. KAPL teams can respond to any nuclear power site in the State within 5 hours. EML team can respond to Indian Point within 2 to 3 hours. West Valley teams can respond to Ginna within 2 to 3 hours and NMP/JAF within 3 to 5 hours.

5.3 Sampling Data

Data from laboratory analysis of air, soil, water, milk and vegetation samples collected in the area surrounding the plant are important for defining the magnitude and extent of contmination resulting from the release. These data are normally delayed from several hours to a few days depending upon the radionuclides present, contamination levels and sampling media involved. This cannot be used in the decision process in the preliminary stages where the dose from inhalation and whole body exposure determines the protective action options utilized.

However, these data will be utilized for:

- o modification of actions taken already
- o prescribing protective actions for the ingestion pathway
- o determining the need for decontamination

Sampling will be conducted by the NFO and State agencies. Additional sampling by the Federal agencies (EPA, FDA, NRC, DOE) may be requested through USDOE if appropriate.

Samples collected by or for the State are analyzed by the radiological laboratory in the State Department of Health. The laboratory's equipment and staff capabilities are listed in Part III, Section II. The Director of the radiological laboratory will coordinate the sampling and laboratory analysis activities of the various agencies. Additional sample analysis capability is provided through Federal support coordinated by USDOE.

The State sampling program involves collecting and analyzing samples of the following:

5.3.1 Air Samples

The Bureau of Environmental Radiation Protection maintains sampling points around the nuclear power plant sites which include sampling for particulate and radioiodine releases from the plant. The frequency and the level of the sampling program will be increased in an emergency.

5.3.2 Water Samples

Water samples will be collected initially from open reservoirs downwind within the plume EPZ and the tap water for water supplies using these reservoirs. Sampling locations can be extended beyond the plume EPZ as necessary. The Bureau of Public Water Supply in the Division of Environmental Health, State Department of Health, will be responsible for the collection of water samples and delivering them to the radiological laboratory for analysis.

In the event of a significant release to a river or lake, water samples from the river or the lake will be collected from locations near the point of release as well as down-stream from the release point by the NFO. Water samples near public water supply intake points that may be affected by the release will also be collected.

5.3.3 Milk Samples

The milk sampling locations will be coordinated with the State Department of Agriculture and Markets, who will be responsible for sample collection.

Milk samples will be collected from a representative sample of farms in the ingestion EPZ concentrating on the down-wind direction.

Samples will also be collected from milk processing plants that draw milk from farmers in the ingestion EPZ.

5.3.4 Vegetation Samples

Such samples are collected in order to determine the contamination level of edible vegetables (in season) and to determine the need for reducing the potential of radionuclide intake through that route.

Samples are also collected from vegetation that constitutes farm animal feed in order to determine potential intake of radionuclides by milk producing animals or those that are used for human consumption.

State Department of Agriculture and Markets will be responsible for the collection of these samples.

5.3.6 Soil Samples

While aerial monitoring may outline the extent of land contamination resulting from deposition of airborne activity, analysis of soil samples collected within the area of contamination determines the radionuclides present and their concentrations. BERP will be responsible for obtainning the samples.

5.3.7 Fish and Biota Samples

These will be collected only in the case of a significant release to a water body. DEC will be responsible for obtaining the samples.

5.4 Emergency Diagnosis and Prognosis

Information on the emergency diagnosis and prognosis will be received from the NFO, NRC and State's reactor systems analysts. The projected effect of plant status on potential releases will be factored into the calculation of projected dose and will be taken into consideration in determining any precuationary actions recommended.

6.0 Utilization of Information

The assessment group at the EOC will utilize the information received in performing the following:

6.1 Dose Projection

The staff performing the accident assessment at the State EOC will take all the available information described in Item 5 above into consideration when calculating actual or projected doses to the public.

6.1.1 Exposure to the Plume

The purpose of the assessment calculation in the plume EPZ is to estimate the projected dose resulting from airborne radionuclides, as a function of time and distance from the facility, to an individual if no protective measures are taken, and the projected dose for different combinations of protective actions. These are:

- o unprotected exposure followed by sheltering
- o unprotected exposure followed by evacuation
- o unprotected exposure followed by sheltering then evacuation

Whole body dose resulting from external exposure from the plume as well as estimates of projected thyroid dose for both child and adult due to inhalation of radioiodines in the plume will be obtained.

Preliminary dose estimates for the plume EPZ will be based on methods used in the EPA Protective Action Guide Manual. Attachment 1 describes the procedures that will be used in preliminary dose estimates for various types of available information.

Dose estimate methods using atmospheric dispersion models are currently available for Indian Point (MIDAS) and Nine Mile Point/FitzPatrick (MRAS). The State can access these systems using modems and terminals at the State EOC.

In addition, a computer/terminal installed in the State Department of Health is linked to the Lawrence Livermore Laboratory ARAC system. This system utilizes three dimensional analysis taking into account topographic variations and reflects the variation in the plume dispersion due to variations in localized wind fields. The ARAC system computer at the Department of Health provides projection based on a simple Gaussian dispersion model in a short time frame. The more complex, three dimensional ARAC results will not be available for several hours. The latter cannot be utilized for the decision making process for selecting protective actions in a fast developing emergency. However, it may be useful in determining the need for protective action at large distances from the site, in a slowly escalating emergency, or for estimating the source term from measured concentrations and exposure rates at various distances.

6.1.2 Deposition

There are three different pathways that lead to radiation exposure resulting from deposited radionuclides. These are ingestion of contaminated food or water, external exposure due to surface contamination and exposure to and inhalation of resuspended radionuclides. The dose resulting from these pathways depends upon a number of actors including the physical properties and chemical form of the radionuclide, their concentrations and the nature of the contaminated surfaces.

In general the dose due to ingestion of contaminated food, particularly milk, will be the most significant in the early stages after deposition. Concentrations of ^{131}I, ^{137}Cs, ^{90}Sr and ^{89}Sr (the most significant radionuclides for this pathway) will be obtained through laboratory analysis of collected milk and grass samples. The measured milk and pasture concentrations of these radionuclides can be related to dose commitments of uncontrolled ingestion using the tables given in Attachment 2 which is taken from the FDA PAG's. The dose commitment resulting from ingestion of food or water contaminated with other radionuclides will be estimated using the NRC Regulatory Guide 1.109, "Calculation of Annual Doses to Man From Routine Releases or Reactor Effluents For The Purpose of Evaluating Compliance with 10 CFR 50, Appendix I".

The dose commitment due to external exposure to contaminated grounds can be estimated from an analysis of the contaminants using Regulatory Guide 1.109 tables.

The dose commitment due to resuspension can be calculated for a standard man from a knowledge of the air concentrations of airborne radionuclides, using Regulatory Guide 1.109. Attchment 1 outlines the procedure that will be used to obtain projected dose commitments for the various pathways for certain key nuclides.

6.2 Recommendation of Protective Action Options

Based upon the projected doses, the assessment group will make recommendations to the State Commissioner of Health. These, if implemented, will institute, alter or rescind previously ordered protective action measures. The criteria used in arriving at these recommendations are described below in #7, Evaluation and Protective Action Options.

6.3 Deployment of Monitoring and Sampling Resources

The incoming information on the nature of the release and the prevailing conditions will be used by the assessment group in determining the need for additional monitoring and sampling information. Due to the limited monitoring and sampling resources available at the early stages of a developing emergency, the types and locations of the monitoring and sampling points will be determined by the assessment team at the time. The nature and duration of the release, wind direction and speed and the demographic and topographic characteristics of the areas down wind from the point of release will be taken into consideration when determining the monitoring and sampling needs.

6.4 Preparation of Briefing Material

The data received in the EOC and the results of the analyses performed will be reduced by the assessment group into concise and understandable information that will give a clear view of the situation. Briefing material will be presented to the EOC staff and the Public Information Officer. The information prepared should utilize graphic displays and should include the following:

- Identification of the facility experiencing the emergency and the time the incident began;
- Identification of the communities or geographic areas affected by the emergency;
- Brief description of the type of emergency;
- The hazard, particularly in terms of potential risk or absence thereof, to the affected populace;

- Instructions with regard to specific protective measures to be taken by residents of the affected areas and their effectiveness relative to no action and other options;

- Type and extent of participation of involved emergency response organizations;

The assessment group will also assist the PIO in preparing public information messages.

7.0 Evaluation and Protective Action Options

The projected doses will be used in determining whether actions are needed to reduce the population exposure. The decision whether any action is needed depends upon whether the projected dose exceeds a predetermined trigger level. The trigger levels that will be used are those recommended by the EPA Protective Action Guides (PAG's) for plume exposure and FDA PAG's for ingestion of contaminated milk and other food stuffs. FDA and EPA PAG's are listed in Attachment 2 & 3 respectively.

7.1 Plume Protective Actions

The choice of the protective actions that will result in the maximum reduction of population dose will depend upon the nature of the release and on a number of time intervals. These include the duration of release, the time delay prior to initiation of the protective action, the time needed to complete the protective action and the time delay until the plume arrival to the area under consideration. These times are dependent upon the release characteristics, the meteorological and climatic conditions and logistic and demographic distribution constraints. In general there are three options that can reduce the exposure of an individual to the plume.

These are shelter, evacuation, or a combination of both. A selection of the optimum protective action involves an evaluation of the dose to the individual under the various options taking into account all the existing constraints during the emergency. The doses already received will not be considered when comparing the various options in order to evaluate their relative effectiveness.

Since the whole body and thyroid doses are to be considered, the set of protective options that minimizes one might not be the same as the one that minimizes the other. In such a situation evaluation will be performed to determine which will be the determining factor. Attachment 4 represents the evaluative process that will be utilized in determining the protective option to be recommended. These are adopted from "Protective Action Evaluation Part II, The Effectiveness of Sheltering as a Protective Action Against Nuclear Accidents Involving Gaseous Releases". The methods described in this reference will be used. Part III, Section I.D describes a simplified procedure that will be used to determine the protective action solely indicated by a consideration of the projected doses.

Precautionary protective measures are recommended prior to detailed analysis in the case of a declaration of a General Emergency. In this situation sheltering for 2 mile radius and 5 mile down wind will be recommended immediately. As more information becomes available, this option may be modified as indicated.

7.2 Ingestion Protective Actions

Population exposure can result from intake of radioactive material due to consumption of food and water which are contaminated by the radionuclides released in the accident. The primary exposure pathways to be considered are the pasture-cow-milk-man chain, vegetables and water. (See Part II, Section II, page 2 for Department of Agriculture & Markets listings.)

7.2.1 Milk

In the early stages of an emergency the milk pathway is the most significant. Thus early protective actions for preventing contamination of milk in the affected area are recommended prior to obtaining confirmatory data.

If a Site Area Emergency class is declared, an immediate recommendation will be made to place milk animals located within 2 miles on stored feed. As more information becomes available, this may be modified as required.

In the case of General Emergency declaration, an immediate recommendation to place milk animals within 10 miles on stored feed will be made. People in the downwind direction within the Plume EPZ will be advised to wash fruits and vegetables thoroughly prior to eating them. This may be modified as more information becomes available.

The preventative PAG level is 1.5 rem to the infant thyroid or 0.5 rem whole body dose. If the projected contamination to milk will result in a dose exceeding this level, a recommendation will be issued to farmers in affected area to place lactating cattle on stored feed.

The emergency PAG has been set at 15 rem to the infant thyroid or 5 rem whole body dose. Milk contaminated to levels that will lead to this dose, will not be allowed to be distributed for public consumption.

Implementation of protective measures will be carried out by the Department of Agriculture and Markets in coordination with the Department of Health according to their specific operating procedures.

7.2.2 Other Agricultural Products

Consumable agricultural products such as fruits, vegetables, meat and meat products will be embargoed if the contamination level exceeds the emergency PAG.

Farmers will be advised not to use contaminated animal feed for livestock used for meat production if the projected dose to the meat consumer exceeds the preventive PAG.

7.2.3 Water

Maps showing water supplies in the ingestion EPZ are available at the State Department of Health and the State EOC. Due to dilution, water treatment and time lag between contamination of surface water and drinking water at the tap, immediate protective action prior to confirmatory measurements is not warranted. However, if measurement shows contamination of the drinking water supply leading to a dose commitment exceeding .5 rem one or more of the following options will be recommended:

- reduce daily intake
- use alternative uncontaminated source for drinking, limiting the use of the contaminated water source for sanitary and fire fighting purposes
- initiate special treatment procedures for water to remove contaminants
- limit water supply sources to uncontaminated water

7.3 Deposition

While the primary source of population dose resulting from ground deposition of radionuclides in the ingestion EPZ is expected to be that resulting from ingestion of contaminated milk (in the short term) and other food products, external exposure due to contaminated surfaces might be as signification. This will particularly be the case if a significant particulate contamination occurs.

*Note: The data (e.g., maps, computer listings, etc.) used in making the technical decisions is on file in the various SEMO District Offices and is available to the State EOC staff.

The external dose commitment due to the surface contamination can be calculated from a knowledge of the surface contamination of the various radionuclides and the projected time of exposure. Should the dose commitment exceed the EPA PAG's for whole body exposure, protective actions will be recommended.

The nature of the protective action recommended will be dependent upon the half life of the contaminant, the nature of the contaminated surface, weather conditions, magnitude an extent of the contamination. The protective actions would range from washing of the contamination by simple hosing to sheltering followed by evacuation depending upon the severity of the contamination problem.

If personal contamination of the public is anticipated prior to taking shelter, recommendations will be made to wash exposed parts of the body, shower and change clothes as soon as practical.

8.0 Assessment Group Procedure

8.1 Notification of Unusual Event

The Bureau of Environmental Radiation Protection, N.Y. State Health Department:

1. Receives notice from NFO or S.W.P.
2. Contacts NFO and obtains more detailed information.
3. Notifies PIO and Director of Field Operations Management Group by telephone.
4. Notifies Director of SEHO and SEO.
5. Notifies DOH Regional/Area Office (during working hours), DEC and A&M (for releases)
6. Completes and distributes Problem Alert form to DOH staff (Attachment 5).
7. Continues contact with NFO until emergency is terminated or is escalated to a more severe class.
8. If emergency is terminated: prepares and distributes an update to the Problem Alert form.
9. If emergency is escalated takes appropriate action as indicated in the following.

8.2 Alert

The Bureau of Environmental Radiation Protection, N.Y. State Health Department:

1. Receives notice of an Alert class emergency from NFO or S.W.P.

2. Takes steps 2-6 under Unusual Event.

3. Asks S.W.P. to notify staff responsible for radiological assessment that EOC is partially activated.

4. Proceeds to EOC.

5. Once at the EOC establisnes contact with the NFO.

6. If a release has occured or is projected, performs calculations to estimate off-site dose at 2, 5, and 10 miles projected for exposure times related to the projected time of release. Estimates will be performed for whole body and thyroid of child and adult.

7. Determines with the technical support group, the need for, type, number, location and times of sample collection in order to evaluate the impact on milk, food and water.

8. Contacts appropriate agency to initiate sampling program as in Attachment 6.

9. Prepares grapnical representation of available data and analysis results indicating times of measurements or dose projection.

10. Keeps State Commissioner of Health and PIO advised of all significant changes.

11. Prepares briefing material.

12. Maintains Alert status until emergency is terminated, or

13. Escalates to a more severe class emergency.

8.3 Site Area Emergency

The Bureau of Environmental Radiation Protection, N.Y. State Health Department:

1. Receives notification from NFO or S.W.P.

2. If NFO notification is not received over RECS, contacts NFO for confirmation and obtains a brief information update.

3. Contacts SWP to initiate notification procedure for a Site Area Emergency.

4. Notifies Director FCMS, Director of Radiological Sciences Laboratory and PIO and advises:

   placing all emergency workers on standby;
   placing milk animals within 2 miles and 5 miles downwind on stored feed.

5. Notifies USDOE at Brookhaven Area Office and requests radiological monitoring and sampling support.

6. Proceeds to the EOC. (Following actions will be taken by the assessment staff at the EOC).

7. Established contact with the NFO and the State liaison staff in the EOF, District EOC and Local Government EOC's.

8. Obtains more detailed information of the release.

9. Performs dose projections at various distances downwind (2, 5, and 10 miles).

10. Recommends protective action based on preliminary dose estimates taking into consideration the NFO's projected plant status and recommendations.

11. Determines the need for additional monitoring and sampling and initiates programs by contacting appropriate contact persons listed in Attachment 6.

12. Continues to update dose projections according to data received.

13. Revises recommended protective actions as indicated by updated data.

14. Advises EOC staff of all significant changes and revisions in projected doses and recommended protective actions.

15. Provides State monitoring and sampling data to the EOF and county EOC's as these become available.

16. Prepares briefing material including graphical representation of data and projections for use by PIO and others.

17. Provides advice on emergency worker's exposure when requested.

18. Maintains Site Area Emergency status until closeout or reduction of emergency class or

19. Escalates to General Emergency class.

8.4 General Emergency

The Bureau of Environmental Radiation Protection, N.Y. State Health Department:

1. Receives notification from NFO or S.W.P.

2. If NFO notification is not received over RECS, contacts NFO for confirmation and obtains a brief information update.

3. Contacts the SWP to initiate notification procedures for a general emergency.

4. Notifies Director FOMG, Director of Radiological Sciences Laboratory, PIO and advises:

   sheltering for 2 mile radius and 5 miles downwind;
   dispatching of emergency workers to duty stations within 5 miles radius and alerting all others to standby;
   placing milk animals within 10 miles on stored feed.

5. Notifies USDOE Brookhaven Area Office and requests radiological monitoring and sampling support, if not already accomplished.

6. Proceeds to the EOC. (Following actions will be taken by the assessment staff at the EOC).

7. Establishes contact with the NFO and the State liaison staff in the EOF, District EOC and Local Government EOC's.

8. Obtains more detailed information of the release.

9. Performs dose projections at various distances downwind (2, 5 and 10 miles).

10. Recommends protective action based on preliminary dose estimates taking into consideration the NFO's projected plant status and recommendations.

11. Determines the need for additional monitoring and sampling and initiates programs by contacting appropriate contact persons listed in Attachment B.

12. Continues to update dose projections according to data received.

13. Revises recommended protective actions as indicated by updated data.

14. Advises EOC staff of all significant changes and revisions in projected doses and recommended protective actions.

15. Provides State monitoring and sampling data to the EOF and county EOC's as these become available.

16. Prepares briefing material including graphical representation of data and projections for use by PIO and others.

17. Provides advice on emergency workers exposure when requested.

18. Maintains General Emergency status until closeout or reduction of emergency class.

(NOT USED)

DOSE ESTIMATION PROCEDURES

Dose estimates will be made for a number of downwind locations including the site perimeter, 2, 5, and 10 miles and for each affected ERPA. They will be based upon data developed by the NFO and others. The estimating procedures will follow methods outlined in the EPA Protective Action Guide Manual and will make use of the site specific diffusion overlays developed for each facility.

The several dose estimating procedures that are available to project whole body, thyroid, external and internal dosages resulting from deposition and lung dose from inhalation are outlined below. Methods to be used to extrapolate doses and concentration from the point of measurement to other locations is also included. Terms and definitions used throughout this attachment are as follows:

Terms and Definitions

D : Dose, (rem)

$\dot{E}$: Gamma exposure rate, (mR/hr)

POI : Point of interest

POM : Point of measurement

Q : Release rate, (Ci/sec)

t_d: Cloud travel time, (hrs)

$= x/\bar{u} \cdot 3600$

t_e: Estimates exposure time, (hrs)

t_r: Time between shutdown and release, (hrs)

t_s: Time since shutdown, (hrs)

$= t_d + t_r$

$\bar{u}$: Average wind speed, (m/sec)

X : Concentration, (Ci/m^3)

x : Downwind distance to POI or POM, (m)

1.0 WHOLE BODY

1.1 FSAR Evaluated Incident

Prior to a release of radioactive material or to the availability of data from effluent monitors and the offsite monitoring program, whole body dose estimates can be made when the type of reactor accident and the status of engineered safeguards are known from Control Room information.

1.1.1 Data Required

a. Type of accident, status of safeguards.
b. FSAR Accidents Analysis and Estimated Dose Projections.
c. Meteorological data - atmospheric stability class, wind direction.
d. Diffusion overlays and base map.

1.1.2 Procedure

Whole body dose estimates at a specific distance from the reactor are determined from the FSAR Accidents Analysis and Estimated Dose Projections when the type of accident and status of the safeguards is known. Although this method is crude and does not take into account decay as the cloud travels, it may be the only method available during the early stages of an accident. Results are to be refined as source term information or monitoring data comes in.

1.2 Source Term Known

The first hard data likely to be available that can be ued to estimate whole body exposure is the release rate obtained from effluent monitors or from measurements made directly by health physics technicians.

1.2.1 Data Required

a. Release rate, Q, Ci/sec
b. Meteorological data - atmospheric stability class, wind speed and direction.
c. Diffusion overlays and base map.
d. Duration of exposure, t_e, hrs.
e. Time after reactor shutdown, t_s, hrs.
f. Graphs of projected whole body gamma dose as a function of gamma exposure rate or noble gas concentration in air and projected duration of exposure. Seven graphs for different times after shutdown are used (Fig's 1-7).

1.2.2 Procedure

Meteorological data is used to select and allign the appropriate diffusion overlay on the base map. Atmospheric dilution factors $\left(\frac{\chi u}{Q}\right)$ are obtained from the overlay at the points of interest and concentration is obtained by multiplying $\frac{\chi \bar{u}}{Q}$ by the source term Q and dividing by the average wind speed $\bar{u}$.

$$\chi_{POI} = \left(\frac{\chi \bar{u}}{Q}\right)_{POI} \frac{Q}{\bar{u}}$$

The time after shutdown, t_s is used for each point of interest to select the proper graph (Fig's 1-7) and the whole body gamma dose is obtained for the concentration and exposure time that applies.

1.3 Offsite Monitoring

Whole body gamma dose may also be obtained from offsite monitoring data. Since the gamma exposure rate is measured directly in the field, this method should yield the most accurate results. It is likely however, that the required data will not be available until some time after other dose estimating procedures have been used. This method will therefore be

used to refine dose estimates and protective action recommendations. Two methods are given here to translate field measurements to other locations. The first is rapid but does not take into account decay as the cloud travels downwind while the second, although more time consuming, does consider such decay.

1.3.1 No Decay

1.3.1.1 Data Required

a. Gamma exposure rate, E, mR/hr.
b. Meteorological data - atmospheric stability class, wind direction.
c. Diffusion overlays and base map.
d. Exposure time, t_e, hrs.

1.3.1.2 Procedure

The whole body gamma dose at the point of measurement is calculated by multiplying the gamma exposure rate by the time of exposure.

$$D_{POM} = E\ t_e$$

The methods of Section b are used to obtain the dose at other POI.

1.3.2 Decay

1.3.2.1 Data Required

a. Gamma exposure rate, E, mR/hr.
b. Meteorological data - atmospheric stability class, wind speed and direction.
c. Diffusion overlays and base map.
d. Exposure time, t_e, hrs.
e. Time after reactor shutdown, t_s, for each location of interest, hrs.
f. Graphs of projected whole body gamma dose as a function of gamma exposure rate or noble gas concentration in air and projected duration of exposure. Seven graphs for different times after shutdown are used (Fig's 1-7).

1.3.2.2 Procedure

The whole body gamma dose at the point of measurement is calculated by multiplying the gamma exposure rate by the time of exposure.

$$D_{POM} = Et_e$$

The dose at other locations is determined with the diffusion overlays and the graphs of projected dose.

The air concentration of noble gases at the point of measurement, X_{POI}, is determined from the gamma exposure rate and the dose projection graph selected for the t_s of the measurement point. Noble gas concentrations at other locations are determined by either of the methods given in Section 5. The time since reactor shutdown for each point of interest is calculated and used to select the appropriate dose projection graph (Fig's 1-7). Projected dose is taken from the graph for the concentration and exposure time that applies.

1.4 Nuclide Concentration Known (External Whole Body Exposure)

1.4.1 Data Required

a. Air concentration of nuclide of interest, pCi/l.
b. Annual Dose Commitment From Exposure to a Noble Gas Cloud (Semi-Infinite) Table 1.

1.4.2 Procedure

The annual immersion dose is obtained by multiplying the air concentration of the radionuclide of interest by the appropriate dose factor from Table 1. The dose for shorter periods of time is obtained by multiplying by the factor: Exposure Period in Days/365.

1.5 Nuclide Concentration Known (Inhalation)

1.5.1 Data Required

a. Air concentration of nuclide of interest, pCi/l.
b. Whole Body 50 Year Dose Commitment From Inhalation of Radionuclide, Table 2.

1.5.2 Procedure

The air concentration for the nuclide of interest is multiplied by the inhalation rate for the person of interest (Table 2) and the number of days of exposure to the cloud to give the total pCi inhaled. Dose is obtained by multiplying the total pCi inhaled by the dose factor for the appropriate person (Table 2).

2.0 THYROID

2.1 FSAR Evaluated Incident

Prior to a release of radioactive materials or availability of data from effluent monitors and the offsite monitoring program, thyroid dose estimates can be made when the type of reactor accident and the status of engineered safeguards are known from Control Room information.

2.1.1 Data Required

a. Type of accident, status of safeguards.
b. FSAR Accidents Analysis and Estimated Dose Projections.

c. Meteorological data - atmospheric stability class, wind direction.
d. Diffusion overlays and base map.

2.1.2 Procedure

Thyroid dose estimates at a specific distance from the reactor are determined from the FSAR Accidents Analysis and Estimated Dose Projections when the type of accident and status of the safeguards is known. Although this method is crude and does not take into account decay as the cloud travels downwind, it may be the only method available during the early stages of an accident. Results are to be refined as source term information or monitoring data comes in.

2.2 Source Term Known

The source term may be known in terms of total iodine release rate, I-131 release rate or simply in terms of total curies/sec with no breakdown to noble gases and iodine. Each case is considered below.

2.2.1 Total Radioiodine Source Term Known

2.2.1.1 Data Required

a. Radioiodine release rate, Q, Ci/sec.
b. Meteorological data - atmospheric stability class, wind speed and direction.
c. Diffusion overlays and base map.
d. Exposure time, t_e, hrs.
e. Time after reactor shutdown, t_s, for each location of interest, hrs.
f. Graph of thyroid exposure (adult and child) as a function of radioiodine concentration and exposure time (Fig 8).
g. Graph of dose correction factor as a function of time since shutdown (Fig 9).

2.2.1.2 Procedure

Meteorological data is used to select and allign the appropriate diffusion overlay over the base map. Dilution factors are obtained from the overlay for the points of interest. The dilution factors $\frac{X\bar{u}}{Q}$ are multiplied by the source term, Q, and divided by the windspeed $\bar{u}$ to get the actual radioiodine concentration at each point.

$$\chi_{POI} = \left(\frac{X\bar{u}}{Q}\right)_{POI} \frac{Q}{\bar{u}}$$

Adult and child thyroid dose is determined from the graph of thyroid exposure as a function of concentration and exposure time (Fig 8). The time since shutdown is determined and if different than 4 hours, a decay correction factor is obtained from the correction factor graph (Fig. 9) and multiplied by the dose.

2.2.2 Iodine 131 Source Term Known

The procedure here is the same as in the previous section except that the I-131 concentration must be converted to total iodine concentration prior to use of the thyroid dose curve (Fig 8). Fig. 8 is based upon a mix of iodine isotopes present at about 4 hours after shutdown. Based upon the equilibrium core inventory of radioiodines and noble gases present in a typical 1000 MWe (EPA-520/1-75-001) power reactor and analysis of the decay of each iodine species present, it was determined that the ratio of total radioiodine to I-131 is 4.4 at 4 hours after shutdown. Downwind I-131 concentrations at the points of interest are determined from the diffusion overlays, the source term and wind speed. I-131 concentrations are multiplied by 4.4 to get total radioiodine concentration. Thyroid doses are obtained from Fig. 8 and corrected for time since shutdown as previously (Fig 9).

2.2.3 Source Term as Total Curies/Second

The radioiodine release rate may be estimated by assuming a specific ratio of radioiodine to noble gases in the effluent for the plant in question. The procedure from that point on is the same as in section 2.2.1.

2.3 Iodine Concentration Known

The monitoring programs will yield iodine air concentrations in terms of total iodine, I-131, or of individual species. Each case is considered below.

2.3.1 Total Radioiodine Concentration Known

2.3.1.1 Data Required

a. Radioiodine concentration, Q, Ci/sec.
b. Meteorological data - atmospheric stability class, wind speed and direction.
c. Diffusion overlays and base map.
d. Exposure time, t_e, hrs.
e. Time after reactor shutdown, t_s, for each location of interest, hrs.
f. Graph of thyroid exposure (adult and child) as a function of radioiodine concentration and exposure time (Fig 8).
g. Graph of dose correction factor as a function of time since shutdown (Fig 9).

2.3.1.2 Procedure

The thyroid dose at the point of measurement (adult and child) is obtained from the thyroid dose projection graph (Fig 8) for the measured radioiodine concentration and the estimated exposure time. The dose obtained is multiplied by a decay correction factor if the time since shutdown, t_s, is other than 4 hours (Fig 9). Thyroid doses at other points of interest

are determined by first calculating the radioiodine concentration at each location by either of the methods of Section 5. Thyroid dose is again obtained from Fig 8 and corrected for decay as above.

2.3.2 I-131 Concentration Known

The procedure here is the same as in the previous section except that the I-131 concentration must be converted to total iodine concentration prior to use of the thyroid dose curve (Fig 8). As discussed in Section 2.2.2, the I-131 concentration must be multiplied by 4.4 to obtain the equivalent total radioiodine concentration at 4 hours after shutdown. the I-131 concentration found at the point of measurement and those determined for other locations by means of the diffusion overlays are multiplied by 4.4 to give the equivalent radioiodine concentration. Doses are then obtained from the thyroid dose curve (Fig 8) an corrected for time since shutdown as before.

2.3.3 Concentrations of Individual Nuclide Known

2.3.3.1 Data Required

a. Air concentration of the isotope of interest pCi/liter.
b. Thyroid 50 Year Dose Commitment From Inhalation of Radionuclides Table 3.

2.3.3.2 Procedure

The total activity inhaled is obtained by multiplying the air concentration by the inhalation rate for the person of interest (Table 3) and by the number of days of exposure to the cloud. The total activity inhaled is multiplied by the dose factor for the desired individual (Table 3) to get the 50 year dose commitment to the thyroid.

2.4 Gamma Dose Rate Known

This method should be used cautiously as it may be subject to substantial error.

2.4.1 Data Required

a. Gamma exposure rate, E, mR/hr.
b. Duration of exposure, t_e, hrs.
c. Time since reactor shutdown, t_s, for each location of interest, hrs.
d. Meteorological data - atmospheric stability class, wind speed and direction.
e. Graph of Gamma Exposure Rate Finite Cloud Correction Factor (Fig 10).
f. Graph of Correction Factors for Thyroid Inhalation Dose as a Function of time after reactor shutdown that radioiodine concentration is measured (Fig 9).

g. Graph of Radioiodine Release Correction Factor (Fig 11).
h. Radioiodine to Noble Gas Activity Ratio.
i. Graph of thyroid exposure (adult and child) as a function of radioiodine concentration, gamma exposure rate and exposure time (Fig 8).

2.4.2 Procedure

The gamma exposure rate, the distance downwind to the measurement point and the atmospheric stability class are used to obtain the Gamma Exposure Rate Finite Cloud Correction Factor (Fig 10). The time since reactor shutdown is used to obtain the Correction Factor for Thyroid Inhalation Dose (Fig 9) and the radioiodine to noble gas ratio is used to obtain the Radioiodine Release Correction Factor (Fig 11). The three correction factors are multiplied by the observed gamma exposure rate and the projected thyroid dose is obtained from the thyroid exposure curve (Fig 8) using the corrected exposure rate and estimated duration of exposure.

2.5 Downwind Distance for a Specified Thyroid Dose

This technique may be used to determine the distance to a downwind point that receives a specified thyroid dose and may therefore be used to identify areas of special interst.

2.5.1 Data Required

a. Dose of interest D, eg. 5 Rem, 25 Rem.
b. Meteorological data - atmospheric stability class, wind speed and direction.
c. Release Rate, Q, Curies of radioiodine/sec.
d. Diffusion overlays and base map.
e. Time since shutdown, t_s, hrs.
f. Graph of correction factors for Thyroid Inhalation Dose as a Function of time after Reactor Shutdown that Radioiodine Concentration is measured (Fig. 9).
g. Graph of thyroid exposure (adult and child) as a function of radioiodine concentration, gamma exposure rate and exposure time (Fig. 8).
h. Exposure time, t_e, hrs.

2.5.2 Procedure

Divide the dose selected by the decay correction factor if the time since shutdown is other than 4 hours. The corrected dose and estimated exposure time is used with the thyroid exposure curve (Fig. 8) to determine the radioiodine concentration that would cause the corrected dose. The atmospheric dilution factor is obtained by multiplying the concentration by the average wind speed and dividing by the release rate. Meteorological data is used to select and properly allign a diffusion overlay over the base map and the distance to the calculated dilution factor is obtained from the map.

3.0 DEPOSITION

Several radiation exposure pathways exist as a result of deposition of radioactive materials from the overpassing cloud. Dose Assessment techniques are presented here for thyroid and whole body exposure resulting from ingestion of contaminated food and external whole body exposure from radioactive materials deposited on the ground.

3.1 Ingestion Pathway

3.1.1 Thyroid Exposure

3.1.1.1 Data Required

a. Concentration of radionuclide of interest in food of interest, pCi/kg for solids, pCi/l for liquids.
b. Thyroid 50 Yr Dose Commitment From Ingestion of Radionuclides, (Table 4).
c. Annual Ingestion Rates for Various Foods (Table 5).

3.1.1.2 Procedure

The concentration of radionuclide is multiplied by the annual ingestion rate for the appropriate food (table 5) to give the annual rate of ingestion for that radionuclide. The dose factor for that radionuclide and the individual of interest, Table 1, is multiplied by the annual ingestion rate for the radionuclide to obtain the annual thyroid dose. This dose can be related to other ingestion periods through consideration of the actual ingestion period and correction for decay that occurs prior to ingestion.

3.1.2 Whole Body Exposure

3.1.2.1 Data Required

a. Concentration of radionuclide of interest in food of interest.
b. Whole Body 50 Year Dose Commitment From Ingestion of Radionuclides (Table 6).
c. Annual Ingestion Rates for Various Foods (Table 5).

3.1.2.2 Procedures

The concentration of radionuclide is multiplied by the annual ingestion rate for the appropriate food (Table 5) to give the annual rate of ingestion for that radionuclide. The dose factor for that radionuclide and the individual of interest, Table 6, is multiplied by the annual ingestion rate for the radionuclide to obtain the annual whole body dose. This dose can be related to other ingestion periods through consideration of the actual ingestion period and correction for decay prior to ingestion.

3.2 External Pathway

3.2.1 Whole Body Exposure Rate

3.2.1.1 Data Required

a. Surface activity for the isotope of interest, pCi/m^2.
b. Annual Dose Commitment to Whole Body From Exposure to Contaminated Ground Surface (Table 7).

3.2.1.2 Procedure

Multiply the surface activity for the isotope of interest by the exposure rate for that isotope obtained from Table 7.

4.0 LUNG DOSE FROM INHALATION

4.1 Nuclide Concentrations Known

4.1.1 Data Required

a. Concentration of nuclide of interest.
b. Lung 50 Year Dose Commitment From Inhalation, Table 8.

4.1.2 Procedure

Multiply the nuclide concentration by the inhalation rate for the individual of interest (Table 8) and the length of exposure time to the cloud. Multiply by the dose factor (Table 8) to get the lung dose commitment.

5.0 EXTRAPOLATION OF DOSES AND CONCENTRATIONS TO SELECTED LOCATIONS

Two methods may be used to project exposure rates, doses or concentration from the point of measurement to other locations that might be of interest. The first uses diffusion overlays and the second uses an analytical expression from the EPZ manual of Protective Action Guides.

5.1 Diffusion Overlays

Atmospheric stability class is used to select the appropriate diffusion overlay and it is aligned over the base map according to the prevailing wind direction. The atmospheric dilution factor for any point of interest and for the point of measurement are obtained from the overlay and their ratio is multiplied by either the exposure rate, dose or concentration, as appropriate to obtain the value at the point of interest.

$$(D,E,\text{ or } X)_{POI} = \frac{\frac{(\overline{\chi u})}{(Q)}_{POI}}{\frac{(\overline{\chi u})}{(Q)}_{POM}} (D,E,\text{or } X)_{POM}$$

5.2 Formula

The second approach useful for calculating downwind plume centerline exposure rates, doses and/or concentrations makes use of the relationship:

$$\frac{\dot{E}_1}{\dot{E}_2} \text{ or } \frac{D_1}{D_2} \text{ or } \frac{X_1}{X_2} = \left(\frac{x_2}{x_2}\right)^n$$

Knowledge of E, D, or X at one distance enables calculation at a second distance. The exponent, n is a function of stability class as follows:

Stability Class	n
A	2.5 (good only for 9.25-1.5 miles)
B	2.0
C	1.8
D	1.5
E	1.4
F	1.3

TABLE 1

ANNUAL DOSE COMMITMENT FROM EXPOSURE TO A NOBLE GAS CLOUD (SEMI-INFINITE)

mrem/yr per pCi/l

Isotope	Skin Dose (Beta)	Whole Body (Gamma)
Kr-83m	--	7.56×10^{-5}
Kr-85m	1.46	1.17
Kr-85	1.34	1.61×10^{-2}
Kr-87	9.73	5.92
Kr-88	2.37	14.70
Kr-89	10.01	16.60
Kr-90	7.29	15.60
Xe-131m	0.48	9.15×10^{-2}
Xe-133m	0.99	0.25
Xe-133	0.31	0.29
Xe-135m	0.71	3.12
Xe-135	1.86	1.81
Xe-137	12.20	1.42
Xe-138	4.13	8.83
Ar-41	2.69	8.84

TABLE 2

WHOLE BODY 50 YR DOSE COMMITMENT FROM INHALATION OF RADIONUCLIDES

	mrem/pCi Inhaled		
Isotope	Infant	Child	Adult
Te-132	1.26×10^{-7}	7.12×10^{-8}	2.02×10^{-8}
I-131	1.40×10^{-5}	7.37×10^{-6}	2.56×10^{-6}
I-133	4.00×10^{-6}	2.08×10^{-6}	5.65×10^{-7}
I-135	1.98×10^{-6}	1.12×10^{-6}	3.21×10^{-7}
Xe-133	---	---	---
Xe-135	---	---	---
Cs-134	5.32×10^{-5}	6.12×10^{-8}	1.72×10^{-8}
Cs-137	3.25×10^{-5}	6.07×10^{-5}	9.10×10^{-5}
Daily Inhalation liter/day	4.7×10^{-3}	1.01×10^{4}	2.19×10^{4}

TABLE 3

THYROID 50 YR DOSE COMMITMENT FROM INHALATION OF RADIONUCLIDES

Isotope	mrem/pCi Inhaled		
	Infant	Child	Adult
I-131	1.06×10^{-2}	4.39×10^{-3}	1.49×10^{-3}
I-132	1.21×10^{-4}	5.23×10^{-5}	1.43×10^{-5}
I-133	2.54×10^{-3}	1.04×10^{-3}	2.69×10^{-4}
I-134	3.18×10^{-5}	1.37×10^{-5}	3.73×10^{-6}
I-135	4.97×10^{-4}	2.14×10^{-4}	5.60×10^{-5}
Te-132	1.99×10^{-7}	8.58×10^{-8}	2.37×10^{-8}
Recommended Inhalation rate liter/day	4.7×10^{3}	1.01×10^{4}	2.19×10^{4}

TABLE 4

THYROID 50 YEAR DOSE COMMITMENT FROM INGESTION OF RADIONUCLIDES

*mRem/pCi ingested

Isotope	Infant	Child	Adult
I-131	1.39×10^{-3}	5.72×10^{-3}	1.95×10^{-3}
I-132	1.58×10^{-4}	6.82×10^{-5}	1.90×10^{-5}
I-133	3.31×10^{-3}	1.36×10^{-3}	3.63×10^{-4}
I-134	4.15×10^{-5}	1.79×10^{-5}	4.99×10^{-6}
I-135	6.49×10^{-4}	2.79×10^{-4}	7.65×10^{-5}
Te-132	1.52×10^{-5}	6.51×10^{-6}	1.80×10^{-6}

*NUREG 1.109

TABLE 5

VALUES FOR INGESTION - ANNUAL INTAKE

Ingestion Pathway	Infant	Child	Adult
Fruits, Vegetables, Grains (kg)	--	200	190
Milk (l)	330	170	110
Meat and Poultry (kg)	--	37	95
Fish (kg)	--	2.2	6.9
Seafood (kg)	--	0.33	1.0
Drinking Water	330	260	370

TABLE 6

WHOLE BODY 50 YEAR DOSE COMMITMENT FROM INGESTION OF RADIONUCLIDES

*mRem/pCi Ingested

Isotope	Infant	Child	Adult
Te-132	9.61×10^{-6}	5.40×10^{-6}	1.53×10^{-6}
I-131	1.86×10^{-5}	9.83×10^{-6}	3.41×10^{-6}
I-133	5.33×10^{-6}	2.77×10^{-6}	7.53×10^{-7}
I-135	2.64×10^{-6}	$1.49 \times 1-^{-6}$	4.28×10^{-7}
Cs-134	7.10×10^{-5}	8.10×10^{-5}	1.21×10^{-4}
Cs-137	4.33×10^{-5}	4.62×10^{-5}	7.14×10^{-5}
Sr-89	7.20×10^{-5}	3.77×10^{-5}	8.84×10^{-6}
Sr-90	4.71×10^{-3}	4.31×10^{-3}	1.86×10^{-3}

*NUREG 1.109

TABLE 7

EXTERNAL DOSE FACTORS FOR STANDING ON CONTAMINATED GROUND

(mRem/hr per pCi/M^2)

Isotope	Total Body	Skin
I-131	2.80×10^{-9}	3.40×10^{-9}
I-133	3.70×10^{-9}	4.50×10^{-9}
I-135	1.20×10^{-8}	1.40×10^{-8}
Te-132	1.70×10^{-9}	2.00×10^{-9}
Cs-134	1.20×10^{-8}	1.40×10^{-8}
Cs-137	4.20×10^{-9}	4.90×10^{-9}
Sr-89	5.60×10^{-13}	6.50×10^{-13}
Co-60	1.70×10^{-8}	2.00×10^{-8}
Zn-65	4.00×10^{-9}	4.60×10^{-9}
Nb-95	5.10×10^{-9}	6.00×10^{-9}
Ba-140	2.10×10^{-9}	2.40×10^{-9}
La-140	1.50×10^{-8}	1.70×10^{-8}

TABLE 8

LUNG 50 YR DOSE COMMITMENT FROM INHALATION

Isotope	Infant	Child	Adult
I-131	6.48×10^{-4}	2.56×10^{-4}	8.46×10^{-5}
I-132	2.61×10^{-5}	1.10×10^{-5}	2.88×10^{-6}
I-133	1.54×10^{-4}	6.00×10^{-5}	1.95×10^{-5}
I-134	1.34×10^{-5}	5.66×10^{-6}	2.02×10^{-6}
I-135	5.70×10^{-5}	2.40×10^{-5}	8.57×10^{-6}
Cs-134	2.00×10^{-8}	3.27×10^{-5}	1.22×10^{-5}
Cs-137	5.09×10^{-5}	2.81×10^{-5}	9.40×10^{-6}
Kr-88	1.38×10^{-7}	6.99×10^{-8}	3.13×10^{-8}
Ru-106	7.61×10^{-5}	3.87×10^{-3}	1.17×10^{-3}
Te-132	2.43×10^{-4}	1.02×10^{-4}	3.60×10^{-5}
Ce-144	7.03×10^{-3}	3.23×10^{-3}	9.72×10^{-4}
Inhalation Rate liter/day	4.7×10^{3}	1.01×10^{4}	2.19×10^{4}

ATTACHMENT 1
Figure 1

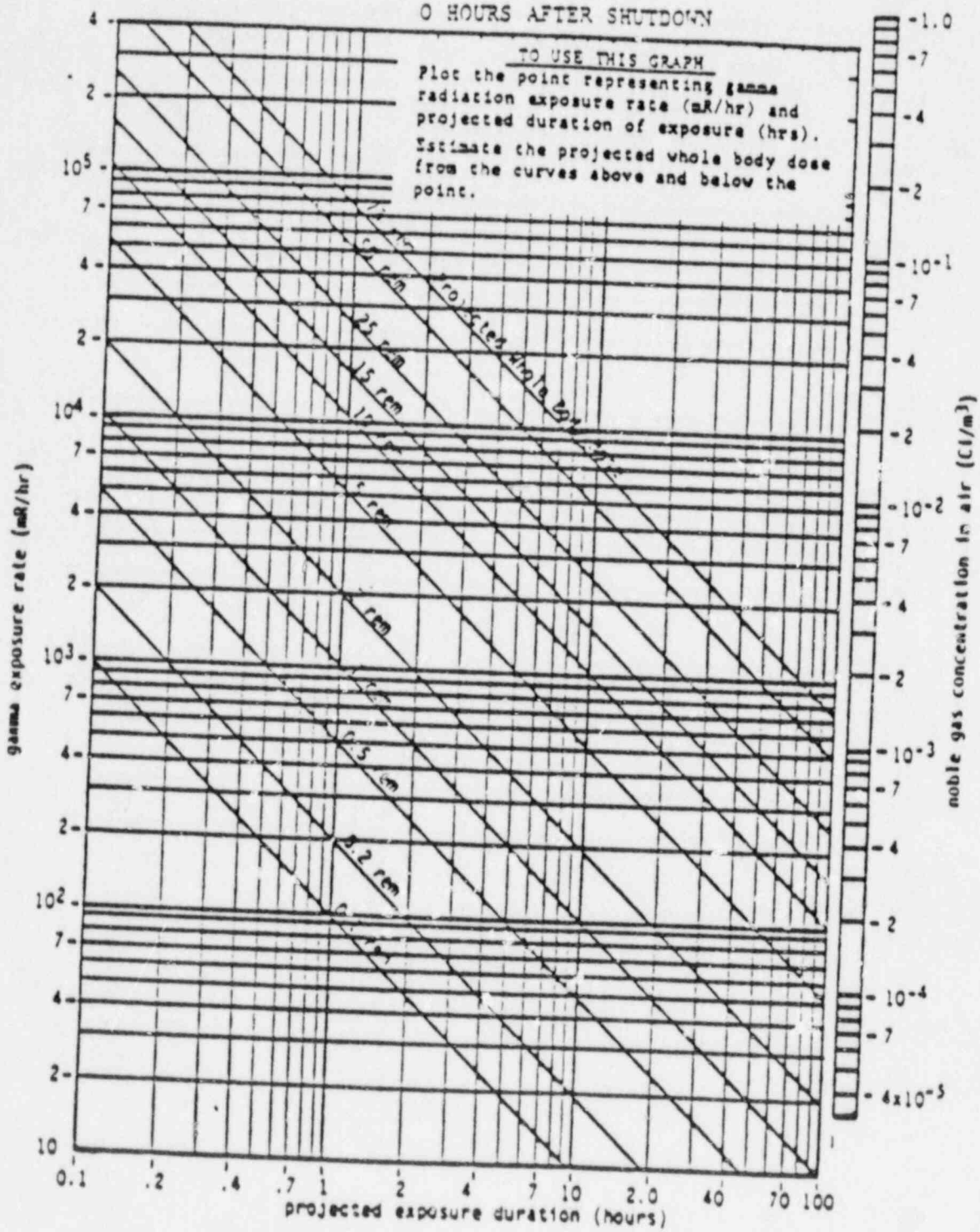


FIGURE 1 Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

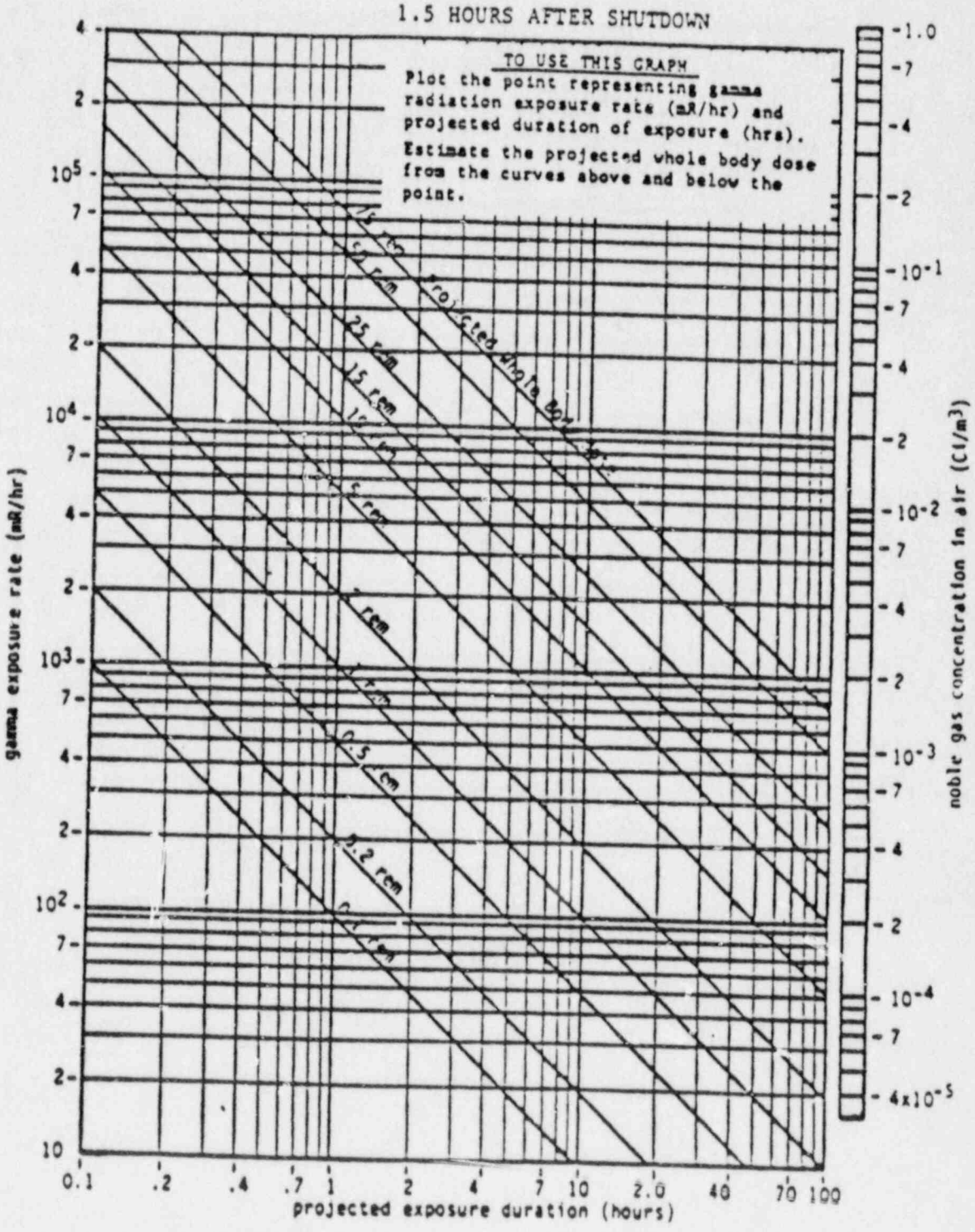


FIGURE 2 Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

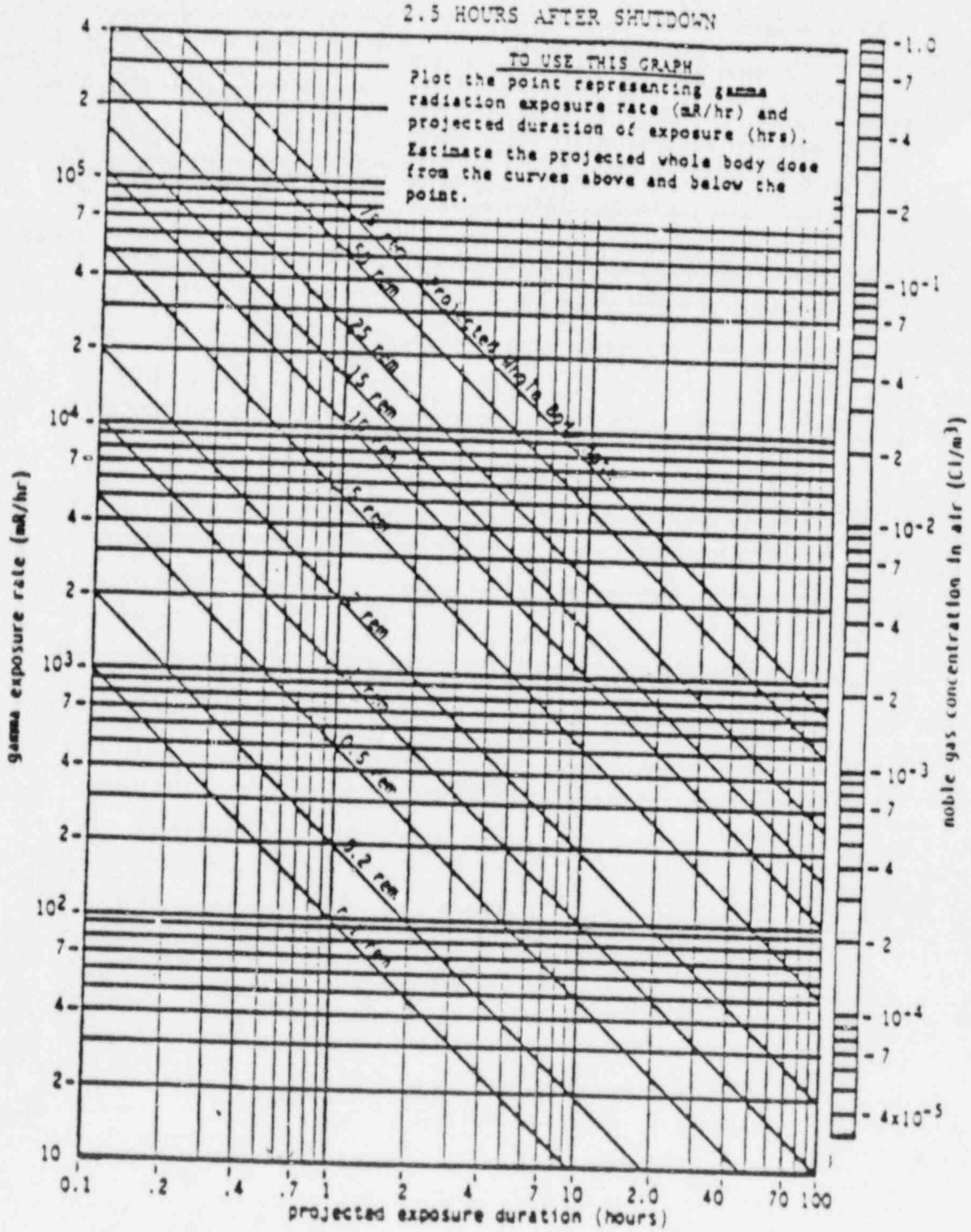


FIGURE 3 Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

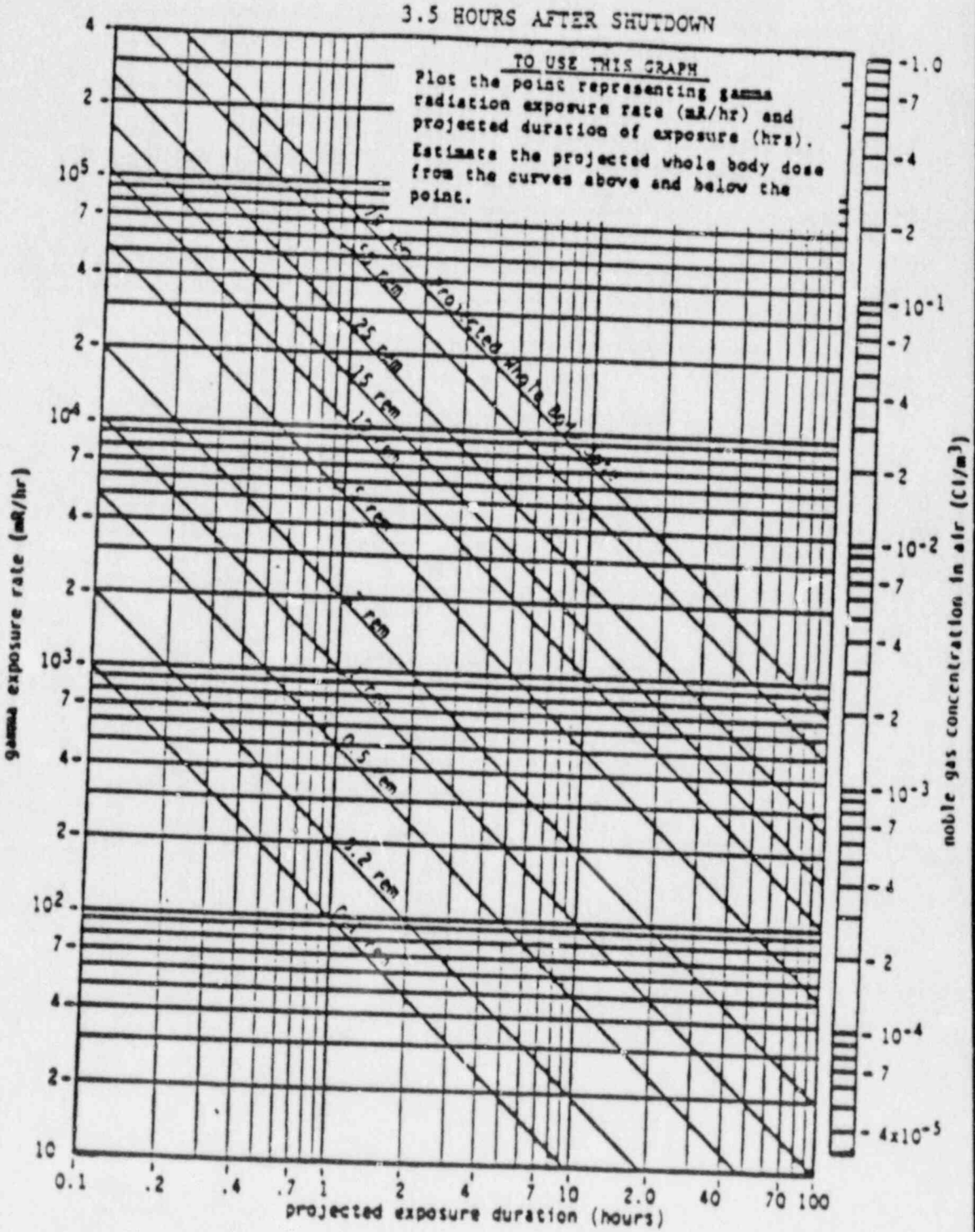


FIGURE 4 Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

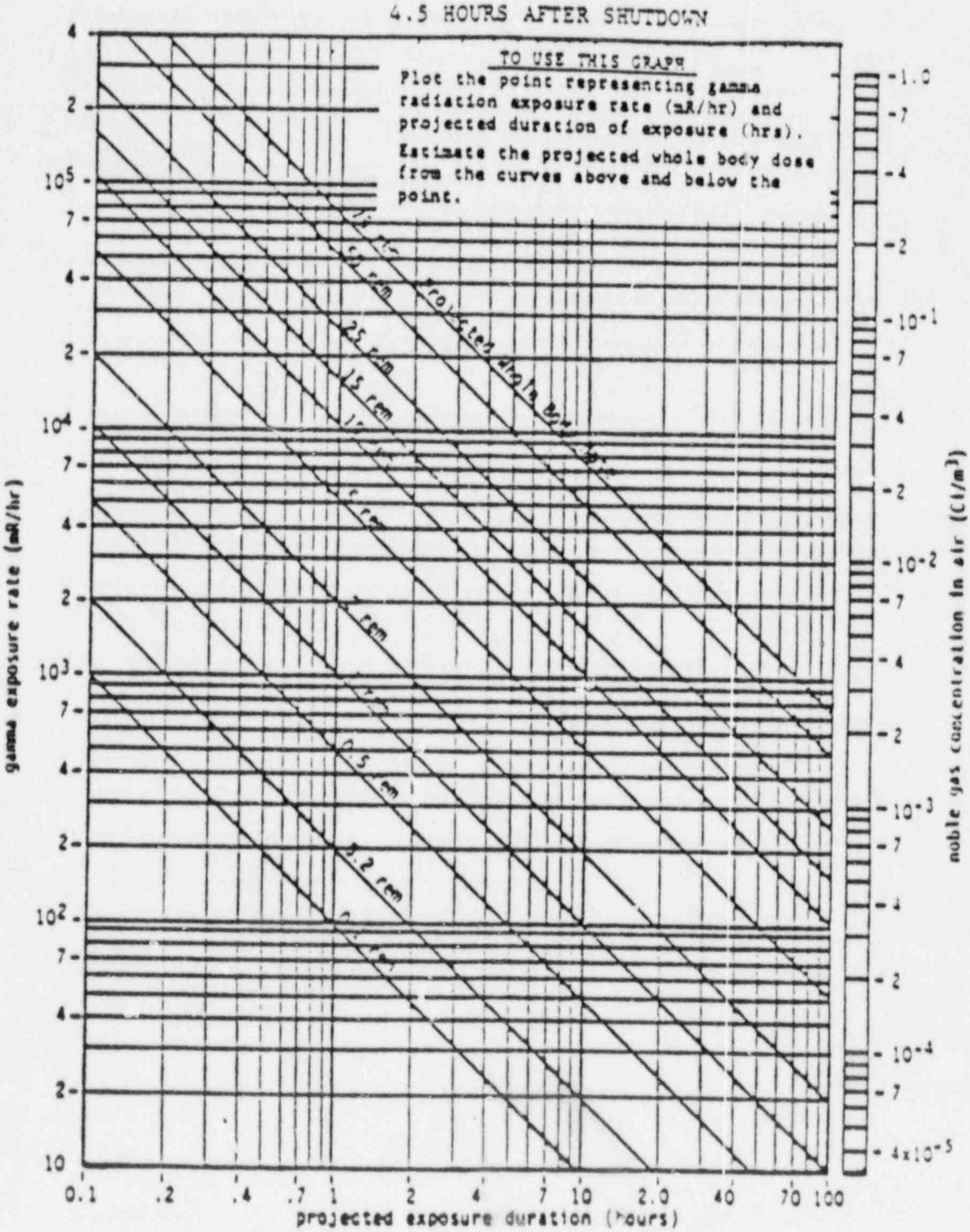


FIGURE 5 Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

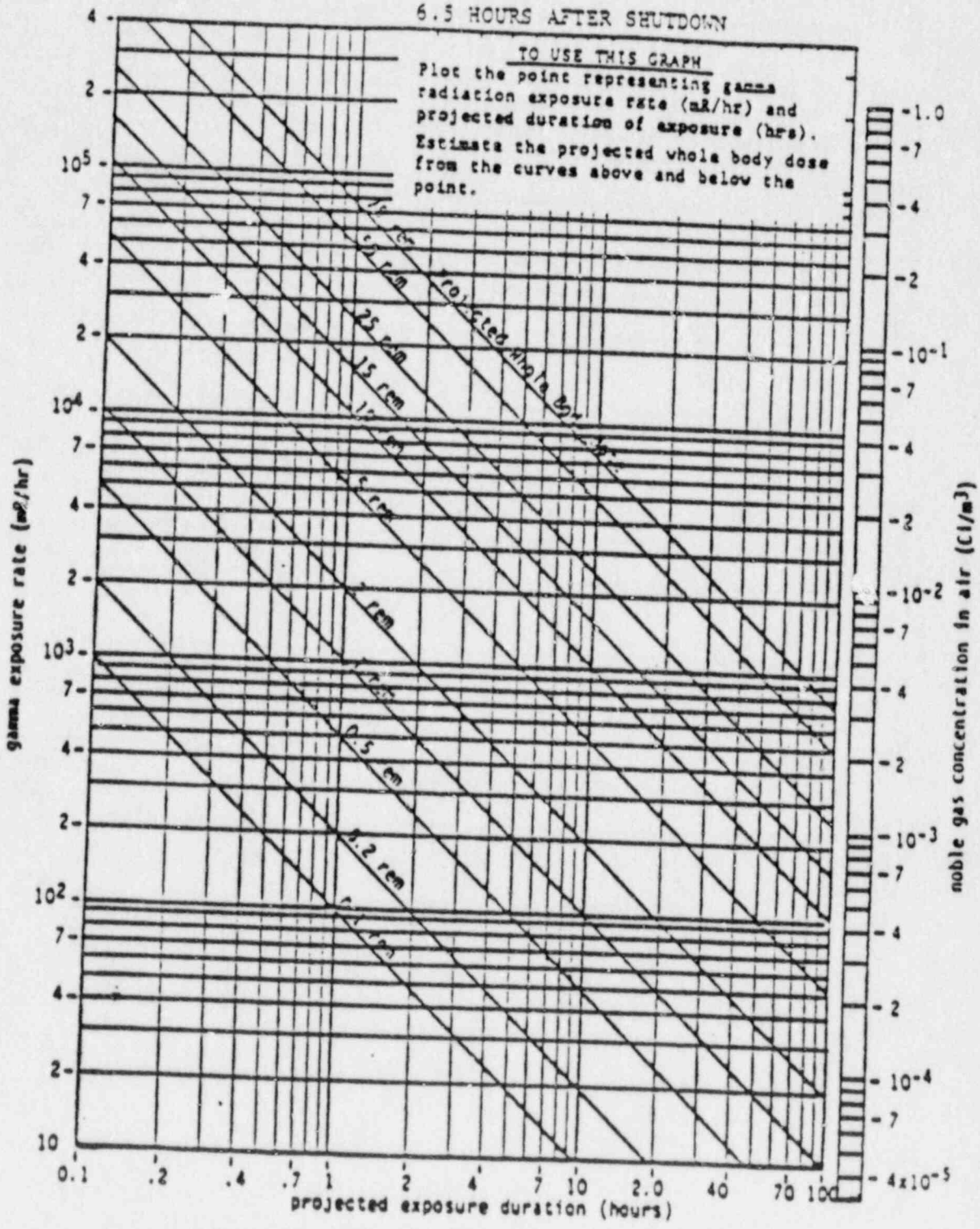


FIGURE 6 Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

ATTACHMENT 1
Figure 7

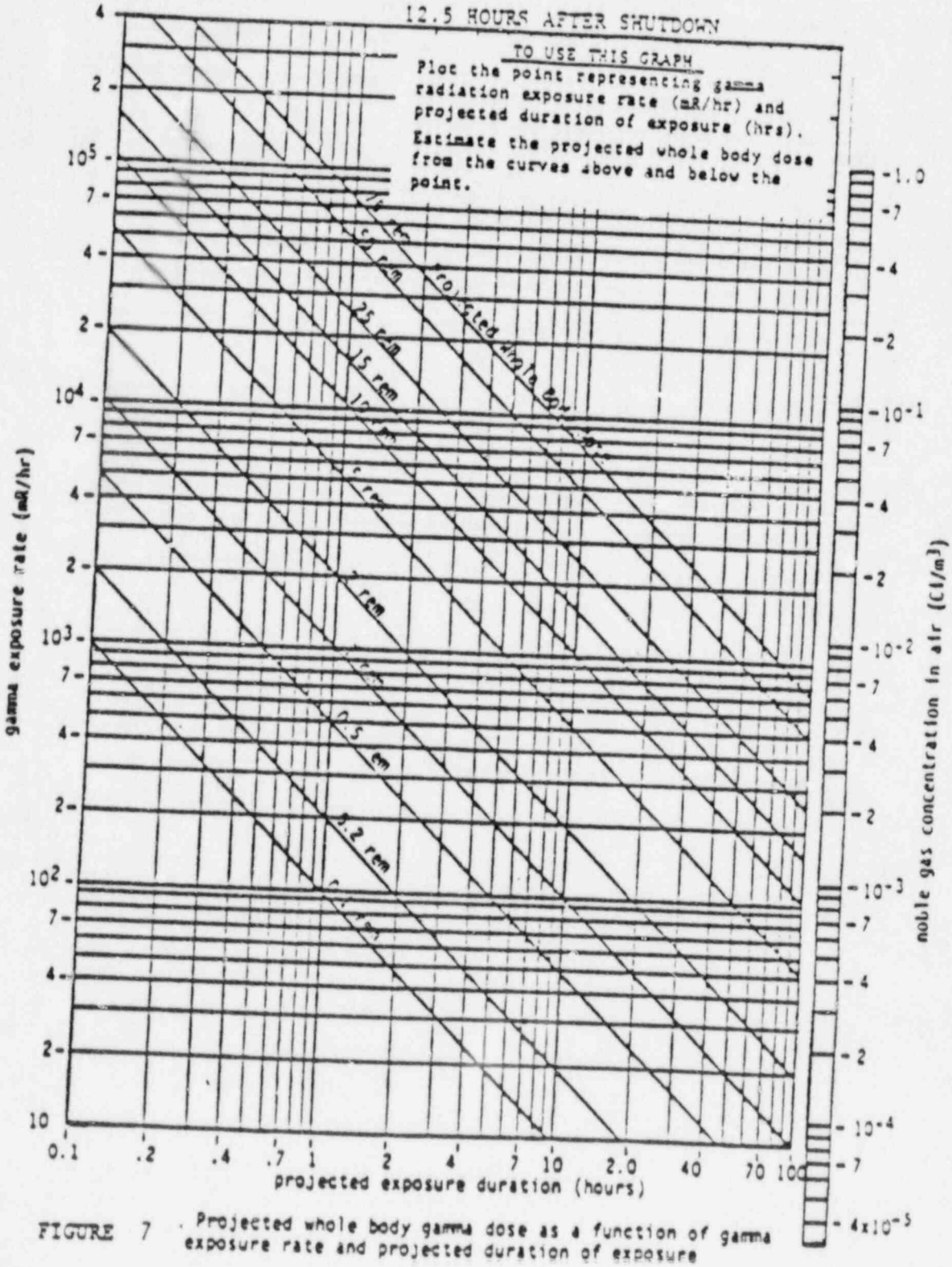


FIGURE 7 . Projected whole body gamma dose as a function of gamma exposure rate and projected duration of exposure

ATTACHMENT 1
Figure 8

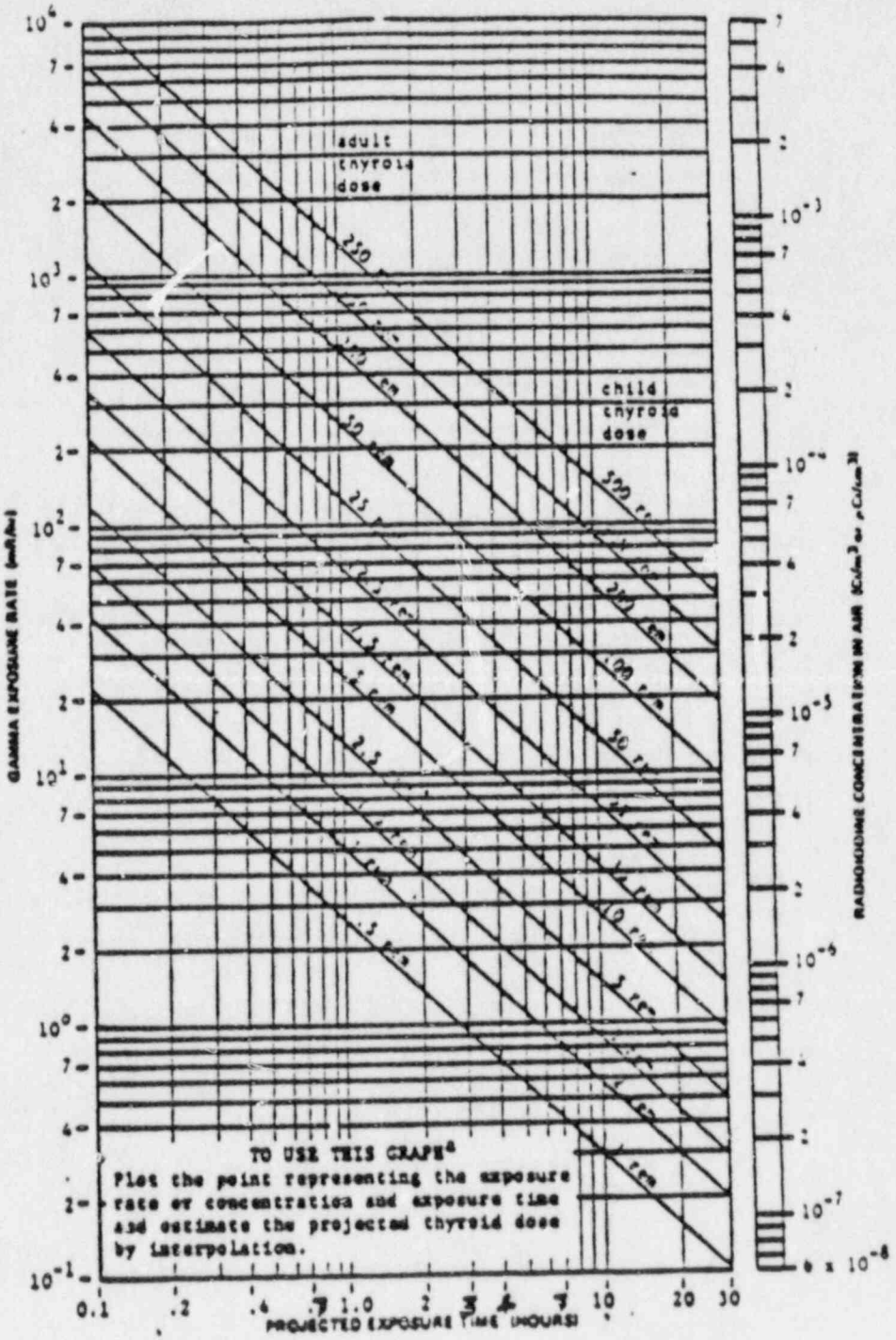


FIGURE 8 Projected thyroid dose as a function of either gamma exposure rate, or radioiodine concentration in air and the projected exposure time.

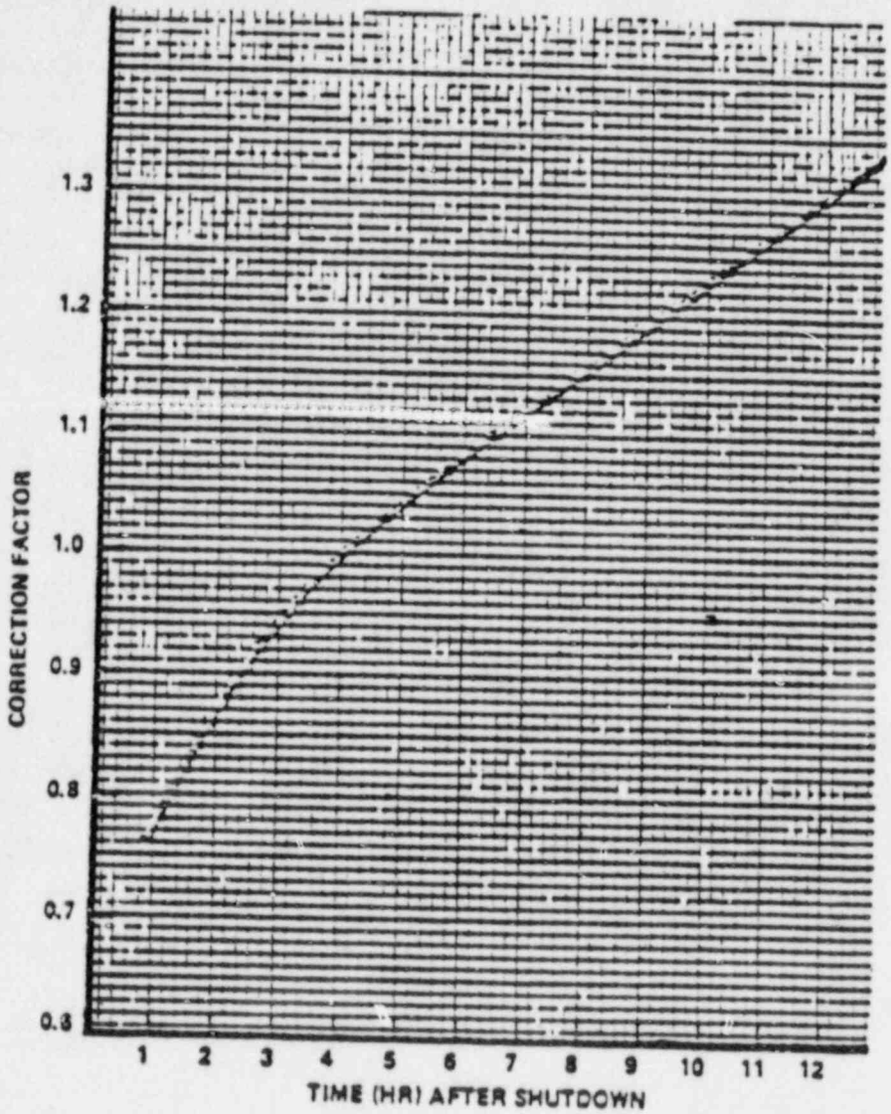


FIGURE 9 CORRECTION FACTORS FOR THYROID INHALATION DOSE AS A FUNCTION OF TIME AFTER REACTOR SHUTDOWN THAT RADIOIODINE CONCENTRATION IS MEASURED.

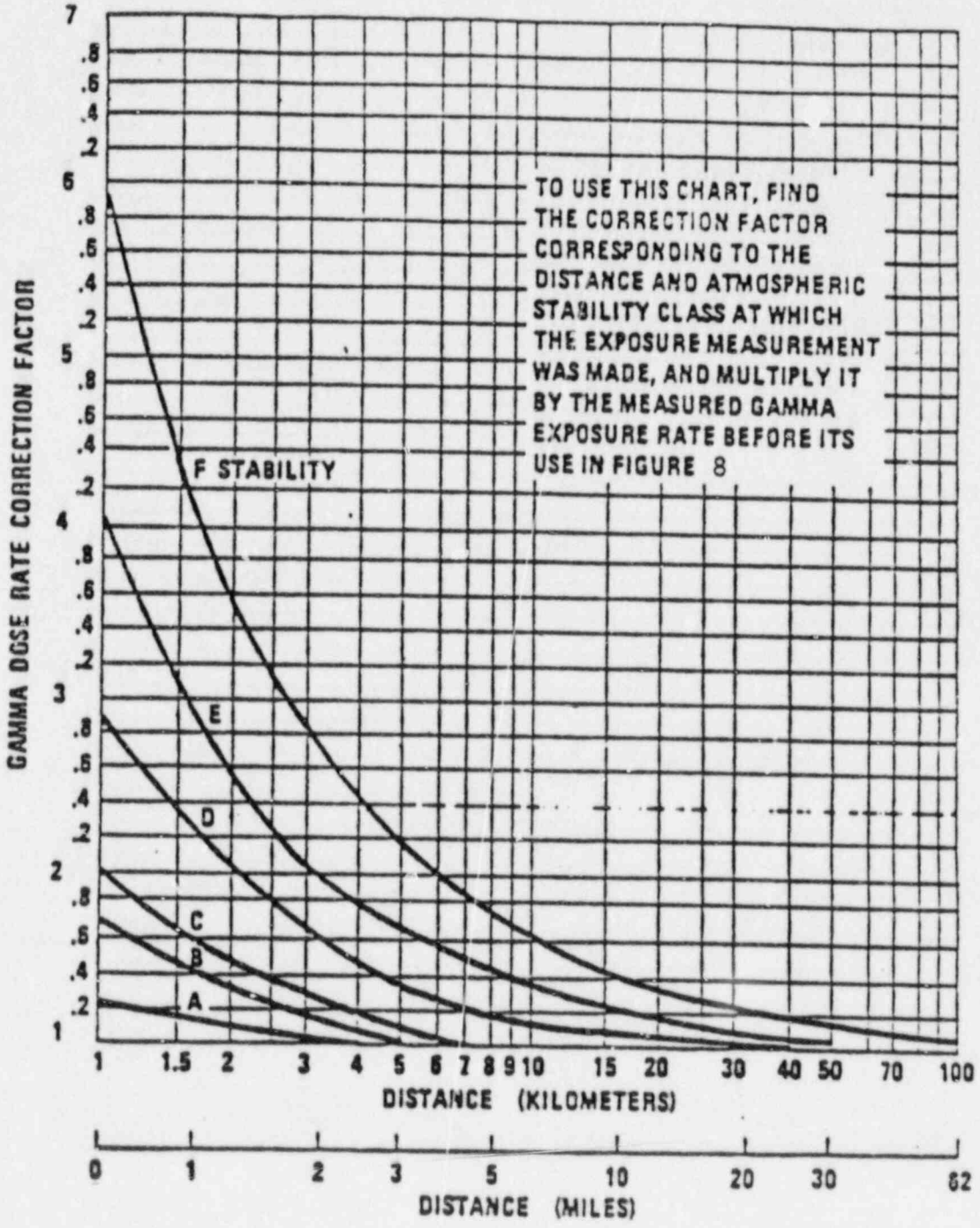


FIGURE 10 **GAMMA EXPOSURE RATE FINITE CLOUD CORRECTION FACTOR**

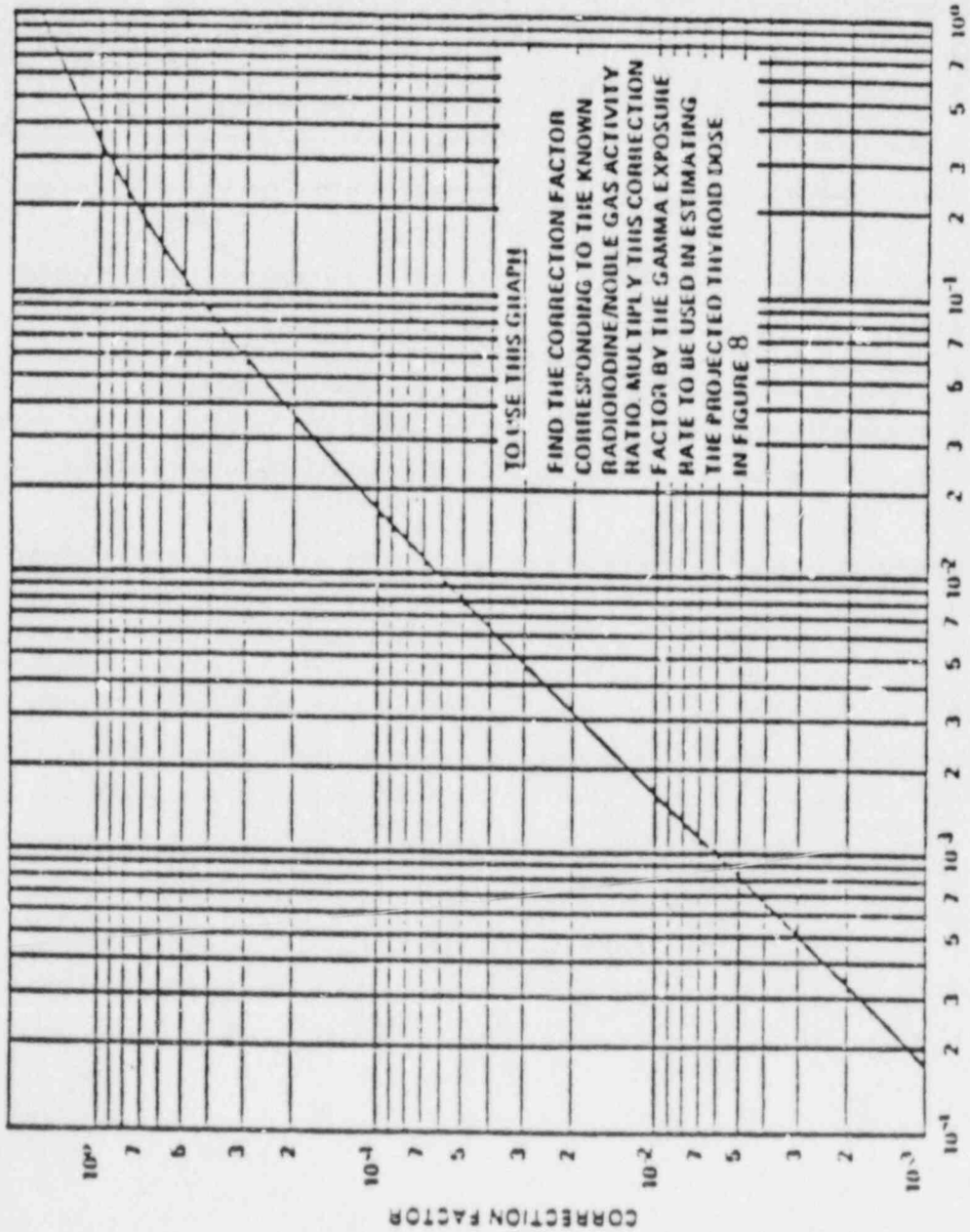


Figure 11 Radioiodine release correction factor

(NOT USED)

Emergency PAG

Thyroid	15 rem
Whole body, bone marrow, or any other organ	5 rem

Response level for Emergency PAG

	Infant[1]	Adult	Infant[2]	Adult	Infant[2]	Adult	Infant[2]	Adult	Infant[2]	Adult
Initial Activity Area Deposition (microcuries/square meter)	1.3	18	20	40	30	50	5	20	80	1690 700
Forage Concentration[4] (microcuries/kilogram)	0.5	7	8	17	13	19	1.8	8	30	30
Peak Milk Activity (microcuries/liter)	0.15	2	1.5	3	2.4	4	0.09	0.4	1.4	400
Total Intake (microcuries)	0.9	10	40	70	70	80	2	7	26	

[1]Newborn infant includes fetus (pregnant women) as critical segment of population for iodine-131.

[2]"Infant" refers to child less than 1 year of age.

[3]From fallout, iodine-131 is the only radioiodine of significance with respect to milk contamination beyond the first day in case of a reactor accident the cumulative intake of iodine-133 via milk is about 2 percent of iodine-131 assuming equivalent deposition.

[4]Fresh weight.

[5]Intake of cesium via the meat/person pathway for adults may exceed that of the milk pathway, therefore, such levels in milk should cause surveillance and protective actions for meat as appropriate. If both cesium-134 and cesium-137 are equally present, as might be expected for reactor accidents, the response levels should be reduced by a factor of 2.

Protective Action Guides for Accidental Contamination of Human Food and Animal Feeds*

Preventive PAG

Thyroid	1.5 rem
Whole body, bone marrow, or any other organ	0.5 rem

Response level for Preventive PAG

Initial Activity Area Deposition (microcuries/square meter)
Forage Concentration[3] (microcuries/kilogram)
Peak Milk Activity (microcuries/liter)
Total intake (microcuries)

2 From fallout, Iodine-131 is the only radioiodine of significance with respect to milk contamination beyond the first day. In case of a reactor accident, the cumulative intake of iodine-133 via milk is about 2 percent of iodine-131 assuming equivalent deposition.

3 Fresh weight

4 Intake of cesium via the meat/person pathway for adults may exceed that of the milk pathway; therefore, such levels in milk should cause surveillance and protective actions for meat as appropriate. If both cesium-134 and cesium-137 are equally present as might be expected for reactor accidents, the response levels should be reduced by a factor of two.

* From FDA proposed guides published in Federal Register, Vol. 47, No. 205, October 22, 1982, page 47081.

Derived Response Levels for grass-cow-milk pathway equivalent to Preventive PAG dose commitment of 1.5 rem to thyroid, 0.5 rem to gonads, LLI wall or red bone marrow of infant[a] (2).

Pathway	Response Levels for Preventive PAGs				
	I-131[b]	Cs-134[c]	Cs-137[c]	Sr-90	Sr-89
Initial Activity Area Deposition ($\mu Ci/m^2$)	0.11	1.8	3.6	0.5	1.2
Forage Concentration[d] ($\mu Ci/kg$)	0.04	0.7	1.6	0.18	0.5
Peak Milk Activity ($\mu Ci/\ell$)	0.013	0.13	0.29	0.009	0.02
Total Intake (μCi)	0.08	3.6	8.4	0.2	.41

[a]For iodine-131, "infant" includes fetus (pregnant women) as critical segment of population. For other radionuclides, "infant" refers to child less than 1 year of age.

[b]From fallout, iodine-131 is the only radioiodine of significance with respect to milk contamination beyond the first day. In case of a reactor accident, the cumulative intake of iodine-133 via milk is about 2 percent of iodine-131, assuming equivalent deposition.

[c]Intake of cesium via the meat-man pathway for adult may exceed that of the milk pathway; therefore, such levels in milk should cause surveillance and protective actions for meat, as appropriate. If both Cs-134 and Cs-137 are equally present, as might be expected in reactor accidents, the response levels should be reduced by a factor of 2.

[d]Fresh weight.

Derived Response Levels for grass-cow-milk pathway equivalent to Emergency PAG dose commitment of 15 rem to thyroid, 5 rem to gonads, LLI wall or red bone marrow (2).

Pathway	Response Levels for Emergency PAGs									
	I-131[a]		Cs-134[b]		Cs-137[b]		Sr-90		Sr-89	
	Newborn Infant[c]	Adult	Infant[d]	Adult	Infant[d]	Adult	Infant[d]	Adult	Infant[d]	Adult
Initial Activity Area Deposition ($\mu Ci/m^2$)	1.1	15	18	36	36	60	4.9	19	12	250
Forage Concentration ($\mu Ci/kg$)[e]	0.4	6	7	15	16	23	1.8	7.8	4.7	110
Peak Milk Activity ($\mu Ci/\ell$)	0.13	1.7	1.3	2.7	2.9	4.8	0.09	0.4	.22	4.7
Total Intake (μCi)	0.8	8	36	63	84	96	1.9	6.8	4.1	62

[a]From fallout, iodine-131 is the only radioiodine of significance with respect to milk contamination beyond first day. In case of a reactor accident, the cumulative intake of iodine-133 via milk is about 2 percent of iodine-131 assuming equivalent deposition.

[b]Intake of cesium via the meat-man pathway for adult may exceed that of the milk pathway; therefore, such levels in milk should cause surveillance and protective actions for meat, as appropriate. If both Cs-134 and Cs-137 are equally present, as might be expected for reactor accidents, the response levels should be reduced by a factor of 2.

[c]For iodine-131, infant includes the fetus (pregnant women) as critical segment of population.

[d]"Infant" refers to child less than 1 year of age.

[e]Fresh weight.

Table 1 Protective Action Guides for Whole Body Exposure to Airborne Radioactive Materials

Population At Risk	Projected Whole Body Gamma Dose (Rem)
General population	1 to 5(a)
Emergency workers	25
Lifesaving activities	75

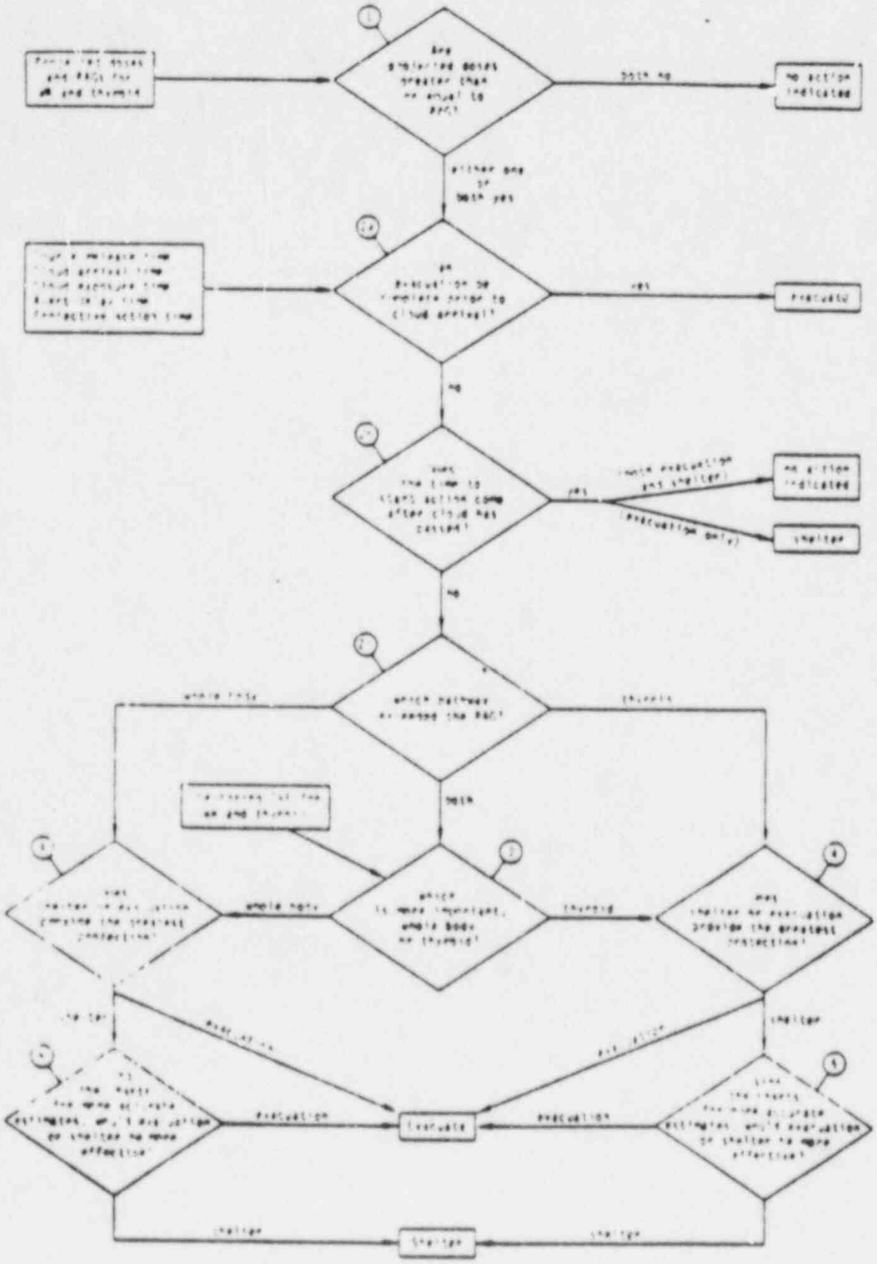
(a) When ranges are shown, the lowest value should be used if there are no major local constraints in providing protection at that level, especially to sensitive populations. Local constraints may make lower values impractical to use, but in no case should the higher value be exceeded in determining the need for protective action.

Table 2 Protective Action Guides for Thyroid Dose
Due to Inhalation from a Passing Plume

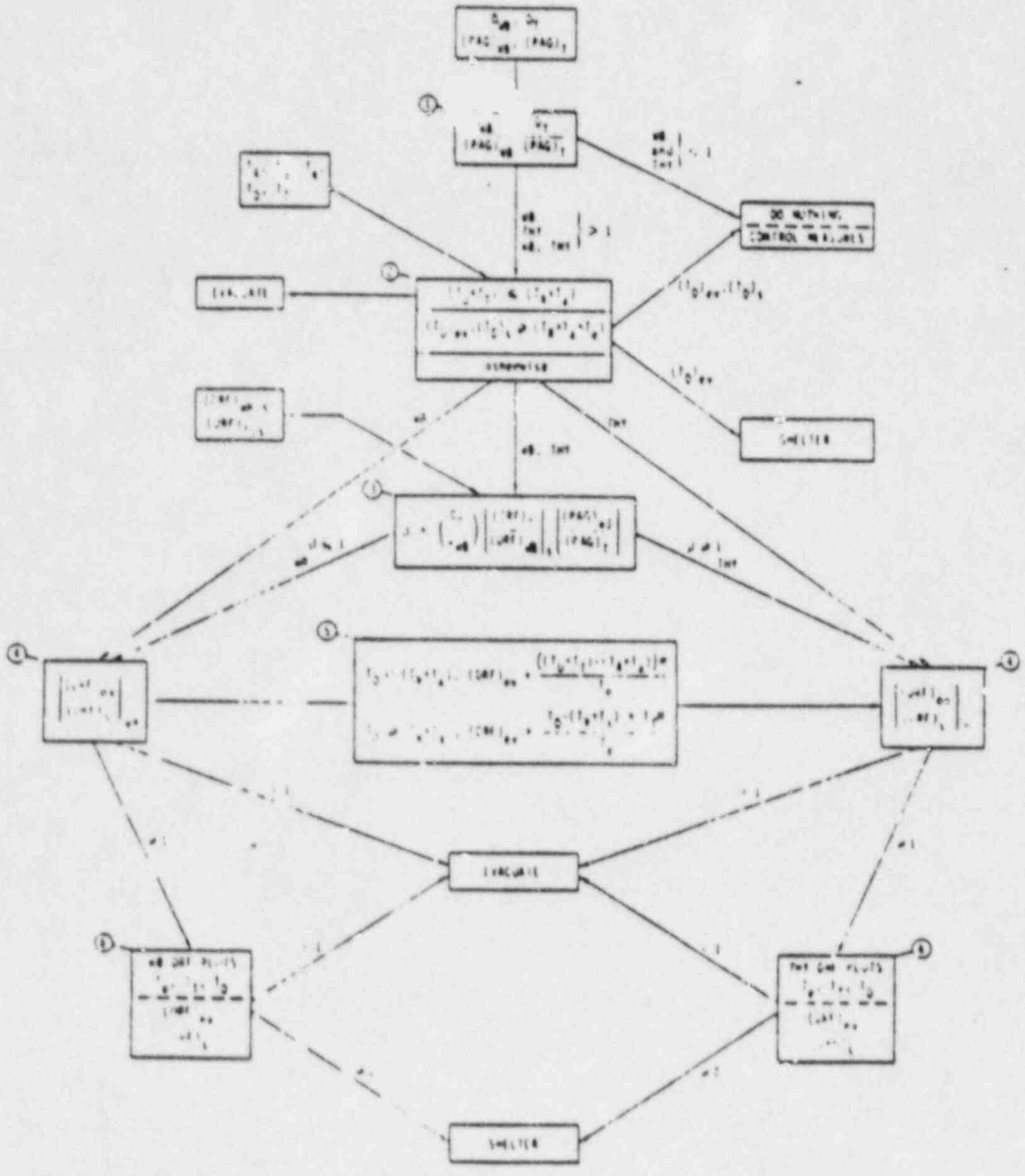
Population at Risk	Projected Thyroid Dose (Rem)
General population	5-25(a)
Emergency workers	125
Lifesaving activities	(b)

(a) When ranges are shown, the lowest value should be used if there are no major local constraints in providing protection at that level, especially to sensitive populations. Local constraints may make lower values impractical to use, but in no case should the higher value be exceeded in determining the need for protective action.

(b) No specific upper limit is given for thyroid exposure since in the extreme case, complete thyroid loss might be an acceptable penalty for a life saved. However, this should not be necessary if respirators and/or thyroid protection for rescue personnel are available as the result of adequate planning.



Evacuate or shelter?



Evacuate or shelter?

Distribution:

Commissioner of Health
Dep. Commissioner for Operations
Director Public Health/Executive Director
Director Field Operations Management Group
Director, Center for Labs & Research

Director, Public Affairs Group
Director, Center for Environmental Health
cc: Division of Environmental Protection
Bureau of Environmental Radiation Protecti
Reg. Director _____
Reg. Rad, Health Spec. _____
Dr. John Matuszek

'EW YORK STATE DEPARTMENT OF HEALTH
'ICE OF PUBLIC HEALTH
:LD OPERATIONS MANAGEMENT GROUP

PROBLEM ALERT

TO: _____

_____

FROM: _____

_____

Site Name and Owner: _____

Location: _____ (C,T,V); _____ (County)

Call From: _____ (Name) _____ (Title)

_____ (Unit) _____ (Address)

Date: _____ Time: _____ Phone: AC_____ Tie Line____ No._____

Problem (Describe circumstances, area affected, and possible duration):

_____

_____

_____

_____

_____

_____

_____

Action Undertaken: _____

_____

_____

_____

_____

_____

Samples collected by the Health Department? YES ____ NO ____

of sample(s) _____

_____

Responsible Division for Follow-up: _____

(NOT USED)

Contact List for Initiating Sampling Procedures

	Type	Agency	Title	Telephone #
1.	Milk	AgM		
2.	Water Supplies	Health		
3.	Air	Health		
4.	Soil	Health		
5.	Farm products	AgM		
6.	Water (lakes & rivers)	Health		
7.	Fish and biota	DEC		

This list is maintained by NYSDOH. Distribution of telephone numbers is controlled and numbers will be given on a need-to-know basis. Lists will be updated on a quarterly basis.

(NOT USED)

PART II - SECTION I - PROCEDURE J

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J. PROTECTIVE ACTION RECOMMENDATION BASED ON PROJECTED DOSES

1.0 PURPOSE

The purpose of this procedure is to outline a method for arriving at a recommendation of protective actions that is based on projected whole body and thyroid dose considerations only.

2.0 SCOPE

The procedure will define the parameters needed to make the evaluation and how they are to be used in determining whether sheltering or evacuation should be considered as a protective action.

3.0 DEFINITIONS

D_{WB} : Projected whole body dose assuming no protective action

D_T : Projected thyroid dose assuming no protective action

D_S : Projected whole body dose assuming sheltering as a protective action

$D_{S,T}$: Projected thyroid dose assuming sheltering as a protective actin

D_{ev} : Projected whole body dose assuming evacuation as a protective action

DRF : Dose Reduction Factor. It is the ratio of the projected dose with protective action taken to projected dose with no protective action

T_a : Plume arrival time from start of release to arrival to the point of interest

T_D : Delay time. It is the period required pior to initiation of protective action. It is equal to the sum of the time required to notify the public (T_N) and mobilization time (T_M) for evacuation.

T_e : Plume exposure time from initiation of exposure to its end. T_e is the shorter of the release duration or wind persistency in the direction of the point of interest. In case of evacuation, T_e is the period from initiation of exposure to evacuation outside the plume.

T_R : Release time. It is the time period available prior to initiation of a release. T_R will be provided by the Facility Operator.

T_T : Transportation time is the time period required to transport the public away from the plume (evacuation or into a shelter

$\bar{u}$: Average wind speed

x : Downwind distance from facility to point of interest

4.0 PROTECTIVE ACTION CONSIDERATION

4.1 ERPA #

D_{WB} = D_T = (From procedures outlined in Part III Section 1.H)

Enter D_{WB} and D_T in table 1

Case 1a

$D_{WB} < 1$ rem and $D_T < 5$ rem — No Protective Action required

Case 1b

$1 \leq D_{WB} < 5$ rem or $5 \leq D_T < 25$ rem — Consider Protective Action for Sensitive Groups

Go to 4.2.

Case 1c

$5 \leq D_{WB}$ or $25 \leq D_T$ — Consider Protective Action for General Population

4.2 Shelter Dose Reduction Factors

4.2.1 Critical Times

Enter critical times for sheltering

x = $\bar{u}$ =

T_R = $T_a = \frac{x}{\bar{u}}$ = $T_R + T_a$ =

T_D = T_T = $T_D + T_T$ =

T_e = $\Delta = (T_D + T_T) - (T_R - T_a)$ =

4.2.2 Determine DRF for the appropriate case in the following:

Case 2a

$\Delta \geq T_e$ — No Protective Action Required

Case 2b

$\Delta \leq 0$

Obtain DRF for L = 1 and appropriate T_e from Figures 1 and 2

DRF_{WB} (SS) = DRF_{WB} (LS) = DRF_T =

Go to 4.3

Case 2c

$T_e > \Delta > 0$

Obtain DRF's as in case 2b above.

Calculate correct DRF's from the following expression:

$$DRF = \frac{\Delta}{T_e} + \frac{T_e - \Delta}{T_e} DRF$$

(From case 2b above)

DRF_{WB}(SS) = DRF_{WB} (LS) = D_T =

Go to 4.3

4.3 Projected Dose for Sheltered Population D_S

Calculate D_S from the expression:

$$D_S = D \times DRF$$

(from 4.1) (from 4.2)

$D_{S,WB}$ (SS) = $D_{S,WB}$ (LS) = $S_{S,T}$ =

Also enter in Table 1

4.4 Comparison to PAG's

Note: Use D_{WB} (SS) for general population

Use D_{WB} (LS) for Special Facilities residents

If $D_{S,WB}$(SS) < 1 rem <u>and</u> $D_{S,T}$ < 5 rem Recommend General Shelter

Otherwise: go to 4.5

4.5 Evacuation Dose Reduction Factor

4.5.1 Enter critical times for evacuation

T_R = $T_a = \frac{x}{u}$ = $(T_R + T_a)$ =

T_D = T_T = $(T_D + T_T)$ =

T_e = $T_R + T_a + T_e$ =

Determine M from figure 3 for proper T_e M =

4.5.2 Determine DRF for the appropriate case in the following:

Case 5a

$T_D \geq (T_R + T_a + T_e)$ Evacuation DRF = 1

Case 5b

$(T_D + T_T) \leq (T_R + T_a)$ Evacuation DRF = 0

Case 5c

$T_D \geq (T_R + T_a)$

Evacuation DRF = $\left[T_D - (T_R + T_a) + T_T M\right] / T_e$ =

Case 5d

$T_D < (T_R + T_a)$

Evacuation DRF = $\left[(T_D + T_T) - (T_R + T_a)\right] M / T_e$ =

4.6 Evacuation Dose

D_e = D (From 4.1) x DRF (From 4.5)

Enter D_e in Table 1

4.7 Protective Actions to be Considered

		Actions to be Consid
Case 7.a	$D_{w,B}$ = D < 1 rem and $D_e \leq 5$ rem	No action
Case 7.b	D > 1 rem and/or D_e > 25 rem	
7.b.1	$D_e = D_{ev} = D$	No action
7.b.2	$D_e \leq 1$ and $D_{e,T} \leq 5$	General Shelter
7.b.3	$D_{ev} \geq D_S$ and $D_{ev,T} \geq D_{S,T}$	General Shelter
7.b.4	$D_e > D_{ev} > 1$ and $D_{S,T} > D_{ev,T} > 25$	General Evacuat

		Actions to be Consider
Case 7.b.5	$5 > D_S > D_{ev} > 1$ and $25 > D_{S,T} > D_{ev,T} > 5$	Partial evacuation Shelter remaining population
7.b.6	($D_S > 5$ or $D_{S,T} > 25$) and ($D_{ev} < 5$ and $D_{ev,T} < 25$)	General evacuati
7.b.7	$D_S > D_{ev}$ and $D_{ev,T} > D_{S,T}$ or $D_S < D_{ev}$ and $D_{ev,T} < D_{S,T}$ Go to 4.8	
7.c	$5 \geq D > 1$ or $25 \geq D_T > 5$ rem (use only if 7.b does not apply)	
7.c.1	$D_S = D_{ev} = D$	No action
7.c.2	$D_S \leq 1$ and $D_{S,T} \leq 5$	General shelter
7.c.3*	$D_S > D_{ev}$ or $D_{S,T} > D_{ev,T}$	Partial evacuation ion and shelter of nonevacuated populati
7.c.4	$D_{ev} \geq D_S$ and $D_{ev,T} \geq D_{S,T}$	General shelter

Case 4.3 In cases where one protective action (e.g., sheltering) leads to reduction in either the whole body or thyroid dose while another protective action (e.g., evacuation) leads to a reduction of the other doses, follow the following steps:

4.8.1 Calculate D/PAG

$\frac{D_S}{5}$ = $D_{S,T}/25$ =

$\frac{D_{ev}}{5}$ = $D_{ev,T}/25$ =

4.8.2 Select the option that does not include the largest ratio. If the largest ratios for both options are equal select the option with the smallest ratio.

If both largest ratios are equal and both smaller values are equal : shelter

---

* 7.c.3 is to be considered only if c.2 does not apply.

Table 1

ERPA #:	WB	Thyroid
PAG's	1-5	5-25
Projected dose - no Protective Action	D =	
Projected dose - Large shelter*	D_S =	
Small Shelter**		
Projected dose - evacuation	D_e =	

---

* Use for special facilities
** Use for general population

Figure 1

Fig. 1 --WB DRF versus L, (ideal shelter timing)

Figure 2

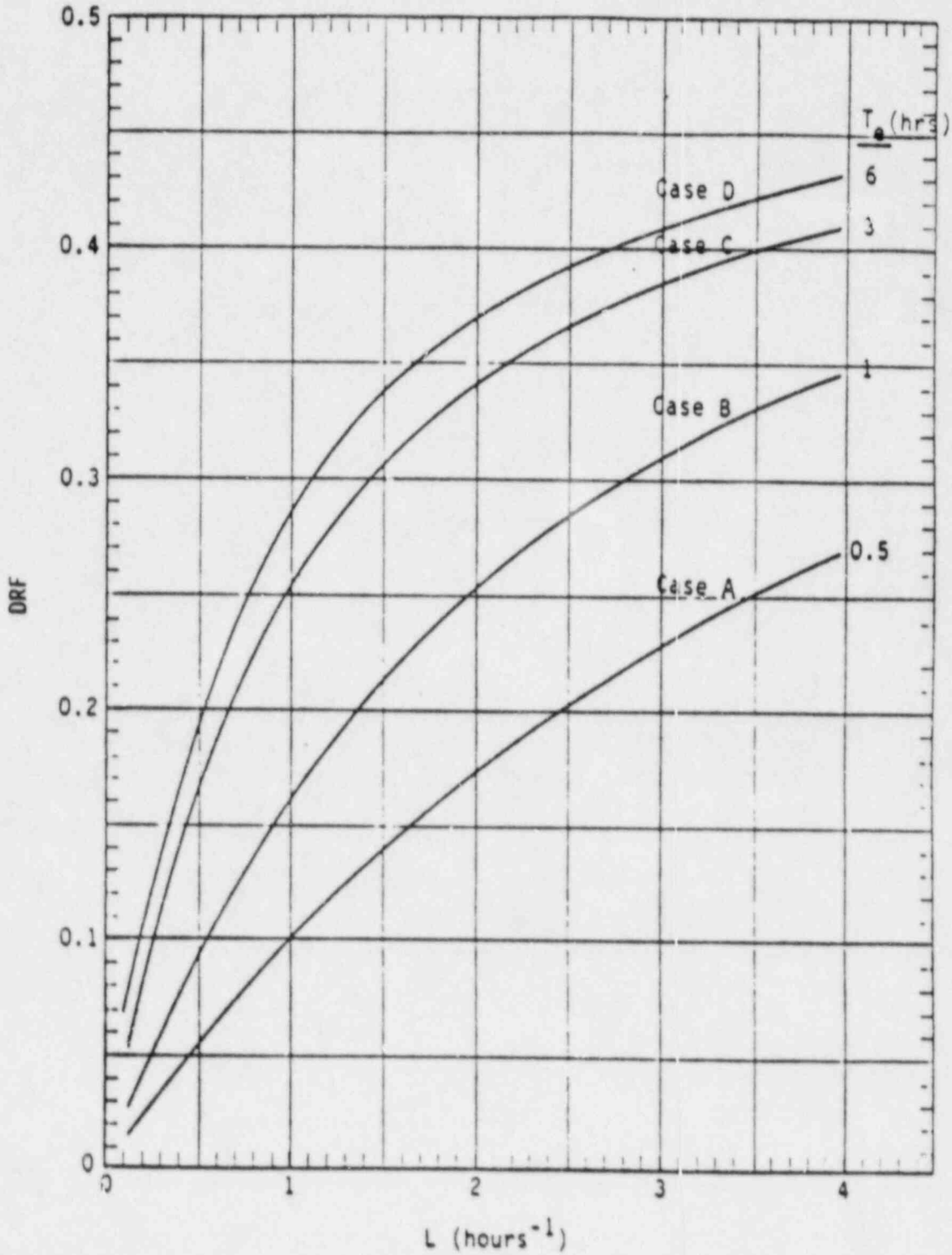

Fig. 2 --Thyroid DRF versus L, (ideal shelter timing)

Figure 3

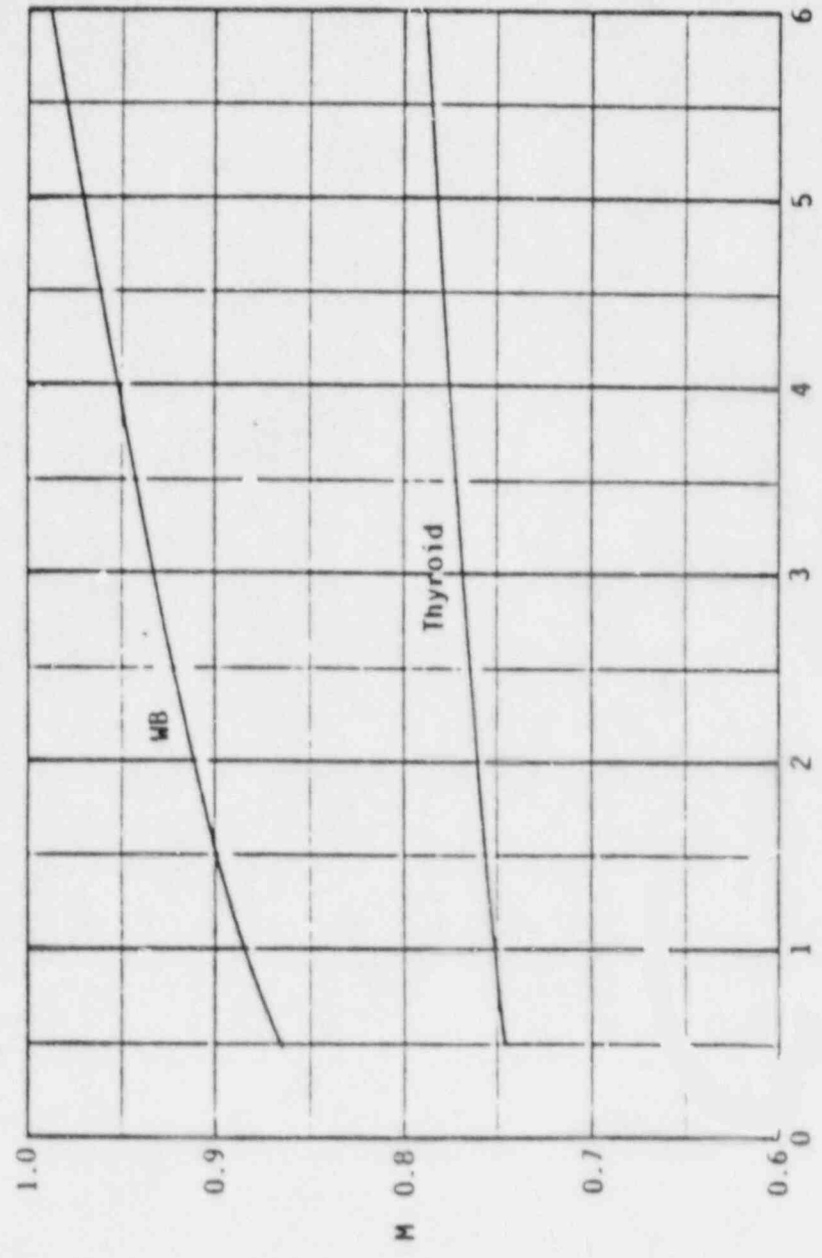

Fig. 3 --M versus cloud exposure time

(NOT USED)

New York State
Radiological Emergency Preparedness Plan

PART II - Section I - Procedure K

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(NOT USED)

PART II - Sec. I

K. RADIOLOGICAL INGESTION EXPOSURE PROCEDURE

1.0 INTRODUCTION

The purpose of this procedure is to establish a framework for the responsibilities of the New York State Disaster Preparedness Commission (DPC) with respect to the radiological ingestion exposure pathway and provides response for emergencies at commercial nuclear power plants, and identifies State agency emergency management readiness, response and recovery activities.

The contents of this document reflect the current policies and criteria associated with the radiological ingestion exposure pathway from the operating nuclear power plants located within New York State, as well as those that border the State, and therefore require an ingestion exposure pathway component for response. Attachment 1 depicts operating nuclear power plants for which this procedure has been developed.

The information identified in this procedure relies upon the ability of the DPC, through appropriate State agencies, to accomplish the following:

- activate appropriate State agencies' field staff;
- collect, transport and analyze ingestion pathway samples;
- assess and evaluate the potential impact of ingestion pathway contamination;
- alert local governments of the emergency and the potential for adverse public health impact.

The DPC is responsible to the Governor for the implementation of the radiological emergency preparedness program. This procedure calls for State agency coordination among federal and local governments, the nuclear facility operators, and the private sector for information, technical assistance or resources as necessary.

In response to an ingestion pathway incident, State, County and Federal governments will all be responsible for specific roles and activities in a coordinated response. The State's role, which is built around existing regulatory authority and ongoing programs, includes:

- assessment of impact
- evaluation of response options
- implementation of necessary response actions

The role of the Federal government, which would be assisting the State through Department of Energy, the Federal Radiological Monitoring and Assistance Plan, and the Federal Radiological Emergency Preparedness Plan would include:

- technical resource supplement
- personnel
- monitoring and assessment
- laboratories

The impacted county(ies) would be called upon to provide the following support:

- maintenance of ongoing monitoring programs (i.e., public water supply)
- provide information on local agricultural activities
- guiding State/Federal responders
- support State response for ingestion concerns

The licensee which owns the affected plant would continue to work to stabilize and return the plant to pre-accident conditions. Offsite monitoring would also be supplied by the utility to supplement the county/State resources.

When considering ingestion pathway responses and actions, short term and long term aspects of this response must be kept in mind. Short term consideration would be given to establishing intensive monitoring, sampling and evaluation programs aimed at preventing contamination of ingestion pathways or minimizing consumption of contaminated foodstuffs or water. Long term considerations will include restoration of contaminated areas, and dealing with the economic impacts of an ingestion pathway accident.

Technical Federal support is an integral part of New York State's ingestion pathway response. In the early hours or a radiological emergency, support will be provided through the U.S. Department of Energy's Radiological Assistance Plan (RAP). Technical expertise with sophisticated monitoring, sampling and laboratory analysis capability will be provided from the Brookhaven Area Office with USDOE and Brookhaven National Laboratory staff. Advance RAP teams are also availble from the Knolls Atomic Power Laboratory, West Valley Demonstration Project, Environmental Measurements Laboratory and the Pittsburgh Naval Laboratory. USDOE will provide sophisticated aerial monitoring capability and plume modeling using ARAC. USDOE resources from Region I will be supplemented as required from other DOE facilities including the National Laboratories. If the emergency conditions warrant, the Federal Radiological Monitoring and Assessment Plan (FRMAP) will be implemented to obtain Federal interagency technical support. FRMAP is administered by USDOE.

Sampling teams, which will be fielded by NYS in response to ingestion concerns can be comprised of representatives from the Departments of Health, Agriculture and Markets, Environmental Conservation, Transportation, and local Cooperative Extension/USDA, depending upon the situation. DOT will provide the vehicles for the transport of the sampling teams to the necessary locations, and will coordinate transportation of samples to Albany for analysis at the DOH labs.

Each State agency which has a response in ingestion pathway will use existing agency procedures based upon the responsibilities defined in the NYS REP Plan.

2.0 CONCEPT OF OPERATIONS

The concept for this procedure stems from those existing governmental and utility responsibilities currently identified within this plan. The procedures contained in the REPP form the basis for State response to an ingestion exposure pathway incident. However, unlike the plume exposure pathway, the radiological exposure concerns from the ingestion pathway are not as direct and may not require immediate protective actions. The information contained within this procedure centers around these ingestion pathways: (see Attachment 2).

Milk
Foodstuffs
Animal feeds
Water

From an emergency management and public health perspective, the milk pathway is of primary concern. The radioactive materials would enter the human food chain by the following steps: deposition of radioactive material to pasture land, ingestion and concentration of this radioactive material by lactating animals resulting in contamination in milk, and consumption and further concentration by the population. This two-step concentration of radioactive materials plus the short time period between deposition and ingestion by the public, and the potential detrimental impact upon children and infants who are most sensitive to the biological effects of radiation are what make the milk pathway a critical concern.

For potential ingestion exposure pathways, State agencies have prepared procedures which would be implemented under the direction of the Chairman of the DPC who is designated as the lead agent on behalf of the Governor. Appropriate State agency procedures contain information for sampling, detecting the presence of contamination, analyzing and evaluating of the problem, and recommending and implementing protective actions.

Protective response measures associated with the ingestion exposure pathway include preventive protective actions and emergency protective actions.

- Preventive protective actions are those employed to prevent or reduce the concentration of radioactivity on agricultural products, with minimal impact resulting on the food supply.

- Emergency protective actions are those taken by government officials to remove milk, water and food products from public and animal consumption through embargo or throug disposition.

Response levels for preventive and emergency Protective Actions Guides are based on U.S. Food and Drug Administration guidance, shown in Attachment 3 (USFDA PAG's).

Notification and Information; and coordination of agency Response and Recovery Procedures.

Coordination and communication are necessary to effectively implement ingestion exposure protective actions. New York State, through the State Emergency Management Office (SEMO) system, will coordinate all operational and informational requirements with local governments and bordering states and provinces. SEMO will insure that this information is coordinated among appropriate officials as necessary in accordance with the State Disaster Preparedness Plan and the REPP. In addition, State agencies, as appropriate, will maintain periodic contact with counterparts in contiguous states and provinces to provide specific details pursuant to respective responsibilities.

3.0 ALERT AND NOTIFICATION

Procedures for the alert and notification of State agencies for a nuclear power plant accident are contained in Part III, Section 1 of this plan, and will be used as appropriate for mobilization of State agencies for the ingestion exposure pathway response. This ingestion procedure deals with the responsibilities of State Government for alert and notification to local government and other appropriate officials in the event of an ingestion pathway concern.

Upon confirmation by Radiological Accident Assessment personnel that radiological ingestion is of concern, SEMO will implement procedures for alert and notification of all potentially affected local governments. State radiological assessment personnel will provide a listing of those counties within the actual or potentially affected areas and continual status updates. SEMO will notify: Radiological Emergency Preparedness Group, appropriate State agencies who send representatives to the State and District EOC's, and potentially affected local governments. In addition, notification will be made to other states and provinces (as appropriate) and the Federal Emergency Management Agency who will in turn notify appropriate Federal agencies and Canadian officials.

Attachments 4, 5, and 6 comprise SEMO's procedures for alert and notification, by operating nuclear power plant site, for the ingestion exposure pathway.

In the event that expeditious notification to county emergency management offices is required, SEMO will use the National Warning System (NAWAS). NAWAS provides the capability for simultaneous notification of local governments on the circuit.

The alert and notification procedures, as defined for the three operating nuclear power plant sites in New York, can be expanded to cover all NYS, or different areas of NYS, as the situation warrants. Subsequent to identification of the area of impact, other SEMO District Offices can use similar notification procedures in that area.

As a means of augmenting alert and notification for an incident, State agencies will employ their respective communications systems, such as the Division of State Police's Information System, Departments of Transportation and Environmental Conservation Radio Systems, etc.

4.0 COMMAND AND CONTROL RESPONSIBILITIES

In the event of a nuclear power plant incident, Command and Control Operations are managed from the State EOC in Albany. From this location, the Chairman of the DPC as the Governor's designee and other State officials direct the emergency management response and recovery operations. The Command Room is augmented by State and District EOC operations, radiological assessment and evaluation, communications and public information. These components provide the necessary information to Command Room personnel to facilitate the State's decision making.

From the Command Room decisions concerning State response and recovery are provided. Local officials will be informed of all decisions to insure continuity of the operation.

The objectives of the Command Room operation are:

- to assess the magnitude of the situation;
- define radiological impact;
- implement procedures to respond to the situation;
- implement protective measures;
- initiate public information procedures;
- coordinate all actions with appropriate local government officials.

With respect to a plume exposure pathway response, Command Room personnel use the existing "Executive Hotlines", which are dedicated landlines, to coordinate emergency management actions with County Executive personnel. In the event of an ingestion exposure pathway concern, this procedure will continue with those counties on this circuit. For other counties potentially impacted in this pathway, Command Room personnel will direct SEMO to coordinate the dissemination of information. This will be done through SEMO District Offices. Attachment 7 depicts Command Room informational flow and coordination responsibilities for the ingestion exposure pathway.

The following is a checklist of Command Rooom activities which will be completed in the event of an ingestion exposure pathway incident:

- assess the magnitude of the ingestion pathway concern;

- determine appropriate protective actions to be employed to protect public health, property and the environment;

- implement protective actions or measures as required in coordination with local officials;

- coordinate the dissemination of public information through the Joint News Center (where on exists);

- keep local officials informed of protective action recommendations (PARs), the implementation of PARs and public information;

- determine the requirement for Federal resources that may be necessary to augment the State efforts pursuant to the Federal Radiological Emergency Response Plan, the Federal Radiological Monitoring and Assessment Plan, or the U.S. Department of Energy's Radiological Assistance Plan;

- provide periodic briefings to the Governor from Chairman of the DPC on the status and projection of the incident and provide recomendation on the requirement for a State Disaster Emergency Declaration pursuant to Article 2-B of State Executive Law;

- as the incident progresses, evaluate protective actions and adjustment as necessary in the interest of public safety;

- provide periodic updates on the status of the management of the incident to all components in the State EOC;

- manage the implementation of short and long term State recovery actions;

- insure that all information is coordinated with other bordering states and provinces, Federal authorities and the nuclear facility operator.

5.0 ORGANIZATIONAL RESPONSIBILITIES

In the event of a radiological ingestion exposure pathway accident, State agencies will provide the necessary resources to protect public health, property and the environment. State agencies involved in the ingestion exposure pathway response will use their own specific agency procedures. Activities will be coordinated by SEHO at the State EOC and in the appropriate District EOC. Attachment 8 is a matrix of State Agency responsibilities. The following is a listing of the State Agency responsibilities associated with the radiological ingestion pathway:

a. Department of Health

As the State's lead agency for the protection of public health for radiological incidents, DOH will:

- collect samples of potable water, soil and vegetation;
- take environmental radiation measurements;
- provide laboratory analysis for samples taken in the field;
- recommend protective actions;
- assist in the coordination and delivery of public information relating to protective actions implemented;
- serve as the focal point in the State EOC for the analysis and assessment of radiological information;
- provide technical training as required.

b. Department of Agriculture and Markets

- maintain an inventory of dairy farms, food processing plants and stock farms;
- collect samples of milk, produce, and animal feeds;
- recommend protective actions;
- implement protective actions as appropraite for milk produce and animal feeds;
- embargo produce and milk in contaminated areas;
- restrict use of animal feeds;
- provide information and direction to all farmers within the affected areas;

- assist in the development and release of public information;
- coordinate with appropriate local agencies (Cooperative Extension, USDA) for necessary resources;
- provide technical training as required.

c. Department of Environmental Conservation

- collect samples of environmental flora and fauna;
- using agency resources, transport samples to laboratory facilities;
- implement protective actions with respect to environmental flora and fauna;
- assist in public information for protective actions;
- support communications using agency resources.

d. Division of State Police

- provide division resources to support communications;
- expedite the delivery of samples for laboratory analysis
- maintain access control points.

e. Department of Transportation

- act as transportation coordinator for collection and transportation of samples to appropriate laboratories;
- provide department resources for delivery of samples to appropriate laboratory for analysis;
- assist in the maintenance of access control points;
- support communications with agency resources;
- provide resources for transporting ingestion field teams.

f. State Emergency Management Office

- provide coordination for response and recovery activities for the State EOC and the SEMO District Offices;
- provide notification to Federal, State and local governments;
- assist the State DOH in radiological assessment at the State EOC;
- provide training and awareness to State and local officials;
- coordinate the delivery and implementation of resources to sustain operatinal requirements;
- support communications with agency resources.

g. Radiological Emergency Preparedness Group

- coordinate the State's Public Information Program;
- assist in the implementation of protective actions;
- coordinate the overall ingestion pathway planning components of the State's procedure;
- provide liaison to appropriate Federal agencies;
- provide training and awareness to State and local officials.

6.0 FIELD OPERATION RESPONSIBILITIES

County Emergency Operations Centers will coordinate information and requests for assistance with their respective representative in the SEMO District Office.

7.0 PUBLIC INFORMATION RESPONSIBILITIES

The potential magnitude and impact of an ingestion exposure pathway incident requires an extensive public alert and notification capability on the part of State and local government. There is a requirement for notification to the general public, agricultural industry, retail and wholesale food and commodity distributers, industrial representatives and other appropriate entities.

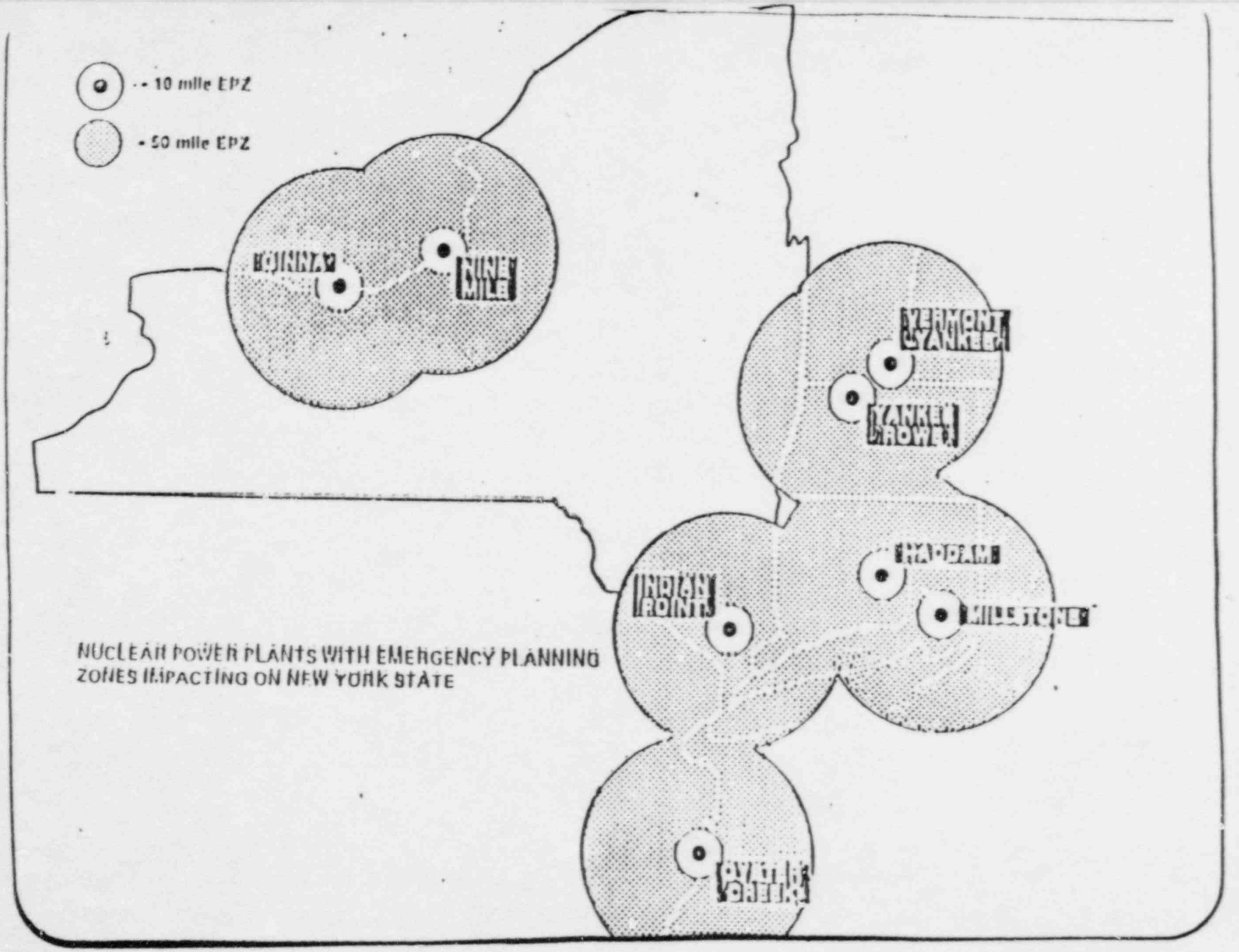
Procedures exist in the State REPP for Public Information during a nuclear power plant incident. Through the use of a Joint News Center (JNC), which is located near to the potentially affected area, local, State, Federal and utility public information officers coordinate and disseminate all information to the general public on the status of the incident and protective measures to be employed for public safety. The JNC (where one exists) is the one designated location for the release of information to the public during an ingestin pathway emergency, if kept operational by New York State.

The JNC may, at the discretion of New York State, continue to operate for at least the initial portions of an ingestion pathway concern.

For long term ingestion pathway activities, the public information function may return to Albany. In the event that no JNC exists in the areas with ingestion pathway impact, the information may be provided to the public from Albany or another designated location.

To provide effective public information releases to the general public, the New York State Emergency Broadcast System (EBS) can be activated if determined to be necessary. The primary means for accessing EBS for dissemination of protective action recommendations will be with the assistance of local access (county) personnel. If the EBS cannot be accessed locally, or if a large region must be notified simultaneously, SEMO will coordinate the issuance of the message via EBS as appropriate.

While the JNC is operational, all public information news releases and EBS messages will be compiled and written at the JNC. This information will be provided to the representative for the Public Information function at the State EOC upon completion.



NUCLEAR POWER PLANTS WITH EMERGENCY PLANNING ZONES IMPACTING ON NEW YORK STATE

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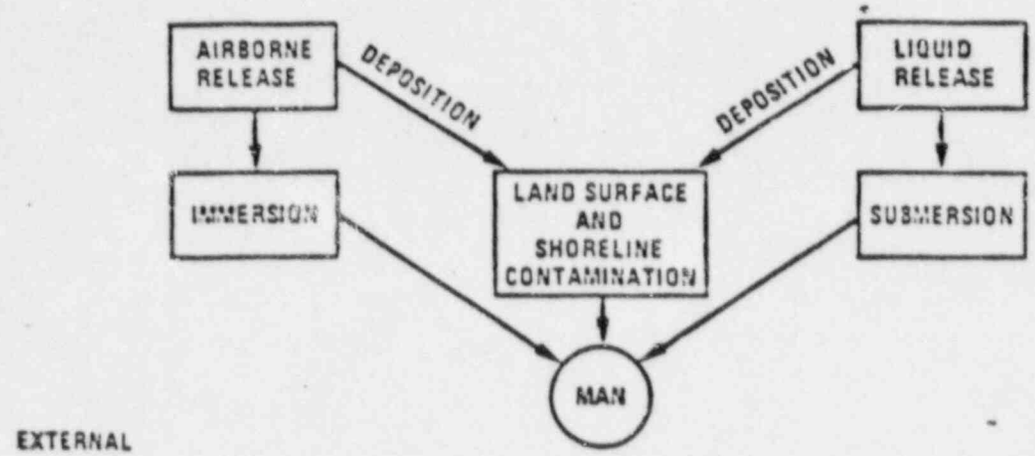
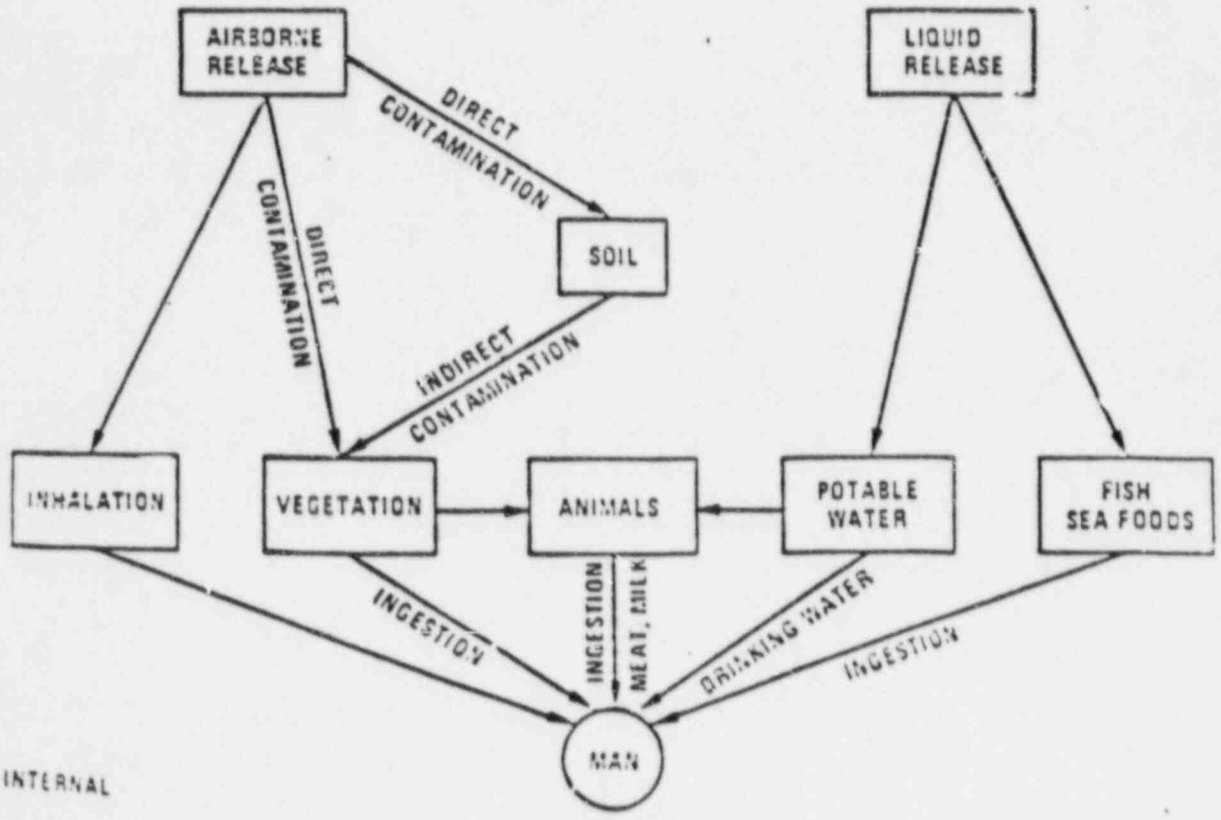


EXTERNAL



INTERNAL

PATHWAYS FOR EXTERNAL AND INTERNAL EXPOSURE OF MAN FROM AIRBORNE AND LIQUID RELEASES OF RADIOACTIVE EFFLUENTS

(NOT USED)

DERIVED RESPONSE LEVELS FOR EMERGENCY PAG

Radionuclide	I-131		Cs-134		Cs-137		Sr-90		Sr-89	
Source of Sample	*Infant	Adult	Infant	Adult	**Infant	Adult***	Infant	Adult	Infant	Adult
Initial Deposition (Ground) ($u Ci/m^2$)	1.3	18.0	20.0	40.0	30.0	50.0	5.[illegible]	20.0	80.0	1600.0
Peak Activity:										
Pasture (u Ci/kg)	0.5	7.0	8.0	17.0	13.[illegible]	19.0	1.8	8.0	30.0	700.0
Milk (u Ci/l)	0.15	2.0	1.5	3.0	2.4	4.0****	0.09	0.4	1.4	30.0
Total Intake (u Ci)	0.9	10.0	40.0	70.0	70.0	80.0	2.0	7.0	26.0	400.0
Dose Commitment (rem)	15.0	15.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

* Newborn infant critical population segment
** "Infant" refers to child less than 1 year of age
*** Based on Meat-to-Man Pathway
**** Peak activity in meat, u Ci/kg

u Ci = micro curie(s)
m^2 = square meter
kg = kilogram(s)
l = liter(s)

Reference: Department of Health and Human Services
Food and Drug Administration
Federal Register, Volume 47, No. 205, October 22, 1982

DERIVED RESPONSE LEVELS FOR PREVENTIVE PAG

Radionuclide -	I-131	Cs-134	Cs-137	Sr-90	Sr-89
SOURCE OF SAMPLE					
Initial Deposition (Ground) (u Ci/m^2)	0.13	2.0	3.0	0.5	8.0
Peak Activity:					
Pasture (uCi/kg)*	0.05	0.8	1.3	0.18	3.0
Milk (u Ci/l)	0.015	0.15	0.24	0.009	0.14
Total intake (u Ci)	0.09	4.0	7.0	0.2	2.6
Dose Commitment (rem)	1.5	0.5	0.5	0.5	0.5

*Fresh Weight

NOTE: This table uses infants as the critical segment of the population. For I-131, the newborn infant is the critical population segment. Fo the other radionuclides "infant" refers to a child less than 1 year o age.

Reference: Department of Health and Human Services
Food and Drug Administration
Federal Register, Volume 47, No. 205, October 22, 1982

u Ci/m^2 = micro curies per square meter

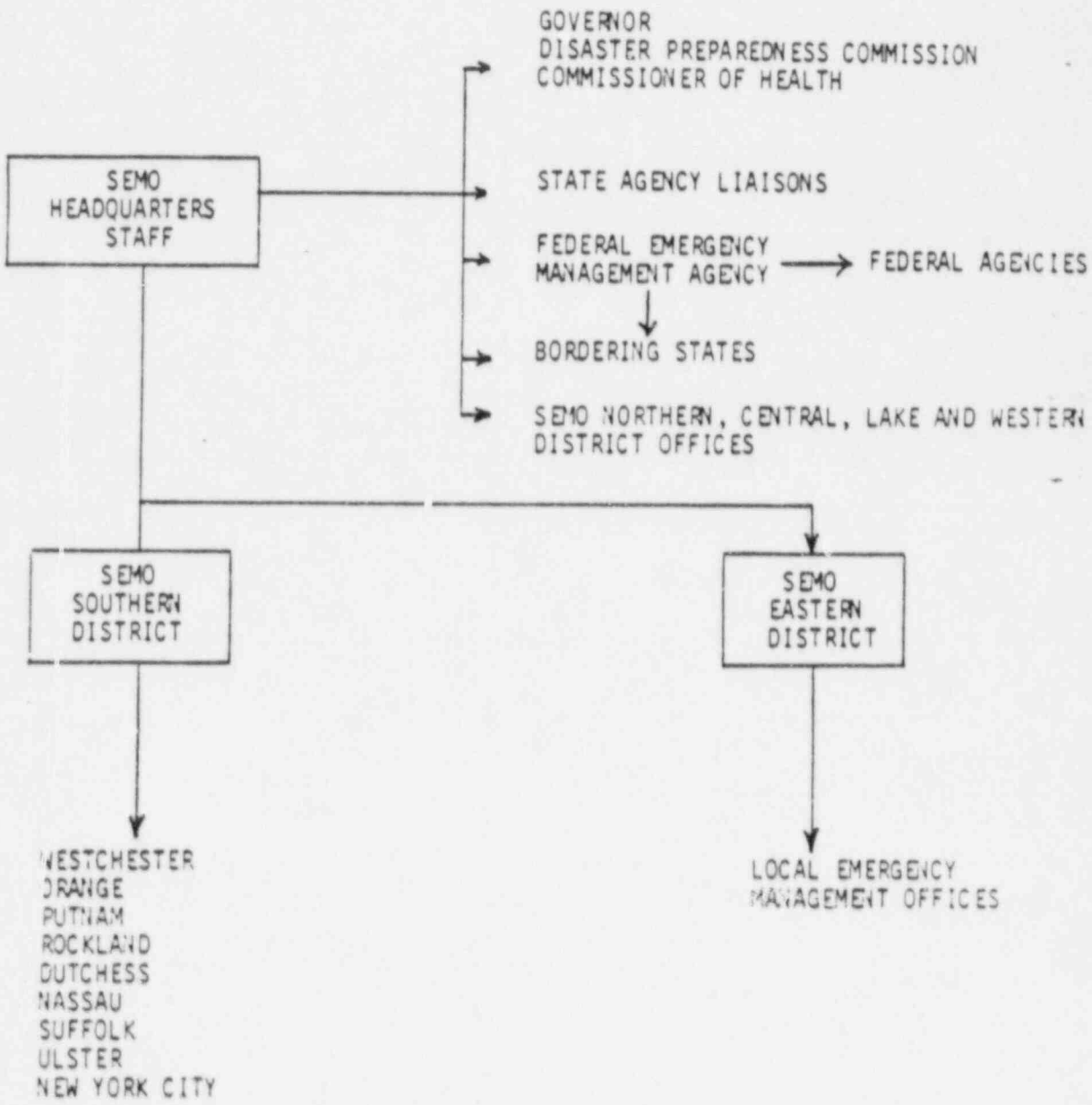
u Ci/kg = micro curies per kilogram

u Ci/l = micro curies per liter

INGESTION EXPOSURE PATHWAY

Alert and Notification Procedure
Indian Point Nuclear Power Plant Sites

Upon confirmation of an ingestion exposure pathway concern from the Indian Point Nuclear Power Plant sites, the State Emergency Management Office (SEMO) Headquarters Staff will employ the following alert and notification procedure:



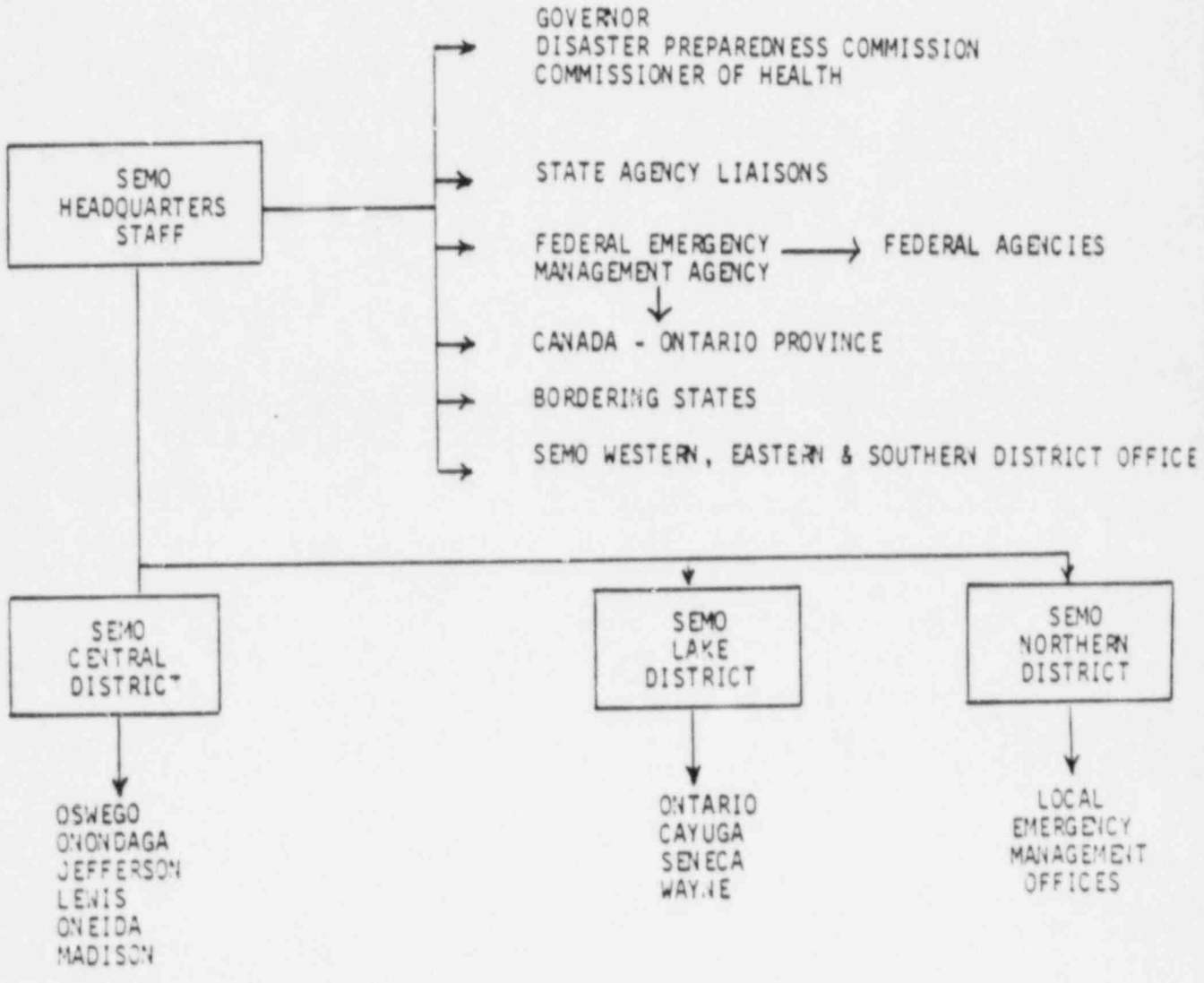
Note: The SEMO District Offices notify their regional State agency liaisons and other local emergency management offices as appropriate.

(NOT USED)

INGESTION EXPOSURE PATHWAY

Alert and Notification Procedure
Nine Mile Point/FitzPatrick Sites

Upon confirmation of an ingestion exposure pathway concern from the Nine Mile Point or FitzPatrick nuclear power plants, the State Emergency Management Office (SEMO) Headquarters Staff will employ the following alert and notification procedure:



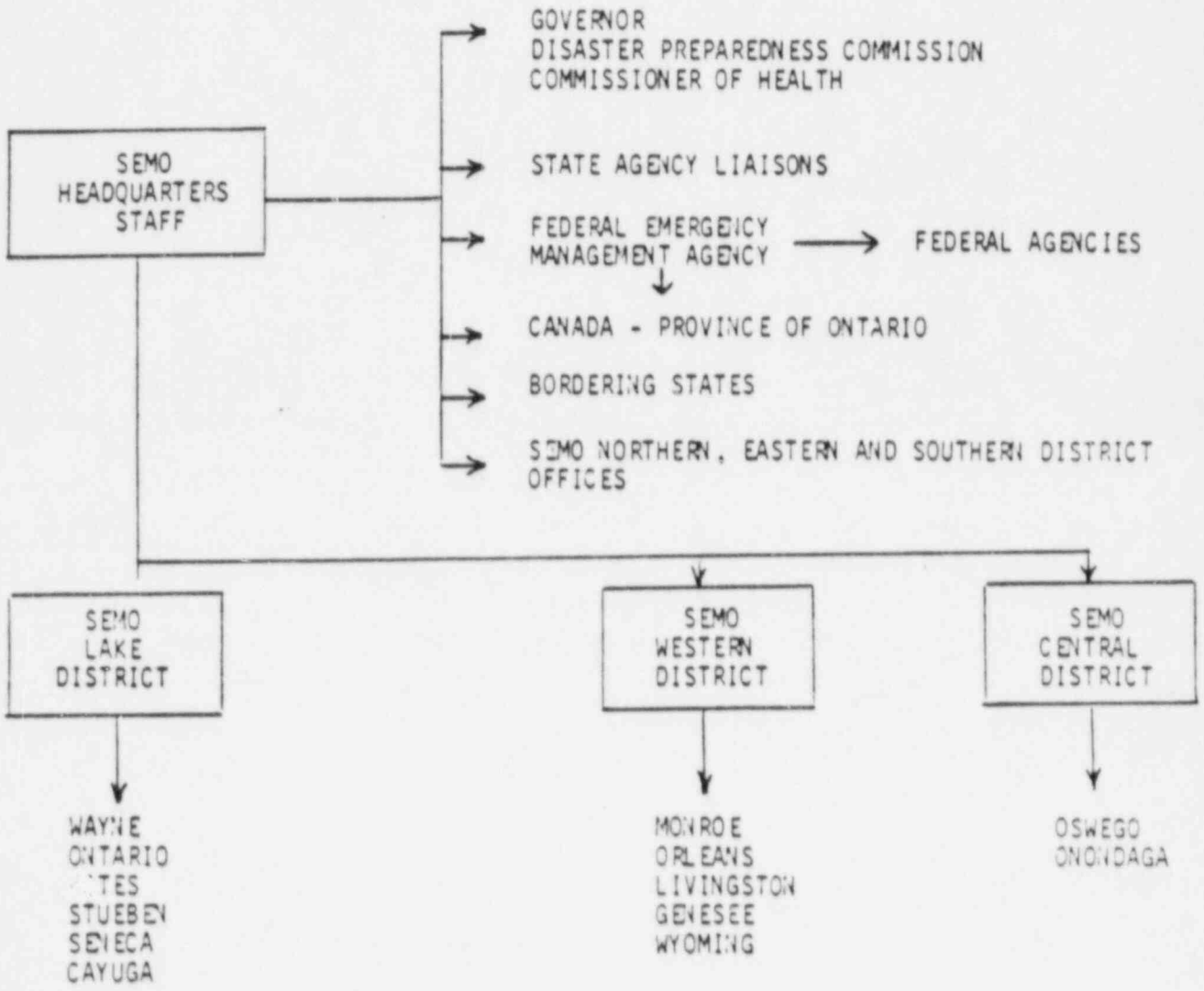
Note: The SEMO District Offices notify their regional State agency liaisons and other local emergency management offices as appropriate.

(NOT USED)

INGESTION EXPOSURE PATHWAY

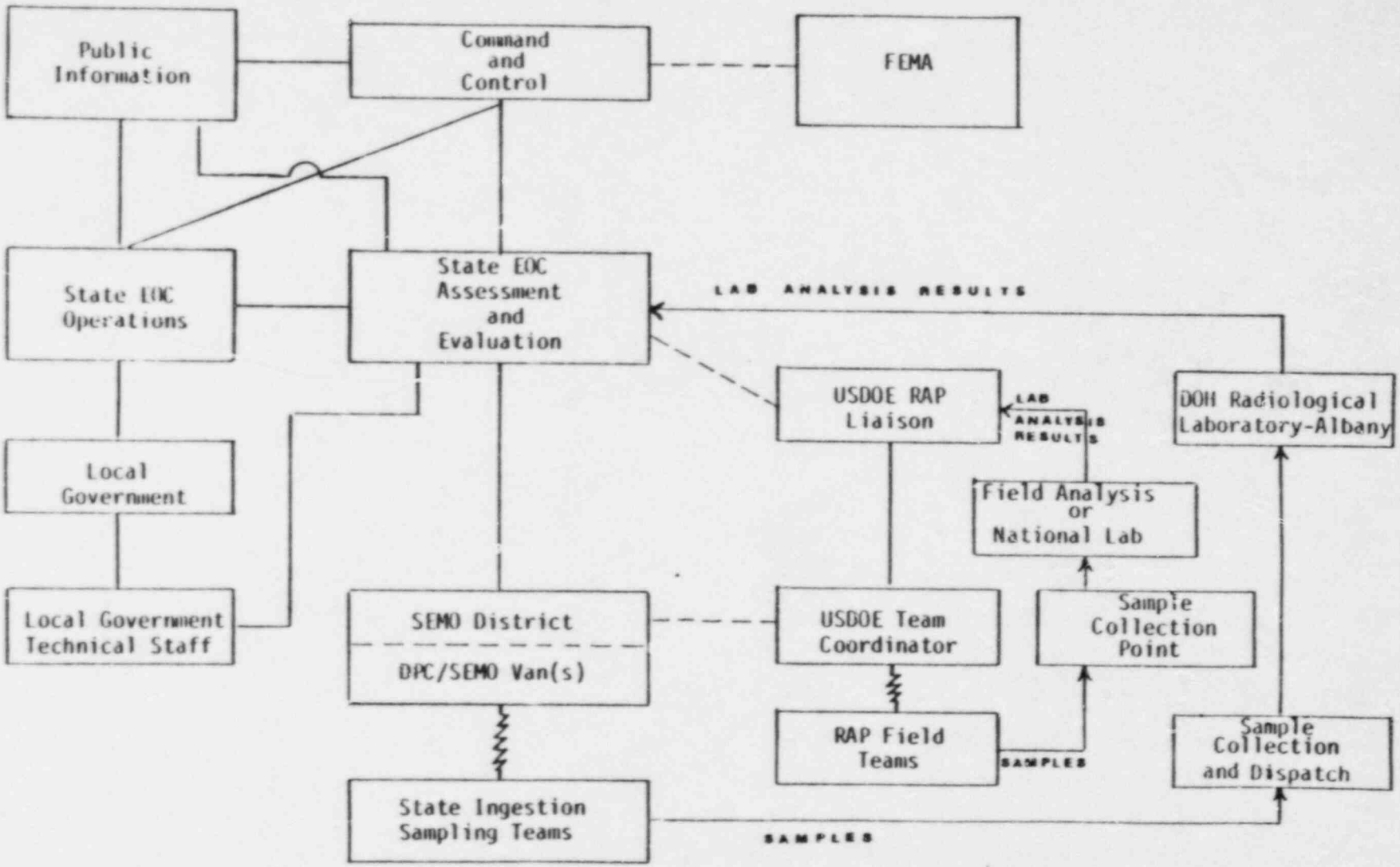
Alert and Notification Procedure
Ginna Site

Upon confirmation of an ingestion exposure pathway concern from the Ginna Nuclear Power Plant, the State Emergency Management Office (SEMO) Headquarters Staff will employ the following alert and notification procedure:



Note: The SEMO District Offices notify their regional State agency liaisons and other local emergency management offices as appropriate.

(NOT USED)



INFORMATION FLOW FOR INGESTION PATHWAY RESPONSE

(NOT USED)

TASKS/RESPONSIBILITIES FOR INGESTION PATHWAY PLANNING*

DEPARTMENT / TASK	Inventory of Dairy Farms	Inventory of Food Processing Plants	Sample Gathering: Potable Water	Sample Gathering: Soil	Sample Gathering: Environmental Fauna	Sample Analysis	Inventory of Stock Farms	Transportation of Samples	Notification of Non-nuclear County	Notification of/by Other States	Access Control Points	Sample Gathering: Milk	Sample Gathering: Produce & Vegetable	Protective Action Recommendations	Implementation of Protective Actions	Public Information	Coordination of Ingestion Pathway planning	Embargo Actions	Data Interpretation/ Assessment	Directions to all Farmers	Coordination of non-nuclear county plan/procedure	Emergency Operations Center	Communications		
Department of Health			X	X		X								X	X	X		X	X						
Department of Agriculture & Markets	X	X					X					X	X		X	X		X		X					
Department of Environmental Conservation					X			X							X	X									
New York State Police								X			X												X		
Department of Transportation								X			X												X		
State Emergency Management Office									X	X									X		X	X	X		
Radiological Emergency Preparedness Group															X	X	X								

*Procedur should ensure that delineated tasks/resp ibilities are implementable

(NOT USED)

PART II - SECTION II:

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PART II SECTION II

LISTS, MAPS AND RESOURCES

NEW YORK STATE

List of Letters of Agreement or Memorandums of Understanding (MOU)

(To Date)

1. American Red Cross - with New York State signed by Governor Mario Cuomo, 9/83.
2. Bergen County, New Jersey - with New York State, Bergen County Board of Chosen Freeholders Resolution, 3-3-82.
3. New Jersey Office of Emergency Management - with the Radiological Emergency Preparedness Group.
4. U.S. Department of Energy - with New York State, 6-24-81.
5. United States Coast Guard 9th District - Cleveland, with New York State, 7-20-81.
6. United States Coast Guard 3rd District - Governor's Island, with New York State, 7-27-81.
7. United States Department of Agriculture - with New York State, 1-14-82.

*8. Niagara Mohawk Power Corporation - with New York State.

*9. Power Authority of the State of New York - with New York State.

*10. Rochester Gas & Electric Corporation - with New York State.

*11. Consolidated Edison Inc. - with New York State.

*Updated annually.

PART II - SECTION II

Department of Agriculture and Markets

Dairy Farm and Agricultural Radiological Control

Resources List

EDP listings of many types of food establishments which generally indicate names and addresses and in some cases inspection information are on file in Agriculture and Markets and/or in the Bureau of Environmental Radiation Protection, Department of Health. The types of establishments for which we have computer files are as follows:

Dairy Farms

Beef Farms

Sheep Farms

Egg Producers

Stores

Bakeries (wholesale)

Food Manufacturers

Food Warehouses

Beverage Plants

Packers

Food Processing Plants

Milk Processing Plants

Nursery Dealers

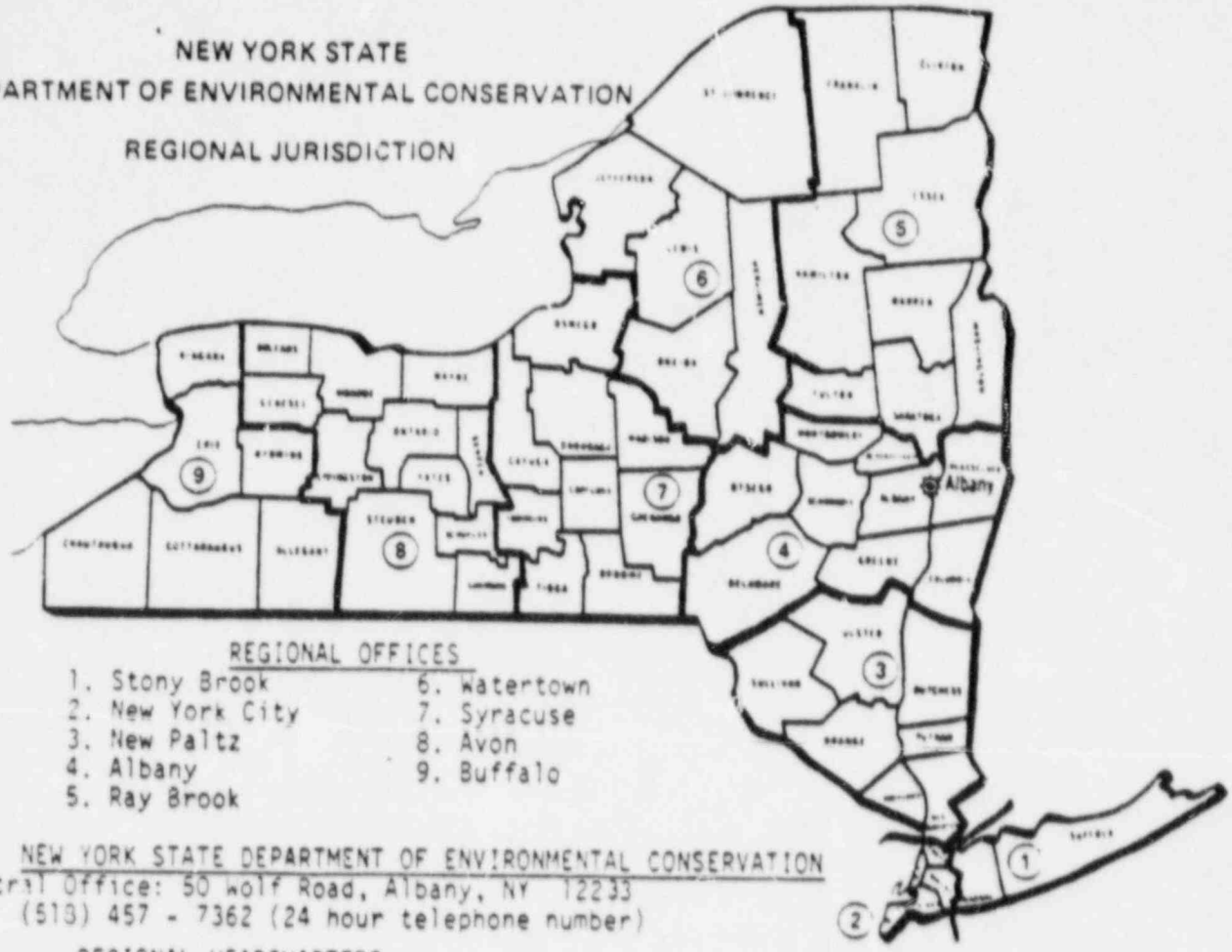
Nursery Greenhouses

Produce Farms

The computer listings of facilities and procedures are available at the Departments of Agriculture and Markets and at the State EOC, Albany.

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

REGIONAL JURISDICTION



REGIONAL OFFICES

1. Stony Brook
2. New York City
3. New Paltz
4. Albany
5. Ray Brook
6. Watertown
7. Syracuse
8. Avon
9. Buffalo

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Central Office: 50 Wolf Road, Albany, NY 12233
(518) 457 - 7362 (24 hour telephone number)

REGIONAL HEADQUARTERS

Region		Address
1	Stony Brook	SUNY at Stony Brook Bldg. #40 Stony Brook, NY 11790 (516) 751 - 7900
2	New York	2 World Trade Center 61 st Floor New York, NY 10047 (212) 488 - 2764
3	New Paltz	21 So. Putt Corners Rd. New Paltz, NY 12561 (914) 255 - 5453
	White Plains	202 Mamaroneck Avenue White Plains, NY 10601 (914) 761 - 6660
4	Albany	50 Wolf Road Albany, NY 12233 (518) 457 - 7110
	Stamford	NYSDEC Rt. 10 Stamford, NY 12167 (607) 652 - 7364
5	Ray Brook	Ray Brook, NY 12977 (518) 891 - 1370
	Warrensburg	Hudson Street Warrensburg, NY 12885 (518) 623 - 3671
6	Watertown	317 Washington St. Watertown, NY 13601 (315) 782 - 0100
7	Syracuse	100 Elwood Davis Rd. No. Syracuse, NY 13212 (315) 473 - 8311
8	Avon	P.O.Box 57 Avon, NY 14414 (716) 226 - 2466
9	Buffalo	584 Delaware Ave. Buffalo, NY 14202 (716) 842 - 5041

Department of Environmental Conservation

Aviation Unit

Aircraft:

3 ea. - Helicopters

3 ea. - Turbo-prop Executive-type Transport Aircraft

1 ea. - Cessna 185 Float Plane

(Note: Two helicopters and one float plane can be readily configured for search and rescue, observations, or emergency medical service.)

This unit is virtually available 7 days a week, 24 hours a day for emergency services.

Air Monitoring and Meteorological

Information on air monitoring programs other than radiation and meteorological capabilities is on file by station-site, frequency of sample and methodology in the Department of Environmental Conservation and the Bureau of Environmental Radiation Protection, Department of Health.

NEW YORK STATE DEPARTMENT OF HEALTH
Main Office: Empire State Plaza, Tower Bldg.,
Albany, N.Y. 12237
(518) 474 - 4242

Regional Headquarters

Region	Address
Albany	Room 412, Taxation and Finance Building 9, State Campus Albany, New York 12226 (518) 457 - 5150
Buffalo	584 Delaware Avenue Buffalo, New York 14202 (716) 842 - 4336
New York City	Two World Trade Center, 49th Floor New York, New York 10047 (212) 488 - 2744
Rochester	1475 Winton Road, North Rochester, New York 14609 (716) 482 - 9711
Syracuse	677 South Salina Street Syracuse, New York 13202 (315) 473 - 8374
White Plains	901 North Broadway White Plains, New York 10601 (914) 761 - 7900

DEPARTMENT OF HEALTH

DIVISION OF LABORATORIES AND RESEARCH

RADIOLOGICAL SCIENCES LABORATORY INSTRUMENTATION

1 Northern Scientific 660 multichannel analyzer system with:
NS-636, 8K hardwired memory
Nova-1210, 8K computer
Dual 8K ADC's with multiplex and multiparameter adapter
9 track magnetic tape output

2 Northern Scientific 630 multichannel analyzers with a 1024 channel memory and dual ADC's

3 Northern Scientific ECON 1A multichannel analyzers with a 1024 channel memory

1 Northern Scientific NS 710A multichannel analyzer with 4096 channel memory

3 Northern Scientific MINECON analyzers with a 256 channel memory

1 Nuclear Data 330 analyzer with a 4096 channel memory

3 QUADRI-shields (4 NaI-dectors in each of two of the shields, 4 AC-guarded internal gas-proportional counting systems in the third shield)

3 Beckman wide-beta planchet counting systems

1 Tennelec a/B planchet counting system

1 Nuclear Chicago planchet counting system

1 Nuclear Measurements Corp. internal-proportional counting system

3 Packard Tri-Carb liquid scintillation counting systems

2 Johnson Laboratories radon-counting systems

1 Random radon-counting system

1 Ge(Li) detector - efficiency 20.7% at 1332 keV relative to a 3" x 3" NaI detector

1 Ge(Li) detector - efficiency 18% at 1332 keV relative to a 3" x 3" NaI detector

1 Intrinsic Germanium X-ray detector, 100 mm^2 x 5 mm

1 Intrinsic Germanium X-ray detector, 500 mm^2 x 15 mm

2 Alpha spectrometry systems

3 Gas sampling proportional counter beta-spectrometer systems with cosmic ray anti-coincidence guards

2 Beta-gamma coincidence systems for gaseous samples

2 Fast-slow coincidence systems

2 Beta-gamma coincidence systems for solid samples

1 Pulse shape discrimination system

1 Ultra-low level B-coincidence detector and associated electronics

1 X-ray fluorescence system:

Northern d80 analyzer
Nuclear Semiconductor 440 automatic sample changer
Nuclear Semiconductor (Si[Li]) detector
PDP 11/05 computer - 24 K memory
Data Systems dual floppy disk
Ge Terminet 30
50 kV Watkins-Johnson power supply and Mo X-ray tube

RSL Personnel

Director	
Radiological Scientists	5
Research Scientists	3
Laboratory Technicians	19
Electronics Technicians	2
Stenographer	1

Department of Health
Bureau of Public Water Supply
Community Water System

The following information can be made available upon short notice through the Department of Health computer capability: community water systems, having five or more service connections serving twenty-five or more persons, for sixty or more days per year.

The computer printout would show:

Station number and county location
Community water system name
" " " street address
" " " location (city, town, village)
" " " telephone number

Operator's name
" title
" agency (if applicable)
" street address
" community (city, town, village)
" telephone number
Plant operator's name(s) (personal)

A sample computer printout is attached.

Also available are a list of surface water sources by county, a computer inventory providing the latitude and longitude for all water system sources, and maps showing the "point of witndrawal" for surface and below surface water sources. It would be far to cumbersome to include in this Plan the computer printout information and the water systems maps that are and will be available. During an emergency computerized information would be made available on a number one priority.

Maps showing water supplies are available at the New York State Department of Health and the State and the State EOC Albany.

DATE 01/15/80

NEW YORK STATE DEPARTMENT OF HEALTH

PUBLIC WATER SYSTEM INVENTORY

PART III
SECTION II

COUNTY (29) NASSAU
REGION - WHITE PLAINS
PROGRAM CODE- 100
COMMUNITY

PROGRAM CODE & 1ND STATION NUMBER - 00006000 SUPPLY NAME - ALBERTSON WATER DISTRICT TYPE - 08
PRODUCTION CAPACITY - 0007776000 POPULATION - 0600013000 NO OF SERVICES - 003815

TREAT FAC NO - 01 TREAT FAC NAME - WELL NO1 CAPACITY - 001440000
TREATMENTS - 22222 22222 22222 22222 22212 22222

SOURCE NO - 01 SOURCE NAME - N5732 WELL NO1 SAFE YIELD - 001440000 SOUR
TREAT NO - 01 BASIN - 17 LATITUDE - 404621 LONGITUDE - 733829

TREAT FAC NO - 02 TREAT FAC NAME - WELL NO2 CAPACITY - 001440000
TREATMENTS - 22222 22222 22222 22222 22212 22222

SOURCE NO - 02 SOURCE NAME - N3733 WELL NO2 SAFE YIELD - 001440000 SOUR
TREAT NO - 02 BASIN - 17 LATITUDE - 404626 LONGITUDE - 733829

TREAT FAC NO - 03 TREAT FAC NAME - WELL NO3 CAPACITY - 001440000
TREATMENTS - 22222 22222 22222 22222 22212 22222

SOURCE NO - 03 SOURCE NAME - N4327 WELL NO3 SAFE YIELD - 001440000 SOUR
TREAT NO - 03 BASIN - 17 LATITUDE - 404621 LONGITUDE - 733923

TREAT FAC NO - 04 TREAT FAC NAME - WELL NO4 CAPACITY - 001730000
TREATMENTS - 22222 22222 22222 22222 22212 22222

SOURCE NO - 04 SOURCE NAME - N5947 WELL NO4 SAFE YIELD - 001730000 SOUR
TREAT NO - 04 BASIN - 17 LATITUDE - 404645 LONGITUDE - 733905

TREAT FAC NO - 05 TREAT FAC NAME - WELL NO 5 CAPACITY - 001730000
TREATMENTS - 22222 22222 22222 22222 22212 22222

SOURCE NO - 05 SOURCE NAME - N 8558 WELL NO 5 SAFE YIELD - 001730000 SOUR
TREAT NO - 05 BASIN - 17 LATITUDE - 404626 LONGITUDE - 733829

INTER NO - 01 INTER WATER SYSTEM - GARDEN CITY PARK W. D. INTER LOCATION - 10 MILLETS
INTER NO - 02 INTER WATER SYSTEM - WILLISTON PARK VILLAGE INTER LOCATION - WILLIS AVE
INTER NO - 03 INTER WATER SYSTEM - WILLISTON PARK VILLAGE
INTER NO - 04 INTER WATER SYSTEM

Department of Health
Bureau of Environmental Radiation Protection

The Bureau of Radiation Control has 4 emergency kits for the Syracuse, Buffalo, White Plains, and Albany Regions. There is also an incomplete kit for the Rochester Region. Each kit (except Rochester) contains:

Pulse Rate Meter PRM-6 (measures alpha, beta, gamma; 500-500Kcpm (1 full scale) to be used with the following probes:

AC-3-7	Alpha scintillation probe
HP-177C	Thick window GM: gamma and med energy beta probe
HP-190	Thin window GM; gamma and beta
PG-2	Low energy gamma scintillation; also use with PRM-5 for pulse height analysis
SPA-3	High sensitivity gamma scintillation probe; also use with PRM-5 for pulse height analysis

The Rochester kit has only PRM-6 with the probes PG-2, SPA-3.

In addition the following instrumentation is available:

AC-3-7 probe

14 E-120's (with HP-190 probes). E-120's read in 5-50mR/hr (full scale) or 700-70K cpm and operate with a variety of GM probes.

1 fiddler probe - thin crystal scintillation probe sees low energy gamma use with PRM5-3.

3 HP-210 GM hand probes; detects beta up to 40 kev; tungsten shield for use in ___ fields.

4 HP-270 GM hand probes; energy compensated.

1 mini pulser - to calibrate instruments; battery pack.

7 PAC-3G's (of these 6 are in for repair); gas proportional alphacounter.

2 PAC 4G-3's - gas prop. alpha counter, lin-log scale. (Newer model than 3G)

1 PG-1 Plutonium gamma scintillation probe for adverse conditions (weapons or fuel accident); 100% efficient from, 10-40 kev. Also see Am 241 gamma (60 kev).

2 PG-2 probes.

PNR-4 Neutron Rem Meter - thermal and fast neutrons 5-5 KmRem/hr; high gamma rejection.

PRM-5 meter - counts alpha, beta, gamma, 500-500K cpm. Single channel pulse height analysis; use with a variety of scintillation or proportion detectors.

2 PRM-5's - same as above plus 3 switch selected H.V. controls to allow presetting.

2 PRM-6's

1 PRM 7 Micro R meter. Scintillation detector (gamma).

PS-2 portable scaler. Use with many scintillation and GM dectectors. Variable high voltage, pulse amphfier, battery, o decade scaler, timer.

3 SH-4 GMB sample holders - use with HP-210 probe.

SH-5 tritium probe 7 nolder (can also measure alpha and higher beta.)

1 SPA-3

The kits are complemented by overnauls, gloves, tape, signs, soap, absorbent paper, boots, gauze pads, particulate respirators, rope, pliers, tape measure, plastic bags and swipes.

Field Survey Instrument List:

1 ea - Baird-Atomic Ratemeter
Model 904148; 0-3000 mR/hr.

1 ea - Eberline Micro R/hr Meter Model PRM-7;
0-5000 mR/hr.

5 ea - Pressurized Ionization (PIC)
Chamber of the Indian Point Site

Department of Health

Special Hospital Services

Resources List

Forty seven (47) hospitals within this State, listed on pages 13, 14, and 15, responded affirmatively to a canvas by the Hospital Association of New York State regarding capability to provide medical support for potentially contaminated injured individuals. The Department of Health's Office of Health System Management will evaluate the capability of these hospitals and determine the need for any additional training.

In the Oswego area, care for the injured and contaminated persons during a radiological emergency will be rendered at either the Oswego Hospital or the Upstate Medical Center at Syracuse. The emergency routes to these hospitals is shown on page 16.

On pages 17 and 18 is a listing of hospitals included in the seven county emergency preparedness plans who replied to the Attorney General's survey concerning radiological capability.

Hospital List

St. Mary's Hospital
1300 Massachusetts Ave.
Troy, N.Y. 12180
(518) 272-5000

Samaritan Hospital
2215 Burdett Ave.
Troy, NY 12180
(518) 271-3300

State University Hospital of
the Upstate Medical Center
750 East Adams St.
Syracuse, NY 13210
(315) 473-4240

The Staten Island Hospital
475 Seaview Avenue
Staten Island, NY 10305
(212) 390-9000

Vassar Brothers Hospital
28 Reade Place
Poughkeepsie, NY 12601
Poughkeepsie, NY 12601
(914) 454-8500

W.C.A. Hospital
207 Foote Avenue
Jamestown, NY 14701
(716) 484-7440

State University of NY
Downstate Medical Center
450 Clarkson Ave.
Brooklyn, NY 11203
(212) 270-1000

Benedictine Hospital
105 Mary's Avenue
Kingston, N.Y. 12401
(914) 420-2000

Beth Israel Medical Center
10 Nathan D. Perlman Place
NY, NY 10003
(212) 420-2000

Erie County Medical Center
462 Grider St.
Buffalo, NY 14215
(716) 898-3000

Good Samaritan Hospital
Sufern, N.Y. 10901
(914) 357-3300

Mary McClellan Hospital
Cambridge, N.Y. 12816
(518) 677-2611

Nassau County Medical Center
2201 Hempstead Turnpike
East Meadow, NY 11514
(516) 542-0123

Nyack Hospital
North Midland Avenue
Nyack, NY 10960
(914) 358-6200

Saint Mary's Hospital
427 Guy Park Ave.
Amsterdam, N.Y. 12010
(518) 842-1900

The Hospital
Sidney, N.Y. 13838
(607) 563-3512

Tompkins Community Hospital
1285 Trumansburg Road
Ithaca, NY 14850
(607) 274-4011

The Faxton Hospital
1676 Sunset Ave.
Utica, N.Y. 13502
(315) 732-3101

Lutheran Medical Center
150 55th St.
Brooklyn, NY 11220
(212) 630-7000

Park Ridge Hospital
1555 Long Pond Road
Rochester, NY 14626
(716) 225-7150

Amsterdam Memorial Hospital
Amsterdam, NY 12010
(518) 842-3100

Arnot-Ogden Memorial Hospital
Elmira, NY 14901
(607) 737-4100

Carthage Area Hospital
West Street Road
Carthage, NY 13619
(315) 493-1000

Columbia Memorial Hospital
71 Prospect Avenue
Hudson, NY 12534
(518) 828-7601

Cornwall Hospital
Laurel Avenue
Cornwall, NY 12518
Cornwall, NY 12518
(914) 534-7711

Ellis Hospital
1101 Nott Street
Schenectady, NY 12308
(51) 382-4124

Genesee Memorial Hospital
127 North St.
Batavia, NY 14020
(718) 343-6030

Jamestown General Hospital
51 Glasgow Avenue
Jamestown, NY 14701
(716) 484-1161

Lenox Hill Hospital
1100 East 77th Street
New York, NY 10021
(212) 794-51.1

Little Falls Hospital
140 Burwell St.
Little Falls, NY 13365
(315) 823-1000

Mercy Hospital of Buffalo
565 Abbott Road
Buffalo, NY 14220
(716) 826-7000

Mercy Hospital
1000 North Village
Rockville Centre, NY 11570
(516) 255-2530

New Rochelle Hospital Medical Center
16 Fulon Place
New Rochelle, NY 10802
(914) 632-5000

North Shore University Hospital
300 Community Drive
Manhasset, NY 11030
(516) 562-4050

Our Lady of Lourdes Memorial Hospital
169 Riverside Drive
Binghamton, NY 13905
(607) 798-5111

St. Elizabeth Hospital
2209 Genesee St.
Utica, NY 13501
(518) 798-8111

St. James Mercy Hospital
411 Caniseto St.
Hornell, NY
(315) 324-3900

St. Jerome Hospital
16 Bank Street
Batavia, NY 14020
(716) 343-3131

St. Joseph's Hospital
555 East Market St.
Elmira, NY 14902
(607) 733-8541

St. Joseph's Hospital Health Center
301 Prospect Ave.
Syracuse, NY 13202
(315) 424-5111

Hospital List
(continued)

Montefiore Hospital and Medical Center
111 East 210th Street
Bronx, NY 10467
(212) 920-6671

Phelps Memorial Hospital Center
North Tarrytown, NY 10591
(914) 631-5100

Albany Medical Center Hospital
New Scotland Avenue
Albany, NY 12208
(518) 445-3125

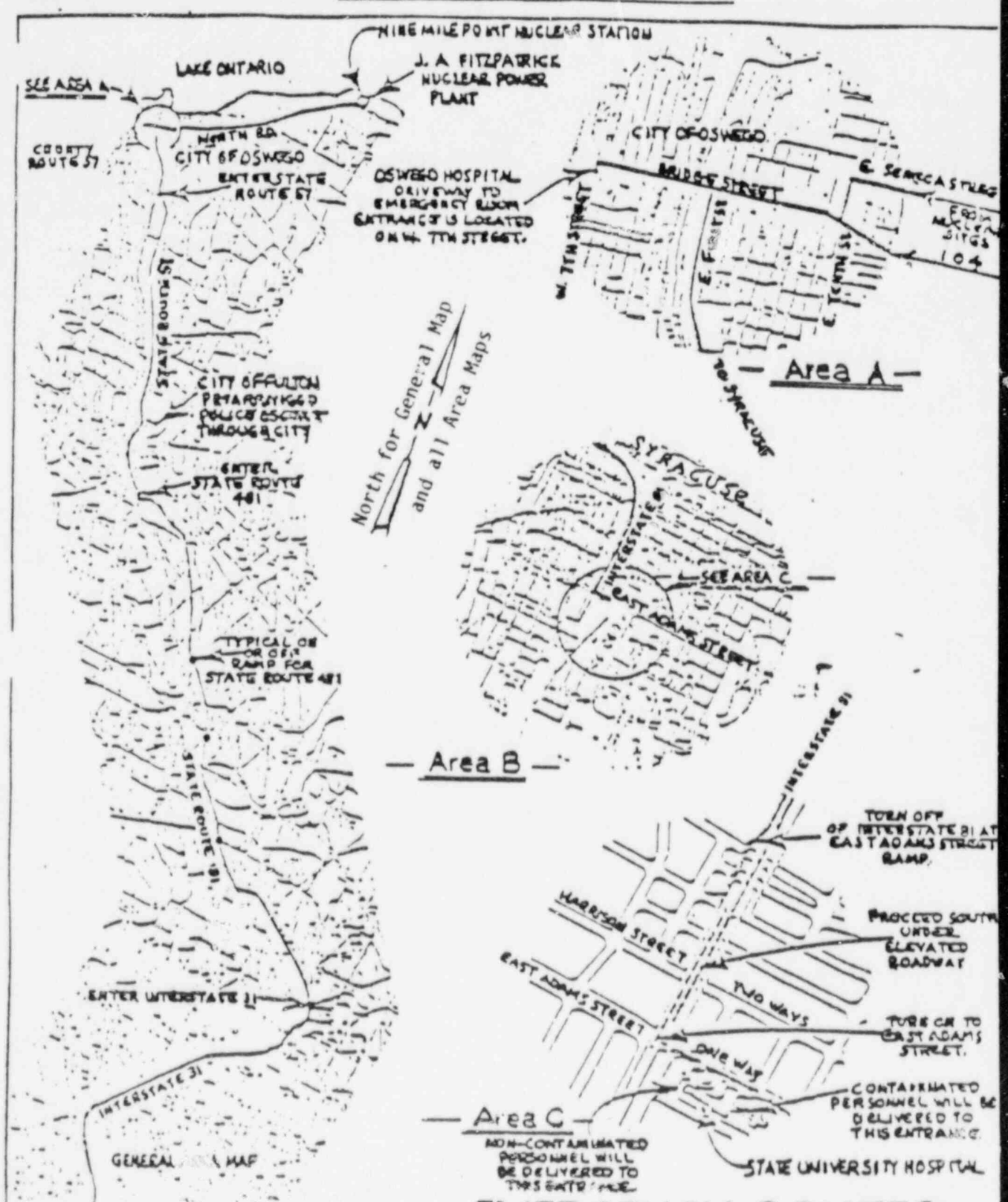
Lake Shore Hospital
Routes 5 & 20
Irving, NY 14081
(716) 934-2654

Community General Hospital
Broad Road
Syracuse, NY
(315) 492-5011

The New York Hospital
525 East Sixty-Eighth St.
New York, NY 10021
(212) 472-5892

Oswego Hospital
110 West Sixth St.
Oswego, NY 13126
(315) 349-5511

UPSTATE MEDICAL CENTER AT SYRACUSE



EMERGENCY ROUTES

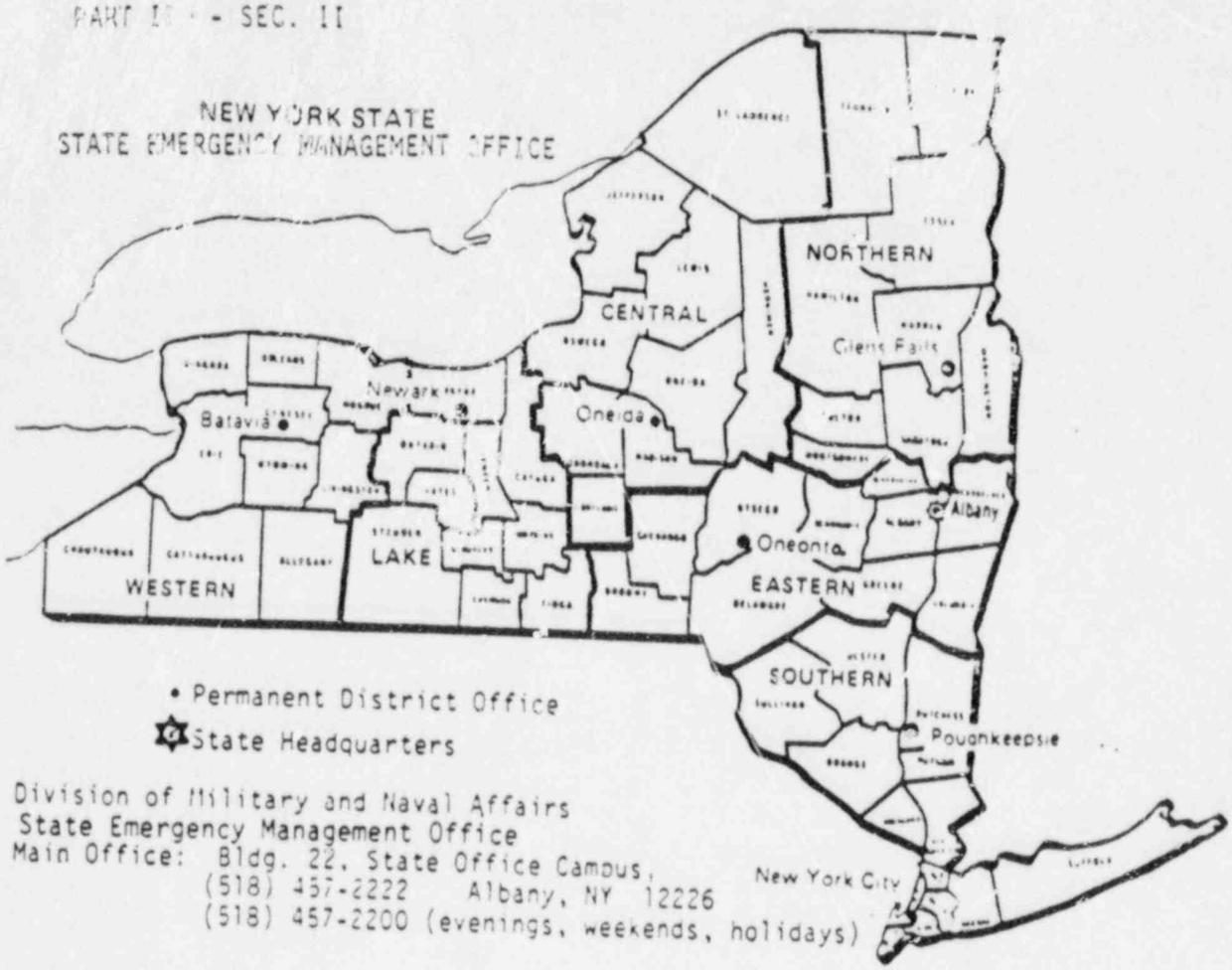
from Nine Mile Point Nuclear Site to Oswego Hospital and State University Hospital in Syracuse

COUNTY	HOSPITAL	RADIOLOGICAL CAPABILITY*	ER CAPACITY
MONROE	Genesee Hospital	No	10
	Highland Hospital	No	7
	Lakeside Memorial Hospital	No	6
	Monroe Community Hospital	No respone	--
	Park Ridge Hospital	Yes	9
	Rochester General Hospital	Yes (special facility)	20
	St. Mary's Hospital	No	6
	Strong Memorial Hospital	Yes	35
WAYNE	Myers Comm. Hospital Foundation	Yes	3
	Newark-Wayne Community Hospital	Yes	18
OSWEGO	Albert Lindley Lee Mem. Hospital	Yes	6
	Oswego Hospital	Yes (trained by utility	5
ONONDAGA	Community-General Hospital of Greater Syracuse	Yes	6
	Crouse-Irving Memorial Hospital	No	10
	St. Joseph's Hospital Health Center	No	4
	Upstate Medical Center	Yes (trained by utility	10
JEFFERSON	Carthage Area Hospital	No	0
	Edw. J. Noble Hospital of Alexandria Bay	No	3
	House of the Good Samaritan	Yes	6
	Mercy Hospital of Watertown	Yes	9
DUTCHESS	St. Grancis Beacon Hospital	Yes	5
	Northern Dutchess Hospital	No	7
	St. Francis Hospital	No	6
	Vassar Brothers' Hospital	Yes	4
ORANGE	Arden Hill Hospital	No	8
	Cornwall Hospital	No response	--
	Horton Memorial Hospital	Yes	20
	Mercy Community Hospital of Port Jervis	No	2
	St. Anthony Community Hospital	No	3
	St. Luke's Hospital of Newburgh	Yes	4
	Tuxedo Memorial Hospital	No response	--

COUNTY	HOSPITAL	RADIOLOGICAL CAPABILITY*	ER CAPACITY
PUTNAM	Julia L. Butterfield Memorial Hospital	No	3
	Putnam Hospital Center	Yes (trained by utility	10
ROCKLAND	Good Samaritan Hospital of Suffern	Yes	16
	Helen Hayes Hospital	No response	--
	Nyack Hospital	No	5
	Summit Park Hospital	No response	--
WESTCHESTER	Blythedale Children's Hospital		
	Burke Rehabilitation Center		
	Dobbs Ferry Hospital	No	1
	Lawrence Hospital	No	6
	Mount Vernon Hospital	No	6
	New Rochelle Hospital Medical Ctr.	Yes	4
	New York Hospital-Cornell Medical		
	Northern Westchester Hospital	Yes	10
	Peekskill Hospital	Yes (utility trained)	1
	Phelphs Memorial Hospital	Yes (utility trained)	15
	St. Agnes Hospital	Yes	6
	St. John's Riverside Hospital	No	4
	St. Joseph's Hospital, Yonkers	No	8
	St. Vincent's Hospital & Med. Ctr.	No response	--
	United Hospital	No	10
	Westchester County Medical Center	Yes	10
	White Plains Hospital Medical Ctr.	No	6
	Yonkers General Hospital	No	0

*Based on question from Attorney General's survey..."Does ER staff receive any special training on how to handle patients who are victims of major toxic chemical accidents?"

NEW YORK STATE
STATE EMERGENCY MANAGEMENT OFFICE



• Permanent District Office
State Headquarters

Division of Military and Naval Affairs
State Emergency Management Office
Main Office: Bldg. 22, State Office Campus,
(518) 457-2222 Albany, NY 12226
(518) 457-2200 (evenings, weekends, holidays)

DISTRICT HEADQUARTERS

Central District Office
213 Union Street
Oneida, New York 13421
(315) 363- 8524

Eastern District Office
Upper West Street
Oneonta, New York 13820
(607) 432 - 1771

Lake District Office
P. O. Box 164
Newark, New York 14513
(315) 331 - 4880

Northern District Office
Fox Farm Road
Glens Falls, New York 12801
(518) 793 - 6646

Southern District Office
Creek Road
Poughkeepsie, New York 12601
(914) 454 - 0430

Western District Office
P.O. Box 692
221 State Street
Batavia, New York 14020
(716) 343 - 1465

(NOT USED)

STATE EMERGENCY MANAGEMENT OFFICE

COMMUNICATIONS EQUIPMENT

For all SEMO Commercial telephone numbers, see map preceeding this page. The Telephone Directory is distributed throughout the State to the appopriate offices.

CENTRAL OFFICE Public Security Building, State Campus, Albany

Local Government Net
- 1 unit - EOC
- 14 units - mobile
- 2 units - hand-held

Civil Defense National Radio System
- 1 unit - EOC

State Command Net
- 1 unit - EOC
- 2 units - mobile vans

Division of Fire Prevention and Control
- 1 unit - EOC

Radio Net to Station WGY (EBS)

RACES (back-up to State Command Net)

Two Mobile Vans (summary of capabilities)
- Both - all counties with local government net, all SEMO district offices, EOC/ASG, Fire Service, NYSDFP&C Administration Channel, Sheriff's Net and State Command Net.

Hotline to each nuclear facility, district office and County Civil Defense office.

Emergency Broadcast System Stations

WGY	Schenectady
WPTR	Albany
WROW	Albany
WBEN	Buffalo
WNBC	New York City
WCBS	New York City
WHN	New York City
WABC	New York City
WROC	Rochester
WHAM	Rochester
WSYR	Syracuse
WTRY	Troy
WRUN	Utica

CENTRAL DISTRICT OFFICE

Local Government Net
- 1 unit - EOC
- 2 units - hand-held

State DEC
1 unit - EOC

State DOT
1 unit - EOC

State Command Net
1 unit - EOC

Hotline telephone

State Police
1 unit - EOC

State Fire
1 unit - EOC

EBS System Stations

WIBX	AM	Utica
WSYR		Syracuse
WWNY		Watertown

EASTERN DISTRICT OFFICE

Local Government Net
1 unit - EOC
1 units - mobile
2 units - hand-held

State Police
1 unit - EOC

State Fire
1 unit - EOC

State DEC
1 unit - EOC

State DOT
1 unit - EOC

State Command Net
1 unit - EOC

EBS Stations

WNFB	Binghamton
WROW	Albany
WGY	Schenectady

LAKE DISTRICT OFFICE

Local Government Net
2 unit - EOC
1 units - mobile
2 units - hand-held

State DEC
1 unit - EOC

State DOT
1 unit - EOC

State Command Net
1 unit - EOC

State Police
1 unit - EOC

State Fire
1 unit - EOC

EBS Stations

WHAM	Rochester
WENY	Horseheads
WNBF	Binghamton

NORTHERN DISTRICT OFFICE

Local Government Net
1 unit - EOC
1 units - mobile
2 units - hand-held

State DEC
1 unit - EOC

State Police
1 unit - EOC

State DOT
1 unit - EOC

State Fire
1 unit - EOC

State Command Net
1 unit - EOC

EBS Stations

WGY	Schenectady
WEAY	Plattsburgh

SOUTHERN DISTRICT OFFICE

Local Government Net
1 unit - EOC
1 units - mobile
2 units - hand-held

State DEC
1 unit - EOC

State Police
1 unit - EOC

State DOT
1 unit - EOC

State Fire
1 unit - EOC

State Command Net
1 unit - EOC

Hotline telephone

EBS Stations

WCBS	New York City
WNBC	New York City
WABC	New York City

WESTERN DISTRICT OFFICE

Local Government Net
3 unit - EOC
4 units - mobile
2 units - hand-held

State DEC
1 unit - EOC

State Police
1 unit - EOC

State DOT
1 unit - EOC

State Fire
1 unit - EOC

State Command Net
1 unit - EOC

EBS Stations

WBEN	Buffalo
WHAM	Rochester

EQUIPMENT SUMMARY

SEMO - RADIOLOGICAL INTELLIGENCE SECTION
STATE WIDE INVENTORY*

CDV - 777 -	2 Shelter Sets	25,324
CDV - 777 -	A Monitoring Sets (KFMS/WERS)	872
CDV - 781	Aerial Monitoring Instruments	59
CDV - 777	Operational Sets (Mobile/Self Protection)	4,991
CDV - 711	EOC Remote Monitors	22
CDV - 742	Dosimeters	183,778
CDV - 750	Dosimeter Chargers	7,644
CDV - 776	Instrument Training Sets	81
CDV - 778	Radiation Source Sets	62
CDV - 755	School Kits	1,117

Note: Instrument maintenance and calibration is performed according to the SEMO manual RDAM 6-1. These procedures are reviewed and accepted by FEMA.

* See Part II, Section II, page 20 for an example of equipment distribution locations.

RADIOLOGICAL AND CHEMICAL EQUIPMENT COMPONENTS

RADEF Operational Set (CDV-777)

1 - CDV-700 Geiger Counter (0-50 mR/hr)
2 - CDV-715 Survy Meter Gamma (0-500 R/hr)
6 - CDV -742 Dosimeter (0-200 R)
7 - CDV-750 Dosimeter Charger

RADEF Monitoring Support Set (CDV-777A)

1 - CDV-700 Geiger Counter (0-50 mR/hr)
1 - CDV-715 Survey Meter Gamma (0-500 R/hr)
6 - CDV-742 Dosimeter (0-200 R)
1 - CDV-750 Dosimeter Charger
1 - CDV-717 Remote Rading Survey Meter Gamma (0-500 R/hr)

Shelter Radiation Detection Set (CDV-777-2)

1 - CDV-715 Survey Meter Gamma (0-500 R/hr)
6 - CDV-742 Dosimeter (0-200 R)
1 - CDV-750 dosimeter Charger

Radiological Defense Training Set (CDV-776)

1 - CDV-457 Training/Demonstration Kit
30 - CDV-138 dosimeter (0-200 mR)
15 - CDV-700 Geiger Counter (0-50 mR/hr)
15 - CDV-715 Survey Meter Gamma (0-500 R/hr)
2 - CDV-717 Remote Reading Survey Meter Gamma (0-500 R/hr)
2 - CDV-742 Dosimeter (0-200 R)
15 - CDV-750 Dosimeter Charger

Ratiation Training Source ste (CDV-778)

6 - CDV-784 Cobalt Capsules
1 - CDV-791 Lead Container
1 - CDV-792 Lead Container with 2 locks and keys
1 - CDV-788 Long Handled Tongs
2 - CDV-138 Dosimeter (0-200 mR)
1 - CDV-750 Dosimeter Charger
1 - CDV-700 Geiger Counter (0-50 mR/hr)
8 - Radiation Hazard Signs

School Kits (CDV-755)

2 - CDV-700 Geiger Countery (0-50 mR/hr)
1 - CDV-710 Survey Meter (0-50 R/hr)
1 - CDV-720 Survey Meter (0-500 R/hr)
1 - CDV-750 Dosimeter Chager
1 - CDV-730 Dosimeter (0-20 R)
1 - CDV-740 Dosimeter (0-100 R)
1 - Box + Miscellaneous Accessories

Chemical Warfare Training Kit (CDV-855)

4 - CDV-800 Organizational Mask
4 - CDV-860 Protectiv Mask
1 - CDV-810 Chemical Agent Detector Kit
Cartons and Miscellaneous Accessories

Aerial Survey Meter (CDV-781) (0-10 R/hr)

1 - CDV-781 Metering Unit
1 - CDV-781 Detector Unit
1 - CDV-781 Simulator Unit
1 - Mounting barckets, Metering Unit
1 - Headphone
8 - dosimeters: 2-CDV-730, 2-CDV-740, 2-CDV-742
1 - Tape Recorder

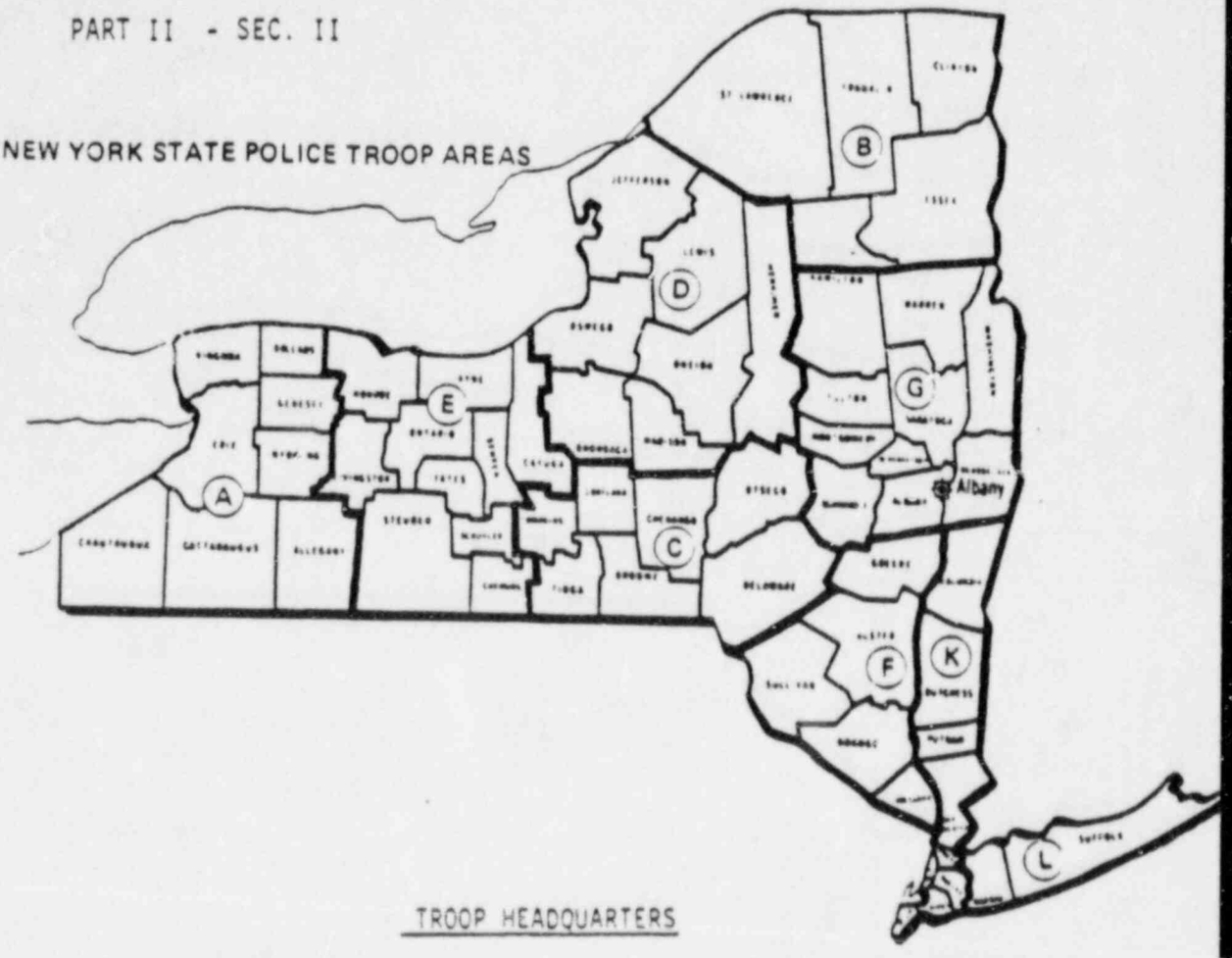
EOC Remote Monitor (CDV-711) (0-1000 R/hr)

Jurisdiction	1	2	3	4	5	6	7	8	9	
D O W	777-2 SHELT	77-A WERS	777 MOBILE	742 DOST STOCKPILE	750 CHARGER STOCKPILE	781 AERIAL SURVEY	711 REMOTE READING	776 TRAINING SET	778 SOURCE SET	755 SCHOOL KIT
ALLEGANY	34	8	95	400	15				1	19
CATTARAUGUS	172	10	113	300	10			1		13
CHAUTAUQUA	60	10	54	400	20	1		1	1	25
ERIE	812	6	112	6,000	197	1	1	1		66
GENESEE	58	1	52	351	17			1	1	12
LIVINGSTON	69	6	37					1		12
MONROE	613	17	86	2,500	86	1		1	1	37
NIAGARA	470	11	190	1,650	57	1	1	2	1	25
ORLEANS	65	6	32	230	7		1	1	1	5
WYOMING	46	1	30	150	10			1	1	6
NIAGARA FALLS		1	26							
NO. TONAWANDA	46		23	200	7			1		
OLEAN	42	1	16	103	47			1		2
SALAMANCA	20		3	100	4			1		
DIST. OFFICE	1	1	1	5,100	203		1	1		
TOTAL:	1,995	79	870	17,351	680	4	4	14	7	203

A. Column Numbers Pertain to the following Items:
1. CDV-777-2 Shelter Radiation Detection Sets
2. CDV-777-A, RADEF Monitoring Support Sets. For Key Fixed Monitoring Stations (KFMS)/Weapon Effects Reporting Stations (WERS). One station per 100 sq. mi. with P.F. of at least 40.
3. CDV-777 RADEF Operational Sets. For Mobile/Self-Protection monitoring purposes.
4. CDV-742, Dosimeters, Emergency Workers Stockpile.
5. CDV-750, Dosimeter Charger, Emergency Workers Stockpile.
6. CDV-781, Aerial Radiological Monitoring (ARM) Instruments.
7. CDV-711, EOC Remort Sensor Radiation Meter, (not available for issue at present).
8. CDV-776, Radiological Defense Training Set
9. CDV-778, Radiation Training Source Set
10. CDV-755, School RADEF Training Kits

Radiological Intelligence Section
Equipment Resources in CD Jurisdictions

NEW YORK STATE POLICE TROOP AREAS



TROOP HEADQUARTERS

Troop "A" - Sielle Drive
Batavia, NY 14020
(716) 343 - 2200

Troop "B" - Box 100
Raybrook, NY 12977
(518) 897 - 2000

Troop "C" - Sidney New York 13838
(607) 563 - 9011

Troop "D" - Oneida, NY 13421
(315) - 363 - 4400

Troop "E" - Box 343
Canandaigua, NY 14424
(315) 398 - 3200

Troop "F" - Crystal Run Road
Wallkill, NY 10940
(914) 373 - 1424

Troop "G" - P.O. Box 67
Loudonville, NY 12211
(518) 783 - 3211

Troop "K" - Poughkeepsie, NY 12603
(914) 677 - 6321

Troop "T" - New York State Thruway
Albany, NY 12201
(518) 449 - 1750

Troop "L" - Sunrise Highway
Islip Terrace
(516) 277 - 6190

State Police
Resources List

Troop Designation and Headquarters		Patrol Cars	*C.I. Cars	**B.C.I. Cars
Troop "A"	Sielle Drive Batavia 14020 (716) 343-2200	98	31	80
Troop "B"	Box 100 Ray Brook 12977 (519) 897-2000	93	25	55
Troop "C"	Sidney 13838 (607) 563-9011	109	35	78
Troop "D"	Oneida 13421 (315) 363-4400	122	40	76
Troop "E"	Box 343 Canandaigua 14424 (315) 398-3200	130	45	81
Troop "F"	Crystal Run Road Wallkill 10940 (914) 343-1424	129	35	108
Troop "G"	P.O. Box 67 Loudonville 12211 (518) 783-3211	105	39	84
Troop "H"	Public Security Bldg. State Campus Albany 12226 (518)	7	3	26
Troop "K"	Poughkeepsie 12603 (914) 677-6321	117	33	64
Troop "L"	3045 Sunrise Highway Islip Terrace, LI 11752 (516) 227-6190	63	29	16
Troop "M"	2 World Trade Center 58th Floor - 5802 New York, NY 10047 (212) 488-2710			38
Troop "T"	New Yok State Thruway P.O. Box 189 Albany 12201 (518) 449-1750			

Division Totals	Patrol Cars	*C.I. Cars	**B.C.I. Cars
	973	315	741
10/80 In Service	599	182	519
Surplus and High Mileage	374	133	222

Pool Cars 29

Liaison Personnel: Four officers assigned to each EMO District (EMO) total 24

Field Personnel
Troop A - 353
Troop B - 274
Troop C - 279
Troop D - 385
Troop E - 366
Troop F - 390
Troop G - 389
Troop K - 342
Troop L - 186
Troop T - 275

Aircraft for Emergency Operations:

1 fixed wing
4 helicopters

Dosimeters (0-200 R) 3,467
Dosimeters charges 69

Assigned to the division of State Police by SEMO:

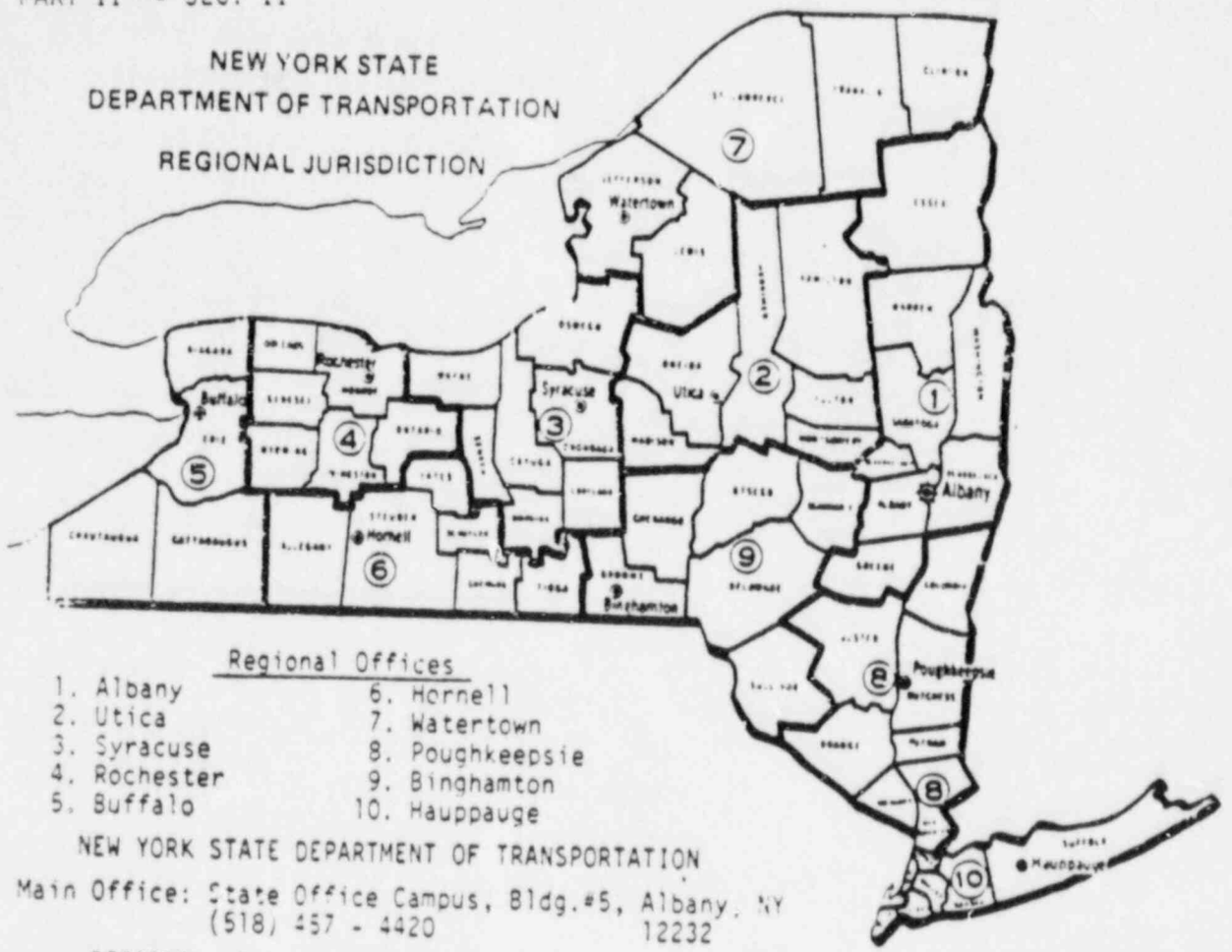
3 Aerial survey meters - Albany
- Syracuse
- Newburgh

102 kits (751 and 715 survey meters)

* Concealed Identity (unmarked uniform cars)
** Bureau of Criminal Investigation

NEW YORK STATE
DEPARTMENT OF TRANSPORTATION

REGIONAL JURISDICTION



Regional Offices

1. Albany
2. Utica
3. Syracuse
4. Rochester
5. Buffalo
6. Hornell
7. Watertown
8. Poughkeepsie
9. Binghamton
10. Hauppauge

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

Main Office: State Office Campus, Bldg.#5, Albany, NY 12232
(518) 457 - 4420

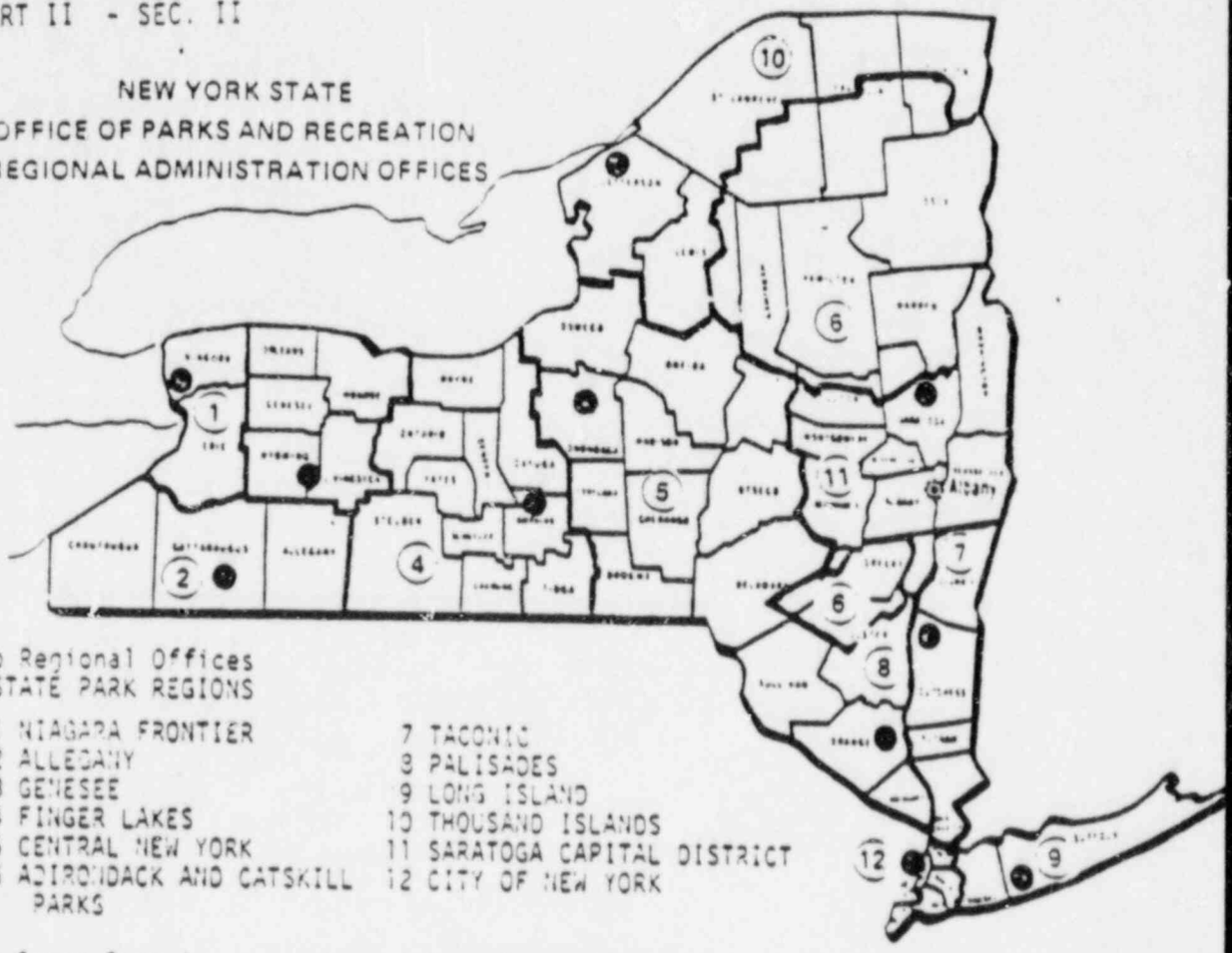
REGIONAL HEADQUARTERS

Region	Address
1 Albany	84 Holland Avenue Albany, NY 12208 (518) 474 - 6178
2 Utica	State Office Bldg. 207 Genesee Street Utica, NY 13501 (315) 797 - 6120
3 Syracuse	333 E. Washington Street Syracuse, NY 13202 (315) -473 - 8156
4 Rochester	1530 Jefferson Road Rochester, NY 14623 (716) 544 - 2850
5 Buffalo	125 Main Street Buffalo, NY 14203 (716) 876 - 4432
6 Hornell	30 West Main Street Hornell, NY 14843 (607) 324 - 1900
7 Watertown	State Office Bldg. 317 Washington St. Watertown, NY 13601 (315) 782 - 0100
8 Poughkeepsie	4 Burnett Blvd. Poughkeepsie, NY 12603 (914) 454 - 8000
9 Binghamton	State Office Bldg. 44 Hawley Street Binghamton, NY 13901 (607) 773 - 7736
10 Hauppauge	New York State Office Bldg. Veterans Highway Hauppauge, NY 11787 (212) 264 - 9020

New York City Affairs
Two World Trade Center
New York, NY (212) 438-6613

PART II - SEC. II

NEW YORK STATE
OFFICE OF PARKS AND RECREATION
REGIONAL ADMINISTRATION OFFICES



o Regional Offices
STATE PARK REGIONS

1 NIAGARA FRONTIER
2 ALLEGANY
3 GENESEE
4 FINGER LAKES
5 CENTRAL NEW YORK
6 ADIRONDACK AND CATSKILL PARKS
7 TACONIC
8 PALISADES
9 LONG ISLAND
10 THOUSAND ISLANDS
11 SARATOGA CAPITAL DISTRICT
12 CITY OF NEW YORK

Allegany State Park &
Recreation Commission
Allegany State Park
Salamanca, NY 14779
716-354-2535

Central New York State Park
& Recreation Commission
Clark Reservation
Jamesville, NY 13078
315-473-8400

Finger Lakes State Park &
Recreation Commission
Box J, RD #3
Trumansburg, NY 14886
607-387-7041

Genesee State Park &
Recreation Commission
Castile, NY 14427
716-493-2611

Long Island State Park &
Recreation Commission
Belmont Lake State Park
Babylon, NY 11702
516-669-1000

Niagara Frontier State Park
& Recreation Commission
Prospect Park - Niagara
Reservation
Niagara Falls, NY 14303
716-278-1701

Palisades Interstate Park
Commission
Administration Headquarters
Bear Mountain, NY 10911
914-786-2701

State Park and Recreation
Commission for the City
of New York
1700 Broadway
New York, NY 10019
212-977-4263

Saratoga Capital District State
Park and Recreation Commission
Box 398
Saratoga Springs, NY 12866
518-885-6411

Taconic State Park and
Recreation Commission
Staatsburg, NY 12580
914-889-4100

Thousand Islands State Park
& Recreation Commission
Keewaydin State Park
Alexandria Bay, NY 13607
315-482-2551

New York State Parks and
Recreation
Agency Building 1
Empire Plaza
Albany, NY 12223
518-474-0435

FEDERAL RESOURCES

RADIATION ASSISTANCE PROGRAM

(R.A.P.)

EQUIPMENT INVENTORY

10/1/80

Note: The following equipment is maintained in Building 348, Safety and Environmental Protection Division, Brookhaven National Laboratory, Associated Universities, Inc., Upton, New York, for emergency use.

Instrument Kit (3 ea.)

Quantity		DESCRIPTION
1	-	Victoreen Radector III, beta-gamma (Ion Chamger)
1	-	Victoreen CDV-700 Count rate meter with end window, thin wall and under water GM probes
1	-	Alpha scint. probe
1	-	Batter operated air sampler and filters
4	-	200 MR self reading dosimeters
4	-	200 R self reading dosimeters
1	-	Dosimeter charger
6	-	TLD dosimeters

Misc. - Stop watch, flasnlight, tape ruler, check sources and batteries.

Fidler Kit (1 ea.)

Quantity		DESCRIPTION
1	-	1/16 x 5 inch diameter scint. with thin window
1	-	Eberline PRM-5 pulse rate meter
1	-	Eberline RASP-1 Ruggedized alpha probe
1	-	Eberline SPA-3, 2 inch scint. probe
1	-	Eberline HP-210 beta window pancake GM probe

Misc. - Spare parts, tape ruler, check sources, voltmeter, spare batteries, cables and gloves.

Super Fidler Kit (1 ea.)

Quantity		DESCRIPTION
1	-	1/16 x 5 inch diameter scint. with thin window
1	-	Eberline SAM-2 mini scaler and rate meter
1	-	RD-22, 2x2 inch scint. probe

Misc. - Rechargeable battery pack for SAM-2, tape ruler, and cables.

Multi Channel Analyzer Kit (1 ea.)

Quantity		DESCRIPTION
1	-	Davidson Model 410o M.C.A. (409o Channels)
1	-	Digital Cassette Recorder
1	-	Silent 700 Printing Terminal
1	-	Inverter Power Supply & Power Cord

M.C.A. DETECTOR SYSTEMS

Quantity		DESCRIPTION
1	-	Bicron 3 x 3 NaI Detector
1	-	Canberra 2005 Preamp
1	-	Canberra 2012 Amplifier
1	-	Canberra 3002 H.V. Supply
		- - - -
1	-	ORTEC High Purity Ge Detector
1	-	ORTEC 572 Amplifier
1	-	ORTEC 459 H.V. Supply
		- - - -
1	-	ORTEC Mini NIM BIN & Low Voltage Supply
1	-	Beta & Gamma Reference source set
1	-	30 Liter Dewar

Environmental Radiation Monitor (1 ea.)

Reuter Stokes RSS-111, Range 0-5000 micro R/hr.

Porta-Air Sampler Kit (5 ea.)

Quantity		DESCRIPTION
1	-	Portabl (AC/DC) field iodine air sampler
1	-	Victoreen CDV-700 count rate meter with 6306 GM probe and shield
5	-	Sample canisters (silver loaded silica-gel)

Porta-Air Sampler Kit (5 ea.) (continued)

Quantity		DESCRIPTION
5	-	Sample canisters (TEDA charcoal)
Misc.	-	1 copy sampling procedure, technical report, battery adapter cable, 25 ft. extension cable, screwdriver.

Porta-Air Sampler Supply Kit (1 ea.)

Quantity		DESCRIPTION
17	-	Sample canisters (silver loaded silica-gel)
4	-	Sample canisters (TEDA charcoal)
2	-	One gallon can (silver loaded silica-gel)
1	-	Roll particulate paper
1	-	Roll particulate paper
1	-	Beaker
2	-	Screwdrivers
2	-	Scissors
1	-	CDV-700 & 6306 probe

Misc. - Blank labels, premarked labels, plastic bags.

Environmental Air Sampler (18 ea.)

Contains AC powered pump, lapsed time meter, flow gauge, hose, filter holder, rain cover, filter stand and power cord, 5 sample canisters, 6 particulate filters, padlock, chain.

High Volume Air Samplers (2 ea.)

Staplex particulate monitors.

Data or Reference Kit - Color Code - Dark Brown Attache Case (2 ea.)

Road Maps
Radiation Handbooks and RAP Manual
Data Pads, Graph Paper, Pencils, Ruler
Masking Tape and Rope Tape
Signs and Tags
Small Sample Containers
Tape Measure
Pocket Knife
Polaroid Camera and Film
Smear Books and Filter Paper
Calculator and Charger
Small Plastic Bags

Protective Clothing Kit - Color Code - Brown (4 kits for 2 people ea.)

Head Covers
1/2 Face Respirators and Filters (2 A.O., 2 MSA, 2 Wilson)
Gloves (Medium and Large)
Shoe Covers (Medium and Large)
Splash Suit & 1 Poncho
Tape (Wide, masking)
Wash and Dry Packets
Plastic Bags (Medium and Large)

Sample Collection Kit - Color Code - Green (4 ea.)

Plastic Bags (3 sizes)
Sample Containers - Bottles (3-5 sizes)
Sample Containers - Can (3-5 sizes)
Masking Tape
Grease Pencils
Trowel
Tags
Scissors
Tongs

Run Bags - (3 ea.)

Each bag contains rain suit, coat, gloves, hat, socks, underwear, toilet articles, rain boots, and coveralls.

Gasoline Powered Generators

2500 Watt, 115 Volts, AC (One each)
500 Watt, 115 Volts, AC (Two each)
Gsoline Can, 5 gallon (3 each)
Filter Funnel (3 each)

Survey Instruments:

Quantity	Type	Description
3	Victoreen 471A	Wide range beta-gamma (Ion Chamber)
3	Victoreen CDV-720	Wide range beta-gamma (Ion Chamber)
1	Teletector 6112	Beta-gamma with telescoping probe (GM)
1	Victoreen CDV-715	Gamma (Ion Chamber)
2	VVictoreen CDV-700	Count rate meter (GM)
1	Victoreen CDV-700	Count rate meter, scint. & GM
3	Eberline E120	Count rate meter (GM)
1	Victoreen Radector III	Beta-gamma (Ion Chamber)

Survey Instruments: (cont.)

Quantity	Type	Description
3	Nucor CS-4UA	Wide range beta-gamma (Ion Chamber)
2	Ludlum 12-S	Micro R meter (scint.)
1	Eberline PRM-5-3	Lin-Log Pulse Rate Meter with PG-2 low energy gamma scint probe
1	Eberline PAC-4G-3	Lin-Log Gas Proportional survey meter with AC-2I alpha probe
1	Eberline PAC-4G-3 (Floor Monitor Mount)	Lin-Log Gas proportional survey meter with AC-2I alpha probe, AC-2IB beta probe
1	Eberline PAC-ISA	Alpha scint. detector, SPA-1 probe with sample tray
4	Eberline PAC-4S	Lin-Log alpha scint. detector
1	Ludlum 12	Count rate meter with alpha scint.
2	LFE Corp NP2	Neutron detector (Snoopy)

Scalers and Detectors:

1	Eberline PS-1	Portable scaler
1	Eberline PS-2	Portable Scaler (2 High Voltage adj.)
2	Eberline MS-2	Portable Scaler & rate meter
2	Eberline SH-3	GM counter with sample tray
1	Eberline SH-5	Gas Flow counter with sample tray
1	Eberline HP-210	Beta window pancake GM probe
2	Eberline SH-4	Holder with sample tray for HP-210 probe
1	Eberline FC-2	Lab. type, lead shielded, gas flow proportional counter & gas cylinder

Equipment for Use on Emergency Truck

Road maps
RAP Manual
First Aid Kit
Tool Kit (Fundamental)
Jumper cable
Fire extinguisher
Flares (9)
Blankets (2)

Equipment for Use on Emergency Truck (cont.)

Shovel
Flashlight
Plastic Tarpaulin
Flood light

Miscellaneous Protective Clothing

Coveralls - 12 paid
Head covers, cotton - 18
Apron, rubberized - 1
Leather gloves, lead lined - 1 pair
Leather work gloves - 4 pair
Cotton work gloves - 5 pair
Rubber gloves - 5 pair
Plastic gloves, disposable - 150 pair
Shoe covers, rubberized - 24 pair
Shoe covers, canvas - 3 pair
Shoe covers, light plastic - 20 pair
Shoe covers, heavy plastic - 8 pair
Rubbers, yellow toe - 2 pair
Rain boots, rubber - 2 pair
Tarpaulin, canvas - 3
Respirator (A.O.), 1/2 face - 1
Respirator (M.S.A.), 1/2 face with spare filters (Type H) - 22 pair
Respirator filters (Wilson) Type R12 - 16 pair
Protectiv eye glasses, plastic - 6 pair
Portable communications transceivers (5)
Portable AM/FM brodcast receivers (2)
Binoculars - 2 pair
Radiation signs & tags (assorted)
Ribbon tape
Rope
Pads
Pencils
Reinforced filament tape
Plastic bags
Plastic bottles, 100ML, 100 each
Marinelli breakers
Spare TEDA charcoal, and silver loaded silica-gel
Vacuum drying oven for silica-gel
Battery packs for Eberline scalers (4 each)
Spare type R51 filters for battery operated air samplers
Sample canisters for env. air samplers - (200)
Particulate filters for env. air samplers - (300)

NEW YORK STATE
RADIOLOGICAL EMERGENCY PREPAREDNESS PLAN
PERSONNEL MONITORING CENTER RESOURCES

In the event of a nuclear power plant incident, the State Emergency Management Office Radiological Section, in consultation with the DOH Bureau of Environmental Radiation Protection, at the Alert emergency classification, will place on standby all personnel having responsibility at State Emergency Personnel Monitoring Centers (PMC).

In accordance with the operational procedures contained in Part III, Section I, G-5 of the State REP Plan, State PMC's will be activated at the Site Area Emergency and be staffed by appropriate radiologically trained personnel from the Division of State Police, State Department of Transportation (as required), State SEMO Radiological Section and other State agencies as requested. Once activated, PMC personnel will be required to provide the appropriate State SEMO District Office (which is responsible for the coordination of PMC operations) with hourly status information. It is estimated that 50 to 100 State Emergency Workers per shift, comprised primarily of State Police and State DOT personnel, could be within the 10 mile Emergency Planning Zone during a nuclear power plant incident, and be in need of monitoring for radiological contamination.

State PMC's will remain operational until such time that the State Bureau of Environmental Radiation, in coordination with State SEMO, advises that operations can be terminated.

Predesignated State Emergency Worker PMC's for each nuclear facility site will be located at the following installations:

Ginna Site

New York State Police
Newark Substation
Rt. 31
Newark, New York

New York State Police
Henrietta Substation
475 Calkins Road
Rochester, New York

DOT Maintenance Facility
Rt. 31
Newark, New York

Nine Mile Point Site

New York State Police
Pulaski Substation
Exit 36S I-81
Pulaski, New York

Indian Point Site

New York State Police
Monroe Substation
MD 5, Dunderberg Road
Monroe, New York 10950

New York State Police
Stormville Substation
I Rt. 84
Stormville, New York 12582

New York State Police
Hawthorne Substation
200 Bradhurst Avenue
Hawthorne, New York 10562

NYS Department of Transportation
Town Line Road
Orangeburg, New York

PART II - SECTION II

RESOURCES AND FACILITIES TO SUPPORT FEDERAL RESPONSE

FEMA - No resource requirement

NRC - 2 commercial telephones - State EOC
1 desk
1 chair

EPA - Lists of hotels/motels
Assistance to obtain 6 full size cars or vans
Four independent stationary electrical outlets (110/120 volts at 30 amperes AC)
Liquid nitrogen
Telephone
List of airports capable of accommodating C-130 military transport
Gasoline and diesel fuel for mobile units and generators
Local food supply
1 desk, with typewriter (two weeks)
Clerical support
200 square feet office space (three weeks)
Desks
200 square feet laboratory space
200 square feet storage space

This list is inclusive of all Federal requests to date. Updated lists are maintained in the Radiological Emergency Preparedness Office. The State will stand in support of the procurement of any resource necessary in the event of an emergency.

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