

GAO

Report to the Honorable
Daniel Patrick Moynihan
United States Senate

December 1986

EMERGENCY PLANNING

Federal Involvement in Preparedness Exercise at Shoreham Nuclear Plant

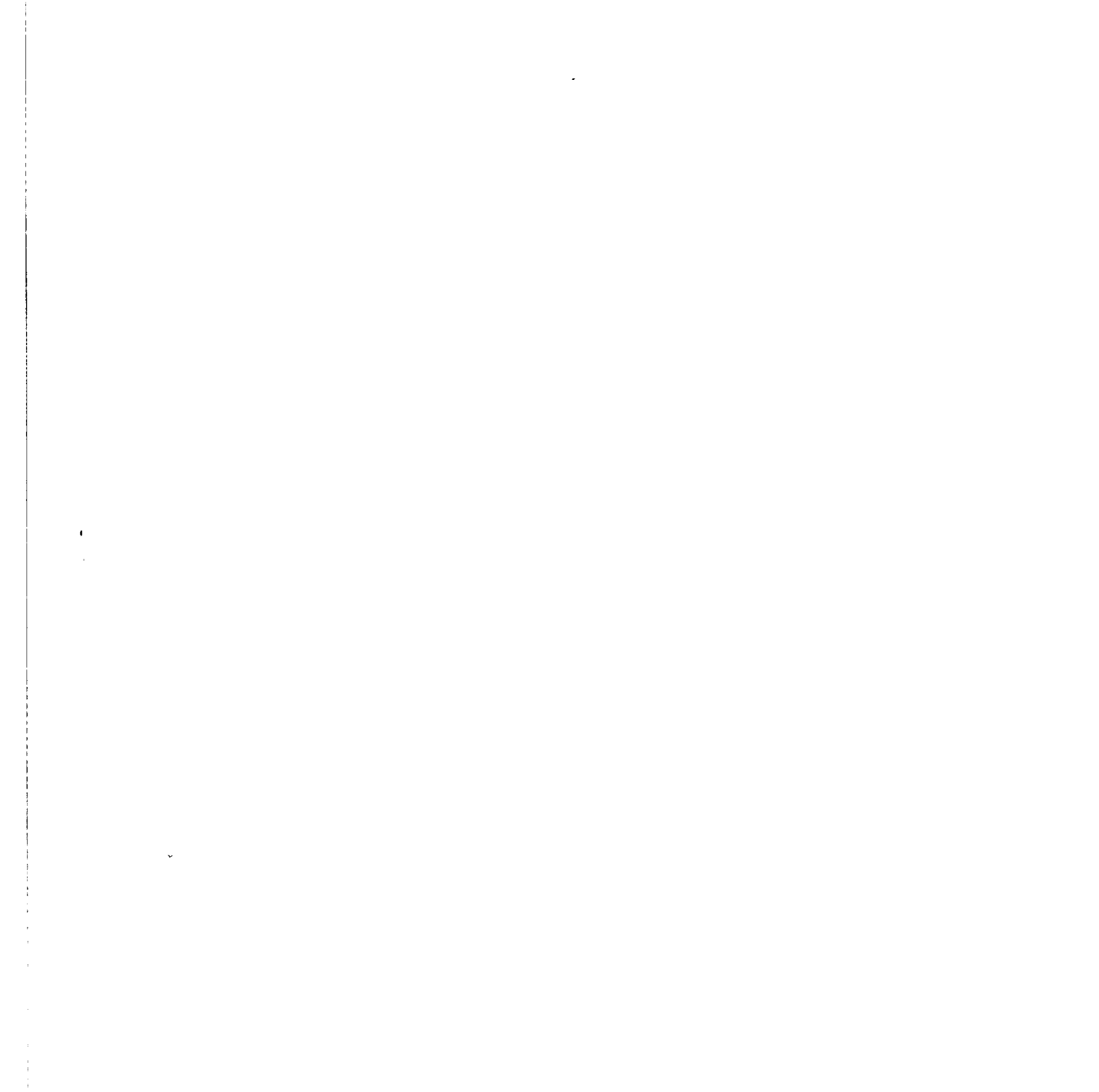
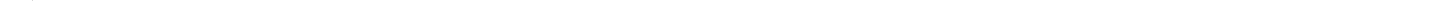
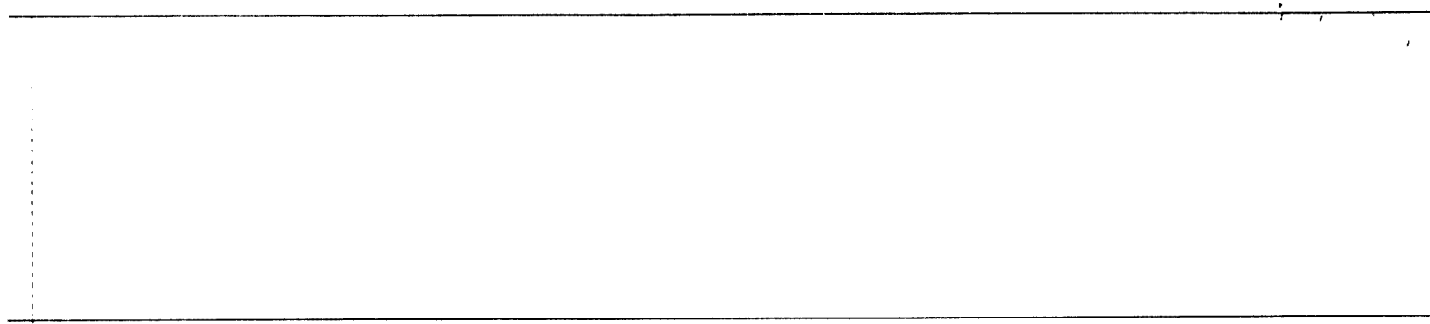


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**Resources, Community, and
Economic Development Division****B-225103**

December 2, 1986

**The Honorable Daniel Patrick Moynihan
United States Senate****Dear Senator Moynihan:**

As requested by your office on June 3, 1986, and confirmed in our letter dated June 10, 1986, we reviewed the role of the Federal Emergency Management Agency (FEMA) related to the off-site emergency response test at the Shoreham nuclear power station.¹ The test, commonly referred to as an exercise, took place on February 13, 1986. FEMA, which usually makes a finding on the overall adequacy of off-site emergency planning for a nuclear power station, did not do so at the conclusion of the Shoreham exercise. As agreed with your office, our objectives were to examine FEMA's responsibility for evaluating the exercise and to review actions and events surrounding FEMA's decision not to make an exercise finding.

In summary, we found that

- although FEMA has statutorily-derived responsibility to review emergency response plans developed by state and local governments, the agency does not have any permanent statutory responsibility to review utility off-site emergency response plans or assess an exercise conducted by a utility.
- FEMA agreed to review the emergency response plan and monitor the exercise for the Shoreham plant under a memorandum of understanding with the Nuclear Regulatory Commission (NRC), through which FEMA acts as an advisor to NRC in the licensing process. Both NRC and FEMA interpret the memorandum as requiring FEMA to comply with a request to conduct an exercise of a utility plan.
- FEMA agreed to review the exercise at Shoreham only after reaching an understanding with NRC that FEMA would not be required to make a finding on off-site preparedness. FEMA's decision not to make a finding was based on its belief that a FEMA determination could not be made unless state and local governments participated or unless LILCO was given the legal authority to fully carry out the plan.

¹The Shoreham nuclear power station, which is located in Suffolk County, New York, is owned by the Long Island Lighting Company (LILCO).

These issues are discussed below and presented in more detail in the appendixes.

FEMA's Responsibility for Evaluating the Exercise

Until the accident at the Three Mile Island nuclear power plant, off-site emergency plans were not required by NRC as part of the licensing process. In December 1979 President Carter designated FEMA as the lead agency in coordinating off-site emergency planning for nuclear power plants. Shortly thereafter, the 1980 Nuclear Regulatory Commission Authorization Act (Public Law 96-295) assigned NRC overall responsibility for determining the adequacy of proposed emergency response plans for new facilities as a part of the licensing procedure. Under the statute, NRC may not issue an operating license for a facility unless it first determines that (1) there is a state or local emergency preparedness plan that meets NRC guidelines, or in the absence of such a plan, (2) there is a state, local, or utility plan which assures that operation of the facility will not endanger public health and safety. In making the first determination with respect to state or local plans, the statute requires that NRC consult with FEMA. The statute is silent on NRC consultation with FEMA on the second determination.

FEMA's responsibility to review state and local plans originated in the NRC statute cited above. Although NRC has a statutory responsibility to review utility plans and to assess an exercise conducted by a utility, there is no statutory requirement to consult FEMA on the status of a utility's off-site emergency preparedness. FEMA's reviews of state and local plans and preparedness are governed by a FEMA regulation and a memorandum of understanding between FEMA and NRC. The memorandum between FEMA and NRC provides that FEMA will make a finding on the status of off-site emergency preparedness. FEMA may find that (1) there is reasonable assurance that the plans are adequate, (2) there are inadequacies that must be corrected to provide reasonable assurance, or (3) FEMA is undecided. NRC can also request FEMA, through their memorandum of understanding, to review a utility plan. NRC and FEMA interpret the memorandum as requiring FEMA to comply with such a request, even if state and local plans do not exist.

Additionally, radiological emergency preparedness is one of the activities for which FEMA receives annual appropriations. The legislative history of FEMA's appropriations acts for the past several years shows that FEMA's appropriations were specifically available to support alternative emergency response planning where local governments opted out of planning efforts.

FEMA Actions Leading to Lack of a Finding

In the case of the Shoreham plant, Suffolk County abandoned its attempts to devise its own emergency plan and refused to participate in emergency planning because county officials believed evacuation of Long Island would be impossible. In addition, the State of New York agreed it would not impose a plan on Suffolk County because the state alone did not have the capability or resources to assure that the public health and safety could be adequately protected. Consequently, LILCO prepared a plan of its own.

NRC requested FEMA on June 1, 1983, to review the LILCO plan. This first FEMA review was performed by a contractor, Argonne National Laboratories. FEMA reported to NRC that the contractor found 34 inadequacies in the plan. Following this review, FEMA established a position that a nongovernment plan could be considered adequate if there were no inadequacies when evaluated against established FEMA and NRC criteria. The criteria contained in a joint NRC and FEMA guideline consist of 16 planning standards and 196 criteria elements. Normally, according to FEMA officials, all 196 criteria elements would be included in a review, but because of the uniqueness of the situation without state and local participation, only 109 elements were applicable to the LILCO plan.

The elements rated inadequate have significantly declined with plan revisions but have not been totally eliminated. In addition, absent state and local participation, questions were raised by FEMA and others about the legal authority of LILCO to implement the plan in an actual emergency. For example, a New York State court in Suffolk County found that LILCO did not have the legal authority to exercise governmental functions such as controlling traffic and activating sirens. It could not, therefore, legally carry out its plan in an actual emergency. At the time of our review, an appeal of this decision was pending.

FEMA originally said that, in order for it to make a finding on off-site preparedness, the utility would have to be given the legal authority to carry out the plan in an emergency and an exercise would have to be conducted. FEMA further specified that, before an exercise could be held, all inadequacies FEMA found in its reviews of various LILCO emergency plan revisions would have to be resolved. For instance, several FEMA reviews found inadequate written agreements between government agencies and support organizations. This inadequacy and four others, including the legal authority issue, remained outstanding when the exercise was conducted.

In June 1985 NRC requested FEMA to schedule an exercise of the LILCO plan. To respond to NRC's request, FEMA proposed two exercise options but told NRC they would not be able to make a finding under either option without state and local participation. According to FEMA, the first option included only utility company exercise objectives, while the second included all normal exercise objectives with state and local roles portrayed by FEMA officials and other federal officials from agencies such as the Department of Energy.

On November 12, 1985, NRC chose the second option. On the same day, Suffolk County wrote to FEMA opposing an exercise. Their opposition was expressed in terms of their interpretation of court and licensing board decisions: (1) LILCO's plan is illegal, as determined by a New York State court; (2) LILCO's plan cannot be implemented, as ruled by the NRC's Licensing Board and Appeal Board; and (3) LILCO has been denied a license to operate Shoreham, as ruled by the NRC's Boards. FEMA officials said they felt bound, under their memorandum of understanding with NRC, to conduct an exercise because NRC asked them to. The officials also said they believed that an exercise would be useful to NRC in its licensing process. Furthermore, they noted that usually FEMA does not consider it necessary for all off-site inadequacies to be corrected prior to an exercise.

FEMA's Evaluation of Exercise Results

FEMA went ahead with exercise planning and an exercise was conducted on February 13, 1986. FEMA issued its assessment report on the Shoreham emergency response exercise on April 17, 1986. According to the report, because the exercise was conducted without state and local government participation, FEMA could not measure state and local governments' capabilities and preparedness if called upon to respond. Accordingly, the report only contained FEMA's evaluation of what was done during the exercise. It noted, however, that the unresolved legal authority issue affected about one-third of the exercise objectives.

The report also cited five deficiencies, such as delays in dispatching bus drivers and deploying traffic guides. FEMA defines deficiencies such as these as inadequacies that would cause a finding that off-site emergency preparedness was not adequate. Given FEMA's definition, FEMA officials agreed such deficiencies in an exercise with state and local participation would have led to a finding of inadequate. In this case, however, the technical deficiencies were overshadowed by the legal authority issue which arose because there was no state and local participation. FEMA officials said they believed the value of an exercise held without state

and local participation could only be determined by NRC. An NRC Deputy Director said NRC should be able to use this information in the same manner as a report with an overall negative finding.

According to the FEMA officials, the Shoreham exercise presented a unique situation, and FEMA decided before the exercise that no finding regarding the adequacy of the exercise would be made. FEMA's Region II Director, however, thought the exercise assessment should include a statement that, without state and local participation, FEMA cannot give reasonable assurance that the public health and safety can be protected. The Regional Director inserted this statement in a draft report, but FEMA's Director had the statement deleted because he believed the statement represented a personal opinion and a finding. The FEMA Region II Director said that, because of his concern for safety, he resigned rather than delete the statement from the Shoreham exercise report. Following his resignation, the former Region II Director stated in licensing board hearings on the Shoreham exercise that actual testing of public alerting and notification systems was virtually nonexistent during the exercise. For example, he said sirens were not sounded and tone alerts were not activated.

In obtaining information for this report, we met with officials and reviewed documents and records at FEMA headquarters and the FEMA Region II (New York) office. We also met with NRC headquarters and regional officials, LILCO officials, the former Director of FEMA's Region II, and Suffolk County's legal representatives. We did our work between June and September 1986. To meet your needs for timely information, we agreed to limit the scope of our work, to the extent possible, to FEMA's decisions and responsibilities. We discussed the information in this report with FEMA and NRC officials and have incorporated their comments where appropriate. Except as noted above, our review was made in accordance with generally accepted government auditing standards. However, at your request, we did not obtain official agency comments.

Appendix I of this report outlines FEMA's roles and responsibilities. Appendix II addresses the Shoreham emergency response plan development and testing and discusses the rationale behind these events. Appendix III is a chronology of events related to the Shoreham nuclear power plant.

Unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the Director of FEMA, the Chairman of NRC, and other interested parties.

Sincerely yours,

A handwritten signature in black ink that reads "J. Dexter Peach". The signature is written in a cursive style with a large, prominent initial "J".

J. Dexter Peach
Assistant Comptroller General

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Abbreviations

ASLB	Atomic Safety and Licensing Board
FEMA	Federal Emergency Management Agency
LILCO	Long Island Lighting Company
NRC	Nuclear Regulatory Commission
RAC	Regional Assistance Committee

FEMA's Roles and Responsibilities

The Federal Emergency Management Agency (FEMA), created in 1978, is the lead federal agency responsible for establishing policies and coordinating emergency efforts for natural and manmade disasters. In support of the Nuclear Regulatory Commission (NRC), FEMA assists and evaluates state and local off-site planning and preparedness for commercial nuclear power plants. FEMA's role was reemphasized in the 1980 NRC Authorization Act (Public Law 96-295), which required that NRC consult with FEMA on the adequacy of state and local emergency preparedness plans. NRC, however, remains ultimately responsible for making the overall nuclear plant emergency planning and preparedness assessment using FEMA's off-site emergency planning findings and its own findings on on-site emergency planning.

Evaluation of Emergency Planning and Preparedness

Until the accident at the Three Mile Island nuclear power plant, state and local governments prepared off-site emergency plans on a voluntary basis, and NRC did not require off-site plans as part of the licensing process. In December 1979, in response to recommendations of the Presidential Commission on the accident at Three Mile Island, the President transferred off-site plan coordinating responsibility from NRC to FEMA. NRC, however, retained responsibility for licensing nuclear plants. Shortly thereafter, the 1980 NRC Authorization Act (Public Law 96-295) assigned NRC overall responsibility for determining the adequacy of proposed emergency response plans for new facilities as a part of the licensing procedure. Under the statute, NRC may not issue an operating license for a facility unless it first determines that (1) there is a state or local emergency preparedness plan that meets NRC guidelines, or in the absence of such a plan (2) there is a state, local, or utility plan which assures that operation of the facility will not endanger public health and safety. In making the first determination with respect to state or local plans, the statute requires that NRC consult with FEMA.

A FEMA regulation (44 CFR Part 350) establishes the agency's policy and procedures for FEMA review and approval of state and local emergency plans and preparedness. Under the regulation, FEMA prepares findings on the adequacy of state and local emergency plans and the ability of governments, as demonstrated by an exercise, to effectively implement the plans. However, by its terms, the regulation does not apply to utility-developed plans except as those plans might affect existing state and local plans. An extension of this regulation is a memorandum of understanding which provides for NRC to request FEMA input on utility plans. FEMA conducted the Shoreham utility plan reviews and exercise evaluation under the memorandum of understanding between NRC and FEMA.

Under the memorandum, NRC can request that FEMA review a utility's plan at any time. As interpreted by FEMA and NRC, the memorandum requires FEMA to comply with such a request even if there are no state- or local-approved plans. In the Shoreham case, NRC requested FEMA on June 1, 1983, to review the utility company's plan under the memorandum of understanding even though the state and local governments had not approved the plan. In accordance with the 1980 NRC Authorization Act (Public Law 96-295) as implemented in NRC's regulation (10 CFR Sec. 50.4), NRC had to make a finding on the adequacy of emergency preparedness at Shoreham. NRC is not required to consult with FEMA regarding off-site preparedness for a utility plan. However, NRC said it would base its findings on a review of FEMA findings regarding off-site emergency planning and preparedness.

A Regional Assistance Committee (RAC), chaired by FEMA and made up of officials from various federal agencies generally reviews and determines the adequacy of off-site plans.¹ The Committee uses the criteria found in a joint NRC and FEMA guideline (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). The criteria include the standards for developing, reviewing, and evaluating utility, state, and local government radiological emergency planning and preparedness. Sixteen planning standards and 196 supporting evaluation criteria are included. The standards address areas such as assignment of emergency responsibility, public education and information, and general plans for restoring an affected area to normal use. The supporting evaluation criteria expand upon the requirements in the standards and how they apply to the utility, state, or local governments.

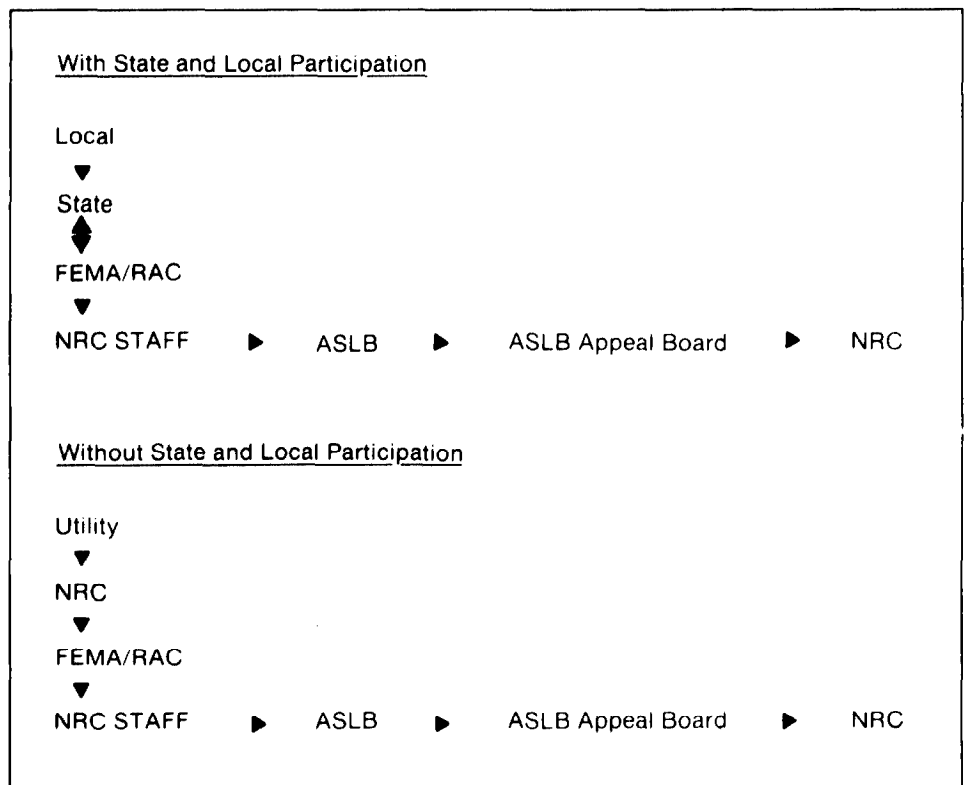
To assist NRC in addressing concerns regarding licensing and other issues such as plan inadequacies and exercise deficiencies, the NRC also establishes Atomic Safety and Licensing Boards (ASLBS), made up of three members of NRC's independent licensing board panel. An ASLB generally consists of a lawyer acting as the chairman, a nuclear engineer or reactor physicist, and an environmental scientist. ASLB decisions or recommendations are subject to the review of an NRC appeal board. In fiscal year 1985, three ASLBS held hearings on the Shoreham licensing proceedings. The first ASLB addressed authorization of low power testing, the

¹The RAC is chaired by a FEMA Regional official and has members from the Nuclear Regulatory Commission, Department of Health and Human Services, Department of Energy, Department of Transportation, Environmental Protection Agency, Department of Agriculture, Department of Commerce, and Department of the Interior.

second ruled on installation of emergency diesel generators, and the third board examined off-site emergency planning.

Figure I.1 illustrates the usual process for plan and exercise review and evaluation where the local government prepares and approves a plan and submits it to the state for approval by the Governor, who, in turn, forwards it to FEMA. The second part of the figure illustrates the review procedure for utility plans, such as LILCO's plan for Shoreham, which are not approved by the state and local governments. After FEMA receives these plans, the review process in either case is similar. The only difference is that, with state-submitted plans, FEMA and the state interact on changes to the plan, whereas with utility-submitted plans, comments are forwarded to NRC, which then forwards them to the utility.

Figure I.1: Emergency Planning and Preparedness Review Process



Objectives, Scope and Methodology

As requested by Senator Moynihan's office on June 3, 1986, and confirmed in our June 10, 1986, letter, our objectives relative to the emergency response exercise at the Shoreham nuclear power plant were to

examine FEMA's responsibility for evaluating the exercise and making an exercise finding, as well as to examine actions and events which led to FEMA's decision not to make an exercise finding.

To determine what FEMA decisions led to its lack of a finding, we prepared a detailed chronology of significant events pertaining to FEMA's role in review of the plan and exercise evaluation. In developing this chronology, we recognized that outside events, including court decisions, also influenced FEMA decisions. Our chronology was prepared primarily through information gathered in our review of FEMA headquarters and its Region II (New York) files relating to the Shoreham matter. These files contained correspondence, reports, studies, and other documents prepared by FEMA, the RAC, NRC, the State of New York, Suffolk County, and LILCO, relating to the Shoreham matter. We discussed the review and exercise of the LILCO plan with officials of FEMA and NRC headquarters and regional offices, Suffolk County's legal representatives, as well as with the former Director of FEMA Region II, who resigned on April 14, 1986. We also met with LILCO officials and visited the Shoreham nuclear power station in Suffolk County, New York.

In examining FEMA's responsibility for evaluating the exercise and making an exercise finding, we reviewed pertinent legislation, regulations, court and licensing board decisions, and other pertinent materials. We also conducted interviews at FEMA and NRC to obtain agency views regarding the question of whether FEMA carried out its responsibilities.

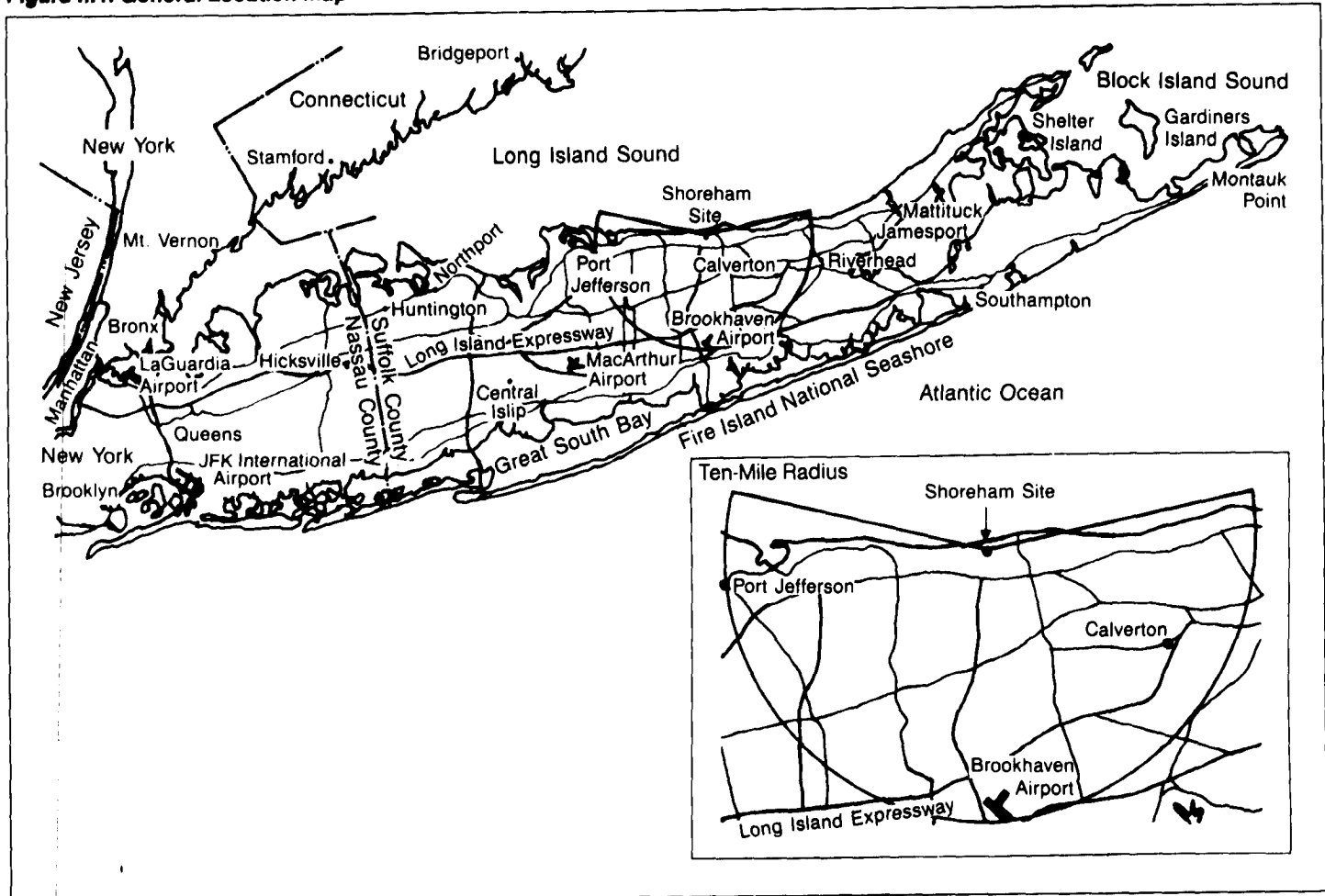
We conducted our field work primarily between June and September 1986. Because of the timeframe established to perform this work, we agreed with your staff that the scope of our work be limited, to the extent possible, to FEMA. We discussed the information in this report with responsible agency officials and incorporated their views and comments as appropriate. However, as you requested, we did not obtain official agency comments on this report. With the above exception, our review was made in accordance with generally accepted government auditing standards.

Shoreham Emergency Response Plan Development and Testing

A construction permit for the Shoreham nuclear power station in Suffolk County, New York, was issued in April 1973, and the plant was essentially completed in 1983. According to a Shoreham official, LILCO had spent about \$4.6 billion on plant construction and related costs, such as training expenses, as of July 1986. If ultimately licensed for full power operations, the official said Shoreham would be able to produce 30 percent of LILCO's yearly energy requirements. Suffolk County officials believe the plant should not be licensed because, in the event of a serious accident, emergency evacuation of Long Island would be impossible. Figure II.1 illustrates the location of the Shoreham plant and major traffic arteries. Suffolk County and New York State governments are not participating in developing or testing the off-site emergency plan for Shoreham. Consequently, LILCO submitted its own plan to NRC in May 1983 and proposed that, in the event of an accident at Shoreham, its employees would carry out the plan with the possibility of some ad hoc assistance from state and local governments.

In June 1983 FEMA began its review of the LILCO plan. By June 1985 FEMA found that LILCO had corrected all but five inadequacies. The major unresolved inadequacy involved the utility's lack of legal authority to carry out functions legally restricted to state and local government personnel. In February 1986 FEMA conducted an exercise of the plan. Suffolk County and the State of New York were asked to participate in the exercise. However, neither did so. The legal authority issue affected the demonstration of a number of exercise objectives. Because no state or local police powers could be carried out, school children could not be sent home, traffic control could not be accomplished, and no emergency could be declared. As a result, FEMA said it was not able to render a finding whether there was reasonable assurance that public health and safety would be protected in the event of an actual radiological emergency. NRC has not made a final decision on the adequacy of emergency planning at Shoreham. ASLB hearings on this issue are tentatively scheduled for February 1987.

Figure II.1: General Location Map



Source: LILCO

County Planning Efforts Terminated

Until early 1982, Suffolk County cooperated with LILCO in developing emergency response plans for the plant. At one time, Suffolk County officials even accepted LILCO financial support for development of their emergency response plan. However, when the county later recognized an apparent conflict of interest, it rejected LILCO's financial assistance and returned all funds to the utility in March 1982. In the absence of cooperation from the county or the state, LILCO created its own off-site emergency response plan and on May 10, 1982, submitted it directly to the New York State Disaster Preparedness Commission for approval. Suffolk County officials successfully and permanently blocked this move

because they had not approved the plan. Meanwhile, Suffolk County officials continued drafting their own emergency response plan.

On February 17, 1983, the Suffolk County legislature disapproved the final county-developed emergency response plan and adopted a resolution rejecting all future emergency response plans. The legislature stated that, in the event of a radiological emergency, safe and timely evacuation of the population would be impossible. Suffolk County immediately petitioned NRC for the termination of the Shoreham licensing proceedings. The ASLB denied the county's motion and referred its decision to the NRC for review. The NRC supported the ASLB, and, in its order dated May 12, 1983, cleared the way for NRC staff, FEMA, and the Licensing Board's consideration of the LILCO plan.

NRC Requests and FEMA Reviews the Utility's Plans

On June 1, 1983, NRC requested FEMA to provide findings and determinations on five different plans prepared by LILCO.¹ This request was later modified by NRC so FEMA would have to review only one plan—the LILCO Transition Plan. This plan proposed using LILCO personnel to carry out the off-site preparedness aspects of the plan. An NRC official said, however, that the plan was developed on the premise that the state and local officials would respond in an actual emergency. In reviewing the plan, NRC asked FEMA to address (1) whether the plan is adequate; (2) whether it is capable of being implemented; and (3) whether LILCO has the ability to implement the plan.

When NRC requested the review, FEMA had never before reviewed a utility plan that was not supported by state or local officials. A week after the request, FEMA discussed its position on reviewing utility plans before the Subcommittee on Energy Conservation and Power of the House Energy and Commerce Committee. FEMA's Executive Deputy Director said FEMA's view was that utility plans without state and local participation were of diminished value in assuring public health and safety.

However, FEMA started to review the LILCO Transition Plan. Primarily because of the limited time for FEMA to review the plan and to meet the then established licensing schedule, FEMA's initial review was performed

¹ According to FEMA officials, the five plans differed basically in the designation of the principal organizations which were to be responsible for off-site preparedness and response actions in the event of an emergency at Shoreham. The plans were referred to as (1) the LILCO-County Plan, (2) the LILCO-State Plan, (3) the LILCO-FEMA Plan, (4) the LILCO-NRC Plan, and (5) the LILCO Transition Plan.

**Appendix II
Shoreham Emergency Response Plan
Development and Testing**

by an independent contractor, Argonne National Laboratories, and not through the customary federal interagency procedure involving the RAC. FEMA reported to NRC that the contractor found 34 inadequacies in the plan.

Following FEMA's report to NRC, FEMA established its position that a non-government plan could be considered adequate, if there are no inadequacies when evaluated against the FEMA and NRC standards and criteria. Table II.1 shows that the elements rated not adequate declined with each plan revision but have not been totally eliminated. Further, FEMA officials said the number of plan elements affected by legal concerns has remained constant, as have the number of total criteria elements reviewed. Normally, FEMA officials said all 196 criteria elements would be included in a review, but, because of the uniqueness of the situation without state and local participation, only 109 elements were applicable in reviewing the LILCO plan.

Table II.1: Results Reported by FEMA on the Review of the LILCO Plan and Subsequent Revisions

Factor	Initial Plan	Revision 3^a	Revision 4	Revision 5	Revision 6
Date of NRC Request	6/01/83	12/22/83	7/09/84	8/13/85	1/16/86
Date of FEMA Response	6/23/83	3/15/84	11/15/84	10/08/85	2/12/86
Total Criteria Elements	109	109	109	109	109
Elements Rated Not Adequate	34 ^b	32	8	6	5
Elements Affected by Legal Questions ^c	24	24	24	24	24

Source: FEMA officials and their reports to NRC.

^aOn September 2, 1983, NRC requested FEMA to review Revision 1 of the LILCO Transition Plan. Before review of the plan was completed, however, NRC requested on November 10, 1983, that FEMA review Revision 2. Similarly, on December 22, 1983, NRC asked FEMA to include Revision 3 in their current effort.

^bOn October 10, 1983, the plan review contractor advised FEMA a reexamination of their findings disclosed three additional elements should have been rated not adequate.

^cIn FEMA's reports to NRC, the agency noted any aspect of the plan where the legal issue occurred. However, with one exception (legal basis to carry out the plan), the legal issue did not affect the FEMA rating given to technical or operational elements.

The LILCO plan elements affected by the legal issue center on whether LILCO has the legal authority to carry out its plan in an emergency. For instance, with neither state nor local support in the planning process, can LILCO request a declaration of a state of emergency and request state and federal assistance. This and similar legal authority questions have been addressed in court and through several ASLB decisions. First, on February 20, 1985, a New York State court in Suffolk County ruled that

LILCO did not have authority under state law to exercise the governmental functions called for in the plan. As of September 1986, an appeal was pending. Second, on March 18, 1985, a federal district court held that the state and county governments could not be forced to adopt an emergency response plan or, by extension, participate in the exercise of the LILCO plan. Third, an August 26, 1985, ASLB partial initial decision concluded that LILCO had failed to demonstrate the existence of reasonable assurance that the public health and safety can be protected. The Board cited two reasons in support of its conclusion. First, LILCO lacked the legal authority to implement the plan. Second, the state and Suffolk County's opposition to LILCO's plan created a situation making it impossible to determine whether the plan could be effectively implemented, even if the legal authority question was resolved in LILCO's favor.

FEMA Reconsiders Its Policy on the Evacuation Exercise

In the Shoreham case FEMA established certain prerequisites for making a finding that off-site preparedness was adequate to protect the public. These prerequisites specified that LILCO be given the authority to perform response roles of Suffolk County personnel and that there be an exercise in which this could be demonstrated. Before an exercise could be conducted, FEMA initially said all plan inadequacies would have to be corrected. For example, on June 27, 1984, FEMA said an exercise could be conducted only if and when the inadequacies noted in the plan, including the legal authority issues, are satisfactorily resolved. However, FEMA officials said Shoreham was a unique situation because usually it is not considered necessary for all off-site inadequacies to be corrected before an exercise is held.

Notwithstanding FEMA's statements on an exercise of the Shoreham plan, NRC advised FEMA on December 19, 1984, that LILCO had proposed an exercise, and FEMA was requested to take the lead in any exercise planning. FEMA, however, did not initiate exercise planning because plan inadequacies remained. Consequently, on February 8, 1985, LILCO wrote to NRC and advised the agency that, more than two months before, LILCO had taken all of the actions that were within its sole control and requested NRC's help in getting things moving. Again, FEMA did not take action. FEMA told Suffolk County on February 20, 1985, that all inadequacies identified in the LILCO plan must be resolved before a FEMA-directed exercise could be conducted. Eight inadequacies in the RAC's most recent (Revision 4) review remained.

Prior to FEMA's review of Revision 5, NRC requested that FEMA schedule as full an exercise of the LILCO Transition Plan as feasible. FEMA did not

**Appendix II
Shoreham Emergency Response Plan
Development and Testing**

respond to this June 20, 1985, request until October 29, 1985. At that time, FEMA told NRC that the elements rated not adequate in Revision 5 of the plan did not preclude an exercise being held. FEMA stated it felt committed to conduct the exercise, once NRC specifically requested FEMA to do so. Table II.2 shows the elements rated not adequate in plan revisions 4 through 6. Revision 6 shows the inadequacies that existed at the time of the exercise.

Table II.2: Elements Rated Not Adequate in FEMA's Review of LILCO Plan Revisions 4 - 6

Element Description	Elements Rated Not Adequate		
	Revisions		
	4	5	6
Legal authority.	X	X	X
Written agreements between government agencies and support organizations.	X	X	X
Letters of agreement between other organizations, facilities, or individuals.	X	X	X
Potential evacuation route impediments.	X	X	X
Monitoring of evacuees at relocation centers.	•	X	X
Developing protective measures based on exposure criteria.	X	X	•
Field monitoring within the plume exposure emergency planning zone. ^a	X	•	•
Measuring radioiodine concentrations in the air within the plume exposure emergency planning zone. ^b	X	•	•
Estimating doses of radiation and comparison with protective action guides.	X	•	•

Source: FEMA

^aThe plume exposure emergency planning zone refers to the area within about a 10-mile radius of a nuclear power plant for which federal regulations require emergency preparedness planning to protect the public from exposure in the event of a radiological emergency.

^bRadioiodine is the radioactive material considered an important initial pathway of human exposure in the event of a nuclear power reactor accident.

Revision 5 inadequacies, which existed at the time FEMA agreed to schedule an exercise, were classified by FEMA officials into three categories—(1) those easy to correct, (2) those relatively easy to correct, and (3) those not easy to correct. Two inadequacies were considered easy to correct because one (monitoring of evacuees at relocation centers) was considered adequate in the previous plan revision and the other (developing protective measures based on exposure criteria) only required a correct procedure reference. FEMA officials said two other inadequacies dealing with obtaining letters of agreement were classified as relatively easy to correct. The remaining two inadequacies classified by FEMA as

not easy to correct concerned (1) a potential evacuation route impediment because of no pre-emergency planning for snow removal without state and local participation, and (2) the earlier mentioned legal authority issue. FEMA officials said they did not believe proceeding with an emergency response exercise was a change from FEMA's previous remarks that all inadequacies would have to be corrected because the only remaining "critical" issue with the plan was the legal authority issue.

FEMA Proceeds With the Exercise

FEMA presented two exercise options in its October 29, 1985, response to NRC's request for an exercise. The first option was a limited exercise in which only the LILCO functions would be performed. The second, much broader, option FEMA stated would include all activities and normal exercise objectives. Using the second option, federal officials would simulate the role of key state and local officials. FEMA also informed NRC that an exercise without participation by state and local authorities would not provide a sufficient demonstration of the LILCO plan to permit FEMA to render a finding on the adequacy or inadequacy of the emergency response exercise. FEMA acknowledged that obviously the value of such an exercise in the licensing process is a determination which can only be made by the NRC. NRC chose the second option.

An exercise of the LILCO plan was conducted on February 13, 1986. LILCO's emergency preparedness was tested at 10 locations around the Shoreham plant. In addition, emergency capabilities of LILCO were tested in such areas as radiological field monitoring, route alerting, and traffic control. In the exercise, FEMA and NRC personnel simulated the roles of state and local officials. However, they did not issue emergency orders or provide emergency services to the public. Federal evaluators assessed the quality of the LILCO staff's responses to the questions posed by the simulators, as well as the general performance of the staff in exercising the emergency preparedness plan.

According to LILCO's Chairman and Chief Executive Officer, LILCO received high marks from NRC and FEMA in their preliminary assessments of the test of the LILCO emergency evacuation plan. This assessment, however, differs from some others. For instance, Suffolk County's legal representatives said there was no basis to conclude that the exercise demonstrated that LILCO could evacuate the vast numbers of people who would seek to flee a nuclear accident along Long Island's limited roadways.

FEMA's Evaluation of the Exercise

On February 15, 1986, a briefing was held for the exercise participants, the public, and the media. A FEMA regulatory provision requires that, prior to the evaluation of the exercise, the FEMA Regional Director "shall assure that there is at least one public meeting conducted in the vicinity of the nuclear power facility." According to Suffolk County's legal representatives, the briefing FEMA held did not fulfill all the requirements of the regulation. For example, they said the meeting was not structured to elicit comments from citizens regarding the exercise. However, FEMA officials do not believe the requirements of the regulation are applicable in the Shoreham case because there was no state and local participation.

During the briefing, the FEMA Region II Director said reasonable assurance could not be given that the public health and safety would be protected in the event of a radiological emergency at the Shoreham plant. The FEMA Region II Director included this overall finding in a draft version of the assessment report on the exercise. The Director of FEMA determined that, consistent with the agency's October 29, 1985, correspondence to NRC, no overall positive or negative finding on the adequacy of the exercise of the LILCO plan should be made in the assessment report because there was not sufficient demonstration of the plan without state and local participation. The Director of FEMA Region II told us that he wanted the report to include a statement that, since the plan cannot be implemented without state and local participation, FEMA cannot give reasonable assurance that the public health and safety can be protected. He said, because of his concern for safety, he resigned rather than delete the sentence from the Shoreham exercise report. FEMA subsequently issued the report on April 17, 1986, without the Region II Director's statement on the results of the exercise, i.e., a negative finding.

Even though the exercise assessment did not contain an overall finding, it did include five deficiencies and 38 areas needing corrective action. FEMA defines deficiencies as inadequacies that would result in a finding that off-site emergency preparedness was not adequate. Areas requiring corrective action are also defined as inadequacies but are not considered, by themselves, to impact adversely upon public health and safety. Examples of deficiencies cited by FEMA included delays in dispatching bus drivers and deploying traffic guides, and unfamiliarity of bus drivers with their routes. In addition, FEMA noted that the unresolved legal authority issue affected about one-third of the exercise objectives. An NRC Deputy Director said he believes that, because FEMA included deficiencies in the report, NRC will be able to use the report as if it

included an overall finding. The official said the earliest a licensing decision could be made would be late 1987.

FEMA Provided Input for an NRC Finding

FEMA's official position is that the agency had an obligation to be responsive to NRC requests. In addition, the House Appropriations Committee, in approving fiscal year 1984 and 1985 funding for FEMA, stated that the fact that a governmental entity cannot or will not perform a particular role or roles in preparing, submitting, or implementing off-site emergency preparedness plans should not, by itself, constitute a sufficient basis for FEMA to determine that the plans—or portions of them—are inadequate. Therefore, when NRC requested FEMA (on June 20, 1985) to conduct an exercise, FEMA officials responded on October 29, 1985, and identified the two possible options for an exercise (as discussed on p. 20).

The NRC exercise request was made pursuant to a memorandum of understanding between the two agencies. As interpreted by NRC and FEMA, this memorandum provides that findings and determinations on the current status of emergency preparedness at sites may be requested by NRC. NRC is not statutorily required to consult with FEMA regarding the adequacy of a utility's off-site planning and preparedness when there are no state or local approved plans. However, NRC informed FEMA on June 1, 1983, that it would base its findings on a review of FEMA off-site emergency planning and preparedness findings.

According to testimony on April 22, 1986, by FEMA's General Counsel before the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce, FEMA and NRC modified the memorandum of understanding somewhat by the exchange of correspondence between FEMA and NRC. The modification arose when FEMA advised NRC that any exercise without participation by state and local governments would be dramatically different than is typical at other sites in New York and would not provide FEMA with a sufficient basis to arrive at a finding of reasonable assurance that public health and safety could be adequately protected. When evaluating state and local plans, FEMA makes one of three findings for an exercise that is conducted for licensing purposes: (1) there is reasonable assurance that the plans are adequate and can be implemented as demonstrated in an exercise; (2) there are inadequacies that may adversely affect public health and safety that must be corrected in order to provide reasonable assurance that the plans can be implemented; (3) FEMA is undecided and will provide a schedule of actions leading to a decision. Although FEMA said it

would not be able to make a finding following either exercise option, it observed that an exercise would provide an indication to NRC of utility emergency capabilities. FEMA also said that, although the ultimate purpose of an exercise is to support a finding by FEMA for use by NRC in its licensing process, Shoreham is not a typical case.

In summary, FEMA does not have a statutory responsibility to review utility plans or to consult with NRC concerning an exercise conducted by a utility. However, the agency agreed to review the LILCO plan under its memorandum of understanding with NRC. One important difference that did occur at Shoreham was that there was no FEMA finding following the exercise. The FEMA Assistant Associate Director, who signed the exercise report, told us that to his knowledge this is the first time FEMA did not make a finding following an exercise for an unlicensed plant. FEMA officials stressed to us that the decision to provide NRC no overall finding was made prior to the exercise.

FEMA defines deficiencies as inadequacies that would cause a finding that off-site emergency preparedness was not adequate. Given this definition, FEMA officials agreed such deficiencies in an exercise with state and local participation would have led to a finding of inadequate. In this case, however, the technical deficiencies were overshadowed by the legal authority issue which arose because there was no state and local participation. FEMA officials said they believed that the value of an exercise without state and local participation could only be determined by NRC. An NRC Deputy Director said NRC should be able to use this information in the same manner as a report with an overall negative finding.

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03/15/81	Following a number of discussions between LILCO and county representatives, Suffolk County agrees to develop a radiological emergency response plan, and LILCO in turn consents to paying the projected \$245,000 cost of preparing the plan.
09/81	Suffolk County legislature approves the terms of the March 15, 1981, agreement with LILCO, and LILCO advances \$150,000 as the first installment on the \$245,000 payment.
02/19/82	Suffolk County advises LILCO of the apparent conflict of interest in its accepting funds from LILCO to prepare an emergency plan.
03/23/82	The Suffolk County legislature adopted a resolution to (1) cease the planning effort then underway, (2) return to LILCO all money paid under the September 1981 agreement, and (3) develop a plan at the county's expense.
04/23/82	An Assistant Secretary at the Department of Energy transmits a LILCO-developed plan to FEMA for review. Suffolk County did not approve the plan.
05/06/82	FEMA responds to the Department of Energy that, for FEMA to carry out its responsibilities for determining the adequacy of off-site emergency planning and preparedness around nuclear power plants, the agency needs to assure itself that the plans are sanctioned by the state and local governments concerned.
05/10/82	LILCO prepares and submits to the New York State Disaster Preparedness Commission a document entitled <u>Suffolk County Radiological Emergency Response Plan</u> . This plan was not approved by the county.
06/09/82	New York's Disaster Preparedness Commission staff finds the LILCO-developed plan to be unsatisfactory for submission to the full Disaster Preparedness Commission.

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10/06/82

LILCO submits an amended plan to the New York State Disaster Preparedness Commission for review.

12/02/82

A New York State court issues a temporary restraining order prohibiting any review of LILCO's plan pending a hearing on a county request for a preliminary injunction.

12/15/82

Suffolk County, the New York State Disaster Preparedness Commission and LILCO agree that the Disaster Preparedness Commission will refrain from reviewing LILCO's plan until the county legislature has an opportunity to review and decide on the adequacy of the county's plan, but by no later than February 22, 1983.

02/17/83

The Governor of New York directs the state not to review or approve any emergency response plan other than a plan approved by Suffolk County.

02/17/83

Following its consideration of an emergency evacuation plan prepared for the county, the Suffolk County legislature decides not to adopt or implement any radiological emergency response plan. The legislature believes it is not possible to achieve a workable evacuation because of the demographics of the site.

02/23/83

Suffolk County advises NRC that recent action by the county requires termination of the Shoreham licensing proceeding. The county explains that their determination not to prepare a local radiological emergency plan follows nine months of extensive analysis, studies, and surveys by a team of nationally recognized experts, and weeks of public hearings.

03/25/83

FEMA develops a draft policy position in the event that NRC submits the LILCO plan for FEMA to review based on an NRC/FEMA memorandum of understanding. Its position is that there must be a commitment from Suffolk County and the State of New York to any plan that FEMA reviews.

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04/18/83

A FEMA Assistant Associate Director testifies before the Subcommittee on Oversight and Investigations of the House Committee on Interior and Insular Affairs. In response to a question of whether FEMA would make a positive finding on a plan developed exclusively by a utility, the FEMA official responds that the agency could look at the plan that is submitted, but he notes that all of their planning criteria are geared to state and local governments. Further, he said that no matter how good the plan is, FEMA would have to make a negative finding because, without state and local government support, the plan could not be operational.

05/12/83

NRC affirms a Licensing Board ruling that LILCO's plan must be considered under NRC's regulation regardless of the position of the county and the state on LILCO's ability to implement the plan. The Commission states that it intends that LILCO's plan be examined by FEMA, NRC staff, and the Licensing Board.

06/01/83

NRC requests FEMA under an NRC/FEMA memorandum of understanding to provide findings on five different plans developed by LILCO. The plans were referred to as (1) the LILCO-County Plan, (2) the LILCO-State Plan, (3) the LILCO-FEMA Plan, (4) the LILCO-NRC Plan, and (5) the LILCO Transition Plan. (This request was later revised to apply to one plan—the LILCO Transition Plan.) NRC defined the findings to include

- whether the plans are adequate;
- whether they are capable of being implemented; and
- whether LILCO has the ability to implement any of the plans.

NRC explains it must make a finding on whether the state of emergency preparedness provides reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. NRC states its findings are to be based on a review of the FEMA findings regarding off-site emergency plans and preparedness.

06/08/83

FEMA's Executive Deputy Director testifies before the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce. He states that, absent state and local commitments to carry out the plan in an emergency, a plan prepared by a utility would be of diminished value in assuring public health and safety.

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Nevertheless, he states that it is conceivable that a utility or some other local political jurisdiction could agree to take measures in an emergency, compensating for a lack of commitment by one of the affected jurisdictions. Therefore, FEMA has agreed with NRC to review plans prepared by or for a utility. He explains that this is not part of the FEMA regulatory process but is a review contemplated in the agency's memorandum of understanding with NRC.

06/23/83

FEMA advises NRC that the LILCO plan, reviewed by Argonne National Laboratories, has 34 inadequacies in terms of the NRC/FEMA planning standards and criteria listed in NUREG-0654, Rev. 1. FEMA further states that there are two preconditions for a FEMA finding on whether the plan is capable of being implemented and whether LILCO has the ability to implement the plan.

1. A determination that LILCO has the appropriate legal authority to assume management and implementation of an off-site emergency response plan.

2. A demonstration through a full-scale exercise that LILCO has the ability to implement an off-site plan.

07/22/83

NRC asks FEMA whether it would find that there is reasonable assurance that the LILCO plan, as written, is adequate and capable of implementation if the noted inadequacies were corrected and there was no question of legal authority to carry out the plan.

08/29/83

FEMA said that if there are no inadequacies when the plan is reviewed against federal standards, FEMA could certify to the adequacy of the plan. FEMA further stated that it could make a finding that off-site preparedness is adequate to protect the public living in the vicinity of the Shoreham plant if LILCO is given the authority to perform response roles of Suffolk County personnel and there is an exercise in which this is demonstrated.

09/02/83

NRC requests FEMA to review Revision 1 of the LILCO Transition Plan. Before the plan review is complete, however, NRC requests FEMA on November 10, 1983, to review Revision 2. The following month (12/22/

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83), NRC asks FEMA to include Revision 3 of the LILCO plan in their current effort.

10/04/83

The Governor of New York advises NRC's Chairman of the state's position. The Governor notes the state will not impose a radiological emergency preparedness plan on Suffolk County because of his belief that the state alone does not have the capability or resources to assure the public health and safety can be adequately protected. He further states his conviction that a preparedness plan which relies solely and entirely upon private utility workers cannot provide the degree of security necessary.

10/10/83

Argonne National Laboratories advises FEMA that a reexamination of its findings disclosed three additional elements should have been classified as not adequate.

10/27/83

NRC responds to New York's Governor and notes the Commission has made no decision on the adequacy of the LILCO plan nor reached any conclusion as to whether such a plan would insure the health and safety of the public. Rather, the Commission states it has only concluded that the utility should be given an opportunity to present evidence on the plan seeking to demonstrate its effectiveness.

12/14/83

A 13-member fact-finding panel created by the Governor of New York does not reach a consensus on specific issues but does prepare a general views statement. One of these statements expresses reservations about LILCO's ability to implement a plan that achieves an adequate state of preparedness without the assistance of county government.

01/17/84

The Special Counsel for the Governor of New York appears before the ASLB and raises three issues.

1. The state's position is that LILCO lacks the legal authority to implement its plan.
2. The ASLB does not have the jurisdiction to rule on certain legal issues, as the contentions related to LILCO's legal authority must be heard in a state court.

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3. The state has concluded that the LILCO Transition Plan is inadequate and not capable of implementation.

01/24/84

FEMA's Region II Director asks headquarters whether their review of the LILCO Transition Plan should continue in light of New York State's recent position before the ASLB. FEMA asks NRC the following day whether FEMA should continue, modify, or terminate the NRC requested review of the LILCO plan.

01/26/84

NRC requests FEMA to continue its review of the plan. It states that FEMA's review will be an essential ingredient in the ASLB's ultimate determination on the adequacy and implementability of LILCO's proposed emergency plan.

03/15/84

FEMA reports to NRC the results of the RAC's review of Revision 3. The RAC found 32 inadequate criteria elements out of 109 based on the standards of NUREG-0654/FEMA-REP-1, Rev. 1. In addition, legal concerns affected 24 elements. The LILCO plan elements affected by the legal issue center on whether LILCO has the legal authority to carry out its plan in an emergency.

04/26/84

FEMA advises NRC that, in working with Department of Energy and other federal agencies, it is now determining the circumstances under which FEMA might prepare a plan to exercise the utility's off-site emergency plan when necessary corrections are completed. FEMA notes that it is presently contemplating an exercise of the utility plan using a federal emergency plan, referred to as the Federal Radiological Emergency Response Plan. FEMA further states that the Department of Energy and other federal agencies may be involved in the response.

05/17/84

FEMA's Director testifies before the House Interior and Insular Affairs Committee's Subcommittee on Energy and Environment. He states FEMA has participated in exploratory steps, with other federal agencies, toward the goal of planning an exercise to test the LILCO plan when its inadequacies are corrected. He notes that the federal government is working to devise an effective way to use its resources to compensate for state and local government resources in a Shoreham exercise.

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06/01/84	NRC responds to FEMA that a recent test of the Federal Radiological Emergency Response Plan included the full participation of the licensee, state, and local governments. NRC states the federal involvement emphasized determining whether the plan was an effective mechanism for coordinating and providing federal support and assistance. At Shoreham, NRC states the emphasis would shift from testing the federal plan to providing specific support to supplement LILCO's response.
06/27/84	FEMA responds to a concerned New York resident's letter. FEMA notes it has participated in exploratory steps, with other appropriate federal agencies, toward considering an exercise to test the efficiency of the LILCO plan. FEMA states that this could only be done if and when the inadequacies including the authority issue are resolved.
07/09/84	NRC requests FEMA to review Revision 4 of the LILCO Plan.
11/14/84	LILCO writes to NRC and asks them to work with FEMA in planning an exercise.
11/15/84	FEMA advises NRC that a full review of Revision 4 of the LILCO plan has been completed. Eight elements were found inadequate. In addition, legal concerns affected 24 elements.
12/19/84	NRC advises FEMA that LILCO has proposed an exercise and FEMA is requested to take the lead in considering this matter.
02/08/85	LILCO writes to NRC and advises the agency that LILCO has taken, more than 2 months ago, all of the actions that are within its sole control. LILCO maintains that progress in arranging an exercise at this point is in FEMA's, not LILCO's, control. The utility asks for NRC's help in getting things moving.
02/20/85	FEMA tells Suffolk County that its basic position is that all inadequacies identified in the LILCO plan must be resolved before a FEMA-evaluated exercise is conducted.

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02/20/85

A New York State court determines that LILCO does not have the legal authority to exercise the governmental functions included in its plan. An appeal is pending.

02/22/85

LILCO invites NRC to observe the conduct of a tabletop exercise and asks that NRC extend an invitation to FEMA.

03/08/85

The Secretary of Energy writes to the Director of FEMA that

- it is his understanding that some progress has been made regarding the testing of the LILCO plan.
 - this matter is of vital importance if similar problems on other nuclear plants nearing completion are to be avoided.
 - the Department of Energy will continue to support the testing of the LILCO plan as soon as possible.
-

03/18/85

A federal district court determines the state and county governments cannot be compelled to adopt an emergency response plan or, by extension, to participate in the exercise of the LILCO plan.

03/27/85

FEMA's Region II Director sends to FEMA headquarters a technical evaluation of LILCO's proposed resolution of eight inadequacies in Revision 4 of the plan. The Regional Director recommends any further expenditure of FEMA resources on the LILCO plan should await the result of LILCO's appeal of the New York State court decision that LILCO does not have the legal authority to carry out its plan.

04/17/85

While finding the LILCO plan largely adequate, an ASLB rules in a partial initial decision that LILCO's implementation of many key aspects of its emergency response plan is prohibited by state laws. It finds that LILCO has no independent authority under federal law to carry out these aspects of its emergency response plan.

The Licensing Board further rules that there is no basis to determine that "realistically" LILCO would be given authority to carry out its plan in the event of an actual emergency or that the state and county would cooperate with LILCO to implement the existing plan. The Board also

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rejected LILCO's argument that it was "immaterial" whether all aspects of the LILCO plan could be carried out.

05/30/85

The Suffolk County Executive modifies the county's position by directing the Police Commissioner and the Director of Planning to evaluate and participate in an emergency response plan for the Shoreham facility.

06/04/85

NRC, with the Chairman and a Commissioner disagreeing, states in a memorandum that it sees no reason why the licensee should not be allowed to exercise those parts of the plan that may be legally exercised. The Commission states an exercise could, as a minimum, identify the impact of the limitations of LILCO's plan when executed under the state and county restrictions.

06/10/85

The Suffolk County Executive order of May 30, 1985, was voided by a New York State court. The court ruled that the County Executive did not have the power to assist LILCO in such an exercise, as that power was vested in the county legislature. This decision was affirmed by the highest court of New York State, the New York State Court of Appeals, on July 9, 1985.

06/20/85

NRC requests FEMA to schedule as full an exercise of the LILCO plan as is feasible.

07/03/85

NRC issues a license for testing the plant at 5 percent power.

07/15/85

The Suffolk County Executive issues an order stating that he will, from time to time and in accord with statutorily mandated functions, direct county personnel to investigate, gather information, review and evaluate such LILCO plans as may be feasible to protect the health, welfare, and safety of the residents of Suffolk County.

08/13/85

NRC requests FEMA to review Revision 5 of the LILCO plan.

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08/26/85

An ASLB issues a partial initial decision, supplementing an April 17, 1985, decision, that LILCO has failed to demonstrate the existence of the requisite "reasonable assurance." The Board provides the following reasons in support of its conclusion:

- LILCO lacks the legal authority to implement its off-site emergency plan.
- The state and Suffolk County's opposition to LILCO's plan has created a situation making it impossible to determine whether the plan can be effectively implemented, even if the legal authority question is resolved in LILCO's favor.

10/08/85

FEMA sends NRC the results of its review of Revision 5 of the LILCO plan. FEMA reports that six elements were rated inadequate. Legal concerns continued to affect 24 elements.

10/08/85

LILCO essentially completes low power testing of the reactor, and the plant is shut down.

10/18/85

An NRC Atomic Safety Licensing Appeal Board affirms the Licensing Board's determination that LILCO does not have authority under federal or state law to implement its emergency response plan.

10/29/85

FEMA advises NRC that the inadequacies identified in Revision 5 of the LILCO plan do not preclude an exercise. However, FEMA informs NRC that any exercise without participation by state and local governments would not allow FEMA a sufficient basis to reach a finding. FEMA proposed two exercise options.

Option I — Set aside all functions and exercise objectives related to issues of authority and state and local participation. Only the functions outlined for LILCO would be exercised.

Option II — Include all functions and normal exercise objectives. Exercise controllers would simulate the roles of key state or local officials.

11/12/85

Suffolk County and New York State advise FEMA they are opposed to FEMA taking steps to hold or to assist in the holding of an exercise of the LILCO plan for Shoreham. Among other things, they refer to the FEMA/NRC

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	<p>memorandum of understanding, which provides that FEMA's responsibilities over an exercise shall be to make "findings" for use in NRC administrative proceedings. Since the two exercise options proposed by FEMA would not allow FEMA to reach a finding, the state and county contend an exercise would violate the memorandum.</p>
11/12/85	<p>NRC advises FEMA that they have selected Option II. NRC states this option would include all functions and normal exercise objectives, recognizing that some off-site response roles may be simulated. They further note their belief that such an exercise would be useful in the licensing process for Shoreham.</p>
11/14/85	<p>A FEMA Associate Director testifies before the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce. He states that, while FEMA will report its observations of the Shoreham exercise, the report will not constitute a finding on off-site preparedness. He notes, however, that NRC believes, even with these restrictions, information would be gained which would be useful to NRC in its licensing proceeding for Shoreham.</p>
12/23/85	<p>The Suffolk County legislature passes a law making it a crime for a person to participate in an exercise of an emergency plan, if the exercise includes the simulation of a role or function of a Suffolk County official.</p>
01/16/86	<p>NRC requests FEMA to review Revision 6 of the LILCO plan and provide findings and determinations to NRC.</p>
02/11/86	<p>A federal district court prohibits Suffolk County from interfering with the exercise. Since the county chose not to appeal the court's decision, the legal obstacles raised by the county to the exercise were removed.</p>
02/12/86	<p>FEMA advises NRC that five elements were rated inadequate in Revision 6 of the plan. In addition, 24 elements were affected by legal concerns.</p>
02/13/86	<p>The emergency response exercise is conducted without state and county participation. It involves approximately 1,000 participants, primarily</p>

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LILCO employees, and 75 federal evaluators and controllers. Federal controllers include a team who play state and local roles in order to allow LILCO to demonstrate how they would interface with state and local governments in an actual emergency.

02/15/86

A briefing regarding the exercise is held and FEMA's Region II Director states that, since the plan cannot be implemented without state and local participation, FEMA cannot give reasonable assurance that the public health and safety can be protected.

03/20/86

A FEMA Associate Director explains in a letter that FEMA felt committed to conduct an exercise after they were requested to do so by NRC. According to this official, in its position as NRC's expert on off-site issues around nuclear power plants, FEMA is required to carry out its responsibilities as provided in FEMA's regulations; as directed by the Administration; as prescribed in the joint FEMA/NRC memorandum of understanding; and in compliance with guidance provided by Congressional appropriations and oversight committees. The Associate Director states, however, that FEMA has received conflicting guidance from various sources in Congress.

03/26/86

An NRC Atomic Safety and Licensing Appeal Board rules on appeals of various technical issues involving the technical adequacy of the LILCO plan and states that further proceedings are necessary on issues involving (1) the reliability of some emergency workers, (2) emergency planning for hospitals, and (3) the adequacy of the designated relocation centers.

04/14/86

The FEMA Region II Director told us that, because of his concern for safety, he resigned on April 14, 1986, rather than delete a statement from the Shoreham exercise report. He wanted the report to include a statement that, since the plan cannot be implemented without state and local participation, FEMA cannot give reasonable assurance that the public health and safety can be protected. The Director of FEMA viewed this statement as a personal opinion and a finding. Consequently, he had it deleted from the final exercise report which was sent to NRC on April 17, 1986.

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04/22/86

FEMA officials testify before the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce. When asked why one of three types of findings provided for in the FEMA/NRC memorandum of understanding was not made following the exercise, FEMA's General Counsel states there is some flexibility under such a memorandum. He states the memorandum was, in effect, modified somewhat by the exchange of correspondence between FEMA and NRC.

06/11/86

NRC orders hearings on the adequacy of the Shoreham exercise of February 13, 1986, and states it will shortly rule on LILCO's "realism" and "immateriality" arguments.

07/03/86

The New York State legislature approves a bill which permits the establishment of a Long Island Power Authority to assume, if specified conditions can be met, the property and obligations of LILCO. Several days later (July 7, 1986) attorneys for LILCO explain to an NRC Licensing Board Panel that the bill has no immediate effect. They note the bill does not become effective until January 1, 1987, and the prospects for acquisition of LILCO with or without Shoreham cannot be determined from the bill's face.

07/16/86

NRC requests FEMA to review LILCO's plan Revision 7 and LILCO's response to the FEMA exercise report for Shoreham. Before review of this revision is complete, NRC requests on September 30, 1986, that FEMA review Revision 8.

07/24/86

NRC issues a decision which concludes that more information is needed to weigh LILCO's "realism" and "immateriality" arguments. It orders further hearings to decide how the LILCO plan measures against a standard that would require protective measures comparable to what might be accomplished with governmental cooperation. In applying this information, the decision directs the licensing board to assume that the state and county would respond to an accident at Shoreham on a best effort basis using the LILCO plan.

09/25/86

The former FEMA Region II Director testifies before the ASLB that during the Shoreham exercise actual testing of public alerting and notification

**Appendix III
Chronology of Significant Events Pertaining
to Off-Site Preparedness at the Shoreham
Nuclear Power Plant**

systems was virtually nonexistent. For example, he states that sirens were not sounded and tone alerts were not activated.

10/03/86

The ASLB issues a prehearing conference order that sets a tentative hearing date for February 1987. The board states that whatever additional time is needed to examine FEMA's evaluation of Revisions 7 and 8 can be accommodated just before or simultaneously with the hearings.

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